



**Better
Futures
Forum**

Better Futures Forum Submission
on the
Climate Change Commission's
Draft Advice to Government

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2. INTRODUCTION

The Better Futures Forum (**BFF**) was formed to take advantage of the opportunity presented by the Covid-19 pandemic to reassess the models and systems that implicitly govern our relationship with the planet and each other; and which impact upon the wellbeing of people and the planet in its broadest sense.

In that regard, we see Covid-19 as a pressing reminder that the current models and systems have put our planet and the lives of future generations at risk; and that bold, immediate action is required to avoid a sixth extinction.

Accordingly, BFF's overall mission is to accelerate the momentum for a transition toward a more resilient Aotearoa New Zealand, which we believe requires "joined up", systems-based thinking that puts the wellbeing of people and the planet - and, indeed, the right to life which is enshrined in the New Zealand Bill of Rights Act - at the centre of our transition. So, improving human health is inextricably linked to improving the health of the planet, which requires us to live in balance with all living systems; so that we may have high quality air to breathe, water to drink, food to eat and homes to live in.

Many economists support Thomas Picketty's (2013 & 2015¹) assertion² that these interlinked environmental and social equity/social justice issues stem from an outdated industrial extraction model based on exploitation of the planet's resources without considering the need to preserve the ability of future generations to meet their needs. Picketty goes as far as to suggest that we should forgo some of our quality of life now, in order to protect future generations. Increasingly damaging climate events are due to an unsustainable reliance on fossil fuels and other elements of nature to support our unsustainably high energy lifestyle. The only answers to this will be to immediately and significantly decrease the prevailing lifestyle choices of food, travel and energy (especially in 'developed' countries); while simultaneously protecting and regenerating every possible natural ecosystem; in order to increase the chances of an adequate quality of life into the 22nd century and beyond.

Addressing individual environmental and social issues, including climate change, separately or in silos will not address the root cause of those issues. We need to change our relationship with the planet and replace the current industrial extractive model with a regenerative one - a model that improves and regenerates the wellbeing of people and the planet.

This submission provides the unique BFF perspective and addresses the issues that available BFF members have particular expertise in, and knowledge about. Given the time constraints and volunteer nature of our organisation, we have been unable to address all of the matters that

¹ [01-Study-PSE-4decNUMERIQUE-1.pdf \(ens.fr\)](#)

² [New Zealand perspective on Picketty PQ Feb 2015.pdf \(geoffbertram.com\)](#)

we would have liked to. We have, therefore, focused on key principles that BFF believes should drive decision-making and actions on climate change policy.

We note here that we have not answered the consultation questions entirely in the format requested by the Commission. That format did not enable us to convey our key messages in a way that reflect a joined-up, systems-based approach to climate policy. Instead, we have provided references to the consultation questions in relevant places and a summary of our position on each question in an Appendix. We request, however, that the submission be read as a whole by all of those tasked with considering the issues raised.

3. BROAD SUPPORT FOR CLIMATE CHANGE COMMISSION ADVICE

At the outset, BFF wishes to acknowledge the enormous effort that has gone into creating the first comprehensive analysis of Aotearoa New Zealand's emissions, a draft emissions budget, and proposed strategies for reducing our emissions.

For too many decades, local and global governments have failed the people they serve through short-term thinking, and we now face incredible uncertainty about our future on this planet. Globally, temperatures have already warmed by around 1 degree since pre-industrial times, and on current international pledges the world is on track to exceed 3 degrees of warming. The use of the term 'unprecedented'³ to describe catastrophic climate events that are already occurring around the world, will only increase when we get to 1.5 degrees warmer; and when we reach 3 degrees by the end of the century,⁴ sea level rise alone, will dispossess millions of city dwellers. These temperature changes are not evident on a daily or local basis, and humans can adapt. However, there are growing reports that global temperature changes might lead to cascading harm once key tipping points⁵ are lost, and without strong immediate action and a change in our priorities, we will tip the planet into irreversible damage - if that has not already occurred.

In light of that, BFF extends its broad support for the work of the Climate Change Commission. In particular, we agree with the sentiment and statements set out in the letter from the Chair - that there have been many people before now who have provided evidence and warnings, that we must act now and do as much as we can, that no emissions reduction is too small or too soon and that, importantly, we must do our fair share of the global lifting to reduce emissions to net zero and halt climate change.

BFF also agrees with the Vision set out at the beginning of a thriving, climate-resilient, low emissions Aotearoa. We support the ideas of equity and inclusivity, stewardship of the land, replenishing native bush stores, warm and healthy homes for all, a circular economy, and a more compact urban form that is built around people and encourages active transport modes.

³ <https://www.osti.gov/pages/biblio/1625981>

⁴ <https://www.theguardian.com/cities/ng-interactive/2017/nov/03/three-degree-world-cities-drowned-global-warming>

⁵ <https://e360.yale.edu/features/as-climate-changes-worsens-a-cascade-of-tipping-points-looms>

Furthermore, we take the view that the vision for a future Aotearoa New Zealand needs to be inclusive of all New Zealanders. This means that the perspectives of vulnerable groups, and those who will be impacted but may not have the resources to express their concerns in submissions to the Commission, should be included. Further, this vision for Aotearoa should be addressed holistically; not only in relation to climate change specifically, but for the future of our society as a whole. Climate change is not an issue that is separate to human wellbeing; including the wellbeing of our communities, and the non-climate-related wellbeing of the natural world. For this reason, we support a public forum or citizen's assembly approach, to facilitate meaningful conversations, informed by strong science, and to enhance representative, democratic decision-making (**Enabling Recommendation 5; Consultation question 9**).

Notwithstanding BFF's broad support, we are concerned that the Commission's advice neither lives up to its Vision, nor aligns with the principles it has adopted as a guide.

4. OVERVIEW OF KEY CONCERNS

The impression we have from the advice report is that the Climate Change Commission is proposing a more or less 'business as usual' scenario, in which we simply replace our vehicle fleet with electric vehicles, use a bit more public and active transport, reduce the number of dairy cows on farms without changes to farming approaches, marginally reduce inorganic waste to landfill and increase carbon stores by planting native trees.

None of these ideas are revolutionary, nor transformative. We recognise that they do represent some level of change, that change can be challenging, and that there may be some public and, therefore, political resistance to transformative, systemic change. But the report must avoid contributing to a 'cooling discourse' on climate action, described by Sarah Monod de Froideville as communications that "settle concerns about harmful activity that are gathering momentum through acknowledging the harm and appearing to address the activity in some manner...so that harmful activity can continue or resume unopposed."⁶

BFF's view is that a 'business as usual' approach will not ensure our survival; particularly viewed in the context of the wide range of environmental challenges that stem from climate change. Transformative, systemic change is required for humans to continue to survive and thrive on this planet. That message, however difficult to hear, must be communicated: and it is the Commission that must do that. In practice, that means that we are asking the Commission to proactively reflect an urgency and integrity towards the intention of what should be done, rather than acting as if the 2050 targets are externally imposed demands that Aotearoa is reluctant to meet.

Therefore, BFF's high level view is that the Climate Commission advice could be significantly improved by:

⁶ <https://journals.sagepub.com/doi/abs/10.1177/1741659020973723>

- (a) Taking a broad global view of climate change in developing emissions budgets and policy direction for Aotearoa New Zealand;
- (b) Approaching climate change holistically, by putting human and planetary wellbeing at the centre of climate policy; and
- (c) Adopting a systems-based approach to climate policy, which ‘designs out’ energy consumption as far as possible.

Our responses to the consultation questions are guided by these principles, which are explained in more detail below.

4.1 Taking a broad global view in developing emissions budgets: the importance of consumption based data

The Climate Change Commission has approached its task of setting emissions budgets for Aotearoa New Zealand as an accounting exercise. In doing so, it decided that it needs to adopt *either a consumption or production* based approach to accounting for emissions - in other words, should it count (and budget for) the emissions created by Aotearoa New Zealand’s *production* of goods - or its *consumption* of goods?

The Commission has elected to adopt a production based approach for its accounting purposes and BFF understands the reasons for that preference. We also recognise that this is common practice internationally. However, BFF’s view is that this accounting approach risks:

- (a) Being too narrowly focussed on fulfilling an accounting task rather than halting global climate change in order to preserve the planet for future generations⁷; and
- (b) Unduly narrowing the scope of issues that the Commission and, ultimately, the government need to consider in setting emissions budgets and adopting emissions reduction policies.

BFF’s concern is that relying too heavily on emissions budgeting at a national level - and the various accounting tricks⁸, tools and methods that accompany that approach - can divert us from the real and urgent task of *reducing carbon emissions to the planet’s atmosphere*.

⁷ Jacinda Ardern 'hugely concerned' at petrol prices, Government to force fuel companies to open their books | 1 NEWS | TVNZ

⁸ The government-funded collaborative academic research programme, UK FIRES, refers to avoiding responsibility for consumption emissions as “political trickery”. See: Allwood et al, Absolute Zero, UK FIRES, November 2019, page 4; https://www.repository.cam.ac.uk/bitstream/handle/1810/299414/REP_Absolute_Zero_V3_20200505.pdf?sequence=9&isAllowed=y

Production-only based accounting and the exclusion of international aviation and shipping from emissions budgets undermines global efforts to limit global warming to 1.5 degrees.

The production based approach assumes that all countries will adopt robust emissions reduction policies so that, in a global context, there is no ‘emissions leakage’, where emissions are occurring but not being accounted for. That assumption is unlikely to hold true, particularly where manufacturing of goods bought by New Zealanders occurs in other countries (including where New Zealand businesses themselves have contracted other countries to do their manufacturing).

Completely ignoring our role in carbon emissions via demand and consumption let’s us off the hook and shifts the burden of reducing emissions to countries that can least afford to stop using fossil fuels, which perpetuates climate injustices and inequities.

We cannot afford to approach climate change with such a narrow focus. We need to understand the level of emissions from both our consumptive *and* production activities, and adopt policies that reduce carbon emissions from both.⁹

The Commission acknowledges that, “*Aotearoa needs policies to address supply and demand, including measures like grants or tax credits to improve competitiveness with fossil fuels.*”¹⁰ Such an approach could potentially help to reduce a range of consumption emissions.

We also note that the lack of focus on consumption puts an equitable transition at risk (**Consultation question 13**). In that regard, the Commission recognises the potential expense associated with EVs but recommends that EV car-sharing arrangements should be adopted in communities that can’t afford them. In our view, this sends the undesirable message that you can continue to consume (‘business as usual’), as long as you can afford it. If you can’t, you’ll have to change your behaviour. This is unhelpful, and sends the wrong message about recommended future transport behaviours.

In fact, we all have to change our behaviour to consume less. Active transport should come first, followed by public transport, then car sharing for everyone, followed by privately owned vehicles¹¹ (**Consultation question 14**). This is not limited to the EV example. In fact, as a general principle, the wealthy create the most emissions,¹² and some commentators are calling for a shift in the focus of climate policies to the ‘super rich’.¹³ An equitable transition involves

⁹ Allwood et al, *Absolute Zero*, UK FIRES, November 2019, page 4; https://www.repository.cam.ac.uk/bitstream/handle/1810/299414/REP_Absolute_Zero_V3_20200505.pdf?sequence=9&isAllowed=y

¹⁰ See: Section 6.1.1.

