Nāia totu nei: A low emissions future for Aotearoa – Agri sector

In early June 2021, the Climate Commission published its report to the Government on its first three emissions budgets and directions for emissions reduction plan 2022-2025.

The purpose of this article is to summarise the Commission's recommendation in respect of the Agri Sector, but first, it is useful to set out how the Commission's report fits into the regulatory framework.

The Climate Change Commission was established under the Zero Carbon Act that amended the Climate Change Response Act 2002. The Commission's purpose is to provide independent advice to the Government on climate change and monitor New Zealand's progress. Part of this is recommendations on budgets and emissions reduction plans. The plans are each 5 years with the first being four years from 2022 – 2025.

Shortly before the Zero Carbon Bill was passed, the Government announced that agriculture will not be brought into the ETS (for now).

The sector has been given until 2025 to develop practical ways to measure and price livestock emissions at the farm level, separate from the ETS. This reflects Option 2 as outlined in our previous summary of the Government's proposals, which you can read here.

A joint action plan between the sector, the Government, and iwi/Māori is being developed and through Primary Sector Climate Change Commitment *He Waka Eke Noa – Our Future in Our Hands*, which you can read here.

The Government has, however, given itself a backstop and can bring the sector into the ETS at the processor level (e.g. meat and dairy companies) if sufficient progress has not been made by 2025. It could even bring the sector in as early as 2022 if it believed that the sector was not moving fast enough. If the sector was brought into the ETS under this backstop, it would receive a 95% discount/free allocation of emissions units.

The proposed mechanism under option 2 is likely to require all farmers to assess and account for the emissions on their farms. This will create a direct incentive for farmers to introduce new technology, develop new ideas, change their practices, or offset their emissions. There is a lot of work being done currently in relation to technology to assist farmers in this area whether including supplements, vaccines, and breeding to reduce emissions.

Having set out the background to date, we can now consider the report's key comments about the Agri Sector. The report notes its role as set out in the Act in assessing the progress of the agricultural sector towards a "pricing mechanism". The Commission's view is that it can better assess what complimentary policies might be needed, once it sees what the pricing mechanism could look like i.e. the basis on which agriculture enters the ETS.

The Commission in providing advice on emissions budgets is guided by the requirements of the Climate Change Response Act (**Act**) (as amended by the Zero Carbon Act) which requirements and considerations are grouped around three key outcomes, i.e. that the emissions plans/budgets be:

- inclusive and equitable;
- ambitious; and
- achievable.

Importantly, the Commission stresses that the budgets are achievable based on current technologies, although it anticipates that new technologies will come on the market during the four-year period which may make it possible to over achieve in some areas.

The key changes that the Commission sees in assisting New Zealand in achieving budgets is a shift to electric vehicles, reducing the use of fossil gas, and from an agricultural point of view, changes to farm management practices.

Ināia totu nei: A low emissions future for Aotearoa – Agri sector (Continued)

It notes that part of this change requires those who own or manage the 20,000-30,000 farms in New Zealand to calculate their emissions, assess what changes are needed to reduce emissions, and put those changes into practice. It notes that farmers will need to carefully balance stocking rates, pasture, fertilizer management, and supplementary feed to optimize production, profit, emissions reductions, and other environmental outcomes. It further notes that He Waka Eke Noa has milestones for 100% of farmers and growers to know their total annual on-farm emissions by the end of 2022, and for 100% to have a written plan for measuring and managing their emissions by the end of 2024.

To test the recommended emissions budgets are achievable, and that we are on track to meeting the 2050 emissions reduction targets, the Commission has constructed what it calls a "demonstration path" that includes a portfolio of actions across the economy. For farming, this involves initially a change in farm practices, followed by a breeding program that reduces methane emissions, and lastly, new technologies are adopted to further reduce biogenic emissions. The assumptions around improvements to farm efficiency and in particular the reduction in the total biogenic methane emissions are based on a reduction in the total dry matter consumption. In short, fewer stock numbers eating less grass and feed.

The Commission notes that the challenge for farmers is to find a better balance between livestock numbers, production levels, and feed inputs (supplementary feed and fertilizer) which enables them to maintain profitability while reducing emissions.

On the Commission's modelling, they see a 13% reduction in total dairy cattle numbers below the 2019 levels but maintaining the same milk production.

Sheep and beef animal numbers are projected to fall, by 8% from 2019 levels by 2030 due to continued retirement of farmland and land-use change to forestry. The demonstration path adds an additional 5% between 2019 and 2030, with only a small additional drop-in meat production of around 1%. This includes the impact of new native forests established on sheep and beef farms, which is assumed to have a small effect on production.

Through these changes the demonstration path's agricultural methane emissions reduce by almost 11% from 2017 levels by 2030 (page 117). The modelling sees a similar drop in the nitrous oxide emissions through the reduction in the use of fertilizer and the increasing use of urea fertilizer a urease inhibiter.

