



Six-monthly progress report on the emissions reduction plan and the national adaptation plan, for the Climate Response Ministerial Group

Covering the period January – June 2023

Prepared by the Climate Change Chief Executives Board



Preface

Aotearoa New Zealand is implementing two key plans to reach its climate change goals. The national adaptation plan is focused on actions that will help New Zealanders adapt to the changing climate and its effects. These actions aim to reduce the potential harm of climate change and build our resilience. The emissions reduction plan sets out how we can reduce our emissions to meet our first emissions budget, with the goal of net-zero long-lived gases by 2050 and a 24-47 per cent reduction in biogenic methane by 2050.

The first national adaptation plan (NAP1) and the first emissions reduction plan (ERP1) contain 428 actions between them (127 and 301 respectively). These include pricing tools, legislation and regulation, strategies, funding and investment, skills development and training, modelling, procurement, data and evidence, working with Māori, and stakeholder engagement.

Monitoring and reporting on how the implementation of ERP1 and NAP1 is progressing, are the responsibility of the Climate Change Chief Executives Board. The Board was established by Government in 2022 to drive the implementation and success of New Zealand's climate change programmes.

This report is the Board's second six-monthly report on ERP1 and the first on NAP1 and covers the period January 2023 – June 2023.

Contents

Preface.....	2
1 Executive summary.....	4
2 Purpose.....	8
3 Context.....	9
4 Tracking progress towards our climate goals: emissions budgets	10
5 Progress across actions in NAP1 and ERP1	14
6 Progress across the critical actions	17
7 Risks across NAP1 and ERP1.....	19
8 Strategic Opportunities for the NAP1 and ERP1	25
Appendix A: NAP1 Priority focus areas	28
NAP Priority focus area 1: Access to the right data and information to take adaptation action	29
NAP Priority focus area 2: Managed retreat and advancing the Climate Adaptation Act.....	30
NAP Priority focus area 3: Flood-resilient built environment and communities.....	31
NAP Priority focus area 4: Strategic infrastructure	32
Appendix B: ERP Chapter outlooks	33
ERP Chapter 2 Empowering Māori.....	33
ERP Chapter 3 Equitable Transition	34
ERP Chapter 4 Working with Nature	35
ERP Chapter 5 Emissions Pricing	36
IMPACTS	36
ERP Chapter 6 Funding and Finance.....	37
ERP Chapter 7 Planning and Infrastructure	38
ERP Chapter 8 Research, Science, Innovation and Technology	39
ERP Chapter 9 Circular Economy and Bioeconomy	40
ERP Chapter 10 Transport	41
ERP Chapter 11 Energy and Industry.....	43
ERP Chapter 12 Building and Construction	44
ERP Chapter 13 Agriculture.....	45
ERP Chapter 14 Forestry.....	46
ERP Chapter 15 Waste.....	47
ERP Chapter 16 Fluorinated Gases	48
Appendix C: RAG status for NAP1 and ERP1 critical actions	49
NAP1: 52 Critical actions with timeline for planned delivery and their RAG status	49
ERP1: 62 Critical actions with timeline for planned delivery and their RAG status	51
Appendix D: RAG and status guidelines.....	53
Status Guidelines.....	53
Appendix E: Discontinued actions in the NAP1 and ERP1	54
Appendix F: Critical actions not on track to planned delivery	56

1 Executive summary

The Climate Change Chief Executives Board (the Board) has prepared this report for the Climate Response Ministerial Group. It provides insight into how implementation of the Government's two key climate change programmes is progressing, and what is needed to enable New Zealand's transition to a net zero and climate resilient future.

Achieving our climate goals and outcomes will require greater urgency

From an adaptation perspective, the impacts of climate change are arriving sooner, and on a larger scale ...

There are no formal indicators to assess whether we are making enough progress to achieve our climate adaptation goals and what a 'sufficient' level of resilience or an acceptable level of risk is. However, there is a clear sense from agencies that we are not moving fast enough. This has been underscored by Cyclone Gabrielle and other extreme weather events experienced in New Zealand over this reporting period, and the likelihood that events like these will occur at a faster rate than previously expected. Globally, extreme weather events are being experienced more often, and there is a significant likelihood of breaching the Paris Agreement target of 1.5 C between now and 2027, further locking in the impacts of climate change.

