Discussion Document

Amendment to New Zealand's Second Emissions Reduction Plan 2026-30

Ministry for the Environment
Manatū Mō Te Taiao

Te Kāwanatanga o Aotearoa
New Zealand Government

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Contents

Tables

Figures

Message from the Minister of Climate Change

The Government is committed to delivering on Aotearoa New Zealand's climate change commitments while growing our economy.

This Government is committed to a cost-effective, net-based approach that maximises the emissions reduction value of every dollar we spend. We are continually assessing the most cost-effective means to reduce emissions across the economy and supporting industry to take a leading role.

New Zealand's primary sector is the engine room of the economy, accounting for 10 per cent of our gross domestic product and 12.4 per cent of overall employment. In the past year, the sector earned $60 billion in export revenue, making up 82.5 per cent of New Zealand's total goods exports.

New Zealand farmers are among the most productive and emissions-efficient producers in the world. We don't take this for granted: there is competitive pressure for this positioning. This is why this Government has invested heavily to deliver farmers the tools and technology they need to tackle the very complex issue of reducing biological agricultural emissions.

We are leveraging our investment of over $400 million to accelerate the development and commercialisation of mitigation technologies that will drive emissions reductions. Partnering with industry has been key to achieving this, and industry action and leadership will continue to have support from this Government.

This Government will not be progressing with an on-farm emissions pricing system by 2030. We will continue to support and leverage growing industry incentives to enable farms to accelerate the uptake of new technology to reduce methane emissions, without adding significant cost to production. We remain committed to a market- and technology-led approach.

For the reasons outlined in this discussion document, we are confident this change does not compromise New Zealand's ability to meet the second emissions budget. This consultation is seeking your views on any other impacts of this revised approach to reducing agricultural emissions, how the Government could further support a market- and technology-led approach, how we could support iwi and Māori as part of this approach, and whether you have any additional feedback on our second emissions reduction plan in light of this change.

Hon Simon Watts
Minister of Climate Change

Introduction

The Government is committed to delivering on Aotearoa New Zealand's climate change commitments while growing our economy. The Government released New Zealand's second emissions reduction plan (ERP2) in December 2024, in which it outlined its plan to meet the second emissions budget (EB2) for the period 2026–30.

The Government has recently revised its approach to reducing agricultural emissions. In particular, it has decided not to progress with an on-farm emissions pricing system by 2030. We will continue to support and leverage growing industry incentives to enable farms to accelerate the uptake of new technology to reduce methane emissions, without adding significant cost to production.

The Climate Change Response Act 2002 (CCRA) provides that emissions reduction plans and supporting policies and strategies may be reviewed and amended.[1] Through this document, we are consulting on a formal amendment to ERP2, to reflect the Government's revised approach to reducing agricultural emissions.

Cabinet will also, in May 2026, be considering an update on progress towards agricultural emissions reduction.

Consultation questions

As outlined below, we are confident that the policies and strategies in ERP2, including our revised approach to reducing agricultural emissions, will meet EB2.

The Ministry for the Environment (the Ministry) is seeking feedback on the following questions	
1	What, if any, other impacts or consequences of the revised approach to reducing agricultural emissions should the Government be aware of?
2	What actions could the Government consider taking to further support a market- and technology-led approach to reducing agricultural emissions?
3	Noting that agricultural emissions policies may disproportionately impact Māori, what further action could the Government consider to support Māori to reduce agricultural emissions?
4	What are your views on ERP2 with the revised approach to reducing agricultural emissions?

[1] CCRA, section 5ZI(3).

1. New Zealand's climate change response framework

New Zealand's Zero Carbon Framework is a statutory framework within the CCRA. It sets the context for our long-term climate change strategy. The legislated 2050 target in the CCRA is for:

- long-lived gases to be net zero by 2050
- biogenic methane emissions to be 10 per cent below 2017 levels by 2030 and 24–47 per cent less than 2017 levels by 2050.

The Government has recently approved the introduction of a Bill to Parliament to amend the biogenic methane component of New Zealand's 2050 target to be 14–24 per cent below 2017 levels by 2050. The 2030 biogenic methane component will remain the same. This legislation will not change the emissions budgets that have been set.

Emissions budgets serve as stepping stones towards our 2050 target.[2] The first three emissions budgets were published in May 2022 (table 1). The Government is required to prepare and publish emissions reduction plans for each emissions budget period.

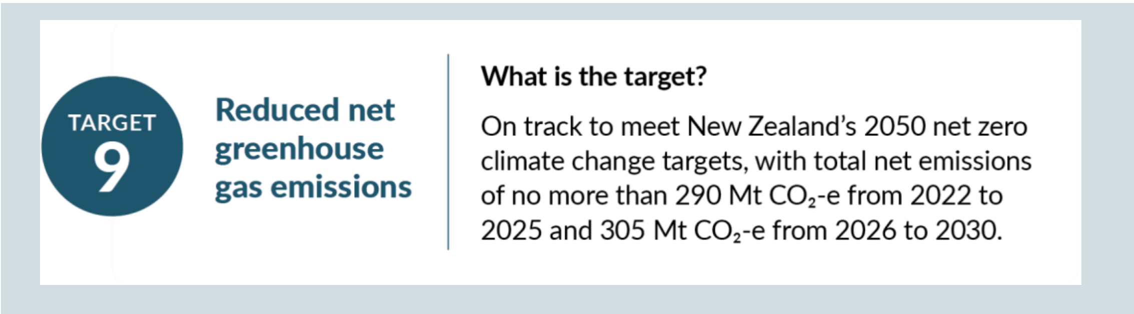
Table 1: New Zealand's first three emissions budgets[3]

	First emissions budget 2022–25	Second emissions budget 2026–30	Third emissions budget 2031–35
All gases, net (AR5)*	290 Mt	305 Mt	240 Mt

Note: * Global warming potential values adapted from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5).

The public sector Government Targets include Target 9 – reduced net greenhouse gas emissions (figure 1). Target 9 aligns with the first and second emissions budgets and the 2050 net zero target.