¹¹ [Transport-Hierarchy 1.jpg \(1200×966\) \(homeenergyscotland.org\)](https://www.homeenergyscotland.org/transport-hierarchy-1.jpg)

¹² Extreme Carbon Inequality, Oxfam Media Briefing, 2 December 2015; https://oi-files-d8-prod.s3.eu-west-2.amazonaws.com/s3fs-public/file_attachments/mb-extreme-carbon-inequality-021215-en.pdf

¹³ Otto, I.M., Kim, K.M., Dubrovsky, N. et al. Shift the focus from the super-poor to the super-rich. *Nature Clim Change* 9, 82–84 (2019). <https://doi.org/10.1038/s41558-019-0402-3>;

behaviour change for everyone - and there is much that the government can do in this regard, with more extensive public services for all.¹⁴

So, what the planet actually needs is for us to reduce overall emissions - not just to balance an emissions budget based on accounting assumptions that may or may not turn out to be true. For all of the reasons discussed above, BFF agrees that Aotearoa New Zealand should focus on decarbonising the economy as opposed to relying on offsets to meet its targets or reducing production in a way that increases emissions offshore.

Therefore, BFF submits that Aotearoa could better account for its impact on global emissions by addressing both its production and consumption, and that this principle should be built into the Commission's report.

One way of achieving this in part would be to amend Principle 2 as follows (**Consultation question 1**):

“Principle 2: Focus on decarbonising the economy your production and consumption of goods and services. Aotearoa should prioritise actions that reduce gross emissions within our borders, as well as removing emissions by sequestering carbon dioxide in forests. Aotearoa should focus on decarbonising its industries rather than reducing production in a way that could increase emissions offshore. Aotearoa should also reduce the emissions caused by its demand for and consumption of imported products, including international aviation and shipping...”

This approach would:

- a. Support the reduction of emissions caused by our consumption of goods - which will have a real impact on climate change irrespective of accounting tools and methods adopted;
- b. Encourage other countries to adopt net zero 2050 targets and implement robust measures to decarbonise their own production industries, for example by introducing eco-tariffs like the European Union's Carbon Border Adjustment Mechanism¹⁵, or other carbon levies.

We strongly disagree, for the same reasons, with **Budget Recommendation 5** to the extent that it recommends adopting a production based approach to emissions accounting, without incorporating consumption-based data on emissions (**Consultation question 20**).

4.2 Taking a broad global view in developing emissions budgets - risk to New Zealand

https://www.researchgate.net/publication/330692442_Shift_the_focus_from_the_super-poor_to_the_super-rich

¹⁴ [Business Scoop » What Are Universal Basic Services – And Could They Work In Aotearoa?](#)

¹⁵ The Carbon Border Adjustment Mechanism (CBAM) - Climatetrade

Another reason to develop climate policy in a global context is because decisions being made elsewhere in the world are likely to have a direct impact on us. For example, the UK FIRES report has mapped the UK's future toward zero emissions by 2050, which includes ceasing flights (no tourism to New Zealand), shipping (no imports or exports with New Zealand) and consumption of beef and lamb.¹⁶ Similarly, the European Union (EU) is implementing the Carbon Border Adjustment Mechanism (CBAM) as part of the European Green Deal, which imposes a carbon tax on imports to the EU which would otherwise undermine its own efforts to achieve net zero emissions by 2050.¹⁷ International carbon emissions policies represent a risk to New Zealand in that regard, and this has not been appropriately recognised in the Commission's advice.

For that reason, BFF suggests that a new principle be included as follows (**Consultation question 1**):

New Principle 8: Recognise risk. *The international community are preparing their own emissions reduction policies, which may impact upon New Zealand and its citizens in ways that may be broadly anticipated, but may not be immediately apparent. It is possible, for example, that other countries will introduce various carbon levies, restrict international shipping and aviation (or make them more expensive). Aotearoa New Zealand should be aware of such risks, both economic and reputational, when setting emissions budgets and designing and implementing carbon policy.*

4.3 Adopting a holistic approach to climate change decisions: putting the wellbeing of human and the planet at the centre of climate policy

Climate and environmental issues stem from the disregard of whanaungatanga relationships between humans and nature - and it is in this area that pivotal change is required. Climate change is one of the many symptoms of the linear, take-make-waste approach that dominates the production systems and lifestyle of the Anthropocene era - which evolved before we knew better. The impact of this approach has generated a range of other symptoms beyond climate change, including biodiversity collapse, the crisis of water quality and quantity, and air pollution.

In 2009, Rockstrom et al identified nine planetary boundaries, which define the outer limits of a safe operating space for humanity with respect to the planet's systems.¹⁸ Exceeding those thresholds could have "*disastrous consequences for humanity*", tipping the planet into irreversible, abrupt environmental change, leading to a state "*less conducive to human development*". To date, we have exceeded at least four of the planetary boundaries identified in

¹⁶ Ibid., pages 6 and 7.

¹⁷<https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-carbon-border-adjustment-mechanism>

¹⁸ Rockström, J., Steffen, W., Noone, K. *et al.* A safe operating space for humanity. *Nature* 461, 472–475 (2009). <https://doi.org/10.1038/461472a>

the article.¹⁹ The Dasgupta Review has recently reiterated the precarious position in which our “take all” mentality has left the health of the planet, and finds that we would need 1.6 planet Earths to maintain the ‘developed’ world’s current living standards.²⁰

Given that climate change is just one symptom of our anthropogenic impacts, it makes little sense to attempt to address that symptom in isolation. Rockstrom, Steffen et al recognise that the interrelationship between myriad ecosystems, and human actions, can lead to the degradation of land and water - which then further increases the risk that other thresholds will also be crossed, such as the climate system.²¹ Frighteningly, a recent study that was undertaken in collaboration with the University of Waikato suggests that increasing temperatures mean we are reaching a tipping point which may affect the ability of plants to photosynthesise - reducing the amount of carbon absorbed and even turning trees into net carbon emitters. The earth systems scientist who led the study, Dr Kathryn Duffy, emphasises the need to protect and restore our fragile ecosystems and make them more resilient to climate change.²²

The Commission’s advice recognises that some actions that may be taken for climate change purposes could have “co-benefits” in other areas, including in relation to other environmental issues. But it needs to go further. It needs to view climate change holistically, and in the context in which it arose. The government’s response to this climate emergency will need to ensure that the wellbeing of people and the planet take priority; and provide the lens through which any future policy settings are viewed. In that regard, Kate Raworth’s doughnut economics²³ model provides an extremely useful lens through which to view the systemic change required; and work is being undertaken in New Zealand to develop a Te Reo Māori doughnut, to provide an indigenous view on doughnut economics from New Zealand.²⁴

An important example of some climate-based decisions leading to other adverse impacts on the environment, includes the mining of materials to produce EVs²⁵. Cobalt, for example, is critical to the manufacturing of EVs, and if everyone in the UK had one, there would be no cobalt available for the rest of the EU.²⁶ Of interest to Aotearoa farmers, Cobalt is also the basis for Vitamin B12, that they need to feed their stock²⁷. It is important that any approaches to climate

¹⁹https://ec.europa.eu/environment/integration/research/newsalert/pdf/four_out_of_nine_planetary_boundaries_exceeded_410na1_en.pdf

²⁰ Final Report - The Economics of Biodiversity: The Dasgupta Review - GOV.UK (www.gov.uk)

²¹ Ibid;<https://www.pik-potsdam.de/en/news/latest-news/planetary-boundaries-interactions-in-the-earth-system-amplify-human-impacts>

²²<https://www.rnz.co.nz/national/programmes/saturday/audio/2018786407/forests-reach-temperature-tipping-point>

²³ Raworth, K., A safe and just space for humanity: Can we live within the doughnut?, Oxfam Discussion Paper, February 2012. https://www-cdn.oxfam.org/s3fs-public/file_attachments/dp-a-safe-and-just-space-for-humanity-130212-en_5.pdf; <https://www.kateraworth.com/doughnut/>

²⁴ <https://www.projectmoonshot.city/post/an-indigenous-view-on-doughnut-economics-from-new-zealand>

²⁵ [The dirty secret of electric vehicles | World Economic Forum \(weforum.org\)](https://www.weforum.org/articles/the-dirty-secret-of-electric-vehicles/)

²⁶ UK electric cars will require twice the world’s supply of cobalt | Auto Express

²⁷ [fertiliser-use-new-zealand-sheep-and-beef-farms \(beeflambnz.com\)](https://www.beeflambnz.com/fertiliser-use-new-zealand-sheep-and-beef-farms)

policy avoid locking in behaviours that would further entrench extractive models and impact upon the health of people and the planet.

These are not radical ideas. The UNEP report, *Making Peace with Nature*,²⁸ released in February 2021 identifies climate change, biodiversity loss and air and water pollution as three self-inflicted planetary crises that are interconnected. One of the key messages of that report is that these environmental emergencies must be addressed together to maximise the benefits and minimise the trade-offs. Both the UNEP report and the Dasgupta Review implore governments to ascribe appropriate value to the natural world and put it at the heart of all decision making.

It is also a concept that New Zealanders should understand, because it lies at the heart of Mātauranga Māori. BFF agrees wholeheartedly with the recommendation to ensure a genuine, active and enduring relationship with Māori (**Consultation question 7; Enabling Recommendation 3**), but also submits that Te Ao Māori concepts must be acknowledged as a knowledge system in and of themselves. Transformational Mātauranga Māori should not be used as a procedural pathway to maintain and sustain current faulty systems such as extractive industrial models and exploitative systems that use nature and human ‘capital’ as stock and asset. Instead, our government agencies must engage with Māori in partnership to learn about Mātauranga Māori and to learn about the intrinsic Mana held within ancestral knowledge systems. This will lead to a more meaningful connection to the environment. This is manaakitanga in action; this is equal partnership, for the purpose of orchestrating authentic change, which has the potential to actively benefit every New Zealander.

The need for a holistic approach was aptly put by Rod Oram in relation to the importance of native forests: “*The biggest challenge of all is to ensure we fully value the all-of-forest benefits of natives, and then to create some economic mechanisms to reward land owners – both private and public – for planting natives. Taking this integrated approach is crucial. **If we make narrow decisions on just the known carbon sequestration and timber value of radiata pine we will continue to make seriously sub-optimal decisions.***”²⁹

Principle 7 addresses leveraging “co-benefits”, but BFF argues that is not enough. There needs to be a shift in focus to put the wellbeing of people and the planet at the *centre* of climate change policy. This approach would:

- a. Promote the best outcomes for people and nature;
- b. Promote a holistic approach to climate change that recognises all aspects of human and planetary wellbeing as integrated, rather than applying climate-specific solutions as if climate change components can be ‘fixed’ separately;

²⁸ UN Environment Programme, *Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies*, February 2021.

²⁹ <https://www.newsroom.co.nz/rod-oram-walking-in-tanes-forests>

- c. Shift our focus from a business-as-usual scenario to one that is regenerative and sustainable in the long term;
- d. Reduce the focus on tinkering with numbers on an accounting sheet; and
- e. Preclude decisions and actions advanced in the name of climate change that ignore the overall wellbeing of people and planet, and may therefore have intended negative consequences.

BFF submits that Principle 7 could be re-drafted along the following lines to address these concerns (**Consultation question 1**):

“Principle 7: Put the regeneration of human and planetary health at the centre of climate policy. The world has capitalised on a one-off opportunity to extract and burn fossil fuels, releasing millions of years worth of stored carbon into the atmosphere at a rate that cannot be mitigated by the natural world. This extractive industrial approach has culminated in a range of adverse effects on both people and the planet, one of which is climate change. Improving the health of the natural world, on which we as humans rely, cannot be addressed in silos. Specifically, actions that improve the health of people and the planet should be prioritised and actions that may negatively impact the natural world should be avoided.”