... and while projections suggest we will meet the first emissions budget by a small margin, the scale of emissions reductions required to meet future budgets is more significant.

Emissions Budget 1 (EB1) (2022-2025) is 290 Mt net emissions. As of 20 July 2023, the best available estimate indicates that we used 24% of EB1 in 2022, leaving 76% of the budget available for 2023, 2024, and 2025.

Emissions projections that the Board commissioned in May 2023 suggest New Zealand will land within its first emissions budget. However, this is in large part due to methodological changes; particularly in the way our emissions are calculated in the agricultural sector. Without these methodological changes, our best estimate suggests we would exceed EB1 by ~1.5Mt CO₂-e. As with all projections there is considerable uncertainty around these estimates because emissions are driven by a mix of factors across the economy and society. Hence it is essential to keep pace delivering the first emissions reduction plan (ERP1) to build a buffer between the emissions budget and where we expect to land and support the more significant reductions that are required to achieve future budgets.

In the coming 12 months, there are a number of critical decisions the government will need to make.

The government will need to make some important choices in the coming 12 months on significant mitigation and adaptation policies to preserve future options and avoid setting precedents that are not fiscally sustainable. For example, who pays for adaptation costs (like managed retreat), how to build resilience into infrastructure investment and planning decisions, and the extent to which price is used to drive emissions reductions. All these decisions involve significant trade-offs and have a different mix of economic, social, and fiscal implications. The Board will provide more detail on these upcoming choices in its Briefing to the Incoming Minister (BIM).

Considerable implementation progress is being made, but challenges continue

Agencies report a range of implementation successes and challenges across the NAP1 and ERP1

Over the January – June 2023 period, there have been a number of successes, which include:

- \$22.9m of co-investment funding announced for building flood resilience for Westport
- Higher than expected uptake of low emission vehicles (ZEVs in the light fleet are up 67% YE Mar 2023 vs 2022)
- The first Government Investment in Decarbonising Industry (GIDI) large-emitter¹ partnership announced – New Zealand's biggest industrial decarbonisation partnership to date
- Launch of Te Rautaki Para – the Waste Strategy

¹ The top 15 emitters (by company group) in New Zealand are organisations with annual emissions of >78,000t CO₂e, including any subsidiaries. These 'large emitters' may need targeted support to achieve and accelerate emissions reductions to ensure New Zealand meets its emissions budgets.

- A new partnership between agribusiness and the government (AgriZeroNZ), and co-investment of \$165m.

However, there have also been challenges, including some continuing from the first six-month implementation period:

- Severe weather events experienced across New Zealand, requiring immediate and considerable responses over the short-term. These are diverting staff, expertise, engagement partners, and finances from a number of agencies
- A sense from climate agencies that we are not moving fast enough on progressing adaptation actions, and that key frameworks are not yet in place to support people to manage the future effects of climate change, such as a managed-retreat regime
- 9(2)(g)(i) [REDACTED]
- Ongoing resourcing challenges for agencies who are deferring implementation of some actions as a result.

Agency reporting suggests most actions are ‘on track’, but the most critical actions are at a higher risk

Most actions across the first national adaptation plan (NAP1) and ERP1 are reported as ‘on track’ (72% and 68% respectively). For ERP1 this represents a drop of 8% from the last reporting period. While this shows progress is continuing, these results need to be interpreted with care because:

- Of the actions identified as the most ‘critical’ in the plans, 35% of the NAP1 critical actions are either amber, red, or discontinued. For the ERP1 this figure is 48%.
- Many actions in NAP1 are being delivered over the long term (e.g., out to 2028) and while on track at this point, these timelines may no longer be rapid enough
- There are some actions with significant ‘interdependencies’ with other actions that have been slowed down, including the Equitable Transitions Strategy and the National EV Charging Infrastructure Strategy.

Risks and opportunities ahead, together with the Board’s recommended responses

The Board continues to recommend maintaining focus on implementing the actions, and managing the risks to critical actions, across both ERP1 and NAP1

Implementing the actions to their full effect will provide greater certainty that we will achieve our adaptation outcomes and support emissions reductions required now and in future emissions budgets. As advised in our previous report, the Board recommends not adding further initiatives to ERP1. Rather, it is critical to ensure the effective delivery of a small number of actions that provide the key ‘building blocks’ to deliver or support substantial abatement over EB2 and EB3.

