

28 February 2020

Energy Markets Policy Building, Resources and Markets
Ministry of Business, Innovation and Employment
PO Box 1473
Wellington 6143

Privacy of natural
persons

www.dairynz.co.nz

By email: energymarkets@mbie.govt.nz

Dear Sir or Madam

Accelerating renewable energy and energy efficiency

Thank you for the opportunity to provide evidence on the proposed recommendations of accelerating renewable energy and energy efficiency.

About DairyNZ

DairyNZ is the industry good organisation representing all 11,000 of New Zealand's dairy farmers. Our purpose is to secure and enhance the profitability, sustainability and competitiveness of New Zealand dairy farming.

We deliver value to farmers through leadership, influencing, investing, partnering with other organisations and through our own strategic capability. Our work includes research and development to create practical on-farm tools, leading on-farm adoption of best practice farming, promoting careers in dairying and advocating for farmers with central and regional government.

Context for the approach taken

The Dairy Companies Association of New Zealand (DCANZ) is the representative body of New Zealand dairy processors and exporters on policy matters in New Zealand and internationally.

The majority of the proposals in the 'Discussion Document: Accelerating renewable energy and energy efficiency' (the Discussion Document) are best addressed by consultation with DCANZ and individual dairy companies. These organisations hold the information related to energy use by dairy processors and are best able to offer comment on the costs and barriers of the individual proposals made by the Ministry of Business, Innovation and Employment.

DairyNZ has focussed our submission on a single element of the proposals that we believe may reduce the competitiveness in the dairy processing sector in New Zealand and, therefore, uniquely impact New Zealand dairy farmers.

Transition to a low emissions economy

DairyNZ supports efforts by the Government to reduce New Zealand's emissions in line with a global pathway consistent with 1.5°C. This pathway will require global carbon dioxide emissions to reach net-zero by around 2050. To achieve this pathway, New Zealand's dairy sector will need to take measures to mitigate or offset greenhouse gas emissions as they occur throughout the dairy supply chain. The agricultural sector and government are working together to reduce dairy farm emissions through the *He Waka Eka Noa* programme. Dairy companies are also taking measures to reduce greenhouse gas emissions that occur as a result of dairy manufacture processes.

DairyNZ supports the intent of the MBIE proposals. The MBIE proposals represent a set of 'complementary measures' to the New Zealand Emissions Trading Scheme (NZ ETS). DairyNZ supports the use of complementary measures to achieve emissions reductions in New Zealand.

In our submission to the Environment Select Committee on the Climate Change Response (Emissions Trading Reform) Bill we noted that the government could raise \$7 billion over the next five years through the ETS fixed price option and auction mechanism. We have suggested some of this money be used to fund complementary measures to support decarbonisation of dairy processing.

Table 1: Potential revenue raised from emissions trading in New Zealand

	2020	2021	2022	2023	2024	2025	Total
Proposed auction volume	2	17.6	17.9	16.3	14.7	13.2	82
Cost containment reserve	1	5.8	6.3	7.2	8.2	8.9	37.4
Total	3	23.4	24.2	23.5	22.9	22.1	119.4
Revenue @ \$50 per unit	\$0.15B	\$1.17B	\$1.21B	\$1.18B	\$1.15B	\$1.11B	\$6.00B
+ revenue from fixed price option¹							~\$1.0B

An ETS is often viewed as the most economically efficient way to reduce greenhouse gas emissions. It is important to recognise that an ETS may have shortcomings where barriers to investment are present.

Achieving emissions reductions only through emissions trading may also have high social costs. We calculate a \$50 carbon price would result in a cost of approximately \$17,000 per farm from energy emissions alone (i.e. not including agricultural livestock and fertiliser emissions) (Table 2). At present, this revenue is treated as tax and goes to the general Crown account. This is a substantial shift in the tax burden placed on a dairy farming family.

¹ The government has raised \$420 million from the fixed price option to date. This level is expected to be exceeded over the next two years as emitters have two more opportunities to use the fixed price option to cover ETS surrender obligations.

Table 2: Increase in cost of energy use due to emissions trading for the average New Zealand dairy farm

	Per Farm (\$25 per tonne)	Cost per Farm (\$50 per tonne)
Processing	\$6,800	\$13,600
On-farm	\$1,800	\$3,600
Total	\$8,600	\$17,200

Social costs may also arise where costs fall disproportionately on low-income houses.

Complementary measures can overcome some of the social costs that may result if emissions reductions are only left up to the market. Money raised from emissions trading can be returned to households and businesses in the form of support for emissions reduction measures.

For these reasons, we support the use of complementary measures and support the use of revenue from emissions trading to be used to support households and businesses to transition to a zero-carbon future.

Proposal to ban new coal fired boilers

The Discussion Document Option 4.1 proposes on page 41 to “Introduce a ban on new coal-fired boilers for low and medium temperature”. The Discussion Document then goes on to note that, “New medium temperature coal capacity is most likely to be South Island milk powder drying facilities, where coal boilers are typically installed”.