4.4 Adopting a systems-based approach to design out energy use

Related to the principles articulated above, BFF’s submission is that we need to adopt a systems-based approach to climate policy, rather than tinkering around the edges of individual elements to make them a bit ‘less bad’, or expecting individuals to make climate-positive behavioural choices that are not fully supported by the systems that currently exist. In relation to the latter, BFF supports the comments made by Jess Berentson-Shaw in her recent Newsroom article on this issue.³⁰

In particular, serious questions are being raised about the ability to simply replace fossil fuels with renewables in order to continue to have as much energy available to us as we desire.³¹ Worse than that, some experts are suggesting that, unless we plan our way to a reduction in energy use, we may face catastrophic collapse as the energy that we rely so heavily upon becomes significantly less available.³² Krumdieck addressed this with a reference to retirees, who plan for the future as they look to a reduced income when they stop working. It is simply recognising inevitable change.³³

Academic analysis undertaken in the UK shows that, by 2050, the UK will only be able to power 60% of today’s energy-use (remembering that aviation and shipping are not included in the

³⁰ <https://www.newsroom.co.nz/stop-the-behaviour-change-talk-give-us-better-systems>

³¹ <https://www.newsroom.co.nz/is-our-renewable-energy-future-what-we-think>;
<https://thedig.nz/transitional-ecology/transitional-energy-a-better-future-for-energy-in-aotearoa-nz/>

³² <https://www.stuff.co.nz/environment/climate-news/122689734/sustainability-is-wishful-thinking-get-ready-for-the-energy-downshift>

³³ Microsoft Word - Krumdieck_ The First Rule Paper.doc (canterbury.ac.nz)

calculations) using clean electricity - partly because of the time it takes to create new infrastructure and implement new energy technology. In other words, for the UK to meet its zero emissions goal by 2050, it must reduce its energy use by 40% of current levels.³⁴

The figures will differ for Aotearoa, but the question of whether we will be able to generate enough electricity to continue to grow our use of energy and meet our zero emissions goals by 2050 is not considered in the Commission's report.³⁵ Further, New Zealanders are now one of the highest per capita consumers of energy globally, and much of what we consume is wasted or used for non-essential activities.³⁶ As noted above, additional risks may arise for this country since it does not have the capacity to manufacture EVs or renewable energy infrastructure. If other countries restrict their imports and exports with Aotearoa, or impose higher taxes on those activities.

In light of that, and the uncertainties being raised about the ability to sustain growing energy consumption, BFF is asking for a much stronger focus in the Commission report on a reduced demand for energy. This focus needs to go beyond simply energy efficiency (which does not guarantee lower energy use according to Jevon's Paradox³⁷). We need to approach this in a systems-based way, in which we look at all aspects of our systems and society to "design out" energy use as far as possible. The additional benefit of systemic reduction in energy use is a reduction in the costs associated with increasing our supply of renewable electricity, or in developing new technologies; which aligns with the Commission's **Principle 4** - to avoid unnecessary cost.

The work of the Transition Engineering community in Aotearoa, particularly that of Professor Susan Krumdieck NZMN, is vital in this respect.³⁸ In an energy context, Transition Engineering applies scientific principles to the design, innovation and adaptation of systems to reduce energy use, particularly of fossil fuels. BFF submits that the Commission and the government should engage Transition Engineering expertise to guide its approach to climate policy, particularly to identify adaptations to our systems that will help reduce energy demand.

BFF suggests that a new principle should be included to reflect this, as follows (**Consultation question 1**):

New Principle 9: Design systems which downshift energy use. New Zealanders are one of the highest per capita consumers of energy globally. Our current systems (our cities and suburbs, food production and distribution, and industry) are based around the abundance and efficiency of fossil fuels as an energy source. Energy not used saves the need for infrastructure, saves money on the transition and saves emissions. We need to prioritise energy conservation,

³⁴ Allwood et al, op. cit., page 13.

³⁵ <https://www.newsroom.co.nz/our-energy-system-has-been-broken-for-too-long>

³⁶ bp Statistical Review of World Energy 2020; <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>

³⁷ Jevons paradox - Wikipedia; https://en.wikipedia.org/wiki/Jevons_paradox

³⁸ <https://www.transitionengineering.org/home>;

but not just on an individual behavioural choice basis. We need to adopt a systems-based approach to reduce our reliance on energy, using methods such as transitional engineering.

We note here that this approach could be well utilised in local transition planning, using key stakeholders in combination with transition engineers to solve contextual issues. We support the development of localised transition plans and ask that the Commission's advice reflect the benefits of using a transition engineering approach (**Consultation question 13**).

5. EMISSIONS BUDGETS

The Commission has sought feedback in relation to the emissions budget levels and breakdowns. BFF addresses here:

- **Big Six, question 1:** the pace of change
- **Big Six, question 2:** the balance between generations
- **Big Six, question 6:** whether the budgets are ambitious and achievable
- **Consultation questions 2 and 3:** and the emissions budgets levels and breakdown.

We note the complexity of the Commission's discussion and advice in relation to setting appropriate emissions budgets and an NDC. BFF have not had the opportunity to interrogate the specifics of the Commission's accounting approach and unravel these complexities. We have therefore approached this issue at a principle level, as outlined in the introductory sections of this submission.

5.1 Budget levels: risk and intergenerational equity

It is evident that the budgets for the first 14 years leave the bulk of the work to be achieved in the last 15 years. We understand that ramping up emissions reductions will take some time, but we note that the IPCC has advised that **a 45% reduction on 2010 emissions must be achieved by 2030**³⁹ to have a chance of limiting global warming to 1.5 degrees. Even that pathway only gives us a 50 - 66% chance of limiting warming to 1.5 degrees, which are low odds; and, in our view, unacceptable.

The proposed budgets appear to be based on prayers, and hopes for technological miracles. An exemplary project management approach would suggest that, in order to pre-empt any risks for not achieving the project's goal, it is better to manipulate time-frames and resources in order to get a high-quality outcome. In order to mitigate further unprecedented climate disasters; and further loss of millions of lives; and a severely reduced quality of life for the human race now and into the future (let alone the lives of the remaining 5% of wild vertebrates left on this planet⁴⁰) it is incomprehensible that the Commission has not recommended that it is necessary to go early, and go hard on these budgets.

³⁹ <https://www.ipcc.ch/sr15/>

⁴⁰ <https://www.theguardian.com/news/2018/mar/12/what-is-biodiversity-and-why-does-it-matter-to-us>

The current recommendations shift a high level of risk to future generations. BFF considers this to be manifestly unfair, given that current generations have benefitted from the activities and lifestyle that have led to climate change, which will inflict harm on future generations. It is not equitable to leave future generations to do the heavy lifting and bear the risk and consequences of not limiting global warming to 1.5 degrees.⁴¹ (**Big Six, questions 1 and question 2; Consultation question 2**)

Given the high level of uncertainty that global warming will be limited to 1.5 degrees and for the purpose of achieving intergenerational equity, BFF takes the view that we should err on the side of doing more earlier as a matter of principle, which will also help cement climate positive systems and increase the chance of success. We can already see the impact on the world's climate from a 1.1 degree increase; if we manage to stop the heating at 1.3 instead of 1.5, that can only be a good thing.

We also support **Budget Recommendation 4 (Consultation question 4)** to limit offshore mitigation, for the reasons set out in this section. This approach will also support the transformation of our extractive relationship with the planet to a regenerative and sustainable one by requiring a rapid reduction in our own emissions, rather than relying on other countries.

Related to this, we note, too, that Aotearoa New Zealand has additional responsibilities as a developed country that has (per capita) contributed much more than those in developing countries to the current predicament. For this reason, and drawing on the original IPCC directive that developed countries have a responsibility to do the heavy lifting for others, it seems patently unfair for New Zealand to seek offshore mitigation under *any* situations - whether defined as exceptional, or not.

5.2 Budget levels: sufficiently ambitious?

The Climate Change Commission has put significant emphasis on the need for the budgets to be ambitious but achievable. That is a reference to section 5ZC(2)(b)(iv) of the Zero Carbon Act, which includes the following matter that the Commission must have regard to:

“the need for emissions budgets that are ambitious but likely to be technically and economically achievable”.

⁴¹ Mary Robinson Foundation (2015) Meeting the needs of Future Generations: Applying the principle of intergenerational equity to the 2015 processes on climate change and sustainable development. Position paper. Dublin. Available at: https://www.mrfcj.org/wp-content/uploads/2015/09/MRFCJPositionPaper_MeetingtheNeedsofFutureGenerations_12August2015.pdf

Although this is a matter that the Commission must have regard to, it does not override the purpose of the Zero Carbon Act, which is to contribute to the global effort to restrict warming to 1.5 degrees.⁴²

The Commission itself has determined that:

- a. The budgets are not sufficient to discharge our NDC obligations; and
- b. Our current NDC is not a sufficient contribution toward limited global warming to 1.5 degrees.

BFF agrees that the budgets are not sufficiently ambitious, and that the Commission, in recommending these budget levels, has not adequately undertaken its functions in accordance with the purpose of the Act. Further, given the high level of risk that the 1.5 degree limit or the net zero target will not be met, BFF submits that rapid, deep cuts to emissions must be made as soon as possible. In that regard, we note that there is no analysis of the costs of not taking action to make deep, rapid cuts in emissions. Perhaps if we were to analyse the costs of failing to act with decisiveness, we would better understand the need for ambitious emissions budgets.

BFF seeks that emissions budgets are, as a minimum, aligned with IPCC advice to achieve a 45% reduction on 2010 emissions by 2030. (**Bix Six, questions 1, 2 and 6; Consultation question 2**). In fact, we believe it is appropriate to set even greater reductions, taking into account the factors that assist in determining a fair contribution from New Zealand. We have not made recommendations as to what those figures should be, as others are better equipped to do so. However, we have reviewed the approach taken by LCANZI in recommending a 2021-2030 level of 400 million tonnes and agree with the rationale for that approach.⁴³

We also take the view that it is better to push hard and fail slightly, than take a relaxed approach on something as significant to the future of the human race. So, rather than the Commission advising⁴⁴ that the government should aim to overachieve the budgets, we would prefer a stretch target, in order to increase our chances of meeting the budgets. This would push New Zealand to meet the net zero targets sooner rather than later, thus reducing the burden on future generations and rapidly achieving negative net emissions, and regenerate the planet. We therefore request that the Commission include a **new Budget Recommendation 1a** that the government:

(a) In addition to meeting the budgets, adopt a stretch target that is pursued to ensure that there is high confidence of meeting the budgets and net zero target as soon as possible, reducing the burden on future generations and increasing the opportunities to achieve negative net emissions and regenerate the planet; and

⁴² Climate Change Response Act 2002, section 3.

⁴³ LCANZ submissions to the Climate Change Commission — Lawyers for Climate Action NZ Inc.

⁴⁴ Evidence report, Chapter 8, page 25.

(b) Put in place a wide range of policies that mutually reinforce each other to give it more options for making adjustments to help meet the emissions budgets and avoid the risk that some actions fail to deliver the expected emissions reductions.

5.3 Budget Recommendation 5 (Consultation Question 20): Rules for Measuring Progress

BFF supports some of the actions. We understand that there is considerable variability within the forestry sector, and how the range of activities would make it difficult to accurately and usefully represent what the atmosphere sees in that sector. For that reason, we support the decision to go with the modified activity (NDC) approach, because it is easier for trend analysis, and it also holds us to account beyond 2050.

However, there needs to be an account of other types of removal beyond forestry – and things like wetlands do not need to be averaged, because NZ’s approach should be to regenerate, and not remove any further natural habitats that provide our native species the opportunity to thrive; and the land itself to regenerate and increase its ability to sequester GHG emissions.

Referencing our strong preference for regeneration of native bush, and the need for an increase in regenerative agriculture to help bring back elements of nature that will provide protective factors to our natural world, BFF therefore recommends that a land-based approach for measuring GHGs from Croplands, Grasslands and Wetlands is used. In this instance, we wish to see how the trajectory towards regeneration is occurring over time - as what the atmosphere sees. This is because we wish to track an overall reduction in grazing land for agriculture, an overall increasing trend in revegetation, and an overall increasing trend in wetland regeneration. This latter feature is particularly critical: it relates to the Māori use of wetlands, as well as the native New Zealand biodiversity that should be protected.

