

SUBMISSION ON: Reforming the New Zealand Emissions Trading Scheme: Proposed settings

28 February 2020

TO: Ministry for the Environment

NAME OF SUBMITTER: Horticulture New Zealand

Supported by: Tomatoes NZ, Vegetables NZ



CONTACT FOR SERVICE:

Michelle Sands
Manager – Natural Resources and Environment
Horticulture New Zealand
PO Box 10-232 WELLINGTON
Ph: 04 470 5664
Email: Michelle.Sands@hortnz.co.nz

Introduction

Horticulture New Zealand (HortNZ) thanks the Ministry for the Environment for the opportunity to submit on the Reforming the New Zealand Emissions Trading Scheme: Proposed settings consultation document.

The details of HortNZ's submission are set out below.

Background to HortNZ

HortNZ was established on 1 December 2005, combining the New Zealand Vegetable and Potato Growers' and New Zealand Fruitgrowers' and New Zealand Berryfruit Growers Federations.

HortNZ advocates for and represents the interests of 5000 commercial fruit and vegetable growers in New Zealand, who grow around 100 different crop types and employ over 60,000 workers. Land under horticultural crop cultivation in New Zealand is calculated to be approximately 120,000 hectares.

The horticulture industry value is \$5.7 billion and is broken down as follows:

Industry value	\$5.7bn
Fruit exports	\$2.82bn
Vegetable exports	\$0.62bn
Total exports	\$3.44bn
Fruit domestic	\$0.97bn
Vegetable domestic	\$1.27bn
Total domestic	\$2.24bn

For the first time New Zealand's total horticultural produce exports in 2017 exceeded \$3.44bn Free On Board value, 83% higher than a decade before.

It should also be acknowledged that it is not just the economic benefits associated with horticultural production that are important. The rural economy supports rural communities and rural production defines much of the rural landscape.

Food production values provide a platform for long term sustainability of communities, through the provision of food security.

HortNZ's mission is to create an enduring environment where growers prosper. This is done through enabling, promoting and advocating for growers in New Zealand.

Submission structure

Part One - Industry overview and impacts of the ETS

Part Two – Comments on the consultative process

Part Three – Specific comments on Reforming the New Zealand Emissions Trading Scheme: Proposed settings

Part One: Industry overview and impacts of the ETS

Horticulture and Greenhouse Gas Emissions

In general, HortNZ is supportive of the Government's action on climate change and is committed to responding to climate change challenges.

HortNZ considers that the transition towards the 2050 target needs to provide for a realistic and fair transition for food production, taking into consideration environmental, social and economic impacts, including global emissions and food security.

Horticulture has an important role to play in a low emissions future. The expansion of horticulture, in place of animal-based agriculture, has been identified as a method of reducing NZ's overall emissions¹. HortNZ agrees that horticulture is an efficient land use, and diversification into more horticulture should be encouraged as a method of reducing farmers and New Zealand's emissions liability. However, in order for horticulture to expand and diversify to meet changing needs, ETS costs need to be considered and barriers removed.

In terms of the current New Zealand Emissions Trading Scheme (ETS):

- Covered crop growers of tomatoes, capsicums, eggplant and cucumbers are currently captured in the ETS. Growers of these products are eligible for an Industrial Allocation of NZUs, accounting for up to 60% of emissions, because they are considered to be moderately "Emissions Intensive and Trade Exposed" (EITE)².
- More broadly, ETS costs are also present for transport, refrigeration and, post 2050, fertiliser, for all horticulture enterprises.

It is important that climate change policy decisions consider impacts on New Zealand's food security and potential for carbon leakage; increased costs without viable low emissions alternatives, is almost certain to result in carbon leakage or higher food prices for New Zealanders, without necessarily resulting in reduced emissions.

Food security

The 2015 Paris Agreement (and its predecessor the Kyoto Protocol), is strong on ensuring global food security and not reducing food production. It is important that New Zealand retains the ability to provide our own fresh fruit and vegetables, this includes considering not only availability, but also affordability.