Figure 1: Target 9 of the public sector Government Targets



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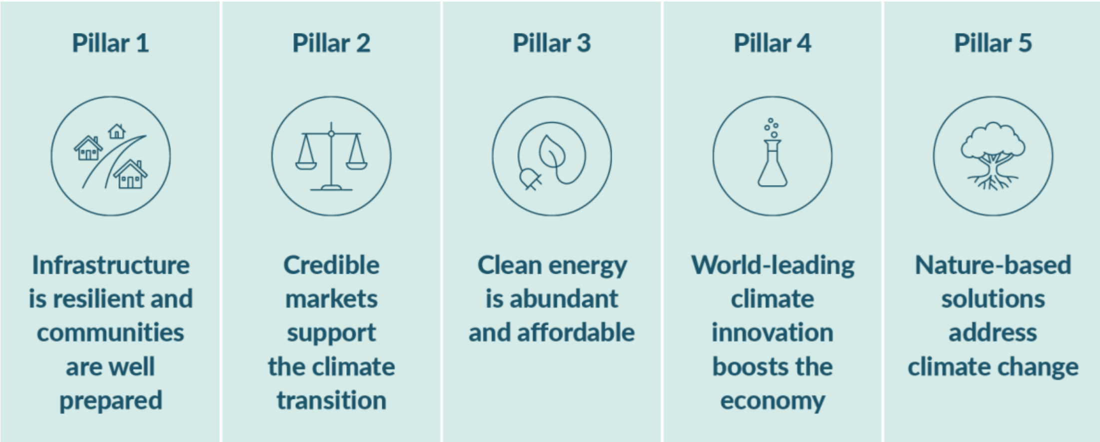
[2] Emissions budgets set the maximum quantity of net emissions permitted in a specific period.

[3] Emissions are expressed as million tonnes of carbon dioxide equivalent, abbreviated to Mt CO_2-e or Mt.

Our approach to reducing emissions

The Government's Climate Strategy focuses on five priority areas to reduce the impact of climate change and prepare for its future effects (figure 2).

Figure 2: **The Government's Climate Strategy**



ERP2 is a key tool in the Government's approach to meeting EB2. ERP2 outlines actions to reduce net greenhouse gas emissions while adapting to a changing climate, anchored by the five pillars of our strategy.

The key elements that underpin the approach outlined in ERP2 include:

- taking a **technology-led approach** to open new pathways so the New Zealand economy can grow as net emissions come down
- taking a **cost-effective approach** to reducing emissions to minimise cost-of-living impacts and increase the likelihood of successful delivery of emissions targets and budgets. This means the Government, businesses and households will take actions that have the greatest impact on net emissions
- maintaining the **New Zealand Emissions Trading Scheme (NZ ETS)** as the primary tool to reduce net emissions. The NZ ETS raises the cost of emissions and reduces the cost of removals. It encourages businesses to find cost-effective ways to reduce emissions and increase removals across the economy
- using **complementary measures** alongside the NZ ETS to help make it cheaper or easier for businesses and households to reduce net emissions
- supporting **private sector action** to reduce emissions by ensuring the regulatory and economic environment can support the efforts of others to reduce emissions alongside and in addition to Government action.

ERP2 outlined eight key policies that were expected to have the greatest potential net emissions reductions over the EB2 period, alongside the NZ ETS.

To access the full ERP2, see: *Our journey towards net zero New Zealand's second emissions reduction plan 2026–30*.

2. Updating our approach to reducing agricultural emissions

The Government has revised its approach to reducing agricultural emissions.

Instead of introducing an on-farm emissions pricing system by 2030, the Government will now shift the focus toward a market- and technology-led approach.

New Zealand's primary sector is a critical contributor to our economy and way of life, accounting for 10 per cent of our gross domestic product (GDP) and 12.4 per cent of overall employment. In the past year, it represented 82.5 per cent of New Zealand's total goods exports.[4]

Export earnings from the primary sector were $60.4 billion for the year ending 30 June 2025, $3 billion higher than projected in December 2024. This momentum is expected to continue, with exports forecast to reach $65.9 billion in value by 2029.

Agriculture contributes over 50 per cent of New Zealand's gross emissions.[5] Importantly, New Zealand farmers are among the most climate-efficient producers in the world.[6]

We need to reduce agricultural emissions in a way that does not compromise exports or lead to emissions leakage. Climate change policies should not increase global emissions by shifting agricultural production to less efficient producers overseas. This is why the Government is taking a market and technology-led approach to managing agricultural emissions.

Our revised approach to reducing agricultural emissions

The Government has revised its approach to reducing agricultural emissions. In particular, we will no longer be introducing an on-farm emissions pricing system by 2030. We will continue to support and leverage industry incentives to enable farms to accelerate the uptake of new technology to reduce agricultural emissions, without adding significant cost to production.

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4 Ministry for Primary Industries. 2025. *Situation and Outlook for Primary Industries*. Retrieved 13 October 2025.

5 Ministry for the Environment. 2025. *New Zealand's Greenhouse Gas Inventory 1991–2023: Snapshot*. Retrieved 13 October 2025.

6 For example, see: Mazzetto AM, Falconer S, Ledgard S. 2022. Mapping the carbon footprint of milk production from cattle: a systematic review. *Journal of Dairy Science* 105(12): 9713–25; Mazzetto AM, Falconer S, Ledgard S. 2023. Carbon footprint of New Zealand beef and sheep meat exported to different markets. *Environmental Impact Assessment Review* 98: 106946.

We remain committed to taking a multi-pronged approach to reducing agricultural emissions without undermining profitability. This approach involves:

- getting tools to farmers and growers faster, by investing in research, development and commercialisation
- having effective regulatory frameworks for new tools – here and internationally
- estimating on-farm emissions more consistently across the country
- supporting changes in practice on-farm
- reviewing our methane science and target.

Achieving biogenic methane reductions without agricultural emissions pricing is feasible – and is an outcome the agriculture sector is already making progress towards.