5.4 Budgets: need to measure consumption-based emissions

The emissions budgets completely ignore emissions associated with the consumption of goods and services in New Zealand and do not, therefore, recognise that we create emissions via our demand for goods and services produced elsewhere. 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. BFF takes the view that we have a responsibility, particularly in the context of making a “fair contribution”, to reduce the emissions we consume via imported goods and services as well as our production emissions.

BFF seeks that the Commission build in consumption-based measurements into its analysis, and develop a pathway for measuring, and reducing, embedded emissions in imported goods and services. **(Big Six, question 6; Consultation question 20).**

5.5 Budgets: international aviation and shipping

Emissions from international aviation and shipping need to be in, otherwise we're only pretending to reach net zero. Just because we don't count them, doesn't mean they're not there, having their destructive effect. It's as simple as that. The current approach is widely recognised as not regulated at all - partly because of contention as to who should take responsibility (should it be the country of departure or arrival? What about layover flights?).⁴⁵

The fact that these emissions are not currently accounted for supports the submission that we should be making faster, deeper cuts in other areas. And if we don't account for these emissions, we are simply doomed to fail.

6. NATIONALLY DETERMINED CONTRIBUTIONS

The Commission seeks feedback in relation to its findings and recommendations on Nationally Determined Contributions (NDCs). BFF addresses here:

- **Big Six, question 3:** proposed changes to make the NDC compatible with the 1.5 degree goal;
- **Consultation question 21:** the Commission's assessment of the NDC and its recommendation; and
- **Consultation question 22:** recommendations on the form of the NDC.

6.1 The Commission needs to make a specific recommendation on the NDC

Our main concern in relation to the Commission's advice in relation to Aotearoa New Zealand's NDC is that, having found that our current NDC is inadequate, it fails to make any meaningful recommendations as to what the NDC should actually be. The Commission has been established with both the role and expertise to determine, on a scientific basis, the extent to which carbon emissions must be curtailed over the coming decades in order to limit global warming to 1.5 degrees. Yet it side-steps this responsibility, on the basis that the NDC is a political decision. We strongly disagree with that contention and request that the Commission specify an NDC that is appropriate for Aotearoa New Zealand; taking into account the principles of both intergenerational equity and fairness, in light of New Zealand's wealth and emissions history.

We agree with the recommendation that the NDC should be reduced to a level much more than 35% below 2005 gross levels by 2030. We strongly disagree that how much the NDC is strengthened depends upon political matters such as tolerance for climate, reputational and

⁴⁵ Where in the world do people have the highest CO2 emissions from flying? - Our World in Data. [Note that per capita aviation emissions for domestic travel in NZ is 174kg, which is one of the highest in the world], op.cit..

economic risk. The approach taken by the Commission is particularly disappointing because it leaves the government open to lobbying and ‘agency capture’ on this issue and completely disregards the right to life enshrined in both New Zealand and international legislation.⁴⁶

BFF seeks that the Commission advise the government as to an appropriate NDC. It must be one which gives us the best chance to limit global warming to 1.5 degrees. The IPCC advice is to reduce emissions by 45% on 2010 levels by 2030. We support the LCANZI submission that 400 million tonnes over 2021-2030 is broadly appropriate. **(NDC recommendation 2; Consultation question 21).**

7. The Biogenic methane target is not high enough

BFF does not take a strong view on the form of the NDC itself as set out in **Enabling NDC Recommendation 1**. Our position is that the government should adopt a form that is most transparent and which best contributes to limiting global warming to 1.5 degrees (**Consultation Question 22**).

However, we are concerned that the Commission adopts an approach that seems to let us off the hook with respect to biogenic methane. The IPCC modelling shows that large reductions in carbon dioxide would need to be made by 2030 to be on track to limit warming to 1.5 degrees, with lesser reductions in biological emissions for agriculture. This modelling is based on global averages and New Zealand’s emissions are made up of around 50% biological emissions from agriculture.

In our view, this *increases* Aotearoa New Zealand’s responsibility to cut biogenic emissions from agriculture: we should be doing more than the global average in this measure to properly do our ‘fair share’ and the requirement for the NDC to reflect our ‘highest possible ambition’. This is particularly so given the significantly higher impact of biogenic methane over the next 25-30 years. Therefore, we need to make deep, rapid cuts to emissions immediately to limit global warming to 1.5 degrees.

BFF seeks that this principle be taken into account in recommending an NDC and emissions budgets pathways that represents Aotearoa New Zealand’s ‘fair share’.

8. THE PATHWAY TO MEET EMISSIONS BUDGETS

BFF supports many aspects of the pathway laid out by the Commission (**Consultation questions 10, 11 and 12**). We must electrify. Our electricity sources must be renewable. We must reduce actual emissions where that is possible and reserve offsetting for those sectors that cannot reach gross zero emissions, even after adopting lower emission alternatives. We must invest in native forests now, so that they act over the long term as a carbon sink. We must not rely on fanciful technology that we hope will save us, or technology that is not ready to be

⁴⁶ New Zealand Bill of Rights Act 1990, s3; International Covenant on Civil and Political Rights, art 6.

affordably implemented now, or technology that cuts across what a regenerative approach can achieve on its own.. We must not push the burden to future generations.

Nor do we disagree entirely with the general approach to decarbonise first, rather than reduce production. But, it is unlikely that we can simply replace fossil fuels with renewable energy and keep increasing our energy usage. This is an issue that is being raised by experts around the world, including by engineers at Canterbury University, and which deserves consideration by the Commission in establishing its proposed pathway.

At the very least, the more stuff we produce, the more energy we use, needs to come from somewhere. Renewable energy and EVs might produce energy sources with no emissions at the pipe, but (at the moment at least) their production generates both emissions as well as very serious other environmental and human rights impacts in less-developed countries⁴⁷.

Thus, BFF submits that we need to consider pathways that transform our economy and lifestyles so that we rely less on energy consumption overall. We need to ask the question - how can we design this system to reduce our energy consumption? And how can we make a low energy option the most preferable?

By way of example:

Imagine that we implement mechanisms that encourage a shift in our food production and distribution system - away from national supermarket duopolies and toward locally grown food being distributed locally. Because our food is now distributed locally, it requires less handling and refrigeration and is delivered fresh, requiring less packaging. We've saved emissions on producing the plastic or paper packaging, transporting the packaging to where it needs to go, picking up the waste packaging to go to the recycling centre or landfill, recycling the waste and emissions from the breakdown of plastic.

Emissions are also saved on transporting food across the country and refrigerating it once it arrives, waiting to hit the shelves. Because food is distributed locally, it is delivered fresher and healthier, improving the health of local residents. Surplus food is bought by local councils and distributed to less well off families, reducing food waste. Local food distribution is coupled with a community composting scheme and emissions associated with inorganic food waste are significantly reduced or eliminated.

Now that farmers are focussed on producing food locally, they are encouraged to diversify their offering - improving soil health and reducing emissions through regenerative farming, improving water quality as they rely less on commercial dairying and the application of nitrogen fertiliser. We are consuming less meat and dairy, which results in lower emissions from the farm. The knock on effects of improved farming practices include better quality food and therefore better

⁴⁷ [Cobalt blues: Environmental pollution and human rights violations in Congolese cobalt mines - European Coalition for Corporate Justice](#)

health, a reduction in bowel cancer due to less nitrogen in the water, and increased community interaction at markets and between growers and consumers. The increase in social interaction improves the mental health of people in the community and may even lead to less crime. By cutting out the need for transport and the middleman, farmers are getting higher prices for their produce and the local economy is regenerated.

This type of scenario is one possible outcome of a grassroots community regeneration project that is in action in South Waikato.

By focussing on designing out energy use across all aspects of our lives, we can envision a range of projects with wide ranging benefits - much more so than if we narrow our focus to individual sectors, tinkering around the edges of how they work to somehow make them a little 'less bad' without achieving transformational change that both regenerates the planet and enables it to continue to sustain human life.

BFF asks that the Commission engage with transition experts, particularly in the engineering field, to consider:

- a. Whether, or the extent to which, we can or should expect to continue in a "business as usual" scenario with respect to growth in energy usage on a "forever" timescale;
- b. How it can adopt a more holistic and systematic approach towards reducing energy usage - at least because reducing energy use has significant carbon emissions and other environmental benefits.

We also hold an uneasy concern about the achievability of the emissions budgets following the pathways set out in the Commission's advice. The Commission has made many assumptions that feed into its models to determine whether the budgets are theoretically achievable, but our key concern is that these assumptions cannot be classified as anything more than, at best, 'hopeful'.

While the Commission's report does not contain any rigorous analysis of regulatory measures or policy changes needed to ensure that change happens (and quickly). We are concerned that once the government starts to try to implement mechanisms that reflect the pathways proposed by the Commission, there will be significant opposition from affected industry and other economic interests. This was demonstrated by the rejection of the EV feebate scheme,⁴⁸ which came under rigorous and 'misleading' attack by the opposition party,⁴⁹ as well as the recent backtrack by the government on the winter grazing rules.

⁴⁸<https://www.stuff.co.nz/national/119713361/nz-first-axe-governments-electric-vehicle-subsidy-plan-while-greens-vow-to-take-the-policy-to-the-election>

⁴⁹<https://www.stuff.co.nz/motoring/evs/123524273/government-urged-to-introduce-feebate-scheme-for-evs>; <https://www.stuff.co.nz/national/politics/119414501/national-lose-appeal-over-facebook-ad-ruled-misleading>

Thus, we fear that progress will be slow, disjointed and ultimately underwhelming. This supports the need to:

- a. Adopt systems-based approaches, which involve stakeholders in a transition engineering process at a local level to pre-empt the answers to wicked problems;
- b. Take a broad and highly ambitious approach in making recommendations on the various pathways.

In terms of the policy mechanisms to be employed for reducing emissions (**Big Six, question 5**), BFF has no philosophical preference for one approach over another. We submit that all three (removing barriers, pricing, investment) should be employed in the appropriate circumstances. In short, we need to drop everything to reach our net zero target and to limit global warming to 1.5 degrees. There will also be a need for engaging the 'team of five million' with a comprehensive communications and educational campaign. We assume this is built into the thinking, too.

9. TRANSPORT (Consultation question 14)

BFF largely supports the package of recommendations and actions for the transport industry. The transport industry needs to decarbonise. We need to eliminate internal combustion engines and, in the meantime, ensure that cars coming into New Zealand are more efficient as a matter of priority. We need to shift heavy vehicles to electric rail and use low-carbon fuel where we can't yet decarbonise. We support **Time Critical Necessary Action 2 and Necessary Actions 2, 3 and 4**, although with some amendment.

Having said that, there are significant opportunities to adopt a more holistic approach to reducing the level of transportation, and therefore energy usage, by redesigning systems rather than assuming that there should simply be no change to the way we currently operate. Further, we think that the Commission has the EV and active/ public transport priorities around the wrong way. In our view, active / public transport is a **time critical action**.

In that regard, our first objective should be to reduce the need for travel - either at all, or in terms of distance travelled. The Commission does not appear to recognise this as a priority and the only recommendation which would achieve that is one to encourage remote working where we can.⁵⁰ It does mention the benefits of compact urban form, and notes the time that takes to achieve. But there seems to be no further consideration of changes that could be made to reduce the need for travel.

Necessary Action 4 talks about increasing the demand for low carbon fuels for transport. It makes no mention of actually *reducing* demand for trucks, planes, ships, and off-road vehicles, which we consider an oversight. As Professor Susan Krumdieck outlined 12 years ago: "*Fuel consumption and travel demand must decline, and we must become a people with the capability*

⁵⁰ Commission's advice, *Table 3.1: Key transitions along our path*, page 55.