There is a general assumption that New Zealand is the land of plenty and we will always have enough locally-grown food to feed our population, supplemented by imported food where there is demand. However, there are a number of factors putting pressure on, and creating competition for, the natural resources and infrastructure critical for growing fruit and vegetables. This is coupled with population growth, which will increase our food demands.

Some of the costs of reducing emissions that will be borne by the horticulture sector (via the ETS or otherwise) will either be passed on to consumers, or result in significantly reduced domestic supply. For example, most of the vegetables grown in New Zealand are for domestic consumption, and increasing costs of vegetable production may threaten the ability of growers to continue to provide fresh affordable vegetables for New Zealanders. In addition, New

¹ <https://motu.nz/assets/Documents/our-work/environment-and-agriculture/agricultural-economics/agricultural-greenhouse-gas-emissions/Land-use-change-as-a-mitigation-option-BERG-report.pdf>

² <https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/industries-in-the-emissions-trading-scheme/horticulture/>

Zealand is too remote to import most fresh vegetables, except by air-freight, which can only provide for a fraction of demand and has a high carbon footprint.

An example of the consequences of reliance on imported produce was highlighted in a recent article referring to 'global turbulence in food production' with reference to limes costing as much as \$80 per kilogram, due to a price spike when local limes are out of season (when limes are imported)³. The article noted an increase in this price spike (for imported limes) citing less stable weather patterns in other parts of the world; a trend likely to continue as food production is affected by climate change. The article also quoted a recent Intergovernmental Panel on Climate Change report⁴ into land use, which stated "*The stability of food supply is projected to decrease as the magnitude and frequency of extreme weather events that disrupt food chains increases*". This emphasises the importance of domestic food supply and food security.

Carbon leakage

It is important to consider the carbon efficiency of food produced in NZ relative to competitor food producers and whether or not those producers also face a cost for their carbon.

New Zealand's unsubsidised, but highly efficient, primary sector is highly exposed to competition from moderately to highly subsidised producers⁵, for example New Zealand's pipfruit is the highest per hectare producer, with relatively low inputs. If our costs rise and make us uneconomic, there will be an increase in emissions as higher emitting producers stay in place.

Successive New Zealand governments have worked hard to remove barriers to trade. It would be counterproductive for New Zealand governments to impose costs on New Zealand producers that would counter these free trade gains and policies that would reduce New Zealand's emissions-efficient food production. Any loss of New Zealand's food production ability would likely be taken up by much less emissions-efficient producers overseas who are not facing the same costs⁶. That would be to the detriment of the climate change initiative.

In addition, we are not aware of any other country that includes greenhouse growers in their emissions trading schemes, for example:

- The European Union ETS applies to heavy energy-using installations in power generation and manufacturing industry and aviation (accounting for approximately 45 percent of the EU's greenhouse gas emissions)⁷;
- The Californian cap-and-trade scheme applies to large electric power plants, large industrial plants, and fuel distributors (accounting for approximately 85 percent of California's greenhouse gas emissions)⁸.

Sustainable transition

The transition towards lower emissions needs to be sustainable in an economic and social sense, taking into account linkages with employment, health outcomes and dietary change which supports emissions reductions.

³ <https://thespinoff.co.nz/food/10-01-2020/why-are-limes-so-freakishly-expensive-in-new-zealand/>

⁴ https://www.ipcc.ch/site/assets/uploads/sites/4/2019/12/02_Summary-for-Policymakers_SPM.pdf

⁵ OECD Producer Support Equivalents show 1% for New Zealand compared to 18% average across the OECD, 21% in the EU and in some countries as high as 60%.

