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NZ ETS Improvements
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SUBMISSION ON “IMPROVEMENTS TO THE NEW ZEALAND EMISSIONS TRADING SCHEME”

Background

Horticulture New Zealand, along with Tomatoes New Zealand Incorporated and Vegetables NZ Incorporated, welcome the opportunity to provide feedback on ‘Improvements to the New Zealand Emissions Trading Scheme’.

We agree that improvements are needed to the scheme to provide certainty and transparency, and support opportunities for New Zealand to transition to a net zero emissions economy.

Horticulture New Zealand (HortNZ) represents the interests of New Zealand’s 5,000 commercial fruit and vegetable growers who employ over 60,000 workers. The horticulture industry is valued at over \$6 billion annually to the New Zealand economy. Horticultural exports are rapidly growing, and the industry is on target to meet Horticulture New Zealand’s industry mission of \$10 billion by 2020. Land under horticultural crop cultivation in New Zealand is calculated to be approximately 126,000 hectares¹.

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 \$131m (March 2018), including export sales of over \$10m per year.

Vegetables New Zealand Incorporated (VNZI) is the national organisation representing 750 fresh vegetable growers with a total gate sale value of over \$430m, including 128 greenhouse growers who produce \$380m in domestic sales and \$50m in export sales.

A 2018 report by NZIER evaluating the contribution of the covered (greenhouse) vegetable crop industries to New Zealand² found:

- Gross output (or turnover) of \$295 m
- 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.
- 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 – covered crops

Covered crop growers of tomatoes, capsicums, eggplant and cucumbers are currently captured in the New Zealand Emissions Trading Scheme (NZ 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 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 are impacted by high ETS costs, as there is no access to natural gas in the South Island.

In the South Island, where coal is the primary source of heating for glasshouses, growers incur a higher ETS cost and these costs are not fully recovered by the free allocations they receive. For example, at an NZU price of \$25, we calculate 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.

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, however the amount of energy that is used to produce tomatoes in winter is three times that needed in summer and the costs are substantially higher due to the heating required. Lower light in winter also puts downward pressure on yields. Overseas, supplemental lighting is starting to be used in some greenhouses over winter to boost yields. That practise has not yet become established here, but may do so as the price of LED lights reduces.

However it would not be possible to continue producing at the current level without ready access to heat, plus Carbon Dioxide (CO²) augmentation. Tomato growers manage heat in the ranges of 15-16°C (night) and 23-24°C (day) to maximise growth. These are narrow temperature ranges requiring significant consistent energy input, particularly in winter. Attaining these precise temperatures is much more critical for indoor vegetable production compared to, for example, ornamental or nursery plant production. Additionally, large North Island growers increase yields by capturing the CO² produced when burning natural gas, re-injecting it into the greenhouses to enhance plant growth. At this point in time, CO² cannot be captured from heating with other fuel sources such as coal, wood chip or oil because there are too many contaminants in the emissions. Geothermal heat does not produce CO² and a small number of growers use CO² gas cylinders for augmentation purposes.

Whilst growers have made significant gains in yield and energy efficiency 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. **This will not happen without certainty around ETS settings, and technological advances in terms of alternative, cost effective fuel sources.**

As one of our members put it “there are no low hanging fruit here”, as there are no straightforward, obvious or cheap answers to how this industry can transition to low or zero carbon fuels.

A South Island grower reports being recently quoted \$600,000 - \$700,000 for converting coal boilers to wood chip, and increased ongoing variable energy costs 30-40% higher than their current costs. This is simply not viable. Installing energy screens would help some growers save energy, however financing the up-front capital cost is a problem. Any energy saving alternatives with heating glasshouses also need to consider the need for light capture and thermal loss.

In theory, the current allocation system based on yield instead of energy use should have given a price signal for incentivising fuel source changes, however this has not occurred due to the constraints including lack of suitable alternatives and the capital costs of conversion. Research on developing and securing alternative fuel sources suitable for greenhouse use and support with funding conversions may accelerate a move away from coal. **We therefore strongly advocate for retaining free unit allocations for Emissions Intensive Trade Exposed industries until this problem has been resolved and there is viable alternative technology available for growers throughout New Zealand.**

