

17 July 2026

Corner Ruakura & Morrinsville Roads
Private Bag 3221
Hamilton 3240
New Zealand

Ph+64 7 858 3750

dairynz.co.nz

Climate Change Commission
PO Box 24448
Wellington 6142
haveyoursay@climatecommission.govt.nz

DairyNZ submission on the Climate Change Commission's update to advice on the fourth emissions budget 2036-2040.

DairyNZ appreciates the opportunity to provide dairy sector knowledge to the Climate Change Commission as it updates its advice on the fourth emissions budget 2036-2040.

About DairyNZ

1. DairyNZ is the industry-good organisation representing all of New Zealand's 10,500 dairy farmers. We seek to deliver a positive future for New Zealand dairy farming through enhanced sustainability, profitability and competitiveness. Dairy is New Zealand's largest goods-export sector. Dairy export revenue is expected to reach a record \$28.6 billion in the year to 30 June 2026, representing almost one-third of New Zealand's total export earnings and 47% of primary sector export revenue.¹ The dairy sector is a major contributor to New Zealand's economy, supporting regional communities, employment, export growth and economic resilience.
2. DairyNZ is committed to dairy farming playing its part in transitioning to a low-emissions economy alongside the rest of New Zealand. We have extension and engagement programmes that support the dairy sector in farming more efficiently and profitably, with fewer emissions. Our scientists are actively involved in research projects exploring emerging mitigation technologies and their potential application to New Zealand dairy farms.

FEEDBACK

Executive summary

3. The fourth emissions budget is being set in a materially different operating environment from the one that informed the Commission's original 2024 advice. The conditions shaping New Zealand's agricultural emissions pathway may change significantly over the EB4 period, including the pace and practicality of mitigation technologies, international climate policy settings, trade and consumer expectations, food security considerations, and global demand for food and fibre.
4. This uncertainty sits alongside a changed domestic policy and economic context. New Zealand's economic performance reinforces the need for emissions budget advice to reflect the country's productive and export realities. Dairy is one of New Zealand's most important export sectors and a significant contributor to regional employment, national income and economic resilience. EB4 should not treat reduced dairy production as a low-cost or neutral pathway to meeting climate goals.

¹ [Situation and Outlook for Primary Industries \(SOPI\) June 2026](#)

5. Since the Commission's previous advice, policy settings have shifted towards a technology- and partnership-led approach, with stronger emphasis on food and fibre sector growth, export value and land-use flexibility. International developments also support a pragmatic approach: global climate ambition remains uneven, and large economies are not generally approaching agricultural climate policy by assuming livestock sectors should contract to meet emissions goals.
6. DairyNZ supports New Zealand's transition to a low-emissions economy and recognises the dairy sector has an important role to play. However, the Commission's updated EB4 advice should be transparent about the assumptions underpinning agricultural emissions reductions, particularly where these rely on fewer livestock, productivity improvements, land-use change and methane mitigation technologies.
7. DairyNZ considers EB4 should aim towards the lower end of the revised 2050 biogenic methane target range, given uncertainty about the pace, scale and availability of methane mitigation technologies.
8. DairyNZ does not consider it credible to assume that the national dairy herd and pastoral land area can be reduced while maintaining production and revenue at current levels. The Commission must clearly identify the productivity gains required and test whether those gains are achievable across New Zealand's pasture-based farm systems. Methane mitigation technologies should also be treated conservatively until there is clear evidence they are commercially available, cost-effective, approved for use, proven in New Zealand pasture-based systems and likely to be adopted at scale.
9. The new legislative requirement to consider domestic food production should be applied directly and transparently. The Commission should assess the implications of emissions pathways for food output, export value, productive land, rural communities, processing infrastructure and emissions leakage, and clarify how NZ-FARM represents dairy production, support land, food output, export revenue, processing thresholds and regional system impacts.
10. DairyNZ asks the Commission to apply particular caution in its advice where the EB4 pathway depends on uncertain or contested assumptions. This includes assumptions that methane-reducing technologies will be available to farmers at scale by 2036–2040; that the dairy herd can reduce materially while production and revenue remain constant; that average per-cow production can increase significantly across pasture-based systems; that reducing New Zealand's efficient agricultural production is an appropriate response to global mitigation shortfalls; or that livestock reduction and land-use change are low-cost pathways once food production, economic, regional and emissions leakage impacts are fully accounted for.

