TO:	Ministry for the Environment
DATE:	21 July 2022
SUBMISSION ON:	Te Tātai utu on ngā tukunga ahuwhenua Pricing agricultural emissions
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1 Introduction

1.1 For almost a quarter of a century, New Zealand Kiwifruit Growers Inc (NZKGI) has been the voice for New Zealand's 2,800 kiwifruit growers, providing practical support and acting as an advocate for the industry at government level. The kiwifruit industry is New Zealand's largest horticultural export, with 174 million trays of kiwifruit being picked for overseas markets in 2022, the equivalent of $2.2 billion in revenue. This is predicted to increase by 33% by 2026 with 238 million trays of kiwifruit set to be exported that season.

1.2 Māori kiwifruit growers manage a total of 1,274 producing hectares of kiwifruit and produce 10% of the kiwifruit submitted for packing. By 2030 Māori grower revenue is estimated to grow from $271m to $638m per year.

1.3 Kiwifruit provides the highest per-hectare return in New Zealand's primary sector – $75,494 per hectare for Green and $176,026 per hectare for SunGold in 2021/22. Just 5% of all producing orchards are greater than 10 ha, with the median orchard being approximately 3 ha in size.

1.4 The kiwifruit industry is a major contributor to regional New Zealand returning $2.25 billion directly to rural communities in 2020/21. There are approximately 2800 growers, 14,000 ha of orchards, 9,250 permanent employees and up to 24,000 jobs during the peak season. As the industry continues to grow, the number of workers required to work on both orchards and packhouses is also expected to increase to 30,000 workers in 2026.

1.5 Kiwifruit is grown in eight regions however much of New Zealand's kiwifruit (80%) is grown in the Bay of Plenty region where the soils are generally deep and free draining. The regional contribution and producing areas for New Zealand kiwifruit are summarised in Figure 1.

Figure 1: Regional Contribution and Producing Area[1]

1.6 NZKGI generally supports the submission of HortNZ. This submission has been prepared specifically to consider the potential effects of the pricing of agricultural emissions on kiwifruit growers.

2 Industry Commitment to Climate Change Action and Preparedness

2.1 Zespri International Limited ("Zespri") is the world's largest marketer of kiwifruit, accounting for about one third of global kiwifruit trade. Zespri is 100 percent owned by current and former kiwifruit growers and is driven by its purpose to help people, communities and the environment around the world thrive through the goodness of kiwifruit. Zespri is committed to sustainability, with areas of improvement identified right through the supply chain including to use 100 percent reusable, recyclable or compostable packaging by 2025, do more to help the environment, and to become carbon positive by 2035.

2.2 Zespri's climate change strategy sets out the approach from now until 2035 to lead the kiwifruit industry's transition to a low-carbon, climate resilient future. The targets set are shown in Figure 2.

[1] NZKGI (2021) The Voice of New Zealand's Kiwifruit Growers. New Zealand Kiwifruit Growers Incorporated.

