

Thank you for this opportunity to send my submission based on the admirable draft report "Low Emissions Economy" provided.

I was the main author of the previous submission from Vision Kerikeri. The reason for this further submission in my own name is due to the massive materials and thus lack of time to consult with the Vision Kerikeri Committee.

Methane - CH₄

On page 32 it is stated that "CH₄ is a short-lived gas - it lasts on average about 12 years in the atmosphere. While reducing CH₄ emissions slows warming and limits temperature rise, eliminating CH₄ emissions is not needed to stabilise global temperatures."

While the statement "last on average about 12 years" is correct, the effect of CH₄ is very strong. The Economist April 28, 2018 "The methane mystery"

(<https://www.economist.com/science-and-technology/2018/04/28/scientists-struggle-to-explain-a-worrying-rise-in-atmospheric-methane>) states *"First, methane is a powerful heat-trapper. Although it is far less abundant than carbon dioxide and stays in the air for only a decade or so, molecule for molecule its warming effect (calculated over 100 years) is 25 times higher. Keeping methane in check is therefore critical if a rise in temperature this century is to remain "well below" 2°C relative to pre-industrial times, a goal set out in the Paris climate agreement of 2015."* and *"Even as scientists battle over rival hypotheses, all agree that methane emissions must be slashed."* While it says further that *"The onus chiefly falls on the oil and gas industry"* because of gas producers leakage, obviously methane emissions in New Zealand are very substantial at 43% of GGH gross emissions versa the average OECD countries' 12%.

When considering that it is the agriculture sector which has experienced a huge growth in numbers of cattle which are responsible for most of the CH₄ emissions, land-use change will obviously be much more important than indicated in the draft report. While the rather recent change from sheep farming to cattle farming in conjunction with substantial land-use change from forestry to dairy and beef farming even in erosion-prone areas has devastating effects for the soil, massive amounts of mineral oil based fertilisers are contributing not only to un-swimmable rivers and beaches, but also to added CO₂ emissions. A further negative effect is the high consumption of coal-produced energy for the production of milk powder.

Fact: New Zealand has too many cattle producing too much CH₄ as well as CO₂. Instead of remaining excluded from emissions fees, cattle (and sheep/goats/etc. to a lesser extent) should be subject to carbon levies to reduce the industry's attraction via-a-vis other land uses.

Change of Land-Use => Certified Organic

The report states clearly the importance of the planting of more trees for sustained carbon sequestering. As a relatively minor ambition it also states the goal of increasing land for horticulture. While horticulture is ecologically less emissions prone than agriculture, there is still the impact of oil-based fertilisers and pesticides, unless conducted on organic principles.

According to Marin Carbon Project research, sequestration of just one metric ton per hectare on half the rangeland area in California would offset 42 million metric tons of CO₂e, an amount equivalent to the annual green house gas emissions from energy use for all commercial and residential sectors in California.

<http://www.carboncycle.org/carbon-farming/>

Same source: Converting manure and other organic waste into high-quality compost, avoids the methane and air quality issues of conventional on-farm nutrient and waste management, and, improving soil health and soil organic matter directly improves the water holding capacity of soils, as we have seen first-hand on our demonstration farms across California. *"A review of all available comparative studies in this report <Soil carbon and organic farming> indicates that, on average, organic farming practices produce 28% higher soil carbon levels than non-organic farming in Northern Europe, and 20% for all countries studied (in Europe, North America and Australasia). This represents a soil carbon sequestration rate of approximately 560kgC/year (2tCO₂/yr) for each hectare of cultivated land converted to organic farming."* <http://www.nourishscotland.org/wp-content/uploads/2012/09/sa.pdf>

The comparative table on page 5 of this report by the Organic Research Centre also illustrates the difference between organically and conventionally managed soils: http://www.organicresearchcentre.com/manage/authincludes/article_uploads/Organic_farming_soil_carbon_6.0.pdf

Thus, it appears logical to include certified organic farms into supportive systems like ETS for their sequestering effect.

Similar to participating forests' regular audits, organic farms are certified by accredited certification organisations, which could include any ETS-related matters into their certification.

There is also a growing worldwide demand for organically produced products as consumer's believe organic produce is more natural, healthy, ecologically sustainable and sequesters more CO₂.

While there are already numerous certified organic horticulture farms producing vegetables, herbs and fruits including vineyards with substantial export volumes, recognition and financial rewards such as e.g. ETS credits against their tax liabilities (rather than discouraging additional registration and audit fees) could lighten the burden of existing horticulturists, motivate conventional horticulturists to change to organic methods and entice the sought after land-use change by agriculturists.