These include; the ETS Review, agricultural emissions pricing, transport mode-shift implementation, the Energy Strategy and the transition to a highly renewable electricity system, partnerships to support abatement of New Zealand’s largest emitters, and scoping and delivering ERP2.

The Board has identified several risks, opportunities, and actions to enhance delivery

To address the challenges noted above, and other programme-level risks, the Board proposes a set of actions across both work programmes, which we discuss in Table 1. The Board also identifies a number of opportunities that could enhance delivery and includes options to respond.

Table 1: Summary of risks, opportunities and the Board’s recommendations

Risks	Recommended responses
<p>1. It is difficult to state with certainty if we are meeting our emissions budgets and it is challenging to assess the sufficiency of our climate adaptation response.</p>	<p><u>The Board</u> will commission analysis to develop a potential set of adaptation indicators to start to assess the ‘sufficiency’ of New Zealand’s adaptation response and consider including these in the next six-monthly report.</p> <p><u>The Board</u> will request timelier GHG emissions measurements, for inclusion in the next six-monthly report and as part of a regular reporting system.</p>
<p>2. We may not be responding fast enough to adapt to increasing climate related events, and our approach to recovering from extreme weather is not well aligned with long term strategies to build resilience.</p>	<p><u>The Board</u> will commission advice to identify the most material actions for achieving the outcomes in NAP1. This will include assessing whether these actions can be delivered, are adequately resourced, making sufficient progress, and are timely enough, in light of the more rapid changes in the climate.</p> <p>Following delivery of the select committee inquiries into community-led retreat and adaptation funding, and the Inquiry into response to the North Island severe weather events, the Board will be in a more informed position to recommend the next steps required to build long term resilience, and to support their wider role in overseeing the climate change response.</p>
<p>3. There is limited visibility of how Te Tiriti principles are being applied across the climate policy response.</p>	<p><u>The Climate DCE group</u> will support better coordination of upcoming engagements with Māori, and quality of analysis through quarterly agency updates, to increase cross-agency understanding of good practice and where pressures exist across the system.</p> <p><u>The Board</u> will include analysis of how Te Tiriti principles are being applied in the next six monthly-report.</p>
<p>4. Many foundational climate policies that inform multiple work programmes need to be landed in the coming 12 months to avoid delaying progress towards our climate goals.</p>	<p>The Board recommends the following are priorities for <u>the Government</u> to progress:</p> <ul style="list-style-type: none"> • Laying legislative foundations for adaptation to the impacts of climate change, including managed retreat • Completing the review of ETS settings • Clarity on the approach to agricultural emissions pricing • Changes to the resource management system to better prepare for adaptation and risks from natural hazards, and to support the delivery of renewable energy projects • Deliver water services in a sustainable and resilient manner • Review of the emergency management system • Landing a strategy for equitable transition to the effects of climate change • Enhancing resilience of critical infrastructure. <p><u>The Board</u> will seek to ensure contributing work programmes retain their focus on building climate resilience and reducing emissions.</p>
<p>5. Resourcing pressures and delivery challenges across the climate change system, including continued low spending rates across the Climate Emergency Response Funding (CERF).</p>	<p><u>The Board</u> will commission advice (to be delivered in October 2023) from relevant agencies on their plans to get critical actions back on track where there are reported delays including where the Board can unlock opportunities to make progress.</p> <p><u>The Board</u> will continue to track progress of CERF actuals against projected spend.²</p> <p>Post- election there is a need <u>for agencies</u> to:</p>

² As well as the impact from the rapid savings exercise undertaken in July 2023, with further analysis to come on the possible abatement impact.

Risks	Recommended responses
	<ul style="list-style-type: none"> • plan and coordinate public engagements/consultations, with potential reprioritisation to reduce pressure on agencies and sector partners • continue developing understanding of interdependencies, connections, and the impact of delays.

