Submission on Pricing Agricultural Emissions

November 2022

OraTaiao
NZ Climate & Health Council

https://consult.environment.govt.nz/climate/agriculture-emissions-and-pricing/consultation/

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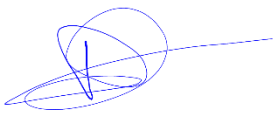
Executive summary

Thank you for the opportunity to respond to the Government's proposed pricing system for agricultural emissions. This submission was prepared by representative members of OraTaiao: The New Zealand Climate and Health Council, including Mr James Hamill, Co-Convenors Summer Wright and Dr Dermot Coffey and Executive Board members Liz Springford and Ingrid Mulder with the support of OraTaiao Coordinator Grant Brookes. We are New Zealand's only climate change NGO focused on health and health-equity. As health practitioners, our approach is evidence-based.

We are relieved to finally see an end to the decades of delay in pricing agricultural climate pollution. But efforts to reduce agricultural emissions should be guided by a vision of the future we want for Aotearoa, centred around human and planetary health. Viewed in this light, the scale of change needed this decade demands modifications to the proposed farm-level levy system.

OraTaiao urges the immediate entry of producers and importers of synthetic nitrogen fertiliser into the Emissions Trading Scheme - without subsidy or free allocation. A sinking lid cap-and-trade system must be set up to push methane emissions to drop quickly. Treaty settlements and sovereignty of Māori land-owners, Māori communities, and Māori employees in the agricultural sector must be protected. Sequestration needs to be used carefully to offset the most challenging emissions reductions, not protect business-as-usual.

Our submission is focused on optimising the benefits and minimising the damage to health, wellbeing and equity from agricultural production. Properly designed, a pricing system for agricultural emissions can drive a transition to regenerative farming and re-orient production away from high volume exports to sustainable and quality food production that will nourish local populations.



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A vision of Aotearoa in 2030 - why we want to price agricultural climate pollution fast, well, and right now.

Our climate was changing – and we did too. Our country grows, finds and farms food that's healthy for us, our global neighbours, and our planet.

The mauri and mana of Papatūānuki is honoured. Māori food traditions are healthy and strong, with Māori sovereignty and whenua relationships restored.

We and the world eat whole foods, mostly plants, and not too much. Meat and dairy still have a place – but as special foods for special times.

There is no hunger nor food waste nor overconsumption in our country. Food-related ill-health has virtually vanished. Everyone has their nutrition needed for fully active lives.

Food banks are no longer needed. Instead there is much local community sharing of home-grown kai, and household food growing, including in urban areas.

We are a good global neighbour playing a strong role in reducing world hunger.

We import just a small fraction of what we eat, confident that this imported food hardly harms our climate, and that people are fairly employed. Just as everyone employed in Aotearoa's food production has good stable jobs, with fair conditions and pay.

Our freshwater is safe to drink almost everywhere, and life has almost fully returned to these waters. Farming is regenerative, maximising the health and carbon capture of soils, wetlands, plants and trees.

Artificial nitrogenous fertilisers and imported feed supplements such as palm kernel have long gone, along with intensive industrial-style farming. Pressures on farmers have eased, with much healthier work and conditions – including for other farm animals.

Production is much more diverse and suited to local land conditions, creating affordable resilience in the face of the climate changes already committed.

The push to rapidly reduce agricultural emissions has seen long-lasting heavy-hitting nitrous oxide disappear here, in association with a significant reduction in reliance on synthetic nitrogen fertiliser use and smaller herd sizes.

As the window for 1.5 °C started to shut fast, the world moved to abrupt methane cuts as a short-lived but powerfully warming gas - pushing a super climate pollutant sprint in the 2020s, while the decarbonisation marathon continued. Now as we enter the 2030s, Aotearoa's methane is a bare fraction of 2022 emissions, with new plantings offsetting the residual agricultural methane, and waste methane eliminated.

Carbon dioxide, both in rural and urban areas, has also plummeted, and again is offset by plantings within Aotearoa.

We are relieved that we chose to rapidly reduce emissions here, as buying offshore emissions credits is difficult and costs are soaring as the world races to true net zero in time. Instead, we are able to fund over a billion NZ dollars annually as our fair share of global climate finance, as well as another billion annually for loss and damage, for these countries least responsible for committed climate changes.

Stepping up to really play our part in keeping global heating to the humanly adaptable 1.5 °C has: honoured te Tiriti; meant much better health for everyone; eased health services pressures; created real equity and so many more good jobs around our country; and helped motivate the global climate action we so needed to protect Aotearoa's future.

*There are **fifteen** set questions that can be answered in this consultation. You do not have to respond to every question. You can also enter your general comments directly into the 'Provide general feedback' section and have the option of submitting up to one PDF.*

Submitter details

1. Submitter name

OraTaiao: The New Zealand Climate and Health Council

2/3. Are you submitting as an individual or on behalf of an organisation? What is your contact email address?

Organisation

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4. Which region are you in?

Aotearoa New Zealand – our membership spans the whole country.

5. Please choose any you are associated with:

Health NGO

Section 3: The Government's proposed policy designs

1. Do you think modifications are required to the proposed farm-level levy system to ensure it delivers sufficient reductions in gross emissions from the agriculture sector?

Yes

OraTaiao: The New Zealand Climate and Health Council's membership works in Aotearoa's health sector. If evidence emerges that certain practices are harmful, or that there are better health outcomes from changing existing practices, our membership expects to update our practices to get the best results with current science. Similarly, if evidence emerges that a prescription drug has significant side effects, this drug is withdrawn, or prescribed with much caution. Our practice is evidence-based, continually updating, and focused on the best possible health outcomes.

Many farmers will relate to this ongoing journey for better human health. Aotearoa has known for decades that our farming practices seriously threaten human health with dangerous side-effects. The enormity of this threat means we urgently need best food production practice across our motu - with human health the top priority.

