Response ID ANON-SYE4-4CXS-7

Submitted to Pricing agricultural emissions
Submitted on 2022-11-18 10:46:03

Submitter details

1 Submitter name

Individual or organisation name:
Hawkes Bay Future Farming Charitable Trust

2 Are you submitting as an individual or on behalf of an organisation?

Organisation

3 What is your contact email address?

Email:
david@franceandco.nz

4 Which region are you in?

Select your region:
Hawke's Bay | Te Matau-a-Māui

5 Please choose any you are associated with:

Academic or subject matter expert, Agricultural process or representative, Farmer/grower, Iwi/Hapū, Rural professional or farm advisor

Other: please specify here:

Section 1: About this consultation

Section 3: The Government's proposed policy designs

Read section three - HTML format

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

Please explain your answer here:

Gross emmissions should only be taxed once all offsets are available to farmers and this includes Soil Carbon sequestration

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

No

Why? Please explain your answer here:

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

Not Answered

Why? Please explain your answer here:

Read section three continued - HTML format

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

Not Answered

Why? Please explain your answer here:

What improvements should be considered? :

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

Not Answered

Why? Please explain your answer here:

What improvements should be considered? :

Read section three continued - HTML format

6 Do you support the proposed approach to revenue recycling?

Not Answered

Why? Please explain your answer here:

What improvements should be considered? :

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

Not Answered

Why? Please explain your answer here:

What improvements should be considered? :

Read section three continued - HTML format

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?

Yes, support both

Why? Please explain your answer here:

Yes, the HBFFCT supports recognising carbon sequestration from riparian and indigenous forests, however, falls short by excluding the potential future opportunities soil carbon provides as a viable means of sequestering carbon to offset emissions. Refer to our discussion below

What improvements should be considered? :

IHawkes Bay Future Farming Trust strongly advocate that soil carbon be included in the future Emissions Trading Scheme (ETS).
Work the trust has undertaken below demonstrates one example of real data and findings from work undertaken to date and endorses that adequately funded science can underwrite soil carbon as a viable offset to farmers and allowing opportunities to offset other on-farm emissions.
At the same time incentivising farmers to look for ways to permanently sequester soil carbon has positive flow-on to retaining more soil moisture and nutrients and promotes a more diverse biosystem.

Our nation's farmers have a key role to play in how New Zealand addresses climate change and contributes our constructive part in mitigating carbon emissions.
Hawkes Bay Future Farming Trust has been working with farmers to test whether carbon can actually be 'grown' in the soil and used to offset harmful climate-warming emissions. Our strong evidence shows it can.
One example is a dairying operation in Hawke's Bay farming on three farms totalling over 1,000 hectares. Farm 1 has been farmed regeneratively since 2007, Farm 2 since 2016 and Farm 3 since 2019.
The farms are in close proximity and share soils, geology and climate. They also shared a prior history of intensive farming employing chemical 'best practice' as prescribed by conventional agribusiness.
Soil microbiology is the basis of healthy living soil and the foundation of productive pasture and livestock. Regenerative practices have added to soil carbon stocks, improving water infiltration and retention, and are yielding more profitable farming.
The differences in the soil health, pasture quality and pasture root length and density on the three farms was tested to see if those differences could correspond to differences in the soil carbon levels.
Verified soil carbon measurement methodology in accordance with Manaaki Whenua Landcare Research was used to evaluate the properties.
36 individual sites were sampled on each farm. Each core was divided into one 0 to 300 mm depth sample and a 300 to 600 mm depth sample making a total of 72 samples analysed per farm. The bulk density, total N and total C was measured for each sample at the Manaaki Whenua Landcare Research lab in Palmerston North.
Under 'regenerative' management for at least the last 10 years, 5 years, and 12 months respectively, significant differences in soil carbon and nitrogen were detected.
Overall, there was 64 tonne/ha more carbon and 5.2 tonne/ha more nitrogen in the top 600 mm of the soil of Farm 1 when compared to Farm 2.
Soil carbon concentrations for Farm 1 were approximately 8% and Farm 2 approximately 5.5%, found in the top 300 mm of the soil profile on the farms.
The general consensus has been that NZ's soil carbon levels are high and therefore we won't be able to improve them; these results challenge that thinking.
The different soil carbon levels and total N levels on the farms correspond to field observations. Visual soil assessment (VSA) methods show us that Farm 1 has a deep pasture root system. Farm 2 soils are more compact, less porous and there are fewer earthworms present.
In addition, no synthetic fertilisers or chemicals that can compromise microbial life or animal health were used. Organically approved fertiliser was applied to achieve mineral balance and stimulate microbial life.
Principles applied:

• Encourage pasture diversity: Every plant species uniquely adds to the complexity and proliferation of soil microbial life (i.e. soil health)... the same way eating a diversity of healthy whole foods forms the basis of a functioning human microbiome to promote good health and vitality.
• Intensive grazing with ruminant animals: High stock density with frequent shifting and long pasture recovery time.
This replicates the deep soil building processes of the North American bison herds and wildebeest herds of Africa (kept compact by predators) that grazed, trampled, defecated, urinated and salivated their way across abundant grasslands adding fertility, composting in situ, re-inoculating and stimulating soil microbiology as they went. Fenced paddocks with water supply replace the predator effect in the NZ pastoral setting.
• All grass farming with minimal soil disturbance: This reduces soil loss through wind and rain and encourages mycorrhizal fungi growth – filaments that bridge soil microbes to plants, creating a resource trading 'internet'. The plant offers photosynthetically derived sugars (from atmospheric carbon) in exchange for essential minerals delivered by the soil's wide fungal network.
The result of these practices is in situ composting and carbon trading, sequestering carbon deep in the soil as stable humus ... the essence of live healthy soil.
Bigger differences in soil carbon were also found between the farms at greater depth than expected.
Even a small portion of change over NZ's pastureland would have a huge impact on our GHG profile.
The great advantage with soil carbon, compared to forestry, is that you can claim the GHG benefit, keep the carbon in the ground where it improves the water holding and nutrient holding ability of the soil, and keep growing low GHG food on the land.
In addition, Farm 1 had 5.2 tonnes per ha more nitrogen present in the soil (humus complex) than Farm 2 . If the different management systems employed on these farms for the last 10 years has resulted in the observed differences in soil nitrogen, then a very significant environmental benefit can be obtained by holding more N in the soil rather than losing it to groundwater or having it volatilise to N2O, a potent greenhouse gas. This increased N, bound to the soil organic matter and derived entirely through natural processes (no N fertiliser is used) is available to support livestock production with no detriment to the environment.
This study offers very positive news for pastoral farmers. The benchmarking shows that significant differences in soil C can be grown in NZ soils under pastoral farming management.
There is a strong indication from our historic soil quality monitoring that managing pastures using regenerative farming methods can result in soil carbon sequestration and Nitrogen attenuation at rates that are highly significant from an environmental management viewpoint.
The ETS should have soil carbon included to incentivise NZ pastoral farmers to integrate land management practices over time that encourages soil carbon sequestration as a viable offset in the ETS.
ncluding soil carbon sequestration in the future

Read section three continued - HTML format

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

Not Answered

Please explain your answer here. If you selected no, what alternative would you propose to ensure agricultural emissions pricing starts in 2025?:

Section 4: Impacts

Read section four - HTML format

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?

Within the agriculture sector

Why? Please explain your answer here:

Pricing short lived agricultural emissions is equitable to farmers only if all emissions can be offset with all opportunities to sequester carbon. Our discussion below offers insight into actual results from trials conducted by HBFFCT to measure the levels of soil carbon in pastoral farms.

What changes to the system would be required to make it equitable?:

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

No

Please explain your answer here. If you selected yes, do you think using levy revenue would be an appropriate mechanism for this?:

HBFFCT advocate farmers should have adequate time to evolve their farming systems which will allow them to mitigate or offset emissions through a range of sequestration options in the future.

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?

Write your answer here :

HBFFCT advocates a fair system where farmers should only be taxed on emissions when they have the opportunity to effect positive change to farming systems that can sequester carbon through both vegetation and in the future soil carbon.

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

Write your answer here:

How should the Crown support Māori landowners, farmers and growers in a pricing system?:

Section 5: Implementation

Read section five – HTML format

Section 6: Audit, verification and compliance

Read section six - HTML format

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

No

Why? Please explain your answer here:

Soil Carbon should be included in the future

What improvements should be considered? :

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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?

Add your comments, ideas, and feedback here.:

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