RECOMMENDATIONS

DairyNZ recommends that the Commission:

1. Aim EB4 towards the lower end of the revised 2050 biogenic methane target range, given uncertainty about the pace, scale and availability of methane mitigation technologies.
2. Apply the new requirement to consider domestic food production directly and transparently, including the implications of emissions pathways for food output, export value, productive land, regional communities, processing infrastructure and emissions leakage.
3. Revisit and clearly disclose the modelling assumptions underpinning agricultural emissions reductions, including assumptions about livestock numbers, pastoral land area, productivity gains, production, revenue, land-use change, and how NZ-FARM represents dairy production, support land, food output, processing thresholds, regional impacts and adjustment costs.
4. Treat methane mitigation technologies conservatively and test a wider range of sensitivity scenarios, including constrained technology uptake, delayed or lower productivity gains, uneven regional impacts, and pathways that maintain or increase food production while reducing emissions.
5. Avoid treating livestock reduction, land-use change or reduced dairy production as low-cost pathways unless the full implications are assessed, including impacts on production, profitability, regional resilience, export value and emissions leakage; and engage with DairyNZ and the dairy sector on agricultural modelling assumptions before the updated advice is finalised.
6. Conduct an international comparative analysis of country agricultural emissions reduction policies and programmes, including for New Zealand's key competitor countries. The analysis must clearly distinguish between stated ambition (targets and commitments) and demonstrated progress, including both emissions outcomes and implemented policy actions.

SPECIFIC FEEDBACK – CONSULTATION QUESTIONS

Climate Change Commission Proposed Approach

Do you have any feedback on our proposed approach?

3. While we appreciate this process does not entail the Commission undertaking new analysis, we note there will not be an opportunity for stakeholders to submit on updated modelling information and draft advice before it is submitted to the Minister in March 2027. DairyNZ would welcome the opportunity to engage with the Commission on the modelling assumptions addressed in this submission prior to the Commission's advice being finalised.

Biogenic Methane

Where within the target range for biogenic methane should the fourth emissions budget aim to put the country on track for in 2050?

4. DairyNZ considers that the fourth emissions budget should aim towards the lower end of the revised 2050 target range, given current projections, uncertainty about the pace, scale and availability of methane mitigation technologies.

Food Production Impacts

What are the implications of the new requirement to consider implications for domestic food production?

5. The new legislative requirement recognises that emissions budgets should not be assessed solely through an emissions lens, but also through their implications for New Zealand's ability to produce food. We believe food production should be considered directly rather than treated as a secondary consequence of emissions reductions. The requirement to consider impacts on domestic food production should include the implications of emissions pathways for food output, export value, regional communities and emissions leakage.
6. The Commission's modelling should make clear how much of the projected agricultural emissions reduction comes from lower livestock numbers, productivity improvements, technology uptake and land-use change. Where modelling assumes fewer animals or less pastoral land while maintaining production and revenue, the Commission should quantify the productivity gains required and test the implications if those gains are delayed, lower than expected or unevenly achieved. This is necessary to give practical effect to the new requirement to consider domestic food production.

NZ FARM model considerations

7. The Commission relies on the NZ-FARM model to estimate the land-use, production and economic effects of different emissions pathways. We support robust modelling to inform emissions budget advice, but consider the treatment of dairy production, land-use change and food output requires further explanation. In particular, the model may overstate the extent to which methane reductions require permanent land-use change, and understate the practical adjustments farmers are likely to make within existing dairy systems.
8. A key issue to clarify is how NZ-FARM translates changes in dairy land into changes in milk production. Dairy systems depend not only on the milking platform but also on support land for wintering, grazing-off and winter crops. If this land is classified outside the dairy enterprise, its removal or conversion to another land use may appear to have little effect on milk production, even where it removes feed or wintering capacity needed to maintain the herd. Similarly, if production changes are modelled mainly through land area, NZ-FARM may not capture the more likely short-run response of farmers reducing stocking rate, supplement use or system intensity before exiting dairy. This affects the modelled scale of land-use change, regional impacts and the implied relationship between emissions reduction and food production.
9. We also recommend the Commission clarify how NZ-FARM defines dairy "food production". Milksolids are a useful farmgate payment metric, but they are not a direct measure of food output or nutritional value. They combine fat and protein, exclude other milk components, and may mask changes in the fat-to-protein ratio from mitigation options or system changes. For international emissions-intensity comparisons, fat-and-protein-corrected milk is the more appropriate denominator. Without clarity on the output metric, the model may misrepresent changes in dairy food production, nutritional output, export value and emissions efficiency.

10. The future baseline is also important. Dairy productivity has improved over time through gains in production per cow, feed efficiency and farm system management. If NZ-FARM is anchored to a historic base year without an appropriate efficiency trend to 2036–2040, it may understate future production from a given land base and overstate the land required to maintain output. This would flow through to estimates of land-use change, employment, regional impacts and the opportunity cost of maintaining domestic food production.
11. Finally, the model boundary should be clearly stated when interpreting results. If NZ-FARM assumes fixed prices, it may overstate export revenue losses from reduced New Zealand dairy supply. If it does not account for processing thresholds, regional milk collection economics or plant viability, it may understate wider economic and community impacts. These issues do not make the model unsuitable, but they do mean NZ-FARM outputs should be treated as indicative rather than precise estimates of real-world adjustment costs, and accompanied by sensitivity testing and qualitative assessment of system-level effects outside the model.