This is time to cut through the myths that are slowing Aotearoa's transition to best food production practices. We have access to the latest scientific evidence for human and planetary health. Māori worldviews and knowledge, along with true co-governance, also position Māori to enact their aspirations for healthy ecosystems and agriculture.
Combined, these knowledges are our best chance to achieve a healthy world, protect our future, and be a good global neighbour. Yes, we are a relatively efficient meat and dairy producer for now - but the world is increasingly realising the need to shift to less harmful plant-based protein sources, not meat and dairy. Yes, the global population is growing and has just hit eight billion - but we feed middle and upper-class people globally, not the people most in need of food. And overall, we supply around one percent of global food. Leakage is

not an issue here. There is much more we can and should be doing to reach the UN Sustainable Development Goals for 2030 to reduce the many forms of human malnutrition here and globally, and rapidly reduce our planetary impact from harmful food production practices.

Substantial modifications are definitely required to ensure this proposed farm-level levy system delivers sufficient reductions in the agricultural sector's gross emissions at the speed we now need. The agricultural sector is currently responsible for around **half** of Aotearoa's climate pollution, and historically responsible for around **two-thirds** of our country's contribution to global heating. That's huge and everyone and every sector has to face the full price of our climate pollution, so that we cut our emissions fast enough.

This submission recognises the scale of change needed this decade, and that we as a country, share the challenges and opportunities of this transition.

We agree with the purpose of Aotearoa's Climate Change Response (Zero Carbon) Amendment Act 2019 to contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5 °C above pre-industrial levels.

However, as OraTaiao has previously submitted,[1,2,3] the scale of emissions reductions needed is much more than the legislative targets, and **Aotearoa's current NDC targets do not reflect the principle of differentiated responsibility** of the Paris Agreement, nor equity expectations of other human rights agreements which our country is party to.

As Oxfam Aotearoa's report "A Fair 2030 Target for Aotearoa"[4] from September 2020 explains, Aotearoa's fair contribution as a relatively well-off nation with high historic and current per capita emissions means reaching net zero before 2030 – not a generation later in 2050. **So, as a good global neighbour, we must aim for true net zero as soon as possible during the 2030s - and acknowledge our global equity shortfall by increasing climate finance beyond our fair share of around a billion dollars annually.**

Domestic emissions reductions are top priority - these have an economic multiplier effect in creating more jobs here, and access to offshore emissions credits is uncertain and currently unavailable[5] - let alone considering how high offshore credit costs could inflate, as the world races to reduce emissions in time to keep the 1.5 °C window from shutting this decade.

Lastly, this is a **highly dynamic situation** as new science emerges, and delays in dealing with the inevitable (both here and abroad) mean even faster reductions are needed. It's now three and a half years since the Interim Climate Committee recommended pricing

[1] Submission on: Emissions budgets published in 2022, and the first Emissions Reduction Plan (page 5)
[2] Submission on the Climate Change Commission's first advice to the Government (passim)
[3] Submission on Climate Change Response (Zero Carbon) Amendment Act (pages 13 – 14)
[4] A FAIR 2030 TARGET FOR AOTEAROA
[5] How New Zealand emission units enter the market | Ministry for the Environment

agricultural emissions at a processor level – and using that revenue to fund a transition to a farm-level pricing system.

Aotearoa has known for decades that our agricultural emissions are high and need to drop. But instead, agricultural action was further delayed with the He Waka Eke Noa Partnership, emissions continue to increase, and that revenue isn't there. Continued delay here and globally, in facing the inevitable, just speeds up the true net zero transition we need.

Globally, there's an increasing recognition that **the four short-lived climate super-polluter gases are the brakes we need to slam quickly now, to halt heating fast**:

> "...the fastest most effective strategy is to combine the marathon to zero out carbon dioxide (CO2) emissions from decarbonizing the energy system *with* the sprint to rapidly cut non-CO2 super climate pollutants and protect carbon sinks. The super climate pollutants include four short-lived climate-pollutants (SLCPs) - methane (CH4), hydrofluorocarbons (HFC), black carbon soot, and tropospheric ozone (O3) - as well as the longer-lived nitrous oxide (N2O)."
>
> "Because they only last in the atmosphere from days to 15 years, reducing them will prevent 90 percent of their predicted warming within a decade."[6]

This is as evidence grows that we are starting to trigger tipping global heating heading out of human control. The World Bank has just hosted "It's Time to Sprint: Targeting Methane Emissions" as a COP#27 event on 8 November 2022 - promoting rapid reduction of this super climate pollutant, as the decarbonisation marathon continues. To quote their video, "It's the **other** greenhouse gas, responsible for **30%** of all greenhouse gas emissions and rising, heats up the planet **faster** than CO2 - but also **quicker** to leave the atmosphere."[7]

Please read our answers to the remainder of consultation questions in light of this urgent need to reduce all our greenhouse gases at a rate this decade that better reflects our responsibilities as a good global neighbour. Aotearoa must responsibly contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5 °C above pre-industrial levels. This means aiming for true net zero as soon as possible during the 2030s - with nitrous oxide virtually eliminated and methane less than a third of current volumes. We may need to move even faster.

2. Are tradeable methane quotas an option the Government should consider further in the future?

Yes - but consider these immediately with trading starting in 2023 (within months, not years).

[6] A Primer on Cutting Methane: The Best Strategy for Slowing Warming in the Decade to 2030 (page 3)
[7] COP27 | It's Time to Sprint: Targeting Methane Emissions | World Bank Live

Global methane targets needed to limit warming to 1.5 °C (with no or limited overshoot) mean **reducing global human-caused methane emissions by 34% in 2030** and **44% in 2040** relative to modelled 2019 levels. These are global averages - and just as Aotearoa's fair contribution was modelled as more than double global effort to halve emissions by 2030, our fair methane target is likely to be similarly double. Calculation is needed (including adjusting from 2019 to 2017 levels) but **cutting our human-caused methane could well be more than two-thirds this decade** as Aotearoa's fair contribution to the global effort. That's over 66% reductions - not the 4% reductions modelled from these proposals. Even faster cuts may be needed if further delays, and/or more stocks of non-human methane are released into our atmosphere as the world continues to heat up.