New Zealand's market- and technology-led approach is already delivering results

The Government is investing over $400 million over four years to accelerate the development and commercialisation of mitigation technologies that will drive reductions in agricultural emissions. This is a key part of our market- and technology-led approach. The Government's structured accelerated mitigations programme includes:

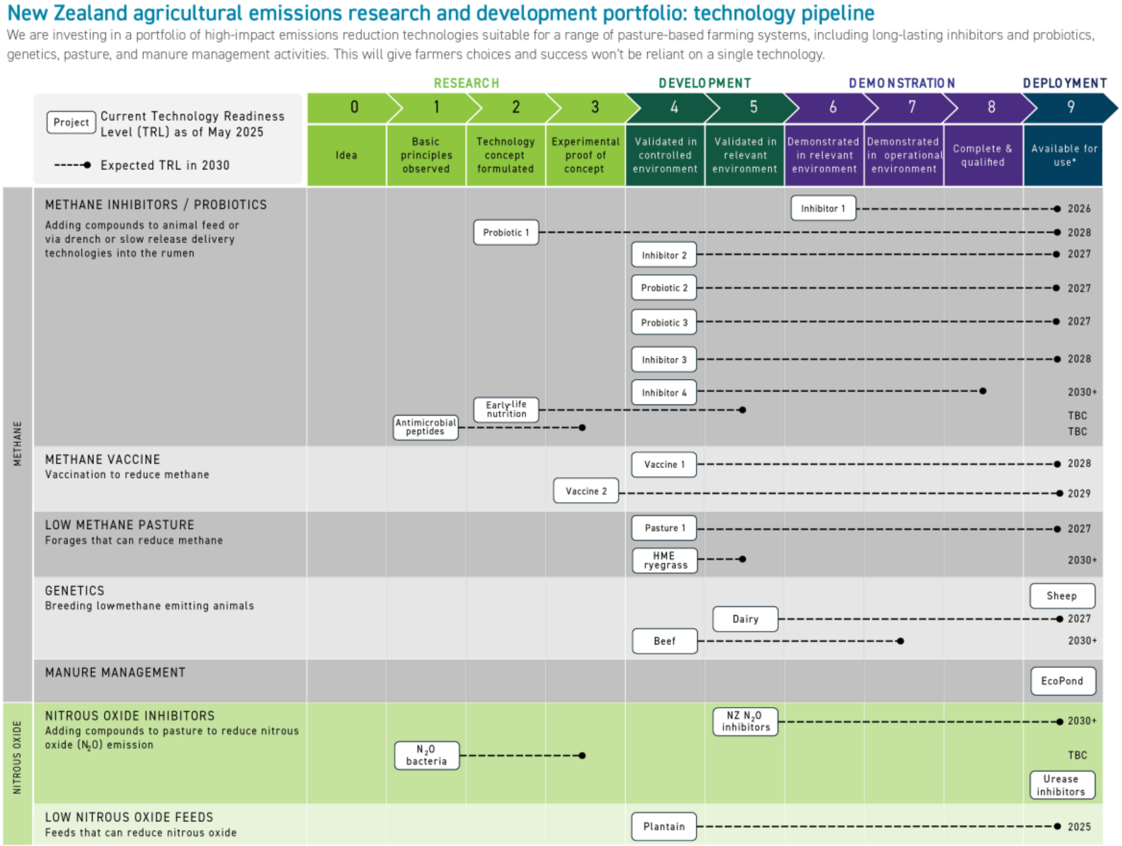
- a joint venture with industry through AgriZero^NZ
- scaled-up investment in the Ag Emissions Centre.

AgriZero^NZ is the Government's primary vehicle for supporting commercialisation of agricultural greenhouse gas mitigation tools. Focused on making high-impact investments to drive product development and commercialisation, it is investing to help pasture-based farms reduce emissions without compromising their productivity and profitability. As of 30 June 2025, AgriZero^NZ has invested $60.7 million in 14 companies, research projects and trials, including several new initiatives since the publication of ERP2. It works in close partnership with the Ag Emissions Centre.

Through the Ag Emissions Centre New Zealand has a world-leading science programme that drives excellence in the research and development of innovative tools and technologies aimed at reducing agricultural biogenic emissions, fostering the next generation of emissions reduction breakthroughs. It engages world-leading scientists to deliver cutting-edge emissions mitigation research that supports New Zealand farmers and strengthens our pasture-based competitive advantage – fuelling the innovation pipeline. From foundational science and innovative mitigation technologies to farm systems research and global partnerships, it accelerates the development of tools and technologies that reduce agricultural emissions, build farming resilience, and protect market access. This investment is foundational to support the pipeline of products for commercialisation.

We have confidence in the pipeline of new mitigation tools, which will support New Zealand's economic growth and contribute to meeting climate commitments. Three mitigation tools, urease inhibitor coated fertiliser, low methane sheep genetics, and EcoPond, are already available now, and we anticipate up to 11 mitigation tools may be available by 2030. We expect to see at least 2–3 of these in widespread use by 2030.

Figure 3: New Zealand agricultural emissions research and development portfolio: technology pipeline



Disclaimer: This table indicates current estimates as at May 2025. In most cases these estimates have been provided by companies developing the tools. The dates and details are subject to change as projects progress through the pipeline, and noting these are early stage technologies. There is also ongoing scanning of new technologies and research. This diagram does not include work underway on soil carbon and farm systems management, and other supporting research. Some technologies will be stackable, whilst others are either/or as they have similar modes of action. * The earliest possible year for market availability is shown. This is dependent on regulatory and approval timeframes and pricing structures. 'TBC' = early stage, cannot predict time to availability yet.

Since the publication of ERP2, the range of mitigation options available and under development in the market has made progress and expanded. Developments and highlights include:

- EcoPond is an effluent treatment that reduces methane emissions from effluent ponds by over 90 per cent. EcoPond is already commercially available and is being piloted on 200 Fonterra farms and 50 Synlait farms over two years.
- Ruminant BioTech is developing a bolus to inhibit methane emissions from ruminant animals. Trials show a single bolus treatment can cut enteric methane emissions by 70 per cent for over 100 days. Its bolus for beef cattle is currently being assessed for registration in New Zealand and could be commercially available for beef animals in early 2026.
- Cool Sheep continues to expand low-methane sheep genetics. This approach is projected to reduce methane emissions by approximately 10 per cent in participating flocks by 2050.
- ArkeaBio, a methane vaccine developer, is looking to undertake animal trials in New Zealand in 2026.
- Lucidome Bio, a methane vaccine developer, is running cattle trials in New Zealand.
- Rumenaut has developed an artificial rumen to monitor real-time enteric methane, enabling rapid screening of new mitigation technologies, including feeds and inhibitors.

- Low methane dairy breeding is making excellent progress with LIC and CRV aiming to introduce the first commercially available low methane dairy AI genetics from 2026 and integrating low methane breed values thereafter.