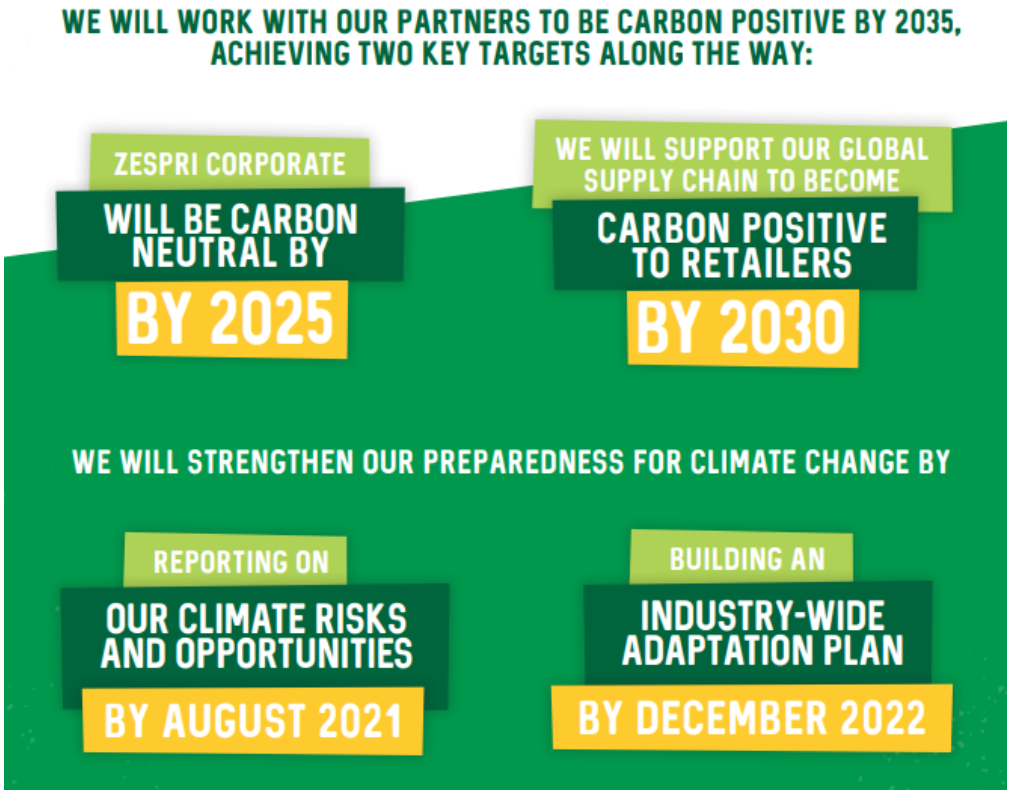

Figure 2: Climate Strategy Targets

2.3 At approximately 2 kg of CO_2-emissions per kg of fruit consumed, the kiwifruit industry is a small contributor:

- when compared to other food products, particularly animal products, and
- considering the number of hectares involved.

2.4 The indicative contribution of each stage in the supply chain to the carbon footprint of Zespri kiwifruit produced in New Zealand and consumed globally is shown in Figure 3. Most of the carbon emissions occur after the fruit has left New Zealand.

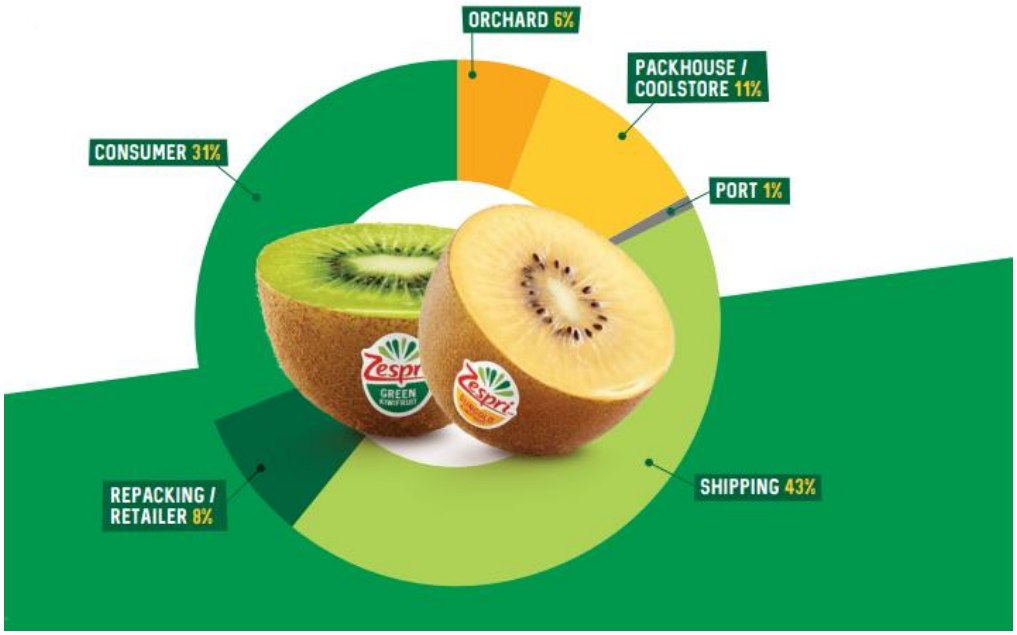

Figure 3: Indicative Contribution of Each Stage in the Global Chain to the Carbon Footprint of Zespri Kiwifruit Produced in New Zealand and Consumed Globally

2.5 If the aim is to reduce the carbon footprint of food production, then encouraging and increasing the supply of intensive land use such as kiwifruit, which produces 50 tonne/ha of food (Sungold) compared to other land uses that have higher emissions and lower production per hectare etc should be the aim of any policy.