*to maintain our wellbeing and our environment even as we reduce fuel consumption to a required level.*⁵¹

One example of a recent missed opportunity is the proposal by Hamilton City Council and Waikato University to transform Hamilton into a 20 minute city. The two organisations applied for government funding under the shovel-ready Covid scheme, which was rejected. The aim of the project was to ensure that people living in Hamilton would have most activities accessible to them within 20 minutes of using active or public transport - not cars. It would have included a research element run by Waikato University, to better inform future projects of a similar type in New Zealand.⁵² This emissions-reducing project was overlooked while the government funded emissions-producing roads. We note the inconsistency between this recent decision and **Time Critical Necessary Action 6**.

In Grenoble, Professor Susan Krumdieck's transition engineering team was tasked with identifying ways Grenoble could reduce the use of cars, and therefore emissions and air pollution. They developed new software which enables people to identify their ideal place to live, based on where they work, go to school and their other daily activities, without the need to use a car. The software also facilitates connections with people in that community, with a view to finding places to rent or buy in the community, including where they may not be officially "on the market".

Both of these projects are context specific initiatives (the Grenoble example being low cost and low intervention) that reduce reliance on transport altogether, but also enable more active transport with knock-on effects for human physical and mental health.

We hope that these types of projects would be supported with the implementation of transition planning recommended by the Commission and via some of the actions recommended in **Necessary Action 2**. However, we would like to see **key transitions identified in Table 3.1** to specifically recognise the desirability of reducing the need for reliance on transport, including through the design of urban form and other mechanisms - this also feeds into the urban form recommendations in **Necessary Action 10**. BFF fully supports **Necessary Action 10** to promote the evolution of urban form to enable low emissions transport and buildings through ongoing legislative reform. The reform of the resource management legislation will be instrumental in this regard.

Our second objective should be to reduce the number of cars produced. We take the view that the Commission relies too heavily on EVs and that we are better off focussing on developing an excellent public transport system, including electric rail. The production of EVs will create emissions in producing countries - especially over the period to 2050 before the world has decarbonised. Whether we account for our consumption based emissions or not, these

⁵¹ Microsoft Word - Krumdieck_ The First Rule Paper.doc (canterbury.ac.nz)

⁵² <https://ourhamilton.co.nz/growing-hamilton/a-20-minute-life-changer/>; <https://bff.org.nz/2020/08/08/the-20-minute-city-the-city-of-the-future/>; <https://www.stuff.co.nz/national/300017910/introducing-the-20-minute-city-the-real-city-of-the-future>

emissions will occur. Further, reliance on EVs as part of our strategy *locks-in* negative impacts on human and planetary wellbeing that arise from the production of EVs, such as the mining of lithium, and perpetuates our extractive relationship with the planet. We are surprised that the Commission's report lacks this type of analysis. We should be aiming to reduce our reliance on any type of car as much as possible.

Further, the entire world is relying on electric vehicles as a large component of their decarbonisation strategy. While many producers are also shifting their production, it is not unrealistic to expect that we will have to compete strongly for EVs in the international market, given that there is a finite source of the key components in nature.. The short supply of Covid vaccines, and the willingness of producing countries to block export of the vaccine, is illustrative of the types of issues that could arise with respect to EVs. This is a risk that needs to be assessed and factored into our strategy, and which supports the need to significantly reduce our reliance on any type of car. Having said that, it is also for this reason that we support recommendations to ensure that we have enough access to EVs in **Time Critical Necessary Action 2**.

We strongly support, as an interim measure, the **Time Critical Necessary Action 2** insofar as it requires a ban on inefficient vehicles, but that should happen immediately. We don't see why we need to wait until 2028 for efficient vehicles to be the norm and seek that **Time Critical Necessary Action 2** be amended accordingly.

Our vision is that, in most places in Aotearoa New Zealand, we primarily walk or cycle or take reliable public transport for our day to day activities. When we need a car, we rely on an EV car sharing network - whether we can afford a car or not. Where we need to travel longer distances or to other parts of the country, an electrified rail network will deliver us there, with car sharing for the last mile. Freight is carried by electrified rail, with electric trucks for last mile delivery. Significantly reducing the number of cars and trucks means that we do not need to build more roads (therefore saving those emissions) and money we save there is spent on rail and other mass transit options instead. **BFF seeks that the Commission's advice clearly sets out this type of vision in the transport pathway.**

Finally, we are disappointed that the Commission has given little attention to the necessity and the opportunities of reducing New Zealanders' reliance on domestic air travel. The Commission fails to highlight the need to reduce aviation emissions, nor how achieving this relates to the need to develop New Zealand's intra-regional transport system, which is very far behind other parts of the world. We would like to see specific recommendations in the Commission's advice about the need to invest in a viable commuter rail service between major cities in New Zealand, and to transition the current services that do exist away from being primarily tourist-oriented, towards being a viable alternative to air travel for everyday New Zealanders. Apart from upgrading services (for speed and regularity) and reducing ticket prices, this could also include reinstating sleeper trains. The national bus service also requires an overhaul and an upgrade, including improving the coaches currently in use (for comfort and also to include onboard

toilets), and the comfort of the bus terminals, to encourage a greater number of people to use long-distance buses.

BFF therefore seeks that Table 3.1 be amended to include:

- a. Investment in active and public transport infrastructure to support the mode shift from cars to walking, cycling and public transport;
- b. Supporting locally based transition projects designed to reduce the reliance on private transport;
- c. Implement car sharing programmes and last mile mobility programmes;
- d. Changes to urban form to support the mode shift from cars to walking, cycling and public transport. As the Commission has recognised, this work needs to commence immediately.
- e. Investment in viable intra-regional land-based commuter transport (rail and long-distance coaches) for everyday New Zealanders.

BFF also submits that an appropriate balance between recommendations relating to EVs and active and public transport has not been struck. The matters in **Necessary Action 2** are, in our view, time critical - at least as time critical as the actions designed to procure EVs for the New Zealand market. In that regard, there are immediate measures that can be taken to cut emissions quickly, without waiting for planning changes to take effect or the EV market to ramp up. These will be identified at a local level, will be context specific and when developed as part of a community vision, can assist to achieve behavioural change.

BFF also seeks that Necessary Action 2 be amended to:

- a. Be time critical; and
- b. To include an action to encourage and fund councils to investigate other local, community-based transition projects designed to reduce travel distances, reduce reliance on private transport and increase walking, cycling and public transport - both in the short term (resulting in immediate cuts to emissions) as well as over the longer term.

BFF seeks that amendments be made to Necessary Action 4 to:

- a. Prioritise *reducing* demand for trucks, planes, ships, and off-road vehicles; and
- b. Recommend that the government fund electrification of rail and upgrades required to enable rail to be our main means of moving freight and moving people across the country to reduce reliance upon planes and emergency service vehicles.

10. HEAT, INDUSTRY AND POWER (Consultation question 15)

BFF largely supports the package of measures for the heat, industry and power sector. In particular, we support the introduction of a renewable energy target (**Time critical Necessary**

Action 3), which is a better indication of the progress we are making towards decarbonising than a renewable energy target. We strongly agree that we need to maximise electricity as our main source of energy, and decarbonise those processes that cannot be electrified. We agree that the government needs to help people to make the changes necessary and to support innovation to eliminate emissions from hard-to-abate industrial processes. We support the ban on coal-burners, but argue that this should be a time-critical action (**Necessary Action 7a** - this action itself notes the urgency of this issue).

BFF's main point here is that we should be looking for ways to design systems to reduce energy consumption, because of the possibility of decline in available energy as already outlined, but also to minimise costs associated with developing new energy sources and upgrading the national grid. BFF seeks the inclusion of a 'necessary action' to support improvements to energy conservation, particularly by looking at how changes to systems can reduce energy consumption.

In that regard, we also say that a systems-based approach needs to be applied, which considers the relationship between the Heat, Industry and Power sectors and others such as Transport and Forestry, in order to provide the best outcome for our people and environment. For example, battery-electric vehicles (buses, ferries, and private vehicles) could significantly contribute to the electric power grid during peak demand periods (vehicle-to-grid), and help remove the need for fossil fuel-fired power stations. Planting of exotic forest near industry that requires biomass for fuel will allow the replacement of coal boilers for processing without incurring emissions from transport. Increasing the cost of natural gas to discourage its use for heat in industry - a necessary step - the current market may see an increase in the price of electricity which could hinder a rapid transition away from fossil fuels.

Further, accounting for emissions embodied in consumptive behaviour can reduce the energy needed by industry (both in terms of heat and power). There are numerous examples of low-emissions alternatives including warm-mix asphalt (instead of hot mix), supplementary cementitious materials (for concrete), and low-temperature detergents (for laundries). There is no incentive to use low emissions alternatives without consumption accounting and / or targets.

We strongly support continuous improvement of building efficiency and support **Necessary Action 9** to that extent. However, we think that new residential builds should meet very high energy efficiency standards, including passive heating and cooling standards, as soon as possible. It is not clear to us why the Commission has not proposed this as a time critical action - particularly given that every house built now should still be here in 50 to 100 years. We ask the Commission to significantly strengthen its recommendations in **Necessary Action 9** in that regard by:

- a. Separating its recommendations in relation to new and existing stock;

- b. Setting strong recommendations for high, new efficiency standards for new builds as a time critical action, based on best practice standards set by the Green Building Council⁵³; and
- c. Make the recommendation to encourage (including via financial assistance) increased efficiency of existing houses a time critical action - particularly given the importance of warm, healthy homes for the wellbeing of people.

To the extent that high efficiency standards may affect the affordability of housing, BFF submits that this is not a reason not to make such a recommendation, but rather supports the systems-based approach to solving complex issues that we are promoting - housing affordability needs to be solved too and is not a reason to delay emissions reducing activities.

Further, the Commission's advice does not acknowledge the significant emissions contributed by the building industry, because it ignores emissions created by our consumption of building materials.⁵⁴ We seek that the Commission include in its recommendations measures to reduce emissions arising from the consumption of building materials. This could include, for example, environmental product declarations for construction materials to increase the transparency of embodied emissions as well as other environmental indicators, including sustainability of forests, etc.

11. WASTE (Consultation question 18)

Reframing our relationship with waste offers a good illustration of the key principles that BFF submits should guide climate action. There is an enormous opportunity to adopt a holistic, systems based approach to better manage the resources that flow through our economy and reduce waste. A circular economy approach puts human and planetary wellbeing at the forefront of decision-making and significantly reduces environmental damage - both climate related and otherwise. The practical methods for significantly reducing waste are already well-established and understood within both circular economy and zero waste theory and do not require the Commission to reinvent the wheel. BFF fully supports the joint submission of the zero waste community. We make the following comments in the context of the key principles we are promoting.

Waste is not inevitable - it is a product of a broken linear extractive system that does not recognise our interconnectedness with other species nor the natural systems of Papatūānuku. We can choose whether to produce waste and how to deal with it. Society's historical choices have led us to a "throwaway", or take-make-throw culture which urgently needs disruption. The Commission's waste-related advice is headed in the right direction, but its recommendations need to be more specific, holistic and ambitious, and recognise that our current linear extractive system is entirely unsustainable.