Supporting availability and access to greenhouse gas measurement infrastructure has also been a priority – which is a critical enabler of research and development progress. Alongside its other research and development work, the Ag Emissions Centre has supported a number of infrastructure upgrades and increases to ensure capacity is sufficient to meet demand. These include:

- feed bins for measuring feed conversion efficiency alongside greenhouse gas measurement
- support for a significant expansion of the Pāmu livestock feed efficiency and low methane testing facility
- the New Zealand Ruminant Methane Measurement Centre (alongside AgResearch).

Utilisation of 38 GreenFeed units managed by the Ag Emissions Centre has significantly increased in the past 12 months as effort to get mitigation tools into the hands of farmers accelerates.

In addition, AgriZero^NZ's limited partners (Fonterra, Ravensdown, Silver Fern Farms, Synlait, The a2 Milk Company, ANZCO, Rabobank, ANZ Bank, BNZ Bank, ASB Bank, and the Crown) have agreed AgriZero^NZ will take a stronger role in supporting the adoption of new mitigation technologies. AgriZero^NZ is actively exploring opportunities to accelerate farmer uptake and de-risk initial tool rollout.

We are seeking your views on what actions the Government could consider taking to further support a market- and technology-led approach to reducing agricultural emissions.

Impacts on iwi and Māori

The primary industries (agriculture, forestry and fishing) make up a significant part of the Māori economy. They represent a significant proportion of Māori-owned assets, with an estimated asset base of $39 billion.[7]

Iwi and Māori are important partners in supporting New Zealand to reduce emissions and will be impacted by our revised approach to reducing agricultural emissions.

Agricultural emissions policies are likely to disproportionately impact Māori. Previous engagement with iwi and Māori on pricing agricultural emissions highlighted some of the unique challenges they face.[8] Not progressing with an agricultural emissions pricing system by 2030 will likely create less burden on Māori land owners, agribusinesses and farmers.

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7 Schulze H, Reid A, Dixon H, McIndoe C, Wiradika S. 2024. *Te Ōhanga Māori 2023: The Māori Economy 2023*. Prepared for the Ministry of Business, Innovation & Employment by BERL.

8 Among the challenges are that: Māori own a higher proportion of lower-capability land; they face barriers to obtaining capital due to the inability to use land as collateral; ownership structures vary; Māori farms are bigger than the average New Zealand farm; and Māori sheep and beef farmers face higher emissions relative to production and have limited options to reduce emissions other than by lowering stock numbers.

However, there have also been strong calls from iwi and Māori that the Government needs to take action on climate change, including by addressing agricultural emissions. Iwi, hapū and Māori groups have a deep connection to land and natural resources, which are central to their identity, wellbeing and cultural practices. Climate impacts can damage these places or restrict access to them.

Noting the potential for disproportionate impacts, we are seeking your views on what further action the Government could consider to support Māori to reduce agricultural emissions.

3. Meeting our emissions budgets

We are confident that the policies and strategies in ERP2, including our revised policy for reducing agricultural emissions, will meet EB2.

Our 2025 projections confirm we remain on track to meet our first two emissions budgets

The Government has recently released updated 2025 emissions projections.[9] These confirm New Zealand remains on track to meet both the first emissions budget (EB1) and EB2, with surpluses (or 'buffers') higher than those projected when ERP2 was published in 2024 (table 2). For more detail on emissions projections, see appendix 1.

Table 2: Comparison of ERP2 2024 emissions projections and 2025 emissions projections for EB1 and EB2 (based on the 'with additional measures'[10] central estimate[11])

Emissions budget	Baseline		With additional measures	
	2024 projections	2025 projections	2024 projections	2025 projections
EB1 (290 Mt)	284.5 Mt *(buffer of 5.5 Mt)*	282.2 Mt *(buffer of 7.8 Mt)*	284.1 Mt *(surplus of 5.9 Mt)*	282.2 Mt *(buffer of 7.8 Mt)*
EB2 (305 Mt)	306.3 Mt *(abatement gap of 1.3 Mt)*	301.7 Mt *(buffer of 3.3 Mt)*	303.1 Mt *(buffer of 1.9 Mt)*	300.5 Mt *(buffer of 4.5 Mt)*

As table 2 outlines, 2025 projections are now forecasting improvements to both baseline and 'with additional measures' projections across EB1 and EB2. Key drivers of change that reduced emissions in the 2025 projections compared with 2024 projections include increased forestry removals; changes to waste emissions methodology;[12] and increased expectations for uptake of agricultural mitigation technology over the EB2 period, which are counterbalanced by

9 Greenhouse gas emission projections are inherently uncertain. They rely on a range of forward-looking assumptions and inputs about factors such as future economic conditions, commodity prices, population growth and technological change. Long-term emissions scenario analysis can be used to explore how different plausible future developments could influence emissions outcomes. Emissions projections are influenced by external factors, government policy and methodological updates. All three affected the 2025 projections.

10 'With additional measures' (WAM) incorporate government policies that are under development or proposed but not yet implemented. They include extensions to or expansions of baseline policies that are planned but not yet implemented.

11 The further out we look, the more uncertain the projection becomes. This is expressed as an 'uncertainty range'. The uncertainty range shows a spectrum of emissions scenarios, from the lowest expected result to the highest. In the middle is the 'central estimate', which is considered to be the scenario most likely to hold true.

12 The Government is currently exploring different approaches to allow for the impact of methodological changes on the emissions budgets.

increased expectations for agricultural livestock numbers and productivity. Updated estimates of gas reserves in New Zealand further contribute positively to improvements in projected emissions, though this situation has also resulted in abatement from carbon capture, utilisation and storage (CCUS) being removed from 2025 projections.[13]

Agricultural emissions in the EB2 period

ERP2 included a range of policies that were projected to reduce emissions by 3.2 Mt over the EB2 period, including 0.2 Mt from the agricultural emissions pricing system and mitigation technologies.

Higher forecast stock numbers are driving an increase in total agricultural emissions across the EB2 period compared with the forecast in the 2024 projections. While expectations of more uptake of mitigation technology result in a greater relative decrease in agricultural emissions through the EB2 period, this is not enough to offset increased production. The overall result is a 4.8 Mt increase in emissions from agriculture across the EB2 period, compared with that projected in ERP2.[14]

The increased impact of mitigation technology in EB2 under the 2025 projections reflects observed advances in industry-led initiatives and ambition since the development of ERP2 (as outlined in section 2), as well as an improved modelling methodology. Within the updated baseline, there is a forecast reduction of 1.9 Mt due to the impact of agriculture mitigation technologies. The 2025 projections were finalised before the policy decision to remove agricultural pricing; however, they did not explicitly quantify an impact in the EB2 period from introducing an on-farm emissions pricing system in 2030.

