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Report Name: New Zealand Releases First Emissions Reduction Plan

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Report Highlights:

In May 2022 the New Zealand (NZ) Government released their First Emission Reduction Plan (ERP). The ERP outlines the proposed focus points and actions as required by the climate change response (Zero Carbon) Amendment Act of 2019. The primary objective of the plan is to outline how NZ would contribute to the global efforts in limiting warming to 1.5°C above pre-industrial levels. The purpose of this report is to focus primarily on the chapters relating to NZ Agriculture and Forestry.

Executive Summary
In May 2022 the New Zealand (NZ) Government released their First Emission Reduction Plan (ERP). The ERP outlines the proposed focus points and actions as required by the climate change response (Zero Carbon) Amendment Act of 2019. The primary objective of the plan is to outline how NZ would contribute to the global efforts in limiting warming to 1.5˚C above pre-industrial levels. The purpose of this report is to focus primarily on the chapters relating to NZ Agriculture and Forestry.

Agriculture is noted on numerous occasions throughout the report as the country's largest contributor of emissions (50 percent), and the report sets out several focus areas and actions for how to approach reductions in the sector. Highlighted also in the ERP is that research and technologies are still needing to be developed and commercialized to contribute at any scale to the emission reduction plans.

Background
Prior to coming to office, the then opposition leader Jacinda Ardern made a public speech at the St James Theatre in Wellington, where she emphatically pronounced that climate change was this generation's *"nuclear free"* moment. This referenced New Zealand's strong stand against nuclear weapons in the 1980s. Upon coming to office in 2017, Prime Minster Jacinda Ardern and her Green Party partners set about reworking the Climate Change Response Act 2002. After a lengthy process lasting two years on November 13, 2019 the Climate Change Response (Zero Carbon) Amendment Act 2019 was assented into law. The purpose of the act is too "*provide a framework by which New Zealand can develop and implement clear and stable climate change policies that… contribute to the global effort under the Paris Agreement."*

This ERP was released on the 16th of May 2022 and is the combination of work by different NZ Government initiatives and working groups over the last few years. It is the first in a series of plans outlining the NZ government's approach to reaching carbon net zero aspirations by 2050.

Agriculture
Agriculture on several occasions is cited as NZ's largest contributor to emissions (50 percent), projecting an average annual emission without the initiatives of this plan of 40.8 Mt CO2-e. With the initiatives of the plan implemented the reductions are estimated to be ~3.68 percent per annum. Approximately 94 percent of nitrous oxide emissions and around 91 percent of biogenic methane emissions are from agriculture in NZ. Three-quarters of agricultural emissions are biogenic methane emitted from livestock, followed by nitrous oxide from fertilizer use.

The report takes recommendations from the Primary Sector Climate Action Partnership (He Waka Eke Noa) proposing four focus areas with actions in the report specific to agriculture. These are:

Focus area 1: Price agricultural emissions by 2025.
Actions stated are:

- An emissions pricing mechanism is developed, and agricultural emissions are priced by 1 January 2025.
- All producers will have emissions reports by the end of 2022 and a farm plan in place by 2025.
- Further incentivizing on-farm mitigation.

The report states there is consideration on incentivizing the adoption of mitigations by 2025. The only opportunity for farmers currently is through the NZ Emissions Trading Scheme (ETS) and the implementation of forestry plantations on-farm.

Focus area 2: Accelerate new mitigations.
Actions stated are:

- Strengthen the role of research and development to get mitigations to producers sooner.
- Establish a new Centre for Climate Action on Agricultural Emissions to drive a step change in research, development, and commercialization of emissions reduction technologies.
- Support Māori knowledge systems, worldview, and concept approaches to emissions reductions from agriculture.
- Support clear and effective regulatory pathways for agricultural mitigation tools.
- Lead and contribute to global agricultural climate change mitigation.

The report affirms that there will need to be an establishment of new and specific research and development projects focused on mitigations that support Māori knowledge systems, worldview, and concept approaches to emissions reductions from agriculture.

The NZ government has to date invested $200 million NZD (approximately $130 million USD) over the last 10 years into agricultural emissions mitigation research. There remains challenges to accelerate commercialization and uptake of mitigations, and this is highlighted in the report.

Focus area 3: Support producers to make changes.
Actions stated are:

- Develop further climate-focused extension and advisory services.
- Support Māori custom-based programs to support needs and aspirations of regional Māori entities.
- Improve rural digital connectivity to improve farm efficiency and access to information and online tools to reduce emissions.