Aotearoa urgently needs a farm-level mechanism for fast biogenic methane reductions which can be quickly accelerated as demand for faster cuts increases. This mechanism needs to deliver near term methane cuts, as these are our best chance for slowing global heating. A sinking lid cap-and-trade system must be set up to push methane emissions to drop quickly. This would mean permits would be sold or auctioned to farms, could be traded, and can cover all farm-based methane emissions. The permissible methane volumes would be publicly gazetted and clearly set to drop drastically this decade. This means farmers have business certainty and can invest in diverse food production and land use accordingly - rewarded for healthier food production practices, and without any policy flip-flops from changes in government. We can't afford methane to be part of the ETS because this allows trade-offs with carbon capture plantings - the volume of methane simply has to reduce and fast.

OraTaiao urges **immediate establishment of this tradeable methane quotas mechanism, so that methane emissions are rapidly reduced by more than two-thirds from 2023 to 2030** - with scope for acceleration as this climate emergency evolves. This is a climate emergency, quick deep cuts in methane are the brake we need to grab this close to irreversible tipping points. The administration costs are negligible in this human health context, and Aotearoa has already demonstrated impressive capacity in acting quickly and effectively together in a public health emergency. The global health opportunities and threats of our changing climate far outweigh those of COVID-19.

There are currently three main metrics that measure the impact of methane on our atmosphere - global warming potential over 100 years (GWP100), global warming potential over 20 years (GWP20), and global temperature changes. Which metric is best, depends on the situation. As the world gets dangerously close to tipping points, and there's evidence that some may already be happening, **attention focuses on the near term impact of greenhouse gases**. So for methane, that's the GWP20 - the impact of methane over the next 20 years.

As the Institute for Governance & Sustainable Development[8] state:

"Methane is a super-potent planet-warming gas—a ton of methane has over 80 times the warming power of a ton of carbon dioxide emissions over 20 years." (Page 1)

[8] A Primer on Cutting Methane: The Best Strategy for Slowing Warming in the Decade to 2030

From Aotearoa's perspective with precious urupa and expensive infrastructure along our extensive coastline, our Pacific whānau and neighbours, and that of vast populations globally living close to ocean edges - methane's longer-term role in sea level rise due to global heating also matters:

"Deep cuts in these super pollutants also will reduce the build-up of heat in the ocean that otherwise would continue adding to warming for decades to centuries, long after the lifetime of the pollutant.3" (ibid, Page 7)

Avoiding 0.3 °C of warming is critical for a world already at 1.1 °C, locked in to 1.2 °C, and trying to limit globally to a mostly humanly adaptable 1.5 °C.

"The Global Methane Assessment from the United Nations Environment Programme and the Climate & Clean Air Coalition confirms that cutting methane emissions is the fastest strategy for the world to avoid crashing through the 1.5 °C guardrail. 13 Pursuing all methane mitigation measures this decade is the only known way to avoid nearly 0.3 °C of warming by the 2040s and slow warming by 30%.14"

"The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) confirms that "strong, rapid, and sustained methane reductions" are key to limiting warming in the near- and longer-term.15"

"AR6 Working Group III further finds that "[d]eep GHG emissions reductions by 2030 and 2040, particularly reductions of methane emissions, lower peak warming, reduce the likelihood of overshooting warming limits and lead to less reliance on net negative CO2 emissions that reverse warming in the latter half of the century…. Due to the short lifetime of CH4 in the atmosphere, projected deep reduction of CH4 emissions up until the time of net zero CO2 in modelled mitigation pathways effectively reduces peak global warming. (high confidence)." 16"

*"Limiting warming to 1.5 °C with no or limited overshoot requires reducing global human-caused methane emissions by **34% in 2030** and **44% in 2040** relative to modelled 2019 levels, in addition to cutting global CO2 emissions in half in 2030 and by 80% in 2040, and deep cuts to other short-lived climate pollutants and nitrous oxide.17" (ibid, Page 8)*

"*2. The need for speed: Winning the sprint to 2030 is critical to avoiding climate catastrophe Every increment of additional warming matters.94 We are already experiencing the climate emergency with extreme events occurring sooner and with greater severity than anticipated. As the rate of warming accelerates, record-shattering extreme events will become increasingly common and more dangerous. 95 We have at most until the end of the decade, and probably less, to radically slow global warming or face an existential threat to a liveable planet Earth. The world could hit the 1.5 °C guardrail by 2030 because of rising emissions, declining particulate air pollution that unmasks existing warming, and natural climate variability.96 Speed must become a key factor in the selection of climate solutions, in order to quickly limit warming, slow self-reinforcing feedbacks, avoid tipping points, and protect the most vulnerable people and ecosystems. Therefore, we need "fast climate solutions," meaning measures—including regulations—that can begin within two to three years, be substantially implemented within five to ten years, and produce a climate response within the*

next decade or two.97 These strategies also are critical to increasing resilience by providing communities more time to adapt to global warming and by reducing the amount of adaptation needed. 98 (ibid, Page 16)"

3. Which option do you prefer for pricing agricultural emissions by 2025?

A farm-level levy system for carbon dioxide, fertiliser in the New Zealand Emissions Trading Scheme (NZETS), and as above, an immediate tradeable methane volume quota system at farm level.

OraTaiao urges the immediate entry of producers and importers of synthetic nitrogen fertiliser into the Emissions Trading Scheme - without subsidy or free allocation. We simply must eliminate nitrous oxide from Aotearoa this decade as a potent long-lived super climate pollutant. This means phasing out the use of synthetic nitrogen fertiliser and reducing herd sizes. This is a simple immediately actionable approach - and means the revenue generated can also be used immediately to support more farmers moving towards more regenerative farming practice. Revenue is likely to be highest at the start - which is when farmers also most need financial support towards regenerative farm practices, so these quickly become universal practice. This is an important step in supporting farmers to meet future food production expectations. Immediate inclusion in NZETS will mean all fertiliser emissions everywhere in Aotearoa face pressure to rapidly reduce. This rapid reduction in nitrous oxide emissions will also help clean up our waterways across the motu.