⁵³ [New Zealand Green Building Council \(nzgbc.org.nz\)](http://www.nzgbc.org.nz)

⁵⁴ <https://www.newsroom.co.nz/builders-call-for-govt-to-lead-on-green-construction>

The evidence report contains a good discussion of many of the key issues, but doesn't follow through with recommendations to give effect to them. The Commission's vision is for a circular economy, but its recommendations do not achieve that. For example:

- a. It acknowledges that almost all waste and related emissions could potentially be eliminated⁵⁵, but fails to make any recommendations to achieve that - noting that it is too hard to change existing systems, infrastructure and behaviour.
- b. Similarly, it takes the position that Aotearoa New Zealand has little direct control how much waste goods produced in other countries generate⁵⁶ and misses the opportunity to reduce our demand for wasteful products. In that regard, the focus on production-based analyses of emissions closes the door to the significant contribution that zero waste and circular economy strategies can make to reduce *upstream* emissions associated with the manufacture and consumption of products.⁵⁷
- c. It acknowledges the potential to use compost in agriculture to reduce the application of nitrogen fertilisers and sequestering soil carbon - a systems based approach which would have significant benefits for human and planetary health - but appears to dismiss that option for lack of robust data.⁵⁸

In our view, the Commission's primary focus on reducing methane emissions from organic waste is unduly narrow and overlooks the contribution that reducing all streams of waste could make to mitigating climate change. Long-lived GHG emissions are generated from the extraction, production, transport and consumption of packaging and goods, which is intrinsic to our current, unsustainable linear economy. Currently, there is no pathway towards reducing demand for the production and transport of these goods because such actions don't currently 'count' in the national GHG inventory and production-based accounting method that underlies the commission's proposed emissions budgets. As a result, the Commission's draft advice does not mention a range of products that have high emissions footprints, such as plastic and textiles. For example, emissions generated by the full lifecycle of plastics (which are made up of plastic, strengtheners, fillers, flame retardants, plasticisers, fillers, colours, etc., mostly derived from fossil hydrocarbon) contribute approximately 1 billion tonnes of global emissions per year. It is entirely unclear how the emissions will be accounted for, or addressed, if at all.⁵⁹

Emissions generated by the production of wasteful goods to meet New Zealand's consumption demands are (at least in part) our responsibility. There are various measures that can be

⁵⁵ Evidence report, Chapter 4d, page 9.

⁵⁶ Evidence report, Chapter 4d, page 9.

⁵⁷ See, for example: Ellen MacArthur Foundation (2019) *Completing the Picture: How the Circular Economy Tackles Climate Change*. Retrieved from https://www.ellenmacarthurfoundation.org/assets/downloads/Completing_The_Picture_How_The_Circular_Economy-Tackles_Climate_Change_V3_26_September.pdf.

⁵⁸ Evidence report, Chapter 4d, page 11.

⁵⁹ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0200574>;
<https://www.ciel.org/plasticandclimate/>; <https://www.nature.com/articles/s41561-019-0335-5>.

imposed to reduce our consumption of wasteful goods. For example, the UK and the EU are introducing right to repair laws which require that diagnostic information, tools and parts are made accessible to consumers and independent repairers to increase product repairability.⁶⁰ These jurisdictions are also introducing a simple, clear energy efficiency labelling system to make it easier for consumers to purchase more efficient electrical appliances. It has been estimated that with this bill, the EU will save approximately €20bn in energy savings or 5% of the EU energy use from 2030 equating to around 50 million tonnes of CO₂ savings.⁶¹ By overlooking the upstream emissions of the products that eventually become waste in New Zealand, the commission misses the opportunity to make similar recommendations for the New Zealand context.

We agree with the Commission's recommendation that product stewardship be applied to products that generate the most emissions, but it is unclear how this will be determined without greater use of consumption-based analyses. We also take the view that product stewardship is a principle that should apply to all goods and materials that flow through our economy, not just the most problematic goods. The Commission should make clear what the necessary outcomes of product stewardship schemes are, from its perspective. In some cases, it may be necessary for product stewardship to result in the phase-out or redesign of products that currently generate high levels of waste and emissions.

Further, the Commission recommends that the circularity of the economy be measured and increased by 2025. BFF supports this recommendation, but we don't see how circularity of the economy can be measured without consumption-based data. We also consider that the recommendation is weak without appropriate targets. Nor is it clear what the intention is regarding the circularity of the economy post 2025.

When considering the significant emissions reduction that could come from zero waste and circular economy strategies, the target to reduce waste related emissions by 15% by 2035 lacks ambition. Furthermore, the target of reducing organic waste to landfill by 23% by 2030 is similarly under-ambitious and does not match the Sustainable Development Goal to halve food waste by 2030. The Commission's recommendations for reducing organic waste to landfill also lack specificity and clear policy direction to assist national and local government and communities to prioritise the solutions for addressing this waste stream based on what will have the greatest emissions abatement potential, and also generate the most positive outcomes on wellbeing elsewhere. We are concerned that many territorial authorities may opt for the quickest option available for diverting organic waste, which could result in investment in infrastructure that locks New Zealand into sub-optimal systems.

We also consider that treating emissions from the transportation of waste as a transportation issue disincentivises the investigation of options for reducing waste (for both climate and other

⁶⁰ WasteMINZ Product Stewardship Sector Group (2019) Pathways for Right to Repair in Aotearoa New Zealand. Retrieved from <http://www.wasteminz.org.nz/wp-content/uploads/2020/09/Pathways-for-right-to-repair-in-Aotearoa-New-Zealand.pdf>

⁶¹ <https://www.bbc.com/news/business-49884827>

environmental reasons) - on the basis that the problem is solved by decarbonising transport. This approach also reduces the incentive to develop decentralised methods of diverting organic waste from landfill in response to the commission's recommendations in this area (already, a number of territorial authorities who have begun implementing kerbside collection of food scraps are trucking these scraps sometimes 100s of kms to be composted at a centralised facility). This approach also ignores the desirability of reducing our reliance on energy.

BFF seeks that **Necessary Action 13** be amended to include more specific recommendations, including:

- a. 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 Commission's 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.
- b. Mandatory separate collection of organic waste (first emissions budget), banning organic waste from landfill (second emissions budget) to halve food waste at source by 2030 (in line with the NZ Food Waste Champions 12.3 goal), and divert 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.
- c. Strengthening the product stewardship legislation to apply to all products and ensure that schemes create reuse, repair and resource recovery systems that keep materials in circulation and extend product lifespans (including compulsory extended warranty periods, right to repair legislation, infrastructure to facilitate reusable packaging systems, and a shift towards greater service or sharing models for accessing goods rather than private ownership models). Products that cannot be effectively reused, repaired, recycled or composted should be designed out of the economy. Achieving these outcomes will require more involvement from central government in overseeing scheme design and performance, rather than the current industry-led approach.
- d. Investing the waste levy revenue in community-scale solutions at the top of the waste hierarchy. Aotearoa can make a just transition from a throwaway culture to a low waste, low carbon circular economy by strengthening and resourcing local communities to develop innovative, brave new solutions to prevent and reduce waste, including producing locally-made kai and locally-produced goods. Achieving this requires a fairer distribution of waste levy revenue so that a greater proportion of the funds are 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.

We also seek that the Commission:

- a. Build consumption-based measurements into its analysis, so that the commission can consider and recommend a wider range of zero waste and circular economy solutions in the context of climate policy, to enable product stewardship to be effectively targeted, and to ensure the circularity of the economy can be properly measured in accordance with its recommendations. 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; and
- b. Set targets for increasing the circularity of the economy.

12. AGRICULTURE (Consultation question 16)

BFF supports **some** of the recommendations and actions for the agriculture sector.

We **do not support** the emphasis on on-farm *technologies* to reduce biogenic agricultural emissions.

We **support Necessary action 11**, the creation of options for alternative farming systems and practices. In particular, using regenerative principles for agriculture, and increasing regenerative horticulture (permaculture) in this country.

BFF proposes that **Time-critical necessary action 4** is re-written, as follows:

Reduce biogenic agricultural emissions by 40% by 2030, and 80% by 2050 ~~through on-farm efficiency and technologies~~ by: 1) *reducing the numbers of meat and dairy stock; and 2) transitioning the land to native bush, regenerative agriculture, and/or horticulture.*

We recommend that in the **first budget period** that the Government:

- ~~a. Review the findings from He Waka Eke Noa for their ability to meet these new requirements.~~
- ~~b. Ensure that effective mechanisms are in place so that the plans, advisory and guidance tools developed by He Waka Eke Noa will endure beyond 2025 and can support achievement of the emissions budgets and targets.~~
- b. Drawing on the work of He Waka Eke Noa, decide in 2022 on a pricing mechanism for agricultural emissions as is required by legislation that is suited to the characteristics of the sector and capable of supporting achievement of the emissions budgets and targets.
- c. *Ensure the Rural Broadband Initiative is resourced etc.* and prioritised to achieve its 2023 target, so that farmers have access to data and information to support decision making and the ability to practice precision agriculture.
- d. Review current arrangements and develop a long-term plan for targeted research and development of ~~technologies (including evaluating the role of emerging~~

- technologies such as genetic engineering) and *regenerative agriculture* practices to reduce biogenic emissions from agriculture.
- e. Review and update processes and regulatory regimes to ensure that new emissions reducing ~~technologies and regenerative~~ practices can be rapidly deployed as and when they are developed.

Our advice for **Progress Indicators** is for:

- a. Government to have, by 31 December 2022, developed a long-term plan *for the provision of seed funding for farmers transitioning from monoculture cropping and grazing pastures to regenerative agriculture approaches, research and development* to support reductions in biological emissions from agriculture.
- b. Government to have, by 31 December 2022, reviewed and amended processes and regulatory regimes for new emissions reducing technologies and practices *that are congruent with regenerative agriculture practices*.

Recommended changes to the Commission’s advice for Agriculture

While increasing on-farm efficiencies and developing new technologies will always be necessary, BFF has a completely different expectation of what the agriculture sector needs to do, in order to reduce biogenic emissions. Key to this approach, is our recommendation to radically reduce the meat and dairy industry in Aotearoa⁶², accompanied by a major uptake in regenerative farming methods, particularly focusing on horticulture. As a general comment, BFF is uncomfortable about the economic reliance on conventional agriculture, and the lack of the Commission's willingness to tackle it. This again reinforces our position that a systems based approach to climate policy is needed - because we need to diversify our economy so that we don't rely on such a high cost / damaging industry.

12.1 An unhelpful emphasis on economics

As it stands, the recommendations and actions for the agriculture sector could potentially allow for a decrease in meat and dairy; accompanied by a role for Regenerative Agriculture in reducing emissions. However, the Commission makes it clear in the Evidence chapter for Agriculture that it supports the status quo with its very first sentence, viz, “*Agriculture contributes significantly to the Aotearoa economy.*” While BFF does not dispute this statement, it clearly signals that the Commission is prioritising economics to drive its decisions about emissions.

So, although the Commission talks about taking a system-wide approach, which includes the overall well-being to New Zealanders, and impact on the environment, etc., the emphasis on the economic ‘benefits’ of agriculture reflects a reluctance to consider the wider implications of the meat and dairy industries in this country, and the world. Therefore, the Commission’s first

⁶² <https://thespinoff.co.nz/society/21-11-2018/a-glimpse-of-light-in-confronting-nzs-environmental-crisis/>

recommendation, “*The Government needs a cohesive strategy that includes water, biodiversity and climate*” falls short with the proposed pathway for biogenic emissions.

As Dr Mike Joy says, “*A big reason for the failure of environmental protection in New Zealand has been and continues to be the usurpation of the ideals of environmental legislation by relatively small numbers of well-resourced and well-paid people, funded by industries harming the environment with the explicit aim of enabling this harm to continue so private gain can be continued. The failure at all levels of government to protect our freshwater environment stems from political expediency and a failure to acknowledge, analyse and address the influence of vested interests. Part of the problem is that government, both local and central, frequently operates in a simplistic economic growth paradigm, and this inevitably clashes with the uncompromising and non-linear reality of biophysical limits to growth.⁶³ These are real and inescapable limits, and they cannot be fiscally ameliorated.⁶⁴*”

If we examine the actual and embodied cost⁶⁵ of meat and dairy production in this country, we believe that the costs to humans and the natural world, outweigh the economic benefits. There is an Indian saying which goes, “*Only when the last tree has died, and the last river been poisoned, and the last fish been caught, will we realise that we cannot eat money.*”

As BFF has argued earlier, the intention to “*leverage co-benefits*”, as outlined in Principle 7, does not go far enough, in our opinion, to put the wellbeing of people and the planet at the centre of climate change policy. In this instance, we would draw the Commission’s attention to a wide range of negative impacts on the health and wellbeing of New Zealanders, caused by New Zealand’s current preoccupation with the meat and dairy industries.