2.6 The industry recognises that chronic rising temperatures will impact the kiwifruit industry over the medium to long term (30 to 80 years). In particular, a rise in winter temperature is believed to already be impacting on consistent bud-break and king flower production in some areas of New Zealand.

2.7 Over the past five years, 10 out of 11 sites across the Bay of Plenty and Gisborne regions showed a reduction in winter chilling hours between May and June. To illustrate the impacts of inadequate winter chill, Figure 4 shows the difference in budbreak/flowering in vines at an orchard in Katikati with and without the application of hydrogen cyanamide[2]. As New Zealand's winters gradually warm, hydrogen cyanamide and new cultivars will be an important tool for growers to adapt to climate change.

Figure 4: The effect of insufficient winter chill on bud break and flowering in Gold Kiwifruit – Spring 2022. (Note that the spray contractor sprayed a row with HiCane with only one side turned on.)

2.8 Rising average summer temperatures will increase vine water demand and may impede fruit development in water-deprived areas. An increase in the number of hot days could cause thermal stress and have negative impacts on production.

2.9 Warmer temperatures are expected to lengthen growing seasons. Plants will start maturing earlier potentially exposing them to frosts. Although the number of frosts is

[2] Hydrogen cyanamide (HiCane) is a plant growth regulator that stimulates bud break and flower growth in many conventional, as opposed to organic kiwifruit orchards

generally expected to decline, when they do occur their impact could be much larger than previously experienced. Frost protection will become increasingly important.

2.7 In addition, the kiwifruit industry has experienced severe weather events in recent years. In 2020, a hail event in the Tasman region cost the industry $45 million, once losses to Orchard Gate Returns, sales and insurance costs were factored in. In 2021, a severe wind event caused some growers in Ōpōtiki to lose up to 50 percent of their crops. The 2022 North Island flooding event that cost the New Zealand economy $80 million, caused significant flooding and damage to kiwifruit orchards in Tairāwhiti, Gisborne. The timing of the flooding meant delays to harvest, as harvest machinery could not access the orchards.

2.8 The social cost of these events is also significant for growers and their wider communities, with the wider impacts felt long after the initial damage is repaired.

2.9 From 2017-2021, Zespri joined with MPI and Plant & Food Research to conduct a study on the suitability of different regions in New Zealand for growing kiwifruit (and other crops) under different climate change scenarios. Suitability assessments considered various climate and land factors.

2.10 It was found that in a future with strong global action that minimises the increase in mean temperature, the following is anticipated (by 2075):

- Reductions in suitability are expected for many parts of the upper North Island and around East Cape, Northland is the most affected, with a small reduction in the Bay of Plenty as expected.
- The Central and Lower North Island and the South Island see improvements in suitability.
- The majority of change is forecast to occur by mid-century.

2.11 However, if there is limited global action to curb temperature increase, then the following is expected to occur (by 2075):

- By mid-century, changes are on par with the low GHG concentration pathway.
- By the end of the century, more places around the North Island (upper and coastal areas) see reduced suitability, and the South Island and Central North Island see increases in suitability that are substantial in many locations.

2.12 A climate change adaptation plan has been developed to help the industry coordinate its response to the impacts of climate change. This will be released on 30 November 2022. This plan builds on Zespri's 2021 report *Climate Change Risks and Opportunities,* which was prepared in accordance with TCFD requirements and was assured by KPMG.

2.13 While kiwifruit growers will adapt to changing conditions and have been doing so for years, it is recognised that strong global action to reduce emissions will minimise climate change effects and the industry is committed to playing its part.