The Institute for Governance & Sustainable Development[9] advise:

"...the fastest most effective strategy is to combine the marathon to zero out carbon dioxide (CO2) emissions from decarbonizing the energy system with the sprint to rapidly cut non-CO2 super climate pollutants and protect carbon sinks. The super climate pollutants include four short-lived climate-pollutants (SLCPs) - methane (CH4), hydrofluorocarbons (HFC), black carbon soot, and tropospheric ozone (O3) - ***as well as the longer-lived nitrous oxide (N2O)****." (Page 3)*

[9] A Primer on Cutting Methane: The Best Strategy for Slowing Warming in the Decade to 2030

4. Do you support the proposed approach for reporting of emissions?

Yes - for carbon dioxide, which is levied at farm-level. No - for methane and nitrous oxide. Note that methane is reduced separately via tradeable methane volume quotas, and nitrous oxide reductions are driven by direct entry of synthetic nitrogen fertiliser importer/manufacturer level into NZETS.

OraTaiao supports taking a simple supportive approach initially to reporting emissions, but we expect that the reporting and associated calculations will become more widespread and more detailed and incorporate livestock reproduction numbers and farm slopes - this will be important for making the system equitable. All reporting and calculations must be transparent and publicly available, with audits to support learning and deter under-reporting.

Technological developments are likely to mean increasing capability to report in more detail, and cover more farming ventures. We expect reporting to be revised regularly to keep up.

5. Do you support the proposed approach to setting levy prices?

No

As per our previous answers, OraTaiao urges that **farm-level levy pricing be limited to carbon dioxide** - with methane rapidly reduced through tradeable methane volume quotas, and nitrous oxide reductions driven by direct entry **of synthetic nitrogen fertiliser** into NZETS at importer/manufacturer level.

Importantly, within this urgent Aotearoa-wide transition to sustainable food production, **OraTaiao strongly recommends transitional support for Māori land-owners, Māori communities and the Māori agricultural workforce**. What this transitional support looks like and the duration, needs to be led by iwi and hapū, and well-resourced by the Government.

Treaty settlements and sovereignty of Māori landowners, Māori communities, and Māori employees in the agricultural sector must be protected. We note that around 28% of freezing workers are Māori and see the just transition of agricultural employees to decent, stable well-paid jobs as critical. We urge an **independent approach to Māori land use so that decision-making rests with Māori and any erosion in Treaty settlements value is clearly and completely compensated for in ways that hapū and iwi determine are just and appropriate**. We support the partnership recommendation for a dedicated substantial fund for Māori landowners – and that the level and use of this fund is determined by Māori landowners.

Agricultural emissions pricing, as with all government policy and regulation, must strengthen Tiriti rights, not undermine these. Māori interests are also reflected in food access in Aotearoa, with disproportionate levels of food malnutrition in a country that prides itself as a

food producer. Access to nourishing and traditional foods has been thoroughly undermined by huge losses of arable land (now Māori own just five percent of Aotearoa land, no longer free to source food from across the motu), and widespread degradation of traditional food sources in lands and waters

OraTaiao recommends **annual pricing for carbon dioxide** so that the system is more responsive and agile in a rapidly changing environment. The climate crisis demands quick response to how we are tracking against targets.

We agree that **the Government should set the carbon dioxide levies, based closely on advice from the Climate Change Commission** - not the agricultural sector. Ultimately, our whole country will bear the cost of failures to reduce emissions fast enough.

These costs must be made explicit publicly - and needed to be included in this consultation. If indeed the Government can make up the huge shortfall in ambition by purchasing offshore credits, at what price? And how do forecast costs of any available offshore credits over the 2020s and beyond compare to the projected annual tax income from the agricultural sector over this period? These calculations must be clearly and widely shared with New Zealanders before final decisions are made. Simply quoting GDP is not an adequate measure of net societal well-being, especially when human and planetary health harms are calculated, together with Te Tiriti injustices and other inequities.

By discounting agricultural emissions responsibility by 95%, decreasing by 1% annually - and then recycling the 5% revenue back into the sector, barely any climate pollution costs are being paid by the agricultural sector. There is merit in rewarding better less polluting farming practices at the expense of bigger farm polluters - but overall, the rest of New Zealand is left to pay the price of pollution, both as offshore liabilities, and very climate changes. This is like **a blank subsidy cheque for agricultural climate pollution** - with increasing subsidies worth billions of dollars only fractionally offset by the tax income from that sector.

The pandemic has highlighted the very real pressures on our health sector. Every avoided presentation at our overstretched hospitals matters. As health professionals, OraTaiao finds it impossible to justify this level of pollution subsidy being proposed for the agricultural sector. **Billions of Government dollars would be much better spent on our health services, and better still, on climate mitigation measures that build health, equity and reduce climate risk.**

From an international equity perspective, Aotearoa's fair share for climate finance is around a billion dollars annually, about a third of what we currently fund. Likewise, a fair contribution to future loss and damage funding will also be around a billion dollars per annum - or more if we fail to cut emissions fast enough. Again, **this is a higher priority than massively subsidising our agricultural sector.**

6. Do you support the proposed approach to revenue recycling?

Yes - with caveats.

Firstly, we strongly support the partnership recommendation for a dedicated substantial fund for Māori landowners – and that the level and use of this fund is determined by Māori land owners.

Fully pricing synthetic nitrogen fertiliser with immediate entry into NZETS at manufacturer/importer level, will generate considerable revenue for initial incentivising of widespread regenerative food production practices. This revenue stream should decrease over the decade as nitrogenous fertiliser use is eliminated from farming - at the same time as farming has successfully transitioned to regenerative food production, outgrowing the need for incentives.

We agree with the principles, especially equitable, integrated and adding value, transparent and accountable, and justifiable and effective.