We are confident the decision to not progress with an on-farm pricing system by 2030 does not impact our ability to meet EB2. The pricing scheme was due to be introduced in the final year of the EB2 period, and so only a small associated abatement impact (–0.2 Mt) was included in the ERP2 modelling. In addition, any impact on emissions reductions can likely be absorbed by the 4.5 Mt buffer to EB2. For these reasons, we are confident that we remain on track to meet EB2 even accounting for our revised approach to reducing agricultural emissions.

The 2030 biogenic methane target

Although emissions budgets are set on an all gases[15] basis, action in relevant emissions budget periods can support New Zealand in meeting its biogenic methane emissions targets.

2025 projections show New Zealand falling short of the CCRA's target for biogenic methane emissions to be 10 per cent below 2017 levels by 2030. Biogenic methane emissions are

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[13] The Todd group has publicly stated it does not intend to pursue carbon capture and storage at Kapuni, citing gas scarcity and the NZ ETS price. As a result, 2025 projections no longer assume abatement from CCUS (an ERP2 policy).

[14] In the 2025 projections, agriculture emissions are 0.7 Mt higher in 2030 compared with the ERP2 projections. There is also a –0.1 Mt impact in the EB2 period associated with the ERP2 policy for afforestation on Crown-owned land.

[15] All gases refer to all greenhouse gases listed in Section 4 of the Climate Change Response Act 2002, which are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF_6).

projected to be 7.9 per cent below 2017 levels in 2030, although achieving the 2030 biogenic methane target is within the projected uncertainty range.

Your feedback on this consultation will further support New Zealand's ability to achieve the 2030 biogenic methane target.

Agricultural emissions in the third emissions budget

Ensuring New Zealand achieves the third emissions budget (EB3), which covers the period 2031-35, is the task of the third emissions reduction plan and its actions and strategies, which is due to be set by December 2029. However, ahead of this, ERP2 actions are expected to deliver significant progress towards achieving EB3.

2024 projections included emissions reductions of 17.1 Mt in EB3 from ERP2 policies. Within this total was 10.6 Mt[16] of abatement from an agricultural emissions pricing system and mitigation technologies.

2025 projections adopt a scenario-based approach to agricultural emissions projections beyond 2030, to illustrate the range of outcomes possible by 2050. These modelled scenarios do not distinguish between additional government policy and additional industry action in terms of their impact on emissions, and do not directly reflect the impact over the EB3 period of removing agricultural emissions pricing.

The scenarios seek to better capture the long-term uncertainty associated with the impact of mitigation technology and the role of consumer and market incentives in driving emissions reductions. This approach is an evolution in the methodological approach used for the 2024 projections; and an extension of the scenario analysis conducted when preparing emissions projections.

Scenarios are based on differing levels of efficacy and adoption of agriculture emissions mitigation technologies. Predicting the efficacy and availability of future technologies, as well as other factors that will have an impact on their adoption, is highly uncertain, as this is a rapidly developing area of innovation. Updates to predicted technology efficacy and uptake rates can have a significant effect on projected emissions, as mitigation technology is likely to be the key driver of reductions in the long term. This scenario-based approach has been applied only beyond 2030 as the short term offers much more certainty in factors such as the pipeline of technologies currently in development, the ambition of industry-led emissions reductions, and improvements in farm practices. The scenarios are helpful for understanding different levels of ambition regardless of whether they are driven by the market or the Government, or both.

[16] The modelled impact of all ERP2 policies on agriculture emissions was –10.8 Mt in the EB3 period. The additional impact is due to a small amount of stock displacement resulting from the ERP2 policy for afforestation on Crown-owned land.

Three scenarios were used (A, B and C), representing increasing levels of impact of mitigation technology over the 2031–50 period.[17] As with all other sectors of the economy, agricultural projections also include a 'baseline' scenario. This pathway reflects government policies and measures that are currently legislated, funded and implemented. The agriculture baseline scenario assumes that major dairy processors meet their Scope 3 emissions reduction targets.[18]

Using this scenario-based approach, 2025 projections indicate that emissions for EB3 could be 7.9 Mt above the 240 Mt limit for that period under the central scenario (table 4). This is a reduction from the 9.2 Mt gap in the ERP2 projections (table 3).

Table 3: Net emissions projections for EB3 (240 Mt) based on 2024 ERP2 projections

Scenario	ERP2 projections
Baseline	266.3 Mt
Additional measures – 2024 central estimate	249.2 Mt

Table 4: Net emissions projections for EB3 (240 Mt) based on 2025 agriculture scenarios

Projections scenario	2025 projections
Baseline – existing Government policy and industry action	258.3 Mt
Additional measures central – scenario B	247.9 Mt
Additional measures – scenario A	249.8 Mt
Additional measures – scenario C	242.7 Mt

For more detail on the scenarios above, see appendix 1.

[17] Scenario A represents a level of technology development in line with current technology development objectives and a level of adoption of technology that is roughly in line with current industry targets. Scenario B represents a further improvement in technology development and extrapolates current short-term industry ambition. Scenario C represents even more significant technological breakthroughs and drivers for adoption.

[18] Scope 3 emissions reduction targets refer to all indirect greenhouse gas emissions that occur in a company's value chain. For agriculture, these often include emissions from fertiliser use, livestock and land-use change.

4. How to make a submission

As outlined above, we are confident that the policies and strategies in ERP2, including our revised approach to reducing agricultural emissions, will meet EB2.

The Ministry is seeking feedback on the following questions	
1	What, if any, other impacts or consequences of the revised approach to reducing agricultural emissions should the Government be aware of?
2	What actions could the Government consider taking to further support a market- and technology-led approach to reducing agricultural emissions?
3	Noting that agricultural emissions policies may disproportionately impact Māori, what further actions could the Government consider to support Māori to reduce agricultural emissions?
4	What are your views on ERP2 with the revised approach to reducing agricultural emissions?

Consultation opens on 5 November 2025 and closes at 11.59 pm on 26 November 2025. The Government welcomes your comments on this discussion document.