12.2 The harms of meat and dairy go beyond just emissions

There are many reasons for reducing this country’s reliance on meat and dairy. It is well recognised that agriculture in this country is responsible for an excessive use of land, water, biocides, fertilisers, and a range of otherwise unnecessary imports (supplementary feed, chemicals, etc.). In turn, the overall impact of the predominant farming approaches is severely and negatively affecting the quality and quantity of water/ rivers/ sea; the quality of the soil; the quantity and variety of native (and beneficial exotic) flora and fauna; and both local and global climates. Agriculture accounts for 70% of the world’s total water use, and 15,000 litres of water is needed to produce one kilo of meat.⁶⁶ Considerable evidence exists for the impact of

⁶³ <https://link.springer.com/article/10.1007/BF00271634>; <http://donellameadows.org/archives/a-synopsis-limits-to-growth-the-30-year-update/>;

<https://www.sciencedirect.com/science/article/abs/pii/S0921800915003201>

⁶⁴ <http://donellameadows.org/archives/a-synopsis-limits-to-growth-the-30-year-update/>;

<https://ideas.time.com/2012/07/17/we-cant-buy-our-way-out-of-environmental-problems/>

⁶⁵ Noting here, that the Commission’s decision to transfer the transport costs to that sector, is avoiding the additional avoidable financial costs as well as emissions due to agriculture through fossil fuels, too.

⁶⁶ Water | FAO | Food and Agriculture Organization of the United Nations. However, it is noted that in areas of natural rainfall this will be significantly less.

agriculture on the extinction of myriad species, and the impact this will eventually have on human life⁶⁷. To survive as a species, we must protect the natural world.

These things are all widely known. The Commission's recommendation that farmers reduce their animal numbers and better manage their animals, pastures and feed is accompanied by a very slow trajectory for methane reduction, and there is little acknowledgement of the other negative impacts of agriculture on human and planetary wellbeing. Human health and wellbeing is another major issue.

12.3 The health costs of meat and dairy

Meats and saturated fats lead to high cholesterol, which in turn is a major cause of heart disease, stroke, vascular disease, diabetes, and high blood pressure.⁶⁸ The Heart Foundation recommends a diet high in seven foods that help to reduce cholesterol. None of them include meat or dairy products.⁶⁹ And yet, these conditions are extremely prevalent in Aotearoa New Zealand, and increasing, with heart disease as the highest cause of death in NZ. A University of Otago study found that the cost of Diabetes alone, cost NZ ratepayers \$2.1bn in 2018.⁷⁰ If we ascribe only \$1bn to each of the other four conditions, then it is fair to assume that meat will cost Aotearoa at least \$6bn in health costs, in 2021.

Furthermore, red meat and processed meat products are well known carcinogens⁷¹ which could be the reason for our very high rates of bowel cancer⁷², although there is new evidence that bowel cancer is related to the Nitrate run-off into drinking water in areas of high density of dairy farming in New Zealand.⁷³ Cancer was estimated to cost the taxpayer about \$0.5bn in 2011. It is likely that the costs are much more now – particularly with the increase in some cancers. Now, the negative health impacts of dairy and dairy products are also being recognised, with similar impacts as red meat.⁷⁴

Another health impact is the care that must be taken to protect meat and dairy products from spoiling, or being exposed to bacteria. So, refrigeration is required – during processing, with transport, and in the home - (and the energy requirements and F-gases related to that). Also, the packaging is complicated, because of the variations in size, style, presentation, and the need for food-grade certification.⁷⁵ In most instances, single-use plastic is used, and it goes

⁶⁷ What is biodiversity and why does it matter to us? | Biodiversity | The Guardian

⁶⁸ 5 Diseases Linked To High Cholesterol (webmd.com)

⁶⁹ 7 Foods To Lower Cholesterol - Heart Foundation

⁷⁰ Microsoft Word - Diabetes New Zealand DRAFT report v0.41 - Executive Summary only.docx (otago.ac.nz)

⁷¹ Does eating processed and red meat cause cancer? | Cancer Research UK

⁷² <https://www.mayoclinic.org/diseases-conditions/colon-cancer/symptoms-causes/syc-20353669>

⁷³ Nitrates in the water could be behind NZ's high bowel cancer rates | Newshub

⁷⁴ Health Concerns About Dairy (pcrm.org)

⁷⁵ Meat Packaging New Zealand. Meat Packaging Manufacturers NZ

straight to the landfill – together with any leftover meat or dairy product, which can't be added to a home compost – and contributes further to methane emissions at the landfill.

On the other hand, dietary alternatives to meat and dairy are increasingly recognised as providing all the nutrients that are required for a healthy diet, but without the expensive health risks that come with meat and dairy products. Many would argue that a plant-based diet is not a complete diet because vegans need a B12 supplement. What is not widely known, is that farm animals also need B12 supplementation⁷⁶, and the current approach of feeding New Zealand animals on a limited range of crops means that they need many other supplements, too.⁷⁷

So, in summary, agriculture in Aotearoa is costing the ratepayer exorbitant amounts of money, and impacts on wellbeing, as central and local government respond to issues around water quality, availability of drinking water, the emissions, the health impacts, and the embodied emissions involved in importing palm kernel and other feeds from countries that are being devastated by the demand, have their own emission count from production, as well as the transport and refrigeration issues, and processing costs.

Some may argue that agriculture is an important source of employment for large numbers of New Zealanders. Aside from the human rights issues that are continually exposed in agriculture⁷⁸, BFF believes that a transition to regenerative horticultural practices will lead to more employment opportunities in that sector, because it is more labour-intensive. There is a lot more work to do to keep plants healthy if you do it without using biocides, synthetic fertilisers, or pumping water with irrigation systems. We note, also, that there are significant labour shortages in horticulture currently, which could easily be a transition for any jobless agricultural workers.

12.4 Options for alternative farming systems and practices

We agree with the Commission's advice that options for alternative farming systems and practices should be developed. In particular, we believe there needs to be a significant shift to regenerative agriculture, and we agree with the broad definition provided. However, it is notable that the Commission stops short of actually recommending it as a way forward and, instead, simply states that there isn't enough evidence or information about how it will reduce emissions, and the only 'evidence' provided, is anecdotal from one dairy farmer.

Yet, under the heading of adjusting stocking rates and feed in Table 4c.1, the Advice chapter on Agriculture states: "*What an optimal system looks like will vary considerably between farms, and the total emissions reductions a given farm can achieve will depend on how that farm is managed overall.*" This is a very sensible statement: every farm is unique, and every regenerative farmer will tell you the same. Why, then, is the onus put on regenerative farming to prove its worth, when it is not possible for other farms in Aotearoa to do that?

⁷⁶ SMARTSHOT® The B12 Shot that Lasts | Virbac

⁷⁷ Pasture and Supplements for Grazing Animals | NZSAP

⁷⁸ Farmers warned about pay laws | Stuff.co.nz; & Poor farm working conditions rife - unions | RNZ News; & Temporary migrant worker exploitation in New Zealand (mbie.govt.nz)

For the record, even the economics stack up, with regenerative agriculture providing lower yields, but less input costs, and more diversification of product, leading to higher profits overall.⁷⁹ Mark Anderson in Central Otago increased organic matter in his soil by 1 percent in 12 months. Given that a 1 percent increase in organic matter can boost the soil's water holding capacity by anywhere from 144,000 to upwards of 180,000 litres of water per hectare, Anderson's farm is now becoming considerably more resistant to erosion, and periods of drought.⁸⁰ Of the 3,000+ members of just one Aotearoa New Zealand Facebook page for Regenerative Agriculture ('Quorum Sense'), there are a myriad of other testimonies and evidence for success to be discovered by the Commission. International evidence is also strong, and growing.⁸¹

The following example demonstrates how allowing nature to regenerate without too much interference led to positive outcomes that may help inform the approach to methane in this country:

Facing financial ruin from a standard arable and dairy farm in 1999, Isabella and Charlie Tree decided they had nothing to lose, by allowing their land to revert to its original state. By 2018, Isabella had written a book ('Wilding') to document the remarkable changes they had seen, using regenerative approaches on their property. The chapter on pasture feeding⁸² provides a number of points that are relevant to this submission: Letting their cattle choose their own feed meant that they lost condition over winter, but quickly regained it in spring. The animals were fully pasture-fed with a bio-diverse system that included twigs, bark, leaves, a wide range of grasses, tussock and weeds, etc. The farmers learned that many of these weeds and natural grasses contained fumaric acid, which has been found to keep methane emissions low⁸³. Furthermore, the stock didn't require any supplements; didn't get sick; and the quality of the beef was so high that customers paid premium prices for it. Crucially, they discovered one day that the cattle stumbled into a remnant paddock of Italian Ryegrass (as is widely used in New Zealand to increase growth rates in stock). The cattle lasted about 20 minutes in the paddock, and then left quickly, with indigestion and methane production in their digestive systems. They remained in tussock for the next two weeks, until their digestive systems had settled down again.

So, in relation to the Commission's recommendations to develop new technologies and practices such as genetic modification, and methane inhibitors etc., the lesson from this account is that you can reduce biogenic agricultural emissions through on-farm biodiverse pasture systems, using regenerative agriculture. Regenerative agriculture works directly to enhance biodiversity, which *"helps regulate the functioning of ecosystems, including: (1) increasing plant biodiversity increases resistance to invasion by exotic plants; (2) plant pathogens, such as fungal and viral infections, are less prevalent in more diverse plant communities; (3) plant*

⁷⁹ Is Regenerative Agriculture Profitable? (forbes.com)

⁸⁰ How a South Otago dairy farmer learned to trust his instincts (newsroom.co.nz)

⁸¹ Regenerative agriculture finds solid backing as decades of success show renewal - ABC News

⁸² Isabella Tree (2018) Wilding, pp 246-267.

⁸³ Adding fumaric acid helps keep gas emissions low - Farmers Weekly (fwi.co.uk)

*species diversity increases above-ground carbon sequestration through enhanced biomass production ... and (4) nutrient mineralization and soil organic matter increase with plant richness.*⁸⁴

BFF asserts that working with nature would be much more preferable than trialling technologies that attempt to control nature. The Commission has not gone far enough in recommending that significant tracts of farmland are retired from industrial-type pastoral grazing and cropping. Yet, the Wilding example shows that, by allowing the land to revert to its natural state, the health of animals, and the quality of their meat could be superior – noting that this did not require ‘technologies’ to artificially speed up the growth of the stock. We note that artificially reclaimed land that interferes with what nature intended has led to huge negative impacts on humans who have ignored those features. For example, liquefaction from earthquakes in East Christchurch⁸⁵; and flooding of baches when the Rangitata river overflowed⁸⁶. Farmers can also look at their role in flooding and/or drought events.

There are many advantages in increasing horticulture (which can be expanded to include food forests⁸⁷, etc.) in New Zealand. As already noted by the Commission, there is a real risk that the emissions associated with long-distance freight, plus the growing awareness internationally about the negative impact of meat and dairy on both human and planetary health, will lead to a reduction in demand for those exports. Horticulture, on the other hand, is much more intensive (but potentially kinder) use of the land, and providing fruit and vegetables to local markets (especially under Community Supported Agriculture arrangements⁸⁸), with less transport and less packaging than meat and dairy requirements.

The products are also more varied, healthier, and use *less* water than meat and dairy (in spite of the Commission’s assertions on this point that it would be more)⁸⁹.