NZ consumers are unlikely to be willing to pay higher costs for produce. In 2012 Statistics New Zealand pointed out that *“Fresh tomatoes had an average retail price of 1 shilling and 1 penny per pound in the March 1949 quarter. That’s about \$9.10 per kg in today’s terms, allowing for general food price inflation. By comparison, the weighted average retail price in the March 2011 quarter was \$4.40 per kg.”*³ During that same quarter (Jan-March) of 2018, the weighted average retail price of fresh loose tomatoes measured weekly by Statistics New Zealand across seven regions of New Zealand ranged from \$1.93 to \$5.80 per kilo and averaged \$3.54 per kilo. This illustrates that growers face ongoing downward price pressure. **Retaining a fixed price ceiling or fixed price option for ETS units would prevent production costs rising so high that growers are put out of business, particularly in the South Island, because they cannot pass on the cost.**

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 that 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, or they may pay a different price. **Therefore, New Zealand ETS prices should be linked to international prices, via direct international purchasing of units.**

Impacts – wider horticulture sector

Horticulture has an important role to play in a low emissions future, however in order for horticulture to expand substantially, ETS costs need to be considered and barriers removed.

Currently for covered crop growers' energy is the second highest single input cost, following closely behind wages. ETS costs are also present for transport, refrigeration and fertiliser, for all horticulture enterprises.

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.

New Zealand's unsubsidised horticulture sector is highly efficient but is also highly exposed to competition from moderately to highly subsidised overseas producers³.

Successive New Zealand governments have worked hard to remove barriers to trade. It would be counterproductive for New Zealand governments to impose costs to 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 costs⁴. That would be to the detriment of the climate change initiative.

The 2015 Paris Agreement (and its predecessor the Kyoto Protocol), is strong on ensuring global food security and not reducing food production. New Zealand's unsubsidised, but highly efficient, primary sector is highly exposed to competition from moderately to highly subsidised producers⁷, for example New Zealand's pipfruit is the highest per hectare producer, with relatively low inputs. A carbon footprint study identified a lower carbon footprint for New Zealand apples delivered to UK, compared with domestic UK consumption⁸. If our costs rise and make us uneconomic there will be an increase in emissions as higher emitter producers stay in place.

Increasing ETS costs will impact on the wider horticultural sector by increasing costs of transport and 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. A 'feebate' scheme may incentivise lower emissions for new vehicles, however excessively high 'feebates' may have the same effect of forced obsolescence.

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. Eating plenty of vegetables and fruit can help protect against major diseases, such as heart disease, stroke, high blood pressure and some cancers. Combined dietary risks, such as low vegetable and fruit intake and high salt intake, contributed around 11 percent of the total health loss in New Zealand in 2010. High body mass index (BMI) contributed around 9 percent.⁵

The expansion of horticulture, in place of animal-based agriculture, has been identified as a method of reducing NZ's overall emissions. While HortNZ agrees that horticulture is an

efficient land use, this should not be negated by ETS settings that discourage or prevent that expansion.

Another point to note is an international move towards more covered cropping. Farmers and growers have a long history of adapting to seasonal and annual variability in climate-related conditions, including coping with extreme events. The challenge they will face is increased range in that variability, changes to baseline rainfall and temperatures, and an increase in the frequency of extreme events. One international response to increasing climatic variability, as well as increased global demand for fresh produce, has been a move to more indoor crop production, meaning that those factors impacting the current covered vegetable crop sector will begin to extend into other crops.

There needs to be greater certainty and knowledge about the impacts of low-emission policies including ETS settings, for horticulture. Improving our knowledge of unintended consequences, and critically debating the reality that farming of food does generate emissions, is necessary to form a truly coordinated and well-grounded approach to a low-emission economy. This work needs commitment from policy makers to ensure the long-term vision is realised. It starts with recognition that horticulture is often a much more varied and complex system from fruit crop orchards, to outdoor vegetable cropping rotations, through to covered crop greenhouses.

Responses to consultation questions

Our responses to relevant questions in the consultation document are included on the enclosed submission form.

Yours sincerely,



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References

¹<https://www.mpi.govt.nz/dmsdocument/23056/loggedIn>

²Valuing covered crops. A national perspective. NZIER report to TomatoesNZ and Vegetables New Zealand, March 2018

³Statistics New Zealand: "Red, ripe, and really versatile: tracking tomato prices in the CPI" http://archive.stats.govt.nz/browse_for_stats/economic_indicators/CPI_inflation/tracking-tomato-prices-in-cpi.aspx

⁴ 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%.

⁵ 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 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%.

⁸Barber, A, Stenning, H. 2018 Vegetable Greenhouse Energy Use and LCA Update.