We note in support of incentivising regenerative farming practices, that multiple studies have shown that regenerative farming is good for farmers' wellbeing.[10]

To quote Brown et al.:

> "Our analysis has identified significant relationships between the adoption of regenerative agriculture and improved wellbeing across many of the SWB measures examined, suggesting these measures are sufficiently sensitive to provide meaningful insight into the wellbeing impacts of different agricultural systems."[11]
>
> "Given that the wellbeing of the farmer is so closely linked to the wellbeing of the environmental and financial components of the farm, understanding farming systems that improve farmer wellbeing will be more likely to result in a farmer and a farm system capable of long-term change and adaptation to maintain long-term sustainability."[12]

[10] Regenerative farming and human wellbeing: Are subjective wellbeing measures useful indicators for sustainable farming systems? - ScienceDirect
Can regenerative agriculture support successful adaptation to climate change and improved landscape health through building farmer self-efficacy and wellbeing?
The FarmWell study: Examining relationships between farm environment, financial status and the mental health and wellbeing of farmers

[11] Regenerative farming and human wellbeing: Are subjective wellbeing measures useful indicators for sustainable farming systems?

[12] Can regenerative agriculture support successful adaptation to climate change and improved landscape health through building farmer self-efficacy and wellbeing?

The system must advantage those farmers who are doing an awesome, innovative job for the country. Conversely, the system must place pressure on the polluters and climate deniers to change or move on.

From a farmer wellbeing perspective, point 166.3 of the HWEN Cabinet Paper[13] is concerning because a) New Zealand agriculture *should* be aiming to be carbon neutral, and b) those who choose to go beyond the farm-level pricing system *should* receive commercial benefit in doing so.

7. Do you support the proposed approach for incentive payments to encourage additional emissions reductions?

Yes

These incentive payments must be funded from **high climate polluters bearing much more of the costs of their pollution, much faster.**

As per previous answers, within agricultural funding we urge prioritisation of **transitional support for Māori landowners, Māori communities and the Māori agricultural workforce**. We also believe from an equity point of view, that a just transition for agricultural workers, especially those on low wages, is a high priority.

We recommend **regular review of incentive payments** - as the revenue for high prices for high climate polluters (especially immediate NZETS pricing to virtually eliminate nitrous oxide this decade) will hopefully accelerate our transition to sustainable food production with widespread best practice regenerative agriculture. Overall support of the agricultural sector over time must be considered relative to the tax take, and other Government spending priorities, such as health and housing, when societal inequities are widening, and Te Tiriti justice is still work-in-progress.

8. Do you support the proposed approach for recognising carbon sequestration from riparian plantings and management of indigenous vegetation, both in the short and long term?

We support this approach in the short term, **with the following caveats**.

OraTaiao wants to encourage best practice in climate, land, and water protection. However, we would like to see a much lower discount than 95% for carbon dioxide emissions, to

[13] HWEN Cabinet Paper, point 166.3 states: 'Note that this proposal for farm-level emissions pricing does not aim for carbon neutrality. However, agricultural businesses may choose to go beyond the farm-level pricing system to voluntarily achieve carbon neutrality. Those that do may be able to receive commercial benefits for doing so.'

create a much greater revenue source to encourage rapid widespread regenerative farming practices.

We believe that a 90% discount rate, reducing by 1% annually, is outrageous in current ETS settings - and 95% for agriculture even more so, which is effectively a 100% discount when 5% revenue recycling is considered.

We would like to see **a much lower discount rate with bigger reductions each year, so that all sectors quickly bear the full cost of their climate pollution** - not subsidised with a government blank cheque for decades as currently. The discount rate should align with Aotearoa's fair contribution to the world effort this decade to keep global heating to the humanly adaptable 1.5 °C. This means climate polluters are **strongly incentivised** to stop destabilising our shared climate.

We want **sequestration recognised using existing standards, to align with New Zealand's Greenhouse Gas Inventory**. This means all claimed sequestration must be proven by farmers and others to meet current Inventory criteria. We would also like to see NZGHG Inventory sequestration scope examined for potential valid widening of this criteria.

The onus is to rapidly reduce domestic emissions (especially methane and nitrous oxide). We also understand that: "There is a very long tail to every tonne of fossil CO_2 added to the atmosphere: around 400 kilograms will still be there after a century. After 1,000 years, there's still around 25%. After 10,000 years, there's still around 20%. This carbon will go on heating the planet for millenia."[14]

Sequestration has risks - this is a tool we want to use to offset the most challenging emissions reductions, not protect business-as-usual or support minimal change in this existential emergency. Sequestration in this light must be used carefully and in the best overall public interests, not so much for private interests.

However, we are keen to support farmers in more sustainable management of the land. We urge that wider sequestration options be urgently investigated so that the New Zealand Greenhouse Gas Inventory better captures diverse sequestration opportunities, with technology developed for more accurate measurement. We would also like to see farmers incentivised towards longer term sequestration with additional native forest plantings and regeneration, rather than plantation forests such as pinus radiata. This is for more permanent sequestration to match the residual longevity of carbon dioxide and nitrous oxide in our atmosphere, and to enhance biodiversity.
, A biodiversity weighting system could be investigated for for on-farm vegetation - for example, the Hemeroby Index,[15] which may be able to beredily adapted to conditions in Aotearoa New Zealand..

[14] Australia relies on controversial offsets to meet climate change targets. We might not get away with it in Egypt

[15] "The hemeroby index measures the hemerobiotic state of an area: the magnitude of the deviation from the potential natural vegetation caused by human activities. The degree of hemeroby increases with the increase of the human influence. Gradients of human influence are assessed using a scale which normally comprises 7 degrees, in which the lowest values (ahemerob) correspond to "natural" or non-disturbed landscapes and habitats such as bogs and the highest values (metahemerob) are

A biodiversity weighting to carbon sequestration would be a good way to support farmers who own a lot of poorly productive land. The survey of farmers showed that two thirds of farmers have vegetation that they would like to claim for carbon sequestration.[16] This would mean that farmers with areas of native bush or biodiverse wetlands, for example, could receive more income than if they planted pine trees. It would also favour the planting and regeneration of native rather than pine trees. The farmers survey shows that many farmers want to plant trees and create wetlands.[17].