⁶ Saunders, C, Barber, A, Sorenson, L, Food Miles, Carbon Footprinting and their potential impact on trade. (https://researcharchive.lincoln.ac.nz/bitstream/handle/10182/4317/food_miles.pdf)

⁷ https://ec.europa.eu/clima/policies/ets_en

⁸ <https://www.c2es.org/content/california-cap-and-trade/>

Horticultural producers are mostly small to medium sized businesses with a few larger corporates in some sectors. Changes in costs can have a dramatic effect on the ability of these businesses to remain profitable and continue to offer job opportunities to New Zealanders. Horticulture is a significant employer and a key factor in the maintenance of provincial New Zealand's cultural and social wellbeing.

Recent research has exemplified the connection between eating patterns, climate change and health outcomes finding that eating more plant-based foods and minimising food waste were one of the most important ways individuals could reduce their personal climate footprint, while also having health gains and health system savings⁹. This research reported annual diet-related emissions reductions of between 4 percent (following New Zealand Dietary Guidelines) to 42 per cent (wastefree vegan diet), the latter being equivalent to one-fifth of the current emissions reduction needed to meet New Zealand's commitment under the Paris Climate Agreement. In this context it would be counterproductive to restrict production of plant foods. This research echoes the findings of the Eat-Lancet Commission, that food is the single strongest lever to optimize human health and environmental sustainability and without action, the world risks failing to meet the United Nations Sustainable Development Goals and the Paris Agreement¹⁰.

A certain policy environment is required to encourage the investment required to transition to a low emissions economy without businesses becoming uneconomic and closing. Government investment is required to help support this transition towards alternative production systems and technology in a realistic manner and timeframe.

Covered Crop (greenhouse vegetable) industry

Tomatoes New Zealand Incorporated (TomatoesNZ) is the national organisation representing New Zealand's 125 fresh tomato growers, almost all of whom grow in greenhouses. The fresh tomato industry has an annual farm gate value of \$124m (March 2019), including export sales of about \$10m per year.

Vegetables New Zealand Incorporated (VNZI) is the national organisation representing 550 fresh vegetable growers with a total gate sale value of over \$420m, including approximately \$40m in export sales. This includes approximately 120 greenhouse growers of crops including capsicums, eggplants, cucumbers, lettuces, chilies and herbs.

A 2018 report by NZIER evaluating the contribution of the covered (greenhouse) vegetable crop industries to New Zealand¹¹ found:

- Gross output (or turnover) of \$295 million
- Contribution to GDP of \$120 million
- 2,400 jobs
- Exports of \$35-\$40 million per year
- Spending of \$34.3 million on heating (including electricity, coal, gas)
- This is an important industry for New Zealand, attracting stable jobs and skills in a growing market for covered crop products. It makes important contributions to GDP and general wellbeing through the employment it provides, exports it makes, and an increased use of technology

⁹ Drew, J et al. (2020) 'Healthy and Climate-Friendly Eating Patterns in the New Zealand Context'. Environmental Health Perspectives <https://ehp.niehs.nih.gov/doi/full/10.1289/EHP5996>

¹⁰ Eat-Lancet. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. The Lancet.

¹¹ Valuing covered crops. A national perspective. NZIER report to TomatoesNZ and Vegetables New Zealand, March 2018

- It is a stable and growing industry which provides a significant contribution towards diversifying the New Zealand economy
- Helps to diversify the revenue sources for companies involved in agriculture and horticultural industries

Impact of ETS on Covered Crop (greenhouse vegetable) industry

Energy is the second highest single input cost (~30%), following closely behind wages. Growers of tomatoes, capsicums, eggplant and cucumbers are currently captured in the ETS via NZ units charged by energy providers (coal and gas) for greenhouse heating fuel. These growers have access to free allocations via the Emissions Intensive Trade Exposed (EITE) scheme. These free allocations offset the ETS costs to varying degrees depending on location. South Island greenhouses are subject to a cooler climate so require more heating; and because most rely on coal they are the most impacted by high ETS costs. There is no access to natural gas in the South Island.

Crops are grown close to markets throughout NZ, including some places where low carbon fuels are not readily available. In the South Island, where coal is the primary source of heating for greenhouses, growers incur a higher ETS cost and these costs are not fully recovered by the free allocations received for tomatoes, capsicums and cucumbers. For example, at an NZU price of \$25, we calculate that the average net cost of the ETS (after allocation) on heating costs for a South Island tomato grower is \$26,693 per hectare. At an NZU price of \$50, this rises to a net cost of \$53,386 per hectare.