You can make a submission via Citizen Space, the Ministry's consultation hub (available at https://consult.environment.govt.nz/climate/amendment-to-second-emissions-reduction-plan), or by writing your own submission.

If you want to provide your own written submission, you can provide this as an uploaded file in Citizen Space.

We request that you don't email or post submissions as this makes analysis more difficult. However, if you need to, please send written submissions to ERP2 amendment consultation, Ministry for the Environment, PO Box 10362, Wellington 6143 and include:

- your name or organisation
- your postal address
- your telephone number
- your email address.

If you are emailing your feedback, send it to ERPconsultation@mfe.govt.nz as a PDF or as a Microsoft Word document (2003 or later version). You can also use this email address if you have questions or want more information about the consultation.

Publishing and releasing submissions

All or part of any written comments (including names of submitters), may be published on the Ministry for the Environment's website, environment.govt.nz. Unless you clearly specify otherwise in your submission, the Ministry will consider that you have consented to website posting of both your submission and your name.

Contents of submissions may be released to the public under the Official Information Act 1982 following requests to the Ministry for the Environment (including via email). Please advise if you have any objection to the release of any information contained in a submission and, in particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document under the Official Information Act.

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Appendix 1: Technical information on 2025 emissions projections

Modelling used for 2025 projections

The projections have been developed using a combination of agency sectoral models and the Emissions in New Zealand (ENZ) model. The ENZ model is a bottom-up model that includes data to represent individual industries and technologies and has been used widely in New Zealand, including by the Climate Change Commission | He Pou a Rangi.

Central estimates and sensitivity bands

As part of the 2025 projections process, two sets of projections were prepared.

- Baseline projections (also referred to as 'with existing measures' or WEM) reflect government policies and measures that are currently legislated, funded and implemented.
- Additional policy measures (also referred to as 'with additional measures' or WAM) show the impact of the additional emissions reductions generated by the policies and measures in ERP2.

Central projections are given for each projection set (WEM and WAM), along with a low estimate and a high estimate. This range reflects the underlying sensitivity in the projections.

Table A1.1: Central, high and low 2025 projections for baseline and additional policy measures

Emissions budget	Budget (Mt)	Baseline projections (Mt)			Additional policy measures (Mt)		
		Low	Central	High	Low	Central	High
EB1	290	280.0	282.2	287.6	280.0	282.2	287.6
EB2	305	286.5	301.7	327.2	285.4	300.5	325.8
EB3	240	228.6	258.3	299.3	233.2	247.9	270.6

Changes (and drivers of change) from 2024 to 2025 projections

Several factors have contributed to notable shifts in emissions projections in 2025 compared with the 2024 projections that were published alongside ERP2 (table A1.2). The drivers of the shifts are updated data on sector activities, an evolving understanding of the implementation of policy and private sector commitments, and improvements in modelling approaches (informed by new data).

Table A1.2: Comparison of ERP2 projections with 2025 projections by emissions budget (Mt)

Emissions budget	Budget (Mt)	Baseline		Additional policy measures	
		ERP2 projections	2025 projections	ERP2 projections	2025 projections
EB1	290	284.5	282.2	284.1	282.2
EB2	305	306.3	301.7	303.1	300.5
EB3	240	266.3	258.3	249.2	247.9

Changes in the forward outlook for the baseline can influence the impact of policies. This effect has been observed in the 2025 projections, which indicate that some ERP2 policies will lead to a lower level of emissions reductions. Table A1.3 compares the emissions impacts of ERP2 policies (excluding agriculture) in ERP2 projections and 2025 projections, by sector and emissions budget. See table A1.4 for a comparison of agriculture emissions impacts between ERP2 and 2025 projections for EB2. See table A1.5 for a comparison of agriculture emission impacts across the different scenarios for EB3.

[19] 'With additional policy measures' use agricultural scenario B as the central projection in 2025 projections.

Table A1.3: Comparison of the impacts of ERP2 policies on EB2 and EB3 in ERP2 projections and 2025 projections by sector (excluding agriculture) (Mt)

	ERP2 projections policy impact		2025 projections policy impact		Description of change in policy impacts from ERP2 to 2025 projections
	EB2	EB3	EB2	EB3	
Transport energy	–0.01	–0.2	*–0.01*[20]	*–0.2*	No change in the impact of the ERP2 policy of 10,000 public electric vehicle charging points.
Industrial processes and product use (IPPU)	–0.4	–0.7	–0.4	–0.6	ERP2 included the impact of an earlier implementation of a regulated product stewardship scheme for refrigerants. For 2025 projections, the modelling assumptions for this policy were unchanged. However, the impact is now slightly lower in EB3. This is because IPPU emissions in the absence of this policy are projected to be lower than they were in ERP2 – so the policy applies to a smaller baseline level of emissions.
Non-transport energy	–1.1	–2.5	–0.04	–0.2	Recent reports on the extent of gas scarcity in New Zealand were not available when the policy impact of Electrify NZ was calculated for ERP2 projections. The Government has received new information about gas scarcity in New Zealand, which shows a significant decline in predicted natural gas reserves: 2025 gas production is forecast to be 24% lower than previously estimated. This new information impacts the choices of stakeholders in the energy market. The Todd group has publicly stated that it does not intend to pursue carbon capture and storage (CCUS) at the Kapuni site, noting gas scarcity and NZ ETS price as drivers for its announcement. As a result, a judgement in making the 2025 projections has been to not model CCUS. This will be kept under review as legislation progresses to make the pathway for CCUS possible in New Zealand.
Waste	–1.8	–2.1	–1.0	–2.8	Compared with ERP2, the impact of policies on waste emissions is lower in EB2 but slightly higher in EB3. This change is due to several factors, including: • improved modelling of the likely timing of emissions reductions resulting from Waste Minimisation Fund initiatives (with less reduction in EB2 but higher reduction in later emissions budgets) • expected higher impacts from improved landfill gas capture, compared with ERP2 modelling which assumed lower policy potential in this area • lower projected waste tonnages in the baseline, so there is a smaller waste volume for policies to act on.

[20] This policy has been moved into the baseline for 2025 projections, so there is no difference between the baseline and 'with additional measure' projections.