12.5 A final note: Aquaculture and fishing

There is no mention of the foreshore and seabed in the Commission’s report - either in terms of human-caused emissions - or the role the sea plays in sequestering GHGs. Without going into this topic in depth, one recent article, published in Nature this month, has highlighted just how damaging the process of bottom trawling has proven to be, with bottom trawling is responsible for one gigaton of carbon emissions a year—a higher annual total than (pre-pandemic) aviation emissions.⁹⁰

⁸⁴ <https://journalistsresource.org/environment/biodiversity-loss-impact-humanity/>

⁸⁵ The scourge of Christchurch: Liquefaction | Stuff.co.nz

⁸⁶ Rangitata River flood risk set to remain for months | Stuff.co.nz

⁸⁷ [Exploring a Beautiful, 23-Year-Old Food Forest in New Zealand \(Video\) \(treehugger.com\)](#)

⁸⁸ OMG - Organic Market Garden — For The Love of Bees

⁸⁹ Foods (& Crops) That Take The Most Water To Produce & Make - Better Meets Reality

⁹⁰ [Bottom Trawling for Fish Boosts Carbon Emissions, Study Says | Time](#)

This is a very serious oversight, and we request that the Commission addresses this in its final report to government. From the BFF perspective, we would expect the Commission to make clear:

- a. How far our responsibility for the sea, foreshore and seabed extends (including considerations of places like Antarctica, and scientific explorations, etc.);
- b. Develop specific measures for the emissions created by oil wells (current and historic), dredging, fracking, bottom trawling, fishing, carrying freight and passengers, processing extractions from the sea (including minerals, gravel and seafoods);
- c. Make clear how shipping vessels from other countries are included in the calculations; and
- d. Make the connection and value to Māori explicit, and report on their views about this.

While it may be convenient to say that shipping emissions are covered by a separate register, the ocean is too important to ignore for Aotearoa, and New Zealanders deserve to know the full impact of human activity around our coastlines.

13. FORESTRY (Big Six question 4; Consultation question 17)

We do not propose to address this section in any depth. We have made numerous comments in other sections about our very strong support for planting and increasing the coverage of Aotearoa in native bush. This will have important benefits for long-term sequestration, regeneration of the land in general, the capture of more moisture in the land and mitigating some of the more severe weather events in some areas. We note that countries like Bhutan and Costa Rica have used their large natural bush areas to considerable benefit for nature tourism, and there are good reasons to think this could benefit Aotearoa, too.

Consultation Question 13: 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?

Not addressed.

14. CROSS PARTY SUPPORT, AGENCY COOPERATION, MULTI SECTOR STRATEGY

14.1 Cross party support for budgets (Consultation question 5)

BFF agrees that cross-party support for emissions budgets is preferable, for the reasons outlined in the Commission's advice. Having said that, the climate change emergency has been

exacerbated by the inaction of governments for so long that the absence of cross-party support cannot be used to justify an ongoing lack of action. The government must take bold action to ensure rapid and deep cuts to emissions, whether or not there is cross party support for emissions budgets.

BFF requests that the Commission's advice be amended to reflect this.

14.2 Agency cooperation (Consultation questions 6 and 8)

Coordination and cooperation across all of government - between departments at the national level, between central and local government and across local government entities - is essential to the success of climate policy. Every national and local government entity must immediately implement policies which move us quickly towards the net zero targets. This goal must be the primary focus in all national departments and local councils, which should be asking - how do we undertake our functions in a way that the areas of our responsibility reach net zero by 2050?

BFF therefore supports the Commission's proposals to clearly identify policies and strategies, and assign responsibility, for meeting the budgets in emissions reductions plans (**Consultation question 6; Enabling Recommendation 2**).

We also agree that legislation and policy needs to be aligned to enable local government to make effective decisions for climate change mitigation and adaptation. As a minimum, appropriate legislation needs to be in place which compels local government to act and provides them with the support to make difficult decisions. We have seen over the last two decades in relation to freshwater issues that local governments come under intense pressure from their constituents to make decisions which severely compromise the environment - often for economic reasons.⁹¹ This happens in every plan making process and without strong, clear law, it is difficult for them to hold the line and it becomes a "death by a thousand cuts" situation. Where there is a clear and unambiguous legislative bottom line (e.g., to reduce emissions in each district or region to net zero by 2050), communities are forced to design solutions which are acceptable to them, but which also meet the requirements of the legislation. The resource management reform legislation will be crucial in providing this support to local councils. While BFF supports **Enabling Recommendation 4** in this regard, we seek that the difficulties that local councils face in making difficult decisions in the absence of strong national guidance and in the face of vested interests is addressed by the advice document (**Consultation question 8**).

It is also essential that adequate funding is provided in order to meet the budgets at both national and local government level. BFF supports the establishment of a core climate change

⁹¹<https://www.eds.org.nz/assets/Publications/Evaluating%20the%20Environmental%20Outcomes%20of%20the%20RMA%20Report%20Final.pdf?k=cdbc980c81>

mitigation and adaptation fund at national level for that purpose. (**Consultation question 6; Enabling Recommendation 2**)

At a local level, local governments are continually pushed to take on more responsibility and pay out of local rates, which increase each year. Climate change is a national issue and significant funding should be made available to local councils for the purposes of addressing it, including to further projects which empower local communities, reduce emissions and have regenerative impacts elsewhere in the sphere of human and planetary health. BFF supports **Enabling Recommendation 4 (Consultation question 8)**.

14.3 Multi sector strategy (Consultation question 19)

BFF largely supports the multi sector strategy. We strongly agree that climate change decision-making needs to be mainstreamed across government and that the tools of government have to be used in a systematic way. This is an example of the 'joined up thinking' approach that BFF promotes. We therefore entirely support **Necessary Actions 15, 16 and 17** and **Time-Critical Necessary Action 6**, particularly the recommendations to use Covid recovery funds to boost our efforts and to include embodied emissions in its decision and investment making framework.

15. SUMMARY OF BFF RESPONSES TO CONSULTATION QUESTIONS

Consultation question	BFF submission (reference to relevant section of submission in brackets)
Principles guiding analysis	We generally support the proposed principles, but seek amendments or new principles in accordance with section 4 of our submission which would encourage a more holistic, “joined-up thinking” approach to climate policy.
Emissions budget levels	<p>We do not support the emissions budget levels for the reasons set out in section 5. They are not sufficiently ambitious, unreasonably shift the burden to future generations and are inconsistent with the purpose of the Act.</p> <p>In addition to adopting appropriately ambitious budgets, we seek that the Commission recommend the adoption of a stretch target to ensure that there is high confidence of meeting the budgets and net zero target as soon as possible, reducing the burden on future generations and increasing the opportunities to achieve negative net emissions and regenerate the planet. (Section 5.2)</p> <p>Emissions from international shipping and aviation need to be included. (Section 5.5)</p>
Proposed break down of emissions budgets between gross long-lived gases, biogenic methane and carbon removals from forestry.	It is not possible for us to comment, other than to request that appropriate levels be set which will fairly contribute to limiting global warming to 1.5 degrees.
Limit on offshore mitigation for emissions budgets.	We agree that offshore mitigation should be very limited. This approach will also support the transformation of our extractive relationship with the planet to a regenerative and sustainable one by requiring a rapid reduction in our own emissions, rather than relying on other countries. (Section 4.1)
Cross-party support for emissions budget	We agree that cross-party support for emissions budgets is preferable, but the absence of cross-party support cannot be used to justify an ongoing lack of action. We seek amendments to the advice to reflect this. (Section 14.1)
Coordinate efforts to address climate change across Government	We support proposals to clearly identify policies and strategies, and assign responsibility, for meeting the budgets in emissions reductions plans. (Section 14.3)

Consultation question	BFF submission (reference to relevant section of submission in brackets)
Genuine, active and enduring partnership with iwi/ Māori?	Support, but Te Ao Māori concepts must be acknowledged as a knowledge system in and of themselves. Transformational Mātauranga Māori should not be used as a procedural pathway to maintain and sustain current faulty systems. (Section 4.3)
Central and local government working in partnership.	Support in principle. We note in particular that the resource management reform legislation will be crucial in providing appropriate support to local councils. We seek amendments to the advice to reflect the difficulties facing councils in making politically hard decisions, particularly in respect of ‘agency capture’ issues. (Section 14.2)
Inclusive and effective consultation, engagement and public participation.	Support, but seek an inclusive vision for a future Aotearoa New Zealand at a national level, because climate change is not separate to the wellbeing of people and planet. Any public forum or citizen’s assembly must facilitate meaningful conversations, informed by strong science, and enhance representative, democratic decision-making. (Section 3)
Decarbonising sources of long-lived gas emissions where possible.	Support in principle, but also need to focus on reduction in energy demand by applying systems-based engineering approach. (Section 4.4)
Growing new native forests to create a long-lived source of carbon removals.	Fully support (Section 13)
12. Overall path to meet the first three budgets.	<p>Support in part. It is unlikely that we can simply replace fossil fuels with renewable energy and keep increasing our energy usage. Need a systems-based approach to designing out energy use and regenerating the wellbeing of people and planet, and not attempt to “fix” climate change as a separate issue. It is not - it is a symptom of our lifestyles.</p> <p>We seek that the Commission engage with transition engineering experts to identify pathways which design out energy use.</p> <p>We hold an uneasy concern about the achievability of the emissions budgets following the pathways set out in the Commission's advice. We fear that progress will be slow, disjointed and ultimately underwhelming. (Section 8)</p>
Equitable, inclusive and well-planned climate transition.	Agree that an equitable, inclusive and well-planned climate transition is required. Support the need for an Equitable Transitions Strategy. Localised transition plans should adopt a

Consultation question	BFF submission (reference to relevant section of submission in brackets)
	systems-based transition engineering approach. (Section 5.1) Further, the lack of consumption-based data accounting and 'business-as-usual' approach is likely to result in inequitable outcomes. (Section 5.1)
Transport package	Support in part, in accordance with our submissions at Section 9. We consider there to be a lack of systems-based thinking inherent in the proposed pathway, an over-reliance on EV vehicles and insufficient emphasis on active and public transport, including car sharing and mass transport across regions and the country.
Heat, industry, power package	Support in part, in accordance with our submissions at Section 10. We seek amendments to recognise the desirability of reducing energy demand and applying a systems-based approach to reducing demand and decarbonising industry. We support increased energy efficiency for houses and banning coal boilers, but these must be recognised as time-critical actions. Measuring our consumption of emissions will also help to positively transform the industry, building and construction sectors.
Agriculture	Support in part, in accordance with our submissions at Section 12. There is a need to take a more holistic approach to agriculture, and not assume that economics takes precedence over climate change and wellbeing of people and planet.
Forestry	Support native plantings. No further comments. at Section 13.
18. Waste	Support in part, in accordance with our submissions at Section 11. While the advice is headed in the right direction, we would like it to include a more ambitious target and more specific recommendations. It should also incorporate recommendations which move us more rapidly to a true circular economy and towards the elimination of waste and related emissions, which relies upon consumption based data.
Multi-sector strategy	Support (Section 14)
Rules for measuring progress	Agree with the averaging approach for forestry, but not for cropping, pastures and wetlands. Support 'modified activity-based' approach for general trends of (Section 5)
Assessment of the NDC	Strongly disagree with the decision not to establish an appropriate NDC. It is the job of the Commission to advise the government on this. (Section 6) We generally support the LCA NZI submission that 400 million tonnes over 2021-2030 is broadly appropriate.

Consultation question	BFF submission (reference to relevant section of submission in brackets)
22. Form of the NDC	<p>No strong view, but our position is that the government should adopt a form that is most transparent and which best contributes to limiting global warming to 1.5 degrees.</p> <p>However, we take the view that biogenic methane targets are insufficiently high. The fact that they make up 50% of our emissions <i>increases</i> Aotearoa New Zealand’s responsibility to cut biological emissions from agriculture. (Section 6).</p>
Reporting on and meeting the NDC	<p>No strong view, but we note the issues raised in other submissions with regard to the cost, legality and ability of meeting the NDC through offshore mitigation.</p>
Reductions in biogenic methane emissions	<p>See section 12.</p>