For growers of other covered vegetable crops such as herbs and lettuce who may also use heating, there is no free allocation, so their ETS costs are not covered at all.

Managing the ETS Auction Cost Containment Reserve effectively will be important to prevent production costs rising so high that growers are put out of business, particularly in the South Island, because they cannot pass on the higher cost of production onto domestic consumers.

The alternative is that in the future these vegetables will not be grown in New Zealand for substantial periods of the year and instead be imported, which we believe would have negative social and economic consequences. For example, people would no longer have access to locally grown produce, which is fresher than imports; biosecurity risks will increase from the imported products; jobs and export income will be lost; and New Zealand's own food security (ability to provide its own fresh vegetables) reduced. Additionally, those countries that the produce is imported from may not face the same carbon charges that our growers face; they may pay a different price; or they may produce with much higher emissions than NZ growers – i.e. the potential for Carbon Leakage.

Loss of South Island growers would result in increased reliance on other growing areas (which has resilience implications), importing tomatoes from Australia where they do not have an ETS resulting in the potential for carbon leakage, reduced capability within New Zealand and increased transport related emissions.

Investment is required to enable a transition to lower emissions alternative fuels

Growers have refined their growing techniques over the past 5-10 years in an attempt to produce enough volume in winter to supply the market and keep prices stable year-round. However, it would not be possible to continue producing at the current level without ready access to heat, plus Carbon Dioxide (CO²) augmentation to enrich growing.

Whilst growers have made significant gains in yield and energy efficiency (approx. 20%) over the past 10 years, the current infrastructure is reaching its limits and there are not many

opportunities for future improvements without significant re-investment in new greenhouses and/or energy technologies.

Proven technology has recently become available from the Northern Hemisphere, such as installing biomass burners that can heat glasshouses, but these systems can cost \$8-10m, which is cost prohibitive for many growers. Also, it should be acknowledged in some areas there is not the infrastructure in place around fuel (biomass) supply and/or enough suitable biomass available to meet energy demand.

In a New Zealand setting, transition to lower emission greenhouse growing systems requires:

- cost-effective technological solutions involving alternative energy sources and/or energy saving;
- expertise to support transition (e.g. expertise is required in the setup of biomass burner is ensure they are clean burning)
- a reasonable transition period (e.g. taking into account the economic life of existing infrastructure);
- support to make transition a feasible business prospect for growers; and
- certainty of ETS settings.

HortNZ supports incentives to enable growers to transition to lower emissions growing systems. Until cost-effective alternative heating sources are available, an increase in the emissions costs will not drive emissions reductions but will put some growers out of business.

Amongst the industry there is a willingness to change, a recognition of the importance of sustainable energy and growers have proactively been making changes and looking at options, however there is no longer any 'low hanging fruit'.

Feedback from the industry suggests that (aside from cost) the following barriers to transitioning to lower emission fuels exist:

- Biomass is seen as cumbersome and risky. In many areas there is not sufficient supply and/or there issues with the reliability or suitability of supply.
- Logistics challenges (e.g. it is estimated that a 10ha greenhouse would require ten truck and trailer loads per day of woodmass, insufficient storage space on site for the amount required to meet demand).
- Some growers use waste oil as an alternative however the supply of waste oil is limited and the implications of this alternative also need to considered from an air discharge perspective.
- Limitations with electricity network capacity (if electricity was used as an alternative) and potential vulnerability in supply, and there is no gas supply in the South Island.
- EECA support is only for one-off demonstration of technologies and does not help most growers transition to high capital-cost emissions reductions technologies.

These challenges and costs are additional to other pressures facing growers in the context of other compliance changes (including environmental, health and safety etc.).