	ERP2 projections policy impact			2025 projections policy impact		Description of change in policy impacts from ERP2 to 2025 projections
	EB2	EB3		EB2	EB3	
Forestry	0.4	–1.8		0.4	–1.8	The modelling for the afforestation on Crown-owned land policy included in 2025 projections is consistent with the modelling for that policy in ERP2.

Table A1.4: Comparison of ERP2 and 2025 projections for EB2 and EB3 for agriculture emissions only (Mt)

Agriculture projections scenario	EB2	EB3
ERP2 projections modelling results – projected agriculture emissions		
Baseline	196.3	194.8
ERP2 policy impact	–0.2	–10.8[21]
ERP2 policy scenario	196.1	184.1
2025 projections modelling results – projected agriculture emissions		
Baseline	201.0	199.0
'With additional measures' central scenario impact	–0.1[22]	See table A1.5
'With additional measures' central scenario	200.9	
Total mitigation technology impact in the *'with additional measures'* central scenario	–1.9[23]	

Table A1.5: 2025 projections scenarios in EB3 for agriculture emissions only (Mt)

2025 agriculture projections scenario	EB3 scenario emissions	EB3 scenario impact from baseline[24]	EB3 total mitigation technology impact in scenario[25]
Baseline	199.0	–	–6.0
Scenario A	195.9	–3.1	–8.2
Scenario B	194.0	–5.0	–10.1
Scenario C	188.8	–10.2	–15.4

Each scenario assumes different levels of adoption (outlined on the following page). The scenarios do not distinguish between different drivers of these different levels of adoption. Projections therefore do not distinguish between the impact of agricultural pricing, and other government or market drivers.

The **total impact of mitigation technology** in scenario B in EB3 is –10.1 Mt. A significant portion of this is assumed within the baseline (–5.9 Mt) as a result of industry-led initiatives and market-led adoption. Reductions from mitigation technology could be achieved through industry incentive schemes, government policy and/or a collaboration between government and industry.

21 The modelled impact in ERP2 of an agricultural emissions pricing system was –10.6 Mt in EB3. The additional impact is due to a small amount of stock displacement resulting from the ERP2 policy for afforestation on Crown-owned land.

22 In EB2, this impact is due solely to the ERP2 policy for afforestation on Crown-owned land.

23 In EB2, this is captured entirely in the 2025 baseline.

24 This includes additional technology adoption and the impact of the ERP2 policy for afforestation on Crown-owned land.

25 This is the total impact of mitigation technology in a given scenario, including any amount in the baseline.

The amount of technology adoption in the baseline for the 2025 projections is higher compared with the ERP2 baseline (ie, the 2025 projections anticipate a higher level of industry-led adoption), noting that industry has made further commitments since ERP2 was published. The assumptions made on the adoption of specific technologies are illustrative of industry ambition and reflect one potential scenario. This scenario was chosen on a least-cost basis. Similar reductions could be achieved by a different combination of future technologies and actions. By 2030, in the 2025 projection baseline, it is assumed that:

- 37 per cent of dairy cattle are vaccinated with a methane vaccine that reduces enteric methane emissions by 10 per cent
- 12 per cent of dairy farms are using EcoPond, which reduces methane emissions from effluent ponds by over 90 per cent
- a low level of adoption of other mitigation technologies occurs across dairy cattle, beef cattle and sheep.

Other drivers of changes in agricultural sector emissions in the baseline include a stronger commodity outlook in the near term, which has led to increased projected livestock numbers (particularly for dairy cattle), and an increase in projected productivity / average milk yield.

Scenarios used for 2031 onwards for agriculture

Section 3 refers to the scenario-based approach used for 2031 onwards for agriculture. The three scenarios used in 2025 projections, as modelled in July 2025, used a set of assumptions as a proxy for the impact of emissions reduction activities. These illustrative pathways could equally be achieved through a different mix of technologies. The three scenarios are described below.

- **Scenario A** assumed an incentive to adopt technology that reduces agricultural emissions beyond 2030, similar in scale to that currently created by Fonterra and Synlait's Scope 3 targets. This incentive could come in the form of government policy, industry incentive schemes (such as Fonterra's Co-operative Difference Scheme) and a collaboration between government and industry. It also assumed that the existing objectives for efficacy of mitigation technologies are achieved (eg, a methane vaccine that is 10 per cent effective by 2028 and one that is 30 per cent effective by 2034).

- **Scenario B** (the central scenario) included similar assumptions to scenario A. However, the key differences are the assumptions that, between 2031 and 2050, development in technology leads to more effective mitigation technologies for agriculture, and that there is a stronger driver of adoption than in scenario A. This driver could be, for example, increased industry ambition (supported by customer and market drivers for low-emissions products), government policy or a collaboration between government and industry. This scenario reduces methane emissions by 24 per cent from 2017 levels.

- **Scenario C** assumed a much higher level of uptake of technologies that reduce emissions in the agricultural sector and that these are more effective between 2031 and 2050. This represents a high-ambition scenario.

Appendix 2: Glossary

Term	Meaning
2050 target (also 'net zero')	Set by the Climate Change Response Act 2002, this target requires: • emissions of all greenhouse gases (except biogenic methane) to be net zero by 2050 • emissions of biogenic methane emissions to be 24–47 per cent below 2017 levels by 2050 (following on from 10 per cent below by 2030). A target of 'net zero' is a target that completely negates the greenhouse gas emissions produced by human activity. This can be done by balancing emissions and removals or by eliminating the production of emissions in the first place.
abatement	The reduction or removal of greenhouse gas emissions.
AR5	The Fifth Assessment Report by the Intergovernmental Panel on Climate Change, published in 2014.
baseline projections	Compiled annual estimates of emissions that represent the expected level of emissions in New Zealand between now and 2050. Baseline emissions are calculated on the basis of existing policies. For more information, see the technical annex to the ERP2 discussion document.
biogenic methane	All methane emissions produced from the agriculture and waste sectors (as reported in the New Zealand Greenhouse Gas Inventory).
carbon capture, utilisation and storage (CCUS)	The extraction and capture of carbon dioxide from industrial activity or directly from the air. If captured carbon dioxide is not used (eg, as a chemical feedstock or purified and sold for uses such as dry ice manufacture), it is injected into deep geological formations (including depleted oil and gas reservoirs) for permanent storage.
carbon dioxide (CO_2)	A long-lived greenhouse gas, produced by burning fossil fuels, that stays in the atmosphere for hundreds to thousands of years.
carbon dioxide equivalent (CO_2-e)	A metric used to compare the warming impact of different greenhouse gases relative to carbon dioxide based on their different warming impacts over a specific time period.
carbon sequestration, carbon sink	Any reservoir that absorbs more carbon than it releases, thereby lowering the overall concentration of carbon dioxide in the atmosphere. Examples include forests, vegetation, peatland and the ocean. Planting forests is one method of removal – carbon dioxide is absorbed during photosynthesis and stored as carbon in biomass (trunks, branches, foliage and roots).
climate change	A change in the state of the climate that can be identified (eg, using statistical tests) by changes or trends in the mean or the variability of its properties, and that persists for an extended period, typically decades to centuries. Includes natural internal climate processes and external climate forcings such as variations in solar cycles, volcanic eruptions and persistent anthropogenic (human-made) changes in the composition of the atmosphere or in land use. The United Nations Framework Convention on Climate Change (UNFCCC) specifically links climate change to direct or indirect human causes, by defining it as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods". The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes.