9. Do you support the introduction of an interim processor-level levy in 2025 if the farm-level system is not ready?

Yes

However, OraTaiao urges fast work so the farm-level system is in place well before 1 January 2025 and preferably within a year from now - with introduction of the interim processor system during 2023 if delays look unavoidable.

We note that the Interim Climate Committee had recommended that agriculture enter the ETS at processor level three years ago, with revenue used to fund the set-up of the farm-level system. From an atmospheric budget perspective, strong early reductions in emissions are the most important.

It's not acceptable to reward the further delay caused by the He Waka Eke Noa Partnership. Our country has known about the need to rapidly reduce agricultural emissions for decades now - this is not a surprise, and these delays have made real reductions even more urgent. Delays simply increase the rapidity that emissions need to reduce. Farmers deserve effective incentives now, for business certainty.

given to totally disturbed or "artificial" landscapes such as urban areas. In an agri-environmental context the index shows the cultural influence of farming practices on landscapes and potential vegetation." From: Glossary:Hemeroby index.
See also:
Hemeroby, urbanity and ruderality: bioindicators of disturbance and human impact - Hill - 2002 - Journal of Applied Ecology - Wiley Online Library
Implementation of a EU wide indicator for the rural-agrarian landscape - Publications Office of the EU

[16] Polyakov, M., Stahlmann-Brown, P. (May 2022). Agricultural Progress Assessment Farmer Survey Report. Manaaki Whenua Landcare Research. Table 10, Page 12.

[17] Polyakov, M., Stahlmann-Brown, P. (May 2022). Agricultural Progress Assessment Farmer Survey Report. Manaaki Whenua Landcare Research. Table 10, Page 25.

Section 4: Impacts

10. Do you think the proposed system for pricing agricultural emissions is equitable, both within the agriculture sector and across other sectors, and across Aotearoa New Zealand generally?

None of the above

Please refer to our feedback on the inadequacy of legislation and current NDC targets, and the huge blank cheque subsidy risk to the rest of Aotearoa.

Any system to price agricultural emissions must have human health at the heart of all design decisions. In many other submissions, we have outlined the very real health opportunities and threats of climate change - which outweigh any other health concerns this century, including the current pandemic.

As per previous answers, within agricultural funding we urge prioritisation of **transitional support for Māori land-owners, Māori communities and the Māori agricultural workforce**. We also believe from an equity point of view, that a just transition for agricultural workers, especially those on low wages, is a high priority.

We refer the Ministry to OraTaiao's 2021 Policy Statement: Building resilience in Aotearoa's food systems[18], where we outline many serious health equity concerns from current food production practices. In a country that prides itself as international food producers, too many people face food insecurity and malnutrition in many forms - and this disproportionately harms tangata whenua who should have first claim on this country for food sustenance. Aotearoa does not feed the world's most vulnerable - we promote and produce our food for the world's middle class, at the expense of those who are being hit first and worst with climate changes, including our Pacific family and neighbours.

We do support regular refinements to the calculations and reporting, from close monitoring to ensure the system delivers the rapid reductions needed this decade for each greenhouse gas. These must increase the ambition of the system, not backslide in any way. Farmers deserve the certainty that their business future focuses on rapid emissions cuts.

From a health equity perspective, **failing to cut methane emissions will increase ozone air pollution and consequent respiratory mortality** - this contributed to one million premature respiratory deaths globally in 2010[19]. This affects those who do not have the financial means to relocate and therefore rely on sufficient policy decisions to reduce emissions, especially potent methane emissions.

[18] OraTaiao Policy Statement – Government Procurement Sustainable Food
[19] One million premature deaths linked to ozone air pollution

11. In principle, do you think the agricultural sector should pay for any shortfall in its emissions reductions?

Yes

Aotearoa cannot afford any further shortfalls in emissions reductions - for many reasons. Neither can the rest of the world - and in the shorter term, climate changes hit developing nations and low-income peoples first and worst, including our Pacific neighbours and family. Access to buy offshore emissions credits is uncertain, and prices likely to be highly volatile upwards. The annual tax take from farming is also a clear limit on how much Government subsidy is reasonable for this sector, and at the same time, Government already funds considerable extreme climate event recovery for the farming sector and demand will grow for decades.

If there are any shortfalls (and this agricultural pricing system must be designed to accelerate emissions reductions, not risk shortfalls), then using levy revenue is fair. Levy revenue means farmers who emit the most bear responsibility for this - not farmers who are rapidly reducing their emissions and farming regeneratively.

However, we strongly urge that the whole point of pricing agriculture emissions is to get the speed and scale of emissions reductions we need across all three greenhouse gas emissions. **This system must be designed to eliminate any risk of emission reduction shortfalls - and easily scaled up for greater ambition, and no backsliding in expectations.**

12. What impacts or implications do you foresee as a result of each of the Government's proposals in the short and the long term?

As our earlier answers indicate, OraTaiao is deeply concerned that, overall, the Government's proposals are not sufficiently ambitious for the climate emergency we face. Endless debate over the years has just increased the urgency to act. Further delays and indecision fail to seize the incredible health-giving opportunities from becoming a truly sustainable food producer.

If appropriate and fast action is taken, the Government can expect to be world-leading in sustainable agriculture and climate change action. Aotearoa can also expect environmental and population health benefits from reduced short-lived gases such as methane.

We refer you again to "A vision of Aotearoa in 2030 - why we want to price Agricultural climate pollution fast, well, and right now." at the start of this submission.

13. What steps should the Crown be taking to protect relevant iwi and Māori interests, in line with Te Tiriti o Waitangi?