Specific feedback on the assumptions used in the modelling for the Climate Change Commission 2024 advice on the fourth emissions budgets 2036-2040

Is there particular evidence you think we should consider on how the specific assumptions used in the modelling for the original advice on the level of the fourth emissions budget have changed since 2024?

12. DairyNZ considers the Commission should revisit the assumptions underpinning the original advice on EB4, particularly where those assumptions relate to livestock numbers, productive land area, productivity improvement, production, revenue and land-use change. These assumptions are central to the credibility of the agricultural pathway and should be updated to reflect changes in policy, regulatory settings and sector investment since 2024.
13. DairyNZ provided evidence in response to the Commission's 2024 advice outlining concerns with several modelling assumptions that materially affect the agricultural pathway.² We remain concerned by these assumptions, and that the Commission has not explained how that evidence has been assessed or why it has not altered the assumptions being carried forward.
14. In particular, DairyNZ does not agree that the national dairy herd can reduce by 20% while production and revenue remain constant at today's levels through to 2040. This type of modelling depends on several other factors being held constant, including milk price payout and wider market conditions. DairyNZ's 2024 analysis showed that the Commission's scenario would result in a 7–11% decline in milksolids production and a similar decline in revenue.
15. DairyNZ also disagrees with the assumption that average per-cow production can increase by 25% by 2040. Achieving this at scale would require a substantial increase in animal dry matter intake, alongside improvements in animal genetic gain, and could increase production intensity in some areas.
16. The Commission should clearly disclose how these assumptions interact over the EB4 period, including rates of productivity improvement, achievable gains in milk production per cow, interactions between stocking-rate reductions and total production, and impacts on farm

² [dairynz-submission-to-ccc-31-may-2024.pdf](https://www.dairynz.co.nz/assets/Uploads/dairynz-submission-to-ccc-31-may-2024.pdf)

profitability and sector revenue. The Commission should also test the consequences if assumed productivity gains are delayed, lower than expected, or unevenly achieved across farm systems. Future modelling should include pathways that maintain or increase food production while reducing emissions.

17. The Northland Dairy Development Trust's Future Dairy Farm Systems project provides a practical farm-system example of why the Commission should test the consequences of constrained technology uptake.³ The low-emissions system achieved reductions through lower stocking rates and no nitrogen fertiliser, but with material production and profitability trade-offs. This supports DairyNZ's view that livestock reductions or lower-input systems should not be treated as low-cost pathways unless the Commission clearly tests the implications for milk production, farm profitability and regional resilience.

Is there particular evidence you think we should consider on the feasible reductions for biogenic methane and how the drivers of this have changed since 2024?

18. DairyNZ considers the Commission should take a conservative view of what can be achieved through methane mitigation technologies by 2036–2040. There are currently no significant technologies available to materially reduce methane emissions from New Zealand pastoral farms at scale.
19. The evidence for what may be possible by 2036–2040 is not yet strong enough to support optimistic emissions-reduction assumptions. Methane mitigation technologies should be treated conservatively in EB4 modelling until there is clear evidence of commercial availability, regulatory approval, farmer uptake, cost-effectiveness and proven efficacy in New Zealand's pasture-based dairy systems.
20. The Commission's own corrections to its draft advice demonstrate the sensitivity of agricultural pathways to technology assumptions. The correction reducing estimated methane technology abatement in the fourth budget period from 4 MtCO₂e to 1.05 MtCO₂e shows that the assumed contribution from methane-reducing technologies can change materially. This reinforces the need for transparent sensitivity testing and for any pathway relying on rapid technology uptake to be presented as conditional and uncertain, rather than as a central or assured outcome.
21. Stronger technology scenarios can achieve material methane reductions by 2040, but these rely on ambitious assumptions about inhibitor and vaccine availability, delivery in pastoral systems, regulatory approval, farmer uptake and cost-effectiveness. The Commission needs to test a range of technology uptake scenarios and clearly distinguish between central assumptions, constrained-adoption cases, and upper-bound sensitivities.

Notable Changes

What are some other notable changes for the NZ economy and emissions since 2024?

Dairy sector context

22. DairyNZ's latest economic analysis shows the dairy sector is in a stronger production and profitability position than in 2024, with high milk prices, increased milksolids production and improved cashflow.⁴ National milksolids for 2025-26 are expected to reach around 2.02

³ [Northland Study: Emissions Cuts 'Unsustainable' for Dairy](#)

⁴ [DairyNZ Quarterly Update — June 2026](#)

billion kgMS, around 4.5% above the previous season. Owner-operator performance in 2024–25 was also strong, with average payout received of \$10.02/kgMS, milksolids production of 435 kgMS/cow, and dairy operating profit increasing to \$4,849/ha, the highest nominal result of the past decade.