The importance of greenhouse growing will increase in the future in response to climatic variability

Covered cropping is vital to ensuring New Zealander's are able to access freshly grown vegetables from a local supplier throughout the year. There has been an increase in the type and volumes of crops grown indoors for domestic supply, including lettuces, herbs and berries. These crops do not currently have access to free NZU allocations despite also paying ETS costs on their heating. Indoor growing is becoming more popular worldwide,

including in New Zealand, because it mitigates the risks associated with unpredictable climatic events, requires less water per unit of output, and produces more consistent, high quality products.

The covered crop industry plays an important role in evening out market supply issues in shoulder and off seasons. This is particularly important when there are adverse weather events that impact on the few areas in the country where there is winter production of certain vegetables. Covered cropping provides resilience within the domestic food system and is important for risk management at a national level. The importance of different growing regions was demonstrated in the PSA response in the kiwifruit industry, having South Island growers free of PSA enabled Zespri to manage the supply chain.

Another point to note, is an international move towards more covered cropping. This move will be essential to adapt the food production system to the changing, more volatile world climate while still producing enough food in a way that also uses less water and nutrients. Climatic variability, along with increased global demand for fresh produce, is already resulting in a move to more indoor crop production, meaning that the factors impacting the current covered vegetable crop sector will begin to extend into other crops.

The horticulture sector seeks investment in technology that will enable growers to transition the heating of these growing systems to economically viable, low emissions, alternative heating systems. Support for indoor growers to access energy saving technology and assistance with capital for conversions and energy saving measures from Government is vital.

Impacts on wider horticulture sector

Rising ETS costs will impact on the wider horticultural sector by increasing the costs of transport and the costs of running on-farm machinery. Horticultural production makes use of higher numbers of on farm vehicles per hectare compared with pastoral agricultural land use.

As in other countries, the transition away from fossil-fuel vehicles is feasible and occurring in public transport and light private transport. There currently are no feasible options for growers to convert heavy on-farm machinery to non-fossil fuel vehicles. Regulation on emissions intensity of vehicles in other countries has seen the forced obsolescence of older vehicles, which improves emissions intensity, but negatively impacts the life cycle assessment of vehicles and total emissions.

Fertiliser is used by growers, and is the only agricultural emission produced by horticultural crops. Fruit and vegetables are very efficient users of fertiliser, when considering the ratio of fertiliser use to food produced. There are improvements that can be made to New Zealand grower's fertiliser practices to improve fertiliser efficiency and reduce fertiliser losses.

HortNZ, NZGAP and the horticultural product groups are working together to support growers to improve fertiliser practices and reduce potential environmental effects. HortNZ is promoting the use of independently audited farm plans, through industry GAP programmes (NZGAP and Global G.A.P.) for all growers. These independently audited farm plans demonstrate the methods growers have employed to improve the efficiency of fertiliser use, with the aim of producing more food with lesser impacts on both water quality and greenhouse gas emissions.

Review of free allocation

There is a need to review the ETS system and free allocation criteria. Free allocation principles should be designed to account for global emissions and food security. There is a need to prepare for a more carbon constrained future, while maintaining domestic food security.

In order to enable growers to transition to lower emission systems, there is a need to be able to access contributions paid into the ETS to provide the capital necessary to make the transition.

Part Two: Comments on the consultative process

HortNZ express concern over the apparent disconnect in the recent consultation that has been occurring with regard to the ETS and climate change policy and legislation.

There has recently been a number of consultation documents released from a number of different agencies with similar and in some cases overlapping timeframes, covering similar issues in a piecemeal way. Such as the Ministry for Business, Innovation and Employment's concurrent consultation on the discussion paper 'Accelerating renewable energy and energy efficiency', for which we were not informed of, despite being regular submitters on Ministry for the Environment consultations on ETS and climate change related issues and on the Productivity Commissions Low Emissions Economy consultation in 2017.

Part Three: Specific comments on Reforming the New Zealand Emissions Trading Scheme: Proposed settings

QUESTIONS

1. Do you agree with the proposal to set a provisional emissions budget of 354 Mt CO₂-e for the 2021–25 period? If not, why not?