Opportunity	Recommended responses
<p>1. Supporting the public to take action to adapt to and mitigate the effects of climate change.</p>	<p><u>The Board</u> is commissioning advice (from existing research and surveys) to better understand public views and attitudes towards climate change. This could lead to further work to develop frameworks to better understand how policies can be more effectively implemented or better support behavioural change. There is also work underway to make data more available so New Zealanders can take action to adapt to climate change and mitigate its effects.</p>
<p>2. Leveraging the increasing intersection of trade and climate policy in international trade and economic cooperation.</p>	<p><u>MFAT to present to the Board</u> on the opportunities and possible implications for domestic action of New Zealand's recently signed FTAs and seek the Board's strategic direction on New Zealand's domestic priorities to inform future agreements.</p>
<p>3. Further analysis on including non-forest land uses in New Zealand's NDC accounting.</p>	<p><u>MfE, MPI and Treasury, in consultation with DOC</u> to bring a paper to Cabinet with options to expand our NDC accounting to include non-forest land uses to drive greater emissions reductions, biodiversity and adaptation benefits.</p>

2 Purpose

Oversight of the Government's response to address climate change is critical to ensure we remain on track

The purpose of this six-monthly report (the Report) is to outline progress against delivery of New Zealand's NAP1 and ERP1 over the period 1 January – 30 June 2023.

This is the second six-monthly report produced by the Board. As the formal remit of the Board was extended in April 2023 to include adaptation, we have changed the reporting format to integrate reporting on NAP1 for the first time.

This report builds on the Board's first report (covering the period July 2022 – December 2022) and includes improvements to both process and format, based on feedback from agencies and an independent confidence assessment of monitoring data.

For the first time, the Report includes an initial consideration of significant biodiversity impacts, recognising the joint nature of the biodiversity and climate crises. Two of the chapter outlooks have provided a high-level narrative of the impacts of the climate actions on biodiversity (see Appendix B). These were developed with support from the Department of Conservation. A more sophisticated reporting framework on the impacts of climate action on biodiversity will be incrementally introduced to provide continuous improvement across subsequent six-monthly reports.

We begin the report with a discussion of the major impact the changing operating context has had on agencies' ability to implement NAP1 and ERP1 and follow with analysis of the progress made towards both achieving the emissions budgets and delivering actions in NAP1 and ERP1.

We look at the critical actions and comment on the challenges agencies are experiencing, followed by a snapshot of some of the programme level successes and challenges over this implementation period.

The Report concludes with a discussion on the system-level risks that need to be addressed as a priority, and the strategic opportunities that could be leveraged to support climate mitigation and adaptation.

The appendices provide further data, insights, and methodology/assessment information, and are organised as follows:

- Appendix A** NAP priority focus areas: an overview of outcomes and challenges for the four adaptation priorities
- Appendix B** ERP Chapter outlooks: a summary of actions, successes, and challenges for each chapter in the ERP
- Appendix C** Critical actions and their RAG status for NAP1 and ERP1
- Appendix D** RAG and status guidelines
- Appendix E** Discontinued actions, including reasons for the discontinuation
- Appendix F** Critical actions that are not on track and why.

3 Context

Over the last six months of ERP1 and NAP1 delivery, the international and domestic context for mitigation and adaptation actions has changed significantly. This has challenged delivery in places and influenced our understanding of climate change adaptation, mitigation, and how they are linked.

The severe weather events in early 2023 have highlighted the need to consider the sufficiency of our climate adaptation response, and how to better integrate climate adaptation and mitigation into decision making

The first two months into this six-month implementation period began with several closely timed severe weather events, which had catastrophic effects on many homes, businesses, and communities across six regions. Cyclone Gabrielle and the flooding in Auckland resulted in 15 deaths and an estimated \$9 - \$14.5 billion in physical asset damage to households, businesses, and infrastructure across six regions³. Reflecting on impacted communities, vulnerable people, and Māori, agencies are considering whether Government actions are sufficient *and* moving fast enough to respond to increasing climate related events, how well our plans are integrated, and how to support the public to mitigate and adapt to climate change.

Urgency is building for a more rapid transition

The sense for more urgency is supported by the global scientific community. In May 2023, the World Meteorological Organisation reported there is a 66% likelihood of global warming breaching the Paris Agreement's 2050 target of limiting warming to 1.5 degrees Celsius between now and 2027. The IPCC warn that: ***“every increment of warming will come with more extreme weather events”***. The changing evidence on how much sooner impacts of climate change will be felt has seen an increase in domestic and global climate action, including through litigation, to drive faster action from governments and industry.

