

Market Pressures for Pastoral Products to go Carbon Neutral, and the 2050 Climate Target

Overview

- Pastoral agriculture faces two converging challenges that collectively make sharp rises in environmental standards inevitable:
 - Increasing awareness of the impacts of meat and dairy production on the environment, and
 - Direct competition from plant-based foods that provide an alternative to animal protein products and have much lower environmental footprints.
- These pressures are combining to push market expectations towards animal protein products being fully carbon neutral - with the market transformation likely to occur before any national climate target would require this, in the West at least.
- Regulation of agricultural greenhouse gases is needed to ensure fairness in the nation's overall climate change response, but its actual impact on the sector will be short lived if market pressures for carbon neutrality take over as the dominant driver.
- Rather than framing the greenhouse gas challenge as a question around the regulation of methane, the focus needs to shift to how to help the pastoral sector attain carbon neutrality for its products.

The Twin Market Challenges

A key issue identified in consultation over the Government's Zero Carbon bill is whether all methane is to be mitigated under the target, or whether the requirement will be to simply "stabilise" methane emissions.ⁱ This question is critical for defining carbon neutrality under the Government's 2050 target.

Many agricultural interests have pressed for a stabilisation-only requirement - to minimise regulatory action on agricultural methane. However, this misses the wider context; the government is unlikely to be the only, first or most demanding 'standard setter' for the industry:

- In September 2018, a respected think tank concluded that Europe's dairy and meat production needs to be roughly halved by 2050 because it has exceeded safe bounds for greenhouse gas emissions, nutrient flows and biodiversity loss.ⁱⁱ RISE (Rural Investment Support for Europe) further recommended a 60% reduction in nitrogen use; a 75% reduction in greenhouse gas emissions from the pastoral sector; and called for a formal inquiry to look at mechanisms such as taxes and subsidies that "*discourage livestock products harmful to health, climate or the environment*".

- Early this year, the EAT Lancet Commission set out a planetary health diet, which recommends that North American consumption of meat drop by 84% and European consumption by 77%.ⁱⁱⁱ A subsequent Lancet Commission review of the confluence of human health pandemics and climate change stated that: *“Unhealthy and unsustainably produced food poses a global risk to people and the planet. ... Achieving healthy diets from sustainable food systems for everyone will require substantial shifts towards healthy dietary patterns, large reductions in food losses and waste, and major improvements in food production practices”*.^{iv} Red meat and sugar are singled out as *“unhealthy foods”*.

These are just three reports in a rising tide of critical analysis globally that is calling for meat and dairy production to become truly sustainable; and/or to reduce its volumes substantially. Currently, close to 80% of the planet’s agricultural land is used for grazing and animal feed production.^v

In addition to this gathering pressure for change is the threat of major disruption to pastoral product markets by plant-based protein.

Alternative milks and alternative meats generally carry only a fraction of the environmental footprint, no animal welfare issues, and can typically be produced at lower cost. Younger consumers in the West are already disproportionately favouring products with good environmental and animal welfare credentials - to the point that the chairman of Dairy UK “fears a ‘demographic time bomb’ as young people increasingly shun milk.”^{vi}

Coming alongside alternative milks that have been on the market for some time (such as those from nuts and beans) are plant-based compositions designed to deliver the same taste experience as milk. And what were lab experiments just a few years ago are now Impossible Burgers and other brands of synthesised plant products designed to resemble meat – right down to simulated blood.

For New Zealand’s pastoral products to successfully compete with these alternatives, they too will need to achieve ambitious environmental credentials, given growing consumer expectations. The nation’s response to the ‘food miles’ challenge showed how New Zealand can develop enduring solutions - e.g establishment of the carboNZero programme (now Enviromark Solutions) that was behind the first carbon neutral food products. As pastoral production costs will tend to be higher, the sustainable market position is the premium shelf where demonstrating high environmental and animal welfare performance attributes will be critical.

One cautionary note is that while the threat to traditional milk sales is very clear in the West, there could be a split response globally – at least initially. China for example is currently expected to triple its demand for dairy products within the next three decades, and Asian consumers in general have been exhibiting a growing rather than waning interest in dairy products.^{vii} But if the more affluent Chinese consumers continue to follow Western responses to sustainability issues, and these in turn are reflected across the population, then it’s possible that China (and so Asia) will simply be slower in picking up on Western trends.^{viii} And if New Zealand animal protein producers will in any case have to deliver carbon neutral products for

Western markets, it would be an unusual bet to count on certain other markets not demanding carbon neutral products in the future and be forced to play brand catch up if the bet failed, instead of grasping the opportunity to exercise first mover advantage and brand leadership.

In essence, commodity milk from pastoral production risks losing out on price to alternatives, meaning that the premium end of the market that values a 'traditional' fully natural protein product will be the most economically rewarding: the entry requirement for this will be advanced environmental sustainability credentials. Red meat will need to similarly embrace this environmental challenge and at the same time confront the health and animal welfare critiques.

Reframing the Agricultural Greenhouse Gas Challenge

One environmental performance standard that will be critical is carbon neutrality.

Once the pastoral sector recognises that carbon neutral is not a luxury positioning but will increasingly be a necessity, it will become apparent that market assessments of total carbon footprints – both those generated by producers and independent estimates - will be at least as important for pastoral producers as regulatory decisions on methane. Regulation will be needed to ensure fairness in the national response to climate change, and will be critical to set sectors on the path to carbon neutrality before market pressures fully take hold.

But the strategic outlook is that market pressures are fast aligning in the West at least to set a requirement for carbon neutrality, and to impact ahead of any 2050 target. Indeed, a climate target that requires fully accounting for methane (and nitrous oxide) by 2050 could soon be out of step with the demands from private sector policies and international markets. Global value chains and brands are already making climate neutrality commitments for 2050 (for example Danone) and in New Zealand, Synlait has a net zero emissions target for 2050. Equally, it will not be sufficient for animal products to lay claim to the country's carbon neutral status to meet the demands of conscientious high-end consumers – producers will need to demonstrate this product by product.

So rather than framing the agriculture greenhouse gas challenge as a question around the extent to which methane emissions are counted, it is vital to shift the focus onto **how to help the pastoral sector attain carbon neutrality for its products and be rewarded in the marketplace for this.**

ⁱ Ministry for the Environment. *Our Climate Your Say: Consultation on the Zero Carbon Bill*, 2018. In essence, stabilising means the impact of methane emissions on the atmosphere does not increase.

ⁱⁱ http://www.risefoundation.eu/images/files/2018/2018_RISE_LIVESTOCK_FULL.pdf

ⁱⁱⁱ <https://eatforum.org/eat-lancet-commission/eat-lancet-commission-summary-report/>

^{iv} [https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(18\)31788-4.pdf?utm_campaign=t1eat19&utm_source=HubPage](https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(18)31788-4.pdf?utm_campaign=t1eat19&utm_source=HubPage)

^v <https://www.theguardian.com/environment/2018/sep/15/europe-meat-dairy-production-2050-expert-warns>

^{vi} <https://www.theguardian.com/commentisfree/2017/mar/30/dairy-scary-public-farming-calves-pens-alternatives>

^{vii} <https://edairynews.com/en/chinas-growing-milk-consumption-a-global-concern-says-study-58608/>

^{viii} New Zealand Trade and Enterprise, *Sustainability: Market Perspectives*, Sam Lewis, 2011.