Term	Meaning
Climate Change Commission | He Pou a Rangi	A Crown entity that gives independent, expert advice to the Government on climate change matters, and monitors progress towards the Government's mitigation and adaptation goals.
Climate Change Response Act 2002 (CCRA)	An Act that creates a legal framework to enable New Zealand to meet its international obligations under the United Nations Framework Convention on Climate Change, the Kyoto Protocol and the Paris Agreement.
cost-effective	Describes an approach that minimises the overall cost to the nation of reducing emissions and shifting to net zero by 2050. The costs considered include those associated with businesses and households investing in gross emissions reduction, fiscal costs to the Government, and the wider costs or benefits from changes to the things people value, such as clean air.
emissions	Greenhouse gases released into the atmosphere, where they trap heat or radiation.
emissions budget	The quantity of emissions that can be emitted in New Zealand over each emissions budget period prescribed in the Climate Change Response Act 2002, as a net amount of carbon dioxide equivalent. Three successive emissions budgets must be in place at any given time.
emissions leakage	Where measures to reduce emissions in one country lead to an increase in production and associated emissions (eg, because of a business relocating) in another country without an emissions cap. This may result in no global emissions reduction or even an increase in global emissions. Also known as carbon leakage.
emissions reduction plan (ERP)	A plan that sets out the policies and strategies to meet emissions budgets by reducing emissions and increasing removals. A new plan must be in place before the beginning of each emissions budget period.
fossil fuels	Natural fuels formed in the geological past from the remains of living organisms, for example, coal and natural gas. When used as fuel, these emit greenhouse gases.
global warming potential values	Values that measure a greenhouse gas's ability to trap heat compared to carbon dioxide over a specific time period. These values allow emissions of all gases to be presented using a carbon dioxide equivalent metric (CO_2-e). All emissions values in this document are presented in CO_2-e terms based on 100-year global warming potential values from the Fifth Assessment Report by the Intergovernmental Panel on Climate Change.
Greenhouse Gas Inventory	New Zealand's Greenhouse Gas Inventory is produced each year as part of New Zealand's obligations under the Paris Agreement and United Nations Framework Convention on Climate Change (UNFCCC). The Inventory is the official annual report of all human-induced emissions and removals of greenhouse gases in New Zealand. It is the key source of evidence on New Zealand's greenhouse gas emissions trends.
greenhouse gases	Atmospheric gases that trap or absorb heat and contribute to climate change. The gases covered by the Climate Change Response Act 2002 are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF_6).
gross emissions	Total greenhouse gas emissions from human activity (eg, emissions released from burning coal or other fossil fuels).
hapū	Kinship group, clan, subtribe.

Term	Meaning
impact	The consequences of realised risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather events), exposure and vulnerability. They are generally effects on human lives, livelihoods, health and wellbeing; ecosystems and species; economic, social and cultural assets; services (including ecosystem services); and infrastructure. They can be harmful or beneficial. Also known as consequences or outcomes.
industrial processes and product use (IPPU)	A sector covering the emissions from industrial activities that are not the direct result of energy consumed during the process. This includes emissions from industrial processes that physically or chemically transform materials (eg, emissions associated with concrete production) and the use of human-made greenhouse gases in products – namely refrigerants.
iwi	Tribe, large group descended from a common ancestor.
land use	The arrangements, activities and inputs that people undertake in a certain type of land cover (eg, forest land, cropland, grassland, wetland or settlements). Alternatively, the social and economic purposes for which land is managed (eg, grazing, timber extraction, conservation and city dwelling).
methane	A short-lived, but potent, greenhouse gas. It degrades in the atmosphere over decades, but has a warming effect 28 times greater than carbon dioxide. Once in equilibrium, it can continue to be emitted at a stable rate without increasing its concentration in the atmosphere.
mitigation	Human actions to reduce emissions by sources or enhance removals by sinks of greenhouse gases. Examples of reducing emissions by sources include walking instead of driving, or replacing a coal boiler with one powered by renewable electricity. Examples of enhancing removals by sinks include growing new trees to absorb carbon, or industrial carbon capture and storage.
net emissions	An emissions measure that combines gross emissions with the emissions and removals from the land use, land-use change and forestry (LULUCF) sector. However, measuring progress towards budgets and targets involves a slightly different approach – 'target accounting'. This method includes all our gross emissions, but only a subset of emissions and removals from the LULUCF sector.
New Zealand Emissions Trading Scheme (NZ ETS)	A cap-and-trade system based on government-issued New Zealand Units (NZUs). Emitters must obtain NZUs from and surrender them to the Government at a rate of one NZU per tonne of carbon dioxide or equivalent. The legislated purposes of the NZ ETS include assisting New Zealand to meet the 2050 target, its international obligations and domestic emissions budgets.
removal	Removal of carbon dioxide from the atmosphere.
voluntary carbon markets (VCM)	Markets that allow individuals, companies or organisations to buy credits or fund projects that support carbon reduction and removal efforts. These markets can connect farmers, land owners, iwi, businesses, conservation groups and other project developers with investors or businesses seeking to support projects such as native forest and wetland restoration, biodiversity protection or enhancement, and methane-reducing agricultural technologies.
vulnerability	Being predisposed or more likely to be adversely affected. Elements that contribute to this concept include sensitivity or susceptibility to harm, and lack of capacity to cope and adapt.