Te Tiriti settlements and sovereignty of Māori landowners and employees in the agricultural sector must be protected. We note that around 28% of freezing workers are Māori and see the just transition of agricultural employees to decent, stable well-paid jobs as critical. We would like to see a different approach to Māori land use where decision-making rests with Māori and any erosion in Tiriti settlements value is clearly and completely compensated for in ways that hapu and iwi determine are just and appropriate.

We support the partnership recommendation for a dedicated fund for Māori landowners – and that the level and use of this fund is determined by Māori land owners. Agricultural emissions pricing, as with all government policy and regulation, must strengthen Tiriti rights, not undermine these. Māori interests are also reflected in food access in Aotearoa, with disproportionate levels of food malnutrition in a country that prides itself as a food producer. Access to nourishing and traditional foods has been thoroughly undermined by huge losses of arable land (now Māori own just five percent of Aotearoa land, no longer free to source food from across the motu) and degradation of traditional food sources.

Section 6: Audit, verification, and compliance

14. Do you support the proposed approach for verification, compliance, and enforcement?

Yes

We support the general approach to make it both cost-effective and add as little extra requirements to the emissions numbers. We would favour auditing and verification to remain solely with the government in order to minimise the opportunity for industry influence on third-party verification. There is a critical importance to limit the public concern that this could come about, and keeping verification, compliance and enforcement stricly under government control would support this.

Provide general feedback

15. Do you have any other priority issues that you would like to share on the Government's proposals for addressing agricultural emissions?

Refer OraTaiao's Policy Statement - Building resilience in Aotearoa's food systems[20]

Health professionals and food systems

As an organisation of health professionals, we have a strong interest in sustainable food systems **The health of the Planet is *the* most important determinant of human health**, as expressed by the Planetary Health movement:

> *"Human beings live within a safe operating space of planetary existence. If the boundaries of that space are breached, the conditions for our survival will be diminished. Currently, natural systems are being degraded to an extent unprecedented in history, with known and as yet unknown and unquantified effects on human health."*[21]

Aotearoa is exceeding its planetary boundaries on several fronts, notably associated with climate change, reduced biodiversity, and biochemical systems. The boundaries that are most under threat are those that are most affected by agriculture therefore farm-level emission levies pose a great opportunity to bring Aotearoa back into a safe-operating space.[22]

Atmospheric boundaries: The highest atmospheric CO_2 concentration is set at 350 ppm yet we have reached 414 ppm. Bringing CO2 concentrations down is essential, as well as targeting more potent short-lived gases such as methane. Aotearoa transgress our fair share of methane and nitrous oxide, making short-lived gases a key focus area.

Biodiversity: Among the 11,000 native species in Aotearoa, 4,000 are at risk or threatened with extinction. This is due to deforestation, agriculture, and marine harvesting. Pollution from agriculture and soil erosion also has a part to play in reducing biodiversity. Farmers have a great opportunity to reduce this biodiversity loss and protect species, especially those native to Aotearoa.

Chemical cycles: An increase in nitrogen leaching into soils (29% between 1992-2012) and rivers (12%) has a catastrophic effect on delicate ecosystems and nitrous oxide emissions into the atmosphere. The over-use of synthetic nitrogen fertiliser has increased by over 700% in the last three decades[23]. It is polluting waterways, reducing soil quality, and contributing to greenhouse gas emissions causing imbalances in our biochemical cycles.

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[20] OraTaiao Policy Statement – Government Procurement Sustainable Food

[21] Planetary health: a new science for exceptional action

[22] A Safe Operating Space for New Zealand/Aotearoa – Translating the planetary boundaries framework

[23] Fertilisers - nitrogen and phosphorous

One of the most severe exceedances of Aotearoa's planetary boundaries is due to over-use of synthetic nitrogen fertilisers[22]. Nitrogen imbalance in Aotearoa is worsening more than any other OECD country due to intensification of farming. Phosphorus imbalance is similar but efforts to reduce impacts are working; phosphorous leaching has reduced by >1.5% each year from 2004 – 2013.

Food systems are central to people's health and wellbeing. Good health and wellbeing also impact food systems in terms of productivity and employment. The *EAT-Lancet Commission[24] Summary Report* states:

> *"Transformation to healthy diets by 2050 will require substantial dietary shifts. Global consumption of fruits, vegetables, nuts and legumes will have to double, and consumption of foods such as red meat and sugar will have to be reduced by more than 50%. A diet rich in plant-based foods and with fewer animal source foods confers both improved health and environmental benefits."*[25]

The report entitled "*Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems*"[26] highlights the three biggest opportunities to improve the sustainability of food systems: 1) reduce food waste; 2) adopt a more plant-based diet; and 3) improve food production methods. This must happen simultaneously with reducing food insecurity and increasing food sovereignty.

Despite the high volume of food exports and orienting production towards growth, Aotearoa maintains a high level of food insecurity with more than 12% of children living in a household where food runs out "sometimes or often". Half of adults (49.8%) meet the fruit intake recommendation (2+ servings a day), and only 10% meet the vegetable recommendation (5-5.5 servings daily).[27] Further, food hardship is disproportionately higher among Pacific and Māori households.[28] Aotearoa has an opportunity to re-orient its values from high volume exports to sustainable and quality food production that will nourish local populations and meet national and global climate obligations.

Psychological wellbeing

We support psychological wellbeing for New Zealanders. **A climate of misinformation and climate denial is harmful to psychological wellbeing** as shown in a recent study that found "people are feeling mental, social, political and/or economic distress due to misleading and false health-related content on social media during pandemics, health emergencies and humanitarian crises"[29]

An ineffectual response to climate change is a major stressor for young people. From a survey of 10,000 children aged 16 − 25 years in ten countries, Hickman et al. concluded that

[24] EAT Forum
[25] EAT-Lancet Commission Summary Report
[26] Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems
[27] Key indicators
[28] Food Hardship and Early Childhood Nutrition.
[29] Infodemics and health misinformation: a systematic review of reviews

"climate change, climate anxiety, and inadequate government response are all chronic stressors that could threaten the mental health and wellbeing of children and young people around the world."[30] Hurley et al. commented that "climate anxiety among young people… can only be truly mitigated if those in power take meaningful action to address climate change."[31]

Young people will inherit the consequences of decisions made at the present time. According to the Mental Health foundation, "New Zealand's youth suicide rate for adolescents aged 15 – 19 years was reported to be the highest of 41 OECD/EU countries (based on data from 2010)."[32] New Zealand is a major polluter of waterways, the ocean, and the atmosphere, and has a terrible record of methane emissions. To maintain a "clean green" image and a "feeding the world" rhetoric requires a systematic misinformation campaign; young people see through this hypocrisy.