3 General Comments

3.1 As with most organisations, it is recognised that there will be a wide range of views from growers regarding the proposed pricing of agricultural emissions. On behalf of growers, the NZKGI policy group met to discuss the proposal on 16th November 2022. The clear direction that was provided was that:

- NZKGI supports the He Waka Eke Noa Partnership recommendations and this should be clearly expressed in the submission,
- NZKGI should aim to provide a helpful submission, that clearly sets out how growers could be affected by the proposal and identifies areas that in NZKGI's view requires clarification,
- It is important that those most affected by the proposal receive transitional support and the assistance needed to understand their responsibilities, and,
- NZKGI would welcome the opportunity for involvement as the process moves forward.

3.2 The section below is our assessment of how the proposal could affect kiwifruit growers. This section is followed by our specific comments.

4 How Would the Proposed Pricing of Agricultural Emissions Affect Kiwifruit Growers?

4.1 The policy has the potential to affect kiwifruit growers in two ways, firstly through the direct impacts of emissions pricing and secondly through wider socio-economic impacts that the consultation document signals could be a consequence of the policy.

4.2 Regarding the impacts of the proposed emissions-pricing on kiwifruit growers, for the preferred option (pricing of emissions at the farm level), we note that Zespri does not collect information by GST number. While most GST registered kiwifruit business owners would not meet the threshold of 40t of nitrogen via synthetic fertiliser, some could, and it is on this basis that we provide comments on the workability of the proposals later in this submission.

4.3 In the event that the Government adopts Option 2 (manufacturers and importers of synthetic fertiliser pay through the ETS), the impact on growers could be in the order of $48/ha/yr in additional fertiliser costs[3]. The average size of a green kiwifruit orchard is 3.3 ha and the average size of a gold kiwifruit orchard is 3.5 ha, so the additional fertiliser cost that would be associated with this option is comparatively minor.

4.4 In relation to wider socio-economic effects, the proposed emissions-pricing potentially offers both opportunities and challenges to kiwifruit growers. Potential opportunities could include better returns for a more sustainable product, strengthening of market access and minimising trade barriers.

4.5 As for other sectors, potential challenges could include the loss of community and family members for both Māori and non Māori as people relocate to obtain employment, the loss of services resulting from population decline, wellbeing and mental health issues. It is recognised that these impacts will be location specific with kiwifruit growing regions possibly less affected, and also that the aim is to put support mechanisms in place to reduce these potential impacts.

5 Specific Comments

5.1 NZKGI supports the recommendations of the He Waka Eke Noa Partnership. NZKGI also generally supports HortNZ's submission. We provide additional comments below that have direct relevance to the kiwifruit industry.

[3] Based on a carbon price of $80/t.

Transitional Support Mechanisms

5.2 The consultation document seeks feedback on how transitional support mechanisms should be designed, in particular to ensure they do not undermine the intended price signal of agricultural emissions pricing.

5.3 The document notes on page 66 that alternative land uses could create new job and training opportunities. It also states:

"Plus other industries, like tourism, which are currently facing staff shortages, may be able to expand through retraining and employing primary sector workers."

5.4 Like tourism, the kiwifruit industry has a labour shortage and primary sector workers seeking employment may be able to be re-deployed within the industry. In our view a facilitation process to help people into permanent and seasonal employment would be beneficial and NZKGI seeks to be part of the process.

Farm Level Levy

5.5 NZKGI supports the farm level levy. The farm levy was determined as the most appropriate approach by the He Waka Eke Noa partnership. This was the result of significant research and consideration by the agricultural sector and was supported by all members of the partnership.

Organic Nitrogen Fertiliser

5.6 Based on current fertiliser diary data, 20% of kiwifruit growers apply some form of compost including chicken manure blends but the figure could be higher than this. It is noted that the composition of compost can be variable as can the N content even in the same batch. This would make it difficult to fairly price emissions from organic fertilisers. There are also logistical challenges around assessing the nitrous oxide emissions from different types of organic fertiliser.

5.7 Therefore, NZKGI supports HortNZ and the Primary Sector and Māori Agribusiness submissions that recommend that organic manure is not subject to a price.

Collectives

5.8 NZKGI understands the importance of collectives for Māori Agribusiness. NZKGI supports the proposals to allow Māori growers to form collectives to manage their emissions liabilities.