Severe weather recovery efforts have been rightly prioritised, but are leading to delays in implementing actions

Agencies have diverted resources (funding, staff, and expertise) to support the recovery, and this is likely to continue over the next six-month implementation period. This means agencies are currently working at capacity to deliver their actions, and in some cases, actions have been slowed down, deferred, or disestablished.

Managing distributional impacts continues to influence our climate response

The Government is continuing to prioritise the rising cost of living and inflationary pressures, and this means some abatement actions in ERP1 have not been pursued. Most notably the Sustainable Biofuels Obligation (SBO) was ended in early 2023, and fuel excise and road user charge reductions were extended until 30 June 2023. Without the SBO there are challenges in meeting our EB1, EB2, and EB3 budgets.

New Zealand's international economic and trade environment is evolving

New Zealand recently signed free trade agreements (FTAs) with the UK and the EU that include ambitious climate provisions. In addition, New Zealand is leading the negotiation of a first-of-its-kind agreement, alongside other small trade-dependent countries, to use trade obligations to help address climate change. Leveraging our FTAs also offer opportunities to enhance our domestic emissions reductions efforts.

And we are seeing climate considerations being embedded in the system

After one year of delivery, there are early signs that the public sector's delivery approach is maturing, and climate considerations are starting to be embedded in the system. Through the Board's role and interagency collaboration, we are gaining better visibility of risks, opportunities, and priorities across the climate system, and this is informing our ability to provide clear advice to Ministers on progress towards our emissions budgets and adaptation goals.

³ [Budget Economic and Fiscal Update 2023 \(treasury.govt.nz\)](https://www.treasury.govt.nz/budget/2023)

4 Tracking progress towards our climate goals: emissions budgets

We estimate we have used 24% of EB1 in the first of four years...

Based on our best estimate, New Zealand's net emissions were 69.8 Mt of CO₂e in 2022⁴. This accounts for around 24% of New Zealand's first emissions budget EB1 (290Mt) with around 76% of the budget available for the remaining three years. However, these estimates are sensitive to uncertainties in underlying data. For example, emissions may have been affected by favourable hydro lake conditions and a decline in economic activity in the 3rd quarter of 2022.

...and projections indicate we will land within EB1 by a small margin, due to changes in emissions measurement

Projections from May 2023⁵ in Figure 1 (overleaf) show emissions landing within the EB1 limit of 290Mt, with a 'buffer' of 4.4Mt. The projections estimate 10Mt of abatement in EB1 will be achieved through the effects of policies in ERP1, instead of the 11.5Mt envisaged at the time ERP1 was agreed. However, this impact has been offset by the effect of changes to the measurement of emissions, which are lower than previously measured.

There are risks from relying on methodological changes to meet EB1⁶, including that future methodological changes could have the opposite effect and make it harder to achieve the budget. There are also uncertainties inherent in these projections due to the range of assumptions that need to be made about factors such as ETS prices and the economic cycle.

We have smaller 'buffers' for future budgets due to changes in assumptions about how effective our policies are

The May 2023 projections also found that the previously projected 'buffer' for achieving the second and third emissions budget have significantly reduced, due to changes in assumptions about the effectiveness of policies to reduce emissions. It should also be noted here that the sensitivity to uncertainties increase the further out a projection is being made.

For EB1, the projections show transport, energy and f-gas sectors are expected to exceed their abatement targets, as is agriculture due to methodological changes. For EB2 energy, forestry and fluorinated gases are expected to meet abatement targets as is agriculture, but transport and waste are not expected to meet abatement targets. In EB3, energy, forestry, agriculture, and fluorinated gases are expected to meet their abatement targets, but transport and waste are not.

⁴ There is no published net emissions data for 2023. Estimates for 2022 are based on Stats NZ and Ministry for Environment data.

⁵ The May projections have not been updated for this report. The short time period since they were produced means updates are unlikely to be significant and there is limited new information to include.

⁶ The Climate Change Commission will provide advice on how to respond to methodological changes, in its first annual progress report monitoring and reporting on progress towards meeting emissions budgets, emissions reduction plans and the 2050 target, due mid-2024.