23. However, DairyNZ's 2026–27 outlook shows these gains are occurring in a higher-cost environment. Farm working expenses are forecast to rise to \$6.19/kgMS, and the average breakeven milk price is forecast to increase from \$8.42/kgMS in 2025–26 to \$8.79/kgMS under the expected 2026–27 scenario. This means the sector remains profitable, but the operating buffer is narrowing as costs continue to increase. The Commission's EB4 advice should reflect this context when assessing the feasibility of on-farm emissions reductions.

Domestic context

24. New Zealand's recent economic performance reinforces the need for emissions budget advice to reflect the country's productive and export realities. With weak productivity growth, fiscal pressure and cost-of-living challenges, New Zealand needs sectors that generate export earnings, support regional employment and lift national income. Dairy remains central to that performance through high-value exports, processing and service industries, and economic activity across rural regions. EB4 should not treat reduced dairy production as a low-cost pathway to meeting climate goals; a fair agriculture contribution should focus on reducing emissions while maintaining productive capacity and export value.
25. Since 2024, there has been a clear shift in Government policy and investment towards food and fibre sector productivity and resilience, land-use flexibility, export growth and a technology- and partnership-led approach to agricultural emissions reduction. This includes the Government's ambition to double export value over the next decade, alongside policy changes intended to enable innovation and sustainable production with an improved environmental footprint. This policy direction is also reflected in recently announced Government-industry investment to lift productivity and improve environmental outcomes across the red meat, horticulture and dairy sectors.⁵
26. In June 2026, the Ministry for Primary Industries forecast food and fibre export revenue would reach a record \$64.3 billion in the year to 30 June 2026. Dairy export revenue alone was forecast to reach a record \$28.6 billion.⁶ The Government has emphasised its focus on doubling export value, improving farmgate returns, increasing trade opportunities, reducing barriers to trade, and partnering with industry to meet rising global demand. This supports the need for EB4 modelling to reflect a policy environment focused on sector progression, practical environmental solutions, productivity growth and emissions reductions, rather than assuming production losses are inevitable. This changed policy and investment context should be reflected in the Commission's updated modelling assumptions.

International context

27. International climate discussions are increasingly shifting from ambition to execution. After a decade of announcing targets, net-zero commitments and emissions budgets, attention is now turning to the effectiveness of policies and programmes in delivering actual emissions reductions. This reflects a growing recognition that targets themselves do not reduce emissions; implementation does. As a trading nation competing with other agricultural

⁵ [Land Use Flexibility: Improving the environment while producing more | Beehive.govt.nz](#)

⁶ [Situation and Outlook for Primary Industries \(SOPI\) June 2026](#)

producers, New Zealand should assess not only what countries say they will achieve, but what actions they are taking and what results those actions are delivering.

28. International developments also reinforce the need to distinguish between New Zealand's fair contribution and the wider global emissions gap. The UNEP Emissions Gap Report⁷ shows that, even if current NDCs are fully implemented, global warming projections remain well above Paris-consistent pathways.
29. DairyNZ supports decoupling emissions budgets from an explicit 1.5°C temperature objective, as this would allow domestic emissions pathways to be set with greater regard to New Zealand's national circumstances, technological opportunities, and alignment with evolving international action, while still contributing to the long-term goals of the Paris Agreement (to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels).
30. At the same time, changes in how major economies measure progress against climate goals, and the United States' withdrawal from the Paris Agreement, show that international climate ambition remains uneven and politically contingent. In addition, China has revised the methodology used to measure progress against its core climate target, carbon intensity (CO₂ emissions per unit of economic output). Under the revised approach, China's emissions are estimated to have increased by 7% between 2020 and 2025, compared with the 14% increase indicated by previous official statistics. The revision creates a difference of approximately 700 million tonnes of CO₂ per year, this is more than eight times New Zealand's annual greenhouse gas emissions. The example illustrates why international comparisons should consider not only stated targets and reported outcomes, but also the methodologies used to measure and report progress.
31. New Zealand agriculture should contribute to domestic emissions reduction, but EB4 should not assume that deeper reductions in efficient domestic food production are an appropriate response to insufficient or uncertain mitigation by much larger emitters. A fair EB4 contribution should be based on feasible domestic abatement, protection of efficient food production and avoidance of emissions leakage.
32. DairyNZ would welcome the opportunity to engage further with officials on these issues.

SUBMISSION ENDS

Sincerely,



Roger Lincoln
General Manager, Policy & Government Relations, DairyNZ

DairyNZ contact: Laura Kearney, Head of Policy (Laura.Kearney@dairynz.co.nz)

⁷ [Emissions Gap Report 2025 | UNEP - UN Environment Programme](#)