Compared to the large size required for forests registered under the ETS scheme, horticultural land is typically substantially smaller, even more so when they are certified organic due to the higher manual labour required.

Fact: Conversion of land-use to horticulture, particularly certified organic, should be promoted, enticed and supported. As stated in the Draft Report, respective rules and regulations need to be clear, transparent, easy to understand and reliable.

Chapter 6 Investment

Q6.1 Should the investment policy of the New Zealand Venture Investment Fund be updated to identify low-emissions investments as a sector of interest?

A6.1 Yes

Chapter 10 Land-use

Q10.2 With developing technology and aggregation for accounting purposes, is it technically feasible and would it be cost-effective to include small areas of planting (such as riparian planting) within the NZ ETS?

In order to encourage more planting, smaller projects/properties need to be included, not only for businesses, but also for community groups and public land. The existing ETS rules appear too be too strict (minimum areas, tree sizes)

Chapter 11 Transport

Q11.1 How could New Zealand signal a commitment to a widespread transition away from fossil-fuel vehicles? For example, should New Zealand explicitly aim to phase out the importing of fossil-fuel vehicles by some specified future date?

- Yes, import of fossil-fuel vehicles should be phased out, especially for cars with lower than the Euro standard V. This could be enhanced/speeded-up with a freebates system and/or import duties on fossil-fuel vehicles, whereas vehicles with higher fuel consumption should be charged more. Used vehicles should be included.
- With a different structuring of the Road Tax the change to lower-emissions vehicles should be enticed as economically substantially more beneficial.
- With a well publicised rapid expansion of EV charging stations concerns about a change to EVs could be mitigated.
- Expansion of AA's emergency charging vehicles should be supported (for the same reason).
- Car dealers should be obliged to provide information about estimated total cost to buyers of vehicles over a 10-year period, including purchase, fuel/electricity, maintenance/repair, taxes, depreciation, scrapping cost (considering the percentage of recyclable parts) including the resulting true cost per km driven.
- After 2020 continue the road-user charge exemptions for imported new EVs for say 3 or 5 years, enticing owners to sell them then second hand and purchase another new EV: this might speed up the transition to a larger EV fleet. Car registrations could be included in this consideration.

Q11.2 Should a price feebate scheme cover vehicles within the heavy vehicle fleet? What other policies are appropriate for incentivising the uptake of low-emission heavy vehicles?

- The difficulty/complexity of freebates for heavy vehicles is understood. Thus similar advantages/disadvantages could be created by calculating and charging for such vehicle's emissions, i.e. vehicles with high emission carry are higher ongoing cost than others. Business can be expected to calculate such costs better than the average private vehicle owner.
- Fuel consumption/emissions of the heavy vehicle fleet could be reduced by lower speed; many trucks are driven at above their respective speed limits, resulting in higher fuel consumption/emissions as well as high accident risk. This would reduce the impression about "EVs are expensive, whereas in the long term they are cheaper."

Chapter 12 – Electricity

Q12.1 Does decision making under the Resource Management Act 1991 unduly constrain investment in renewable electricity generation, particularly wind and hydro generation? In what ways could the National Policy Statement on Renewable

Electricity Generation 2011 be strengthened to give clearer direction to regional, district and unitary councils to make provision for renewable electricity generation in their regional and district plans, regional policy statements and resource management decisions?

A12.1 The RMA provides the basis for reasonable, sustainable, ecologically sound land-use decisions, which is necessary. Every investment in infrastructure needs to take such and local circumstances into account to avoid negative outcomes while striving for a low-emissions economy. While processes might have scope for improved efficiency, such may neither result in negative impacts nor in a reduced democratic participation of citizens.

Chapter 14 – Waste

Q14.1 Should the New Zealand Emissions Trading Scheme be extended to cover wastewater treatment plants?

A14.1 Yes.

Further Comments

The NZ ETS system should be improved ASAP to achieve the numerous effects outlined in this Draft Report. Companies and citizens must be provided with transparent information about the consequences, which might have to be mitigated by the tax and welfare systems, targeted grants and loans.

Where disruptive measures will be required to achieve to required long-term results, Government (politicians) should not avoid such decisions for short-term reasons, e.g elections. Good leadership and courage will be required, and transparent information essential to convince the population about the benefits and opportunities.