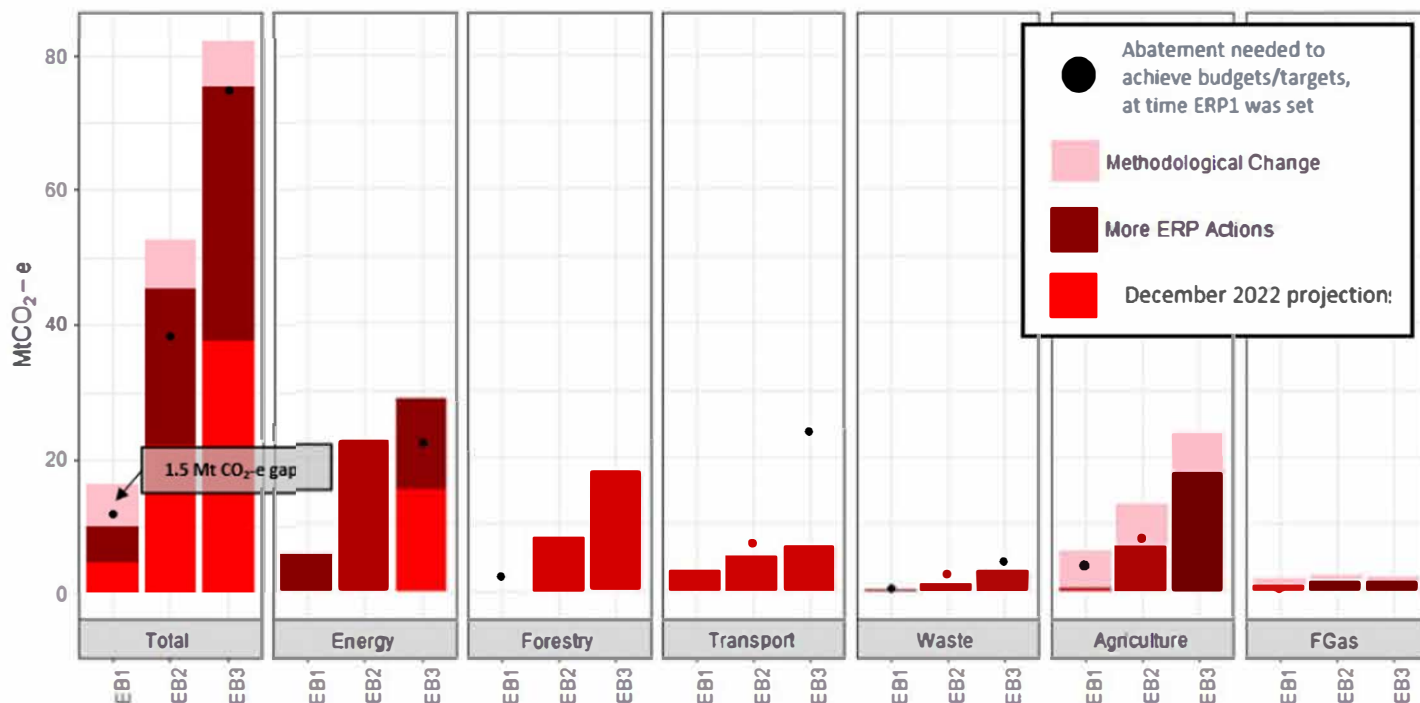


Figure 1: Summary of EB1, EB2 and EB3 abatement projections (May 2023⁷). This includes December 2022 abatement projections in red, additional abatement estimates for more ERP actions in brown, and methodological changes in pink. The circles show the level of abatement needed to achieve an emissions budget or sectoral sub-targets.

Achieving future emissions budgets will be challenging as they require changing long-standing emissions trends

Figure 2 (overleaf) shows New Zealand's biogenic methane emissions (orange) up until 2021 along with other emissions (yellow), which mostly consisted of carbon dioxide. New Zealand's biogenic methane emissions have dropped 6.5% from a high of 38.8 in 2005 to 36.3 Mt CO₂-e in 2021. Net emissions peaked in 2007 and have fluctuated since. ERP1 and New Zealand's emissions budgets are designed to accelerate decarbonisation and bring down net GHG emissions (see the dark blue lines representing emissions budgets EB1, EB2 and EB3).