Therefore, for the sake of the mental and physical health of New Zealanders, we urge a genuine, honest and courageous approach to turning around Aotearoa's environmental record. A sizable proportion of farmers agree with this and are leading the way. It is up to the Government to set the conditions to reward the progressive, innovative farmers who are leading the way in transforming Aotearoa's food systems.

Ecosystem services

Ecosystem services provided by nature are of great value as shown by Sandhu et al.:

> *"The benefits to agriculture of key ES [ecosystem services] are substantial as demonstrated here; in most cases the organisms which deliver these ES are not traded in markets; i.e., they have a value but no price. Enhancing these and other ES in agriculture has the potential to reduce its ecological footprint."*[33]

Wratten et al. wrote that payment for ecosystem services (PES) schemes:

> *"Will help farmers in these regions and others to be compensated for any loss of incomes due to the possible slight decline in production by adopting sustainable agricultural practices in the short to medium term. Finding these and other ways to minimise the opportunity costs involved in enhancing farmland biodiversity is 'one of the most important scientific, social and political challenges of the near future' (Tylianakis, 2013[34]). In the long term, ES enhancement will help to optimise production and sustainability of farms and will benefit a suite of ES, not only the two examined here."*[35]

[30] Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey - The Lancet Planetary Health
[31] Supporting young people with climate anxiety: mitigation, adaptation, and resilience - The Lancet Planetary Health
[32] Statistics on suicide in New Zealand | Mental Health Foundation
[33] Significance and value of non-traded ecosystem services on farmland
[34] Pollination Decline in Context—Response | Science.
[35] Pollinator habitat enhancement: Benefits to other ecosystem services - ScienceDirect

Sandhu et al. concluded that:

> *"Conventional farming often suppresses the delivery of non-marketed ES [ecosystem services] whereas organic and other benign agricultural practices enhance it… Such a benefit-cost ratio offers significant returns to farmers and renewable, cost-effective alternatives to fossil-fuel based inputs in many agroecosystems, not limited to organic agriculture. Improving the ES-richness of agriculture requires a considerably higher uptake of agroecological approaches which make economic sense to farmers as well as protecting the biodiversity which enhances farmland ES… This study strengthens the case for more diversified, ES–rich, integrated agricultural systems that enhance functional agricultural biodiversity, avoid expensive inputs, minimise external costs and are less energy intensive. Part of the currently-available agricultural technical knowledge and efforts can be diverted for the further development and extension of sustainable intensification of agricultural practices and protect the livelihood of millions of farmers."*[36]

New Zealanders have been active in publishing on the subject of ecosystem services. In their review article, Wratten et al. wrote that "there is growing evidence that AES [agri-environmental schemes] measures promoting pollinator habitat not only improve forage and nesting resources for bees but also contribute to the general protection of biodiversity, greater natural pest control, improved soil and water quality, and enhanced rural aesthetics."[37]

Therefore, **ecosystem services need to be factored into food systems accounting**.[38] For example, the claim that New Zealand farmers are some of the most efficient in the world cannot be taken seriously unless accompanied by accounts that factor in the ecosystem costs of methane and nitrous oxide emissions. These are costs that future generations will have to pick up.

Consent to release your submission

1. Do you consent to your submission being published on this website?

Yes

Note that if there are any opportunities to answer questions or to speak to our submission, whether formally or informally, OraTaiao would welcome these opportunities.

[36] Significance and value of non-traded ecosystem services on farmland
[37] Pollinator habitat enhancement: Benefits to other ecosystem services
[38] See also: System of Environmental Economic Accounting |

2. If yes to the above, clearly state if there are parts of your submission that you do not want published.

We agree to the publishing all of OraTaiao's submission.

About OraTaiao

OraTaiao: The New Zealand Climate and Health Council is an organisation calling for urgent, fair, and Tiriti-based climate action in Aotearoa; we recognise the important co-benefits to health, well-being and fairness from strong and well-designed mitigative policies.

We honour Māori aspirations, are committed to the principles of te Tiriti o Waitangi, and strive to reduce inequities between Māori and other New Zealanders. We are guided in our practice by the concepts of kaitiakitanga (guardianship), kotahitanga (unity), manaakitanga (caring), and whakatipuranga (future generations).

OraTaiao has grown over a decade to more than 900 health professionals concerned with:

- The negative impacts of climate change on health, well-being, and fairness;
- The gains to health, well-being, and fairness that are possible through strong, health-centred climate action;
- Highlighting the impacts of climate change on those who already experience disadvantage or ill-health (i.e., equity impacts);
- Reducing the health sector's contribution to climate change.

As well as individual and organisational members, we are backed by 22 of New Zealand's leading health professional organisations for our Health Professionals Joint Call to Action on Climate Change and Health (see https://www.orataiao.org.nz/friends_and_supporters). This support includes the New Zealand Nurses Organisation, Public Health Association, the Royal Australasian College of Physicians and the Australasian College of Emergency Medicine, plus numerous other specialist colleges. Together, these organisations represent tens of thousands of our country's health workforce.

As an organisational member of the Climate and Health Alliance, and of the Global Climate & Health Alliance, we work with a worldwide movement of health professionals and health organisations focused on the urgent health challenges of climate change - and the health opportunities of climate action. OraTaiao signed the

Doha Declaration on Climate, Health and Wellbeing of December 2012, which reflects this international perspective.

OraTaiao
NZ Climate & Health Council

November 2022