There is a clear motivation throughout the document to support Māori custom-based programs, needs and aspirations. This is important as Māori entities represent 30 percent of the sheep and beef sector, and 10 percent of dairy. The report promotes the use of future technologies and services to assist in the reduction of emissions, although no specification over which technologies are preferred or available to the sector are made.

Focus area 4: Transition to lower-emissions land use and systems
Actions stated are:

- Build the evidence base for regenerative agriculture
- Reduce the emissions of NZ's largest farmer, which is government owned – Landcorp Farming Ltd
- Develop food and fiber science and Māori knowledge systems, worldview, and concept accelerators

NZ already utilizes primarily mixed perennial grass/legume pastures swards, with majority sheep and beef farms fertilizer use mainly centric to phosphate and potash. Currently, the most used software for modelling the emissions effect on-farm systems OVERSEER, does not recognize the nitrogen fixation benefits of legume crops and has more of a detrimental effect to nitrogen loss when used in scenarios.

The reduction of emissions by NZ largest farmer - Landcorp Farming Ltd - centers around primarily three aspects:

- Afforestation of marginal sheep and beef pastoral land,
- Reduction in stocking rate of dairy farms for the conversion to organics,
- The divestment or retiring of land unsuitable for forestry.

Forestry

NZ has developed an already substantial forestry estate and industry, primarily utilizing Radiata Pine to provide a renewable resource that also captures and stores carbon. The government see forestry in the ERP as an industry that aligns with Māori values, as well as provides long-term carbon sinks, supports biodiversity, and contributes to NZ bioeconomy.

Strong carbon prices in the NZ ETS are providing a driver of afforestation and contributing to NZ meeting its 2050 targets. However, 19.3 million acres of native forestry (29 percent of the total country landmass) does not qualify for NZ ETS credits and do not contribute to the country's carbon sequestration.

Similar to the section on Agriculture, for Forestry the ERP outlines different focus areas with key actions. These are:

Focus area 1: Support the right mix, level, and location of afforestation.
Actions stated are:

- Ensure regulatory settings deliver the right type and scale of forests, in the right place.
- Support landowners and others to undertake afforestation.
- Enhance forestry planning and advisory services.

There needs to be a reassessment of the NZ ETS to support better mixes of forest types, to better manage the potential long-term environmental effects of exotic forests. Currently, native plants do not qualify for any credits under the NZ ETS.

The National Environmental Standards for Plantation Forestry is currently being implemented to ensure environmental management of all exotic afforestation, including on how regional government have control over location and forest types/species required. This is resulting in many forestry plantations requiring consents prior to establishment.

Increasingly there are more opportunities available to provide farmers with access to additional funding to implement planting through financial funds, joint ventures, and programs.

Focus area 2: Encourage native forests as long-term carbon sinks
Actions stated are:

- Update NZ ETS yield tables to include indigenous species

- Reduce the cost of native afforestation
- Encourage greater levels of native afforestation over the long term

More work is currently being conducted by the industry to update the yields of indigenous species to recognize and reward the use of native species. This has been a challenge in recent years as native NZ forestry takes much longer to establish and grow when compared to exotic species such as Douglas fir or Radiata Pine. The report has commented that the NZ government has started the process of developing nursery to address establishment issues for native seedlings and improve the cost effectiveness over exotic species.

Focus area 3: Maintain existing forests
Actions stated are:

- Explore measures to reduce deforestation of pre-1990 native forests
- Maintain and increase carbon stocks in pre-1990 forests

NZ has 19.3 million acres of pre-1990 native forest which are currently under threat from significant browsing pressure of introduced wild and farmed mammals, leading to a decline in carbon stocks. Because none of this area contributes to earning credits under the NZ ETS for additional carbon stored, there is no incentive to manage pre-1990 native forestry for carbon stocks.

Focus area 4: Grow the forestry and wood processing industry to deliver more value from low-carbon products.
Actions stated are:

- Develop forestry and wood processing industry transformation plan (ITP).
- Invest in expanding supply of woody biomass.
- Develop policies that support Māori to meet their aspirations

The report highlights a requirement that with the expansion of more forestry in NZ, there needs to be a greater investment in processing and industry transformation. A large investment in the supply chain will be required in NZ to ensure the industry can cope with an increase in production, and that products are delivered efficiently to customers. The report encourages a shift to the use of more wood biomass to be utilized in the economy, for example as replacements to coal furnace systems as used at many processing and manufacturing facilities.

A copy of the document can be found here: Aotearoa New Zealand's first emissions reduction plan | Ministry for the Environment

Attachments:

No Attachments.