The Discussion Document notes the cost of this policy “will depend whether or not industry is looking to expand its production capacity in the short term”. It goes on to state that dairy processors Fonterra and Synlait have already announced commitments to build no additional coal-fired boilers and, therefore, such a ban may have a small impact on future emissions abatement.

We are concerned that the proposal to ban new coal fired boilers will reduce competition in the milk-processing sector in areas where a supply of gas is unavailable, such as in the South Island. We request that this reduction in competitive forces amongst dairy processors is included in future advice on the costs and benefits of this proposal.

The comment in the Discussion Document that states “whether or not the industry is looking to expand its production capacity”, ignores the reality that, even if dairy farmers are not increasing milk supply, and existing processors are not expecting to install new capacity, new entrants could still be considering investing in capacity in an area if they believe there is a business opportunity. This is currently happening in Ōtorohanga, where Happy Valley Nutrition plans to invest in a new dairy-processing facility. This example outlines why looking at sector-wide production trends does not always offer insights into the activities of individual companies within that industry.

Our fear is that, should this ban be introduced, it will act as a barrier for new processing investment to occur in areas without a gas supply. In the absence of this input, such a new entrant would be limited to producing low-heat products, such as ultra-heat-treated milk (UHT milk) or cheese, with electric boilers. It may be hard for such a company to justify this

investment when they will be competing with dairy processors able to use coal boilers in existing plants.

We note that the existing NZ ETS has the benefit of impacting existing processors and new entrants equally, whereas the proposed policy of a ban on new coal fired boilers only impacts new entrants.

The classic Porter management model² outlines five forces (Figure 1) that determine how competitive an industry is. It explains the need for the threat of new entrants to exist in order to support competitive behaviour in a market. Markets do not always function without frictions but improving competition has been shown to have multiple benefits for a nation; working to decrease prices, improve quality, broaden choices, increase international competitiveness in export markets, and encourage innovation. This threat of new entrants entering a market is almost essential for existing players to maintain a competitive rivalry and prevent opportunities for monopolistic profits.

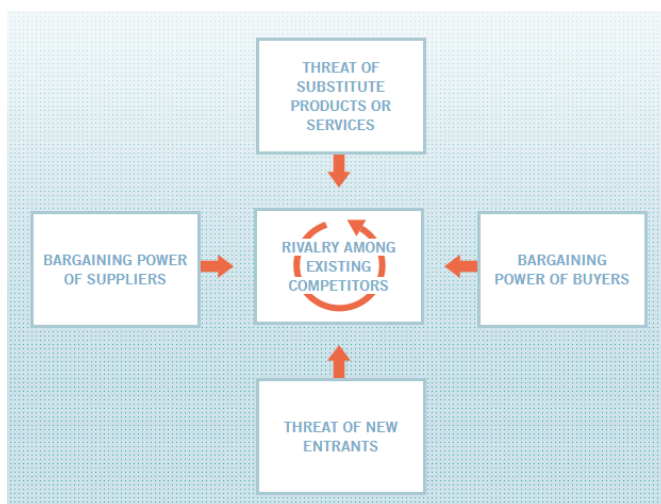


Figure 1: Porter's Five Forces (image sourced from Harvard Business School, Institute for Strategy and Competitiveness)

Suggested way forward

There is a role for Government to encourage a move away from the use of coal-fired boilers. This should, however, be done in a way that has equal impact on new entrants and existing processors.

Before such a policy can be developed, accompanying analysis is needed to confirm the pathway forward. Consideration needs to be given to:

- What are the lowest cost mitigation options between electrification, biomass or carbon capture and storage?
- What is the increase in electricity demand that electrification of milk powder drying will create? What new generation is needed and what are the barriers to this?

² Porter, M.E. (1979). How competitive forces shape strategy, Harvard Business Review 57, 137-145.

- Will electrification of dairy processing sites require investment in new transmission lines? What is the lead in time to making this investment? What coordination is needed between dairy processors and the government to support investment in transmission lines to occur?
- How will a shift away from coal change the economics for where plants are located? Is it cheaper to build new transmission lines or reconsider where we locate dairy factories?
- How will a shift away from coal change the economics between producing milk powder, cheese and other dairy products such as UHT milk? Is it more efficient to electrify milk powder plants, or build new electric cheese plants? (i.e. in a world where heat sources must be zero-emissions, milk powder may be less profitable compared to lower energy products)

Such analysis would identify current market barriers to emissions reduction from dairy processing and potential complementary measures that government could consider.

Based on outcomes of the above analysis, complementary measures could include,

- Government investment in new transmission lines needed to support electrification of milk processing, in coordination with dairy processors on when and where sites are expected to be converted to electric boilers
- Government support to establish a biomass supply chain, in coordination with dairy processors on what their expected demand for biomass will be
- Government policies on carbon capture and storage
- A move to phase out all medium heat boilers by a certain date (as has been proposed for low heat boilers)

Contact

Thank you again for the opportunity to comment on these proposals. Please do not hesitate to contact DairyNZ if you have any questions regarding this submission or require any additional information. Contact details for this submission are Paul Melville, National Policy Manager; **Priv** [REDACTED], paul.melville@dairynz.co.nz.

Yours sincerely



Jenny Cameron
General Manager, Responsible Dairy