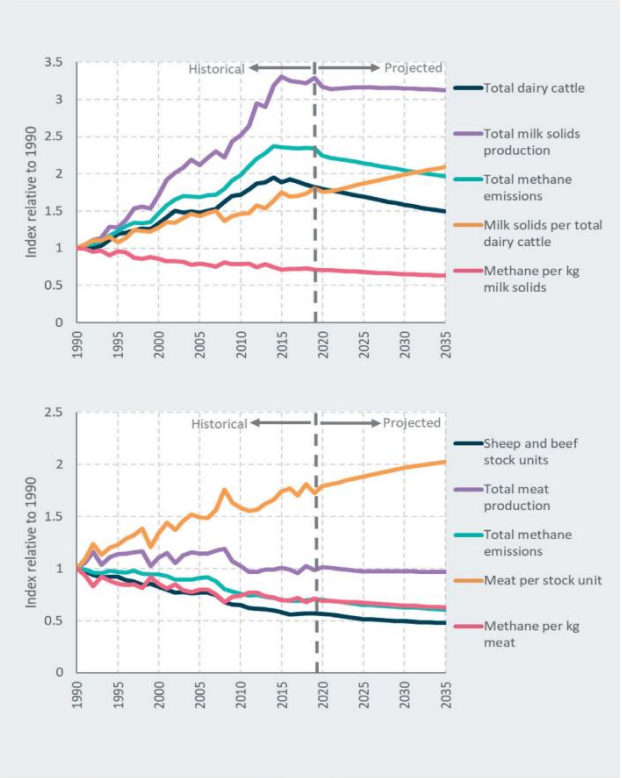

Figure 7.13: Changes in livestock numbers, production and emissions since 1990 and in the demonstration path for dairy farming (top) and sheep and beef farming (bottom)
Source: Commission analysis

Chapter 17 of the report sets out the "policy direction for agriculture" under the first plan (2020-2025). The recommendations are as follows:

- follow through on its commitment to implement the pricing mechanism to incentivise on-farm emissions reductions – essentially this is the decision on how

Ināia totu nei: A low emissions future for Aotearoa – Agri sector (Continued)

agriculture will enter the Emissions Trading Scheme and the type of "Pricing Mechanism";

- work with industry to develop advisory services to support farmers to adopt emissions efficient practices;
- improve rural digital connectivity to give farmers access to information and online tools to monitor and improve farm performance and reduce emissions;
- remove barriers to deployment of emerging technologies that reduce emissions – such as streamlining food safety legislation;
- support systems and infrastructure for alternative, low emissions land uses so there is more potential to convert land to low emission uses in the future – this includes, for example, infrastructure and supply chains for horticulture; and
- invest in research and development to deliver technology, such as methane vaccines and inhibitors, that would enable bigger emissions reductions in the future.

It is clear that in the Commission's view, emissions pricing should be a key part of the policy package to reduce agricultural emissions. The Commission's view is that in contrast to direct regulatory approaches, pricing mechanisms allow farmers to choose how best to reduce emissions, based on the characteristics of their farm business. Farmers who can reduce emissions at a lower cost than the emissions price will generally do so, while others may choose to pay for the emissions. Pricing can reward farmers who do more as every tonne of emissions reduced is a tonne they do not have to pay for (page 308).

The report notes that in 2020 the process and timetable were established to prepare the agricultural sector for emissions pricing at farm levels. These milestones are aimed at fully implementing a system for farm-level accounting and reporting of greenhouse gases and emissions, and on-farm level plans to measure and manage greenhouse gas emissions by 1 January 2025.

He Waka Eke Noa is aiming to provide recommendations on core design features for farm-level emissions pricing mechanisms to Ministers by early 2022. As earlier stated the report notes that agricultural activities could still be brought into the NZ ETS at the processor level if insufficient progress is made on primary sector climate change commitments. The Commission is required to report to Ministers by June 2022 on He Waka Eke Noa's progress towards its milestones, and the readiness of the sector for pricing.

The Act sets out that by the end of December 2022, the Minsters of Climate Change and Agriculture must release a report outlining a system for pricing agricultural emissions at the farm level.

The Commission notes that the success of implementing farm-level emissions trading will take time, due to the challenges of accurately calculating emissions and building systems for farmers to report and comply. In contrast, there do not appear to be any technical or feasibility barriers for pricing synthetic nitrogen fertilizer emissions at a processor level (option 1). Option 1 is the easiest to implement, but the least palatable from a farmer's perspective as they will have very little control.

The key takeaway for farmers in the report when you get past the talk of improved farm management and technology is the need for He Waka Eke Noa to deliver, on time, a farm-level emissions measurement and a pricing mechanism so that agriculture can enter the ETS at the farm level. Farmers being individuals will adapt and respond to changes to farm practice if they have control and are incentivized to do so. They will take as much pride in reducing their emissions as they will increasing productivity. The real question is can He Waka Eke Noa deliver on time?

Want to know more?

If you have any questions about Climate Change, the ETS, and the Agri Sector, please contact David Goodman or Josh Williams.