5.9 In our view, allowing all farmers and growers (Māori and non-Māori) to form collectives would simplify the system. Many growers operate under multi-site/orchard management systems under ZespriGAP.

GST Registered Business Owners and Alignment with Freshwater Farm Plans (FWFPs)

5.10 NZKGI seeks a more robust definition of "GST Registered Business Owner" and alignment to ensure consistency with the requirements for preparing FWFPs. As stated previously, Zespri does not record GST business numbers so has found it difficult to assess the economic implications of emissions pricing on kiwifruit growers.

5.11 NZKGI understands that GST business owners are responsible for monitoring, reporting, and paying for emissions above the thresholds but orchard owners are responsible for FWFPs. In addition, those who manage the day to day business of an orchard, in many cases not the growers, will have responsibilities for meeting market requirements (including climate change) through ZespriGAP. This mismatch will create inefficiencies and multiple reporting requirements for growers. We urge the Government to consider how these various reporting lines and systems can be brought together. We suggest that the government issues guidance to growers/MSOs/orchard owners to clarify what their respective responsibilities are.

Sequestration

5.12 NZKGI notes that sequestration only applies for riparian and native wood forests. Perennial crops and shelters are excluded as are new vines. This does not incentivise other mitigation options.

5.13 While we understand the administrative burden that could apply for perennial crops and shelters due to trimming and periodic removal of plants, we note that Zespri is preparing a report on sequestration (i.e. carbon capture by soils and plants) in the kiwifruit industry and the accounting of this. In our view there needs to be some mechanism to allow the results of this research to be recognised through the process. While we understand to some extent the administrative burden, we also note the possibility of site specific accounting through the FWFPs.

Overlap with NPS-Freshwater Management (NPSFM), and NPS-Indigenous Biodiversity (NPSIB)

5.14 The consultation document states that the effect of the National Policy Statement for Freshwater Management was not considered, which could be significant, because this policy is expected to drive widespread changes in farm practices and and land use by 2030.

5.15 The setting of N limits in waterways will most likely result in a reduction in stock numbers and fertiliser application in some catchments. While this will take some time and is likely to be reflected in Regional Policy Statements and Regional Plans by 31 December 2024, NZKGI seeks that this is factored in once the details are known by regional councils.

5.16 We also note that the purpose of the NPS-IB is to protect, maintain and restore indigenous biodiversity such as native plants, birds and animals in response to the decline in biodiversity in Aotearoa. This is not limited to riparian planting and native wood forests.

5.17 In NZKGI's view there needs to be better integration between the pricing of agricultural emissions and the requirements of the NPSIB. The kiwifruit industry recognises that the protection of indigenous biodiversity is a key consideration in regard to meeting customer's expectations and therefore a fundamental part of doing business, and indigenous biodiversity is now an integral component of Good Agricultural Practice (GAP) programmes. GLOBALG.A.P version 6, which will be rolled out for growers to implement and be audited on next year, will strengthen requirements for growers in terms of biological diversity. The requirements include a documented plan to protect biodiversity.

5.18 Pockets of planted or naturally generated bush often occur near orchards in bush filled gullies that were formally in pasture. While much of this was planted prior to 1989, for some growers there remains an opportunity to fence, plant and undertake pest control, all of which should be considered in terms of sequestration. Other growers may choose to undertake biodiversity initiatives on nearby land that does not belong to them (e.g. land owned by councils, DOC or neighbours) to achieve the target of at least 10% of indigenous vegetation cover for any urban or non-urban or environment which is proposed in the NPSIB Exposure Draft. This could include supplying labour or funding for tree planting, fencing, pest control etc. In NZKGI's view there should be a means by which this can be credited against carbon emissions for that grower/GST registered business owner.

5.19 In addition, the Climate Change Commission's proposal for a separate system to recognise the wider benefits of planted areas above and beyond carbon sequestration could have some merits. For example, the development of guidance or policies that would support private sector funding of biodiversity/ecosystem services initiatives on farms and orchards.

Closing

5.20 Thank you for considering this submission.

5.21 As previously discussed, NZKGI is keen to remain involved in the policy process moving forward.