- Please include your views on:
 - using a straight-line approach towards the 2050 target
 - the considerations that were included in proposing the provisional emissions budget.

The provisional emissions budget is unlikely to be realistic through the ETS, a more integrated approach to managing emission reduction is needed to enable transition.

One pathway for meeting the 2050 provisional emissions budget, includes 25% of process heat currently using coal or gas switching to biomass/electricity (accounting for a 0.7 Mt CO₂-e pa reduction). There are infrastructure, availability (and economic) limitations that limit the potential for transition to wind and solar generation, which in our view will limit the speed of uptake required over the next 5 years to meet this goal.

In setting the first budget, it is not clear that the impact of/on land use change has been considered. There are a number of barriers to land use change (to horticulture) including market access, labour, access to water and land, infrastructure and lease arrangements.

2. Do you support the decisions made regarding the technical volume adjustment decisions? If not, why not?

3. Are there other adjustments that need to be considered?

There needs to be robust modelling undertaken to better understand the costs/effects on small/medium sized businesses and their business viability.

4. Do you agree with the proposal to address the NZ ETS unit stockpile by reducing the annual volume of NZUs available for auction? If not, why not?

5. Do you agree with 27 million NZUs being removed from auction volume between 2021–25? If not, why not?

6. Do you agree with the steps and calculations taken to reach the proposed annual auction volumes?

7. Do you support the proposal to auction 80 million NZUs over the 2021–25 period plus 2 million NZUs for auctioning trial in 2020? If not, why not? Please include your views on the process for adjusting auction volumes.

8. Do you agree with the proposal to set an auction reserve price floor at \$20 for 2020–25? If not, why not?

9. Do you agree with the proposal to increase the fixed price option to \$35 for obligations arising from activities over 2020?

There has not been enough modelling/analysis on the impact, especially for small to medium businesses and the horticulture industry.

QUESTIONS

New Zealand has a lack of barriers to trade, as a result it is important to model the impact of changes to the ETS on trade exposed and the risk of carbon leakage.

10. Do you agree with the proposal to set the price ceiling trigger of the cost containment reserve at \$50 for the 2020–25 period? If not, why not?

Support the approach of setting price ceiling trigger, to manage fluctuation.

11. Do you agree with the proposed annual cost containment reserve volumes to be released if the price ceiling trigger is hit? If not, why not?

Yes, to manage fluctuation

12. Do you agree with the proposed approach for release of NZ ETS settings information? If not, why not?

We support transparency

13. Do you have any further comments?

Lack of modelling

We are concerned that no modelling has been done on the impact of the ETS setting changes on small/medium sized businesses, which are at most risk of being put out of business. In a horticulture context, this could have implications for regional employment and loss of industry capability/capacity in a sector which will become increasingly important in producing food in a resilient way.

There could also be disruption to domestic food supply and in some sectors, greenhouse growers face direct competition with Australian product in the New Zealand domestic market, this makes the industry trade exposed.

Growers are generally 'price-takers', the ability to pass on higher production costs to consumers is limited. For example, research indicates that families in New Zealand living in more deprived areas substitute fruit and vegetables with cheaper energy-dense nutrient-poor products when there are increases in fruit and vegetable prices¹².

We also note that the effect of the ETS (at various levels) on household income is modelled off 2013 data.

Free allocation

Free allocation principles should be designed to account for global emissions and food security. There is a need to prepare for a more carbon constrained future, while maintaining domestic food security.

Enabling transition

We are of the view that in order to lower emissions, while retaining an important industry, money paid into the ETS scheme by growers needs to be available to support growers to transition to lower emissions technology.

¹² Rush, E., Savila, F., Jalili-Moghaddam, S., & Amoah, I. (2018). Vegetables: New Zealand Children Are Not Eating Enough. *Front. Nutr.* <https://www.frontiersin.org/articles/10.3389/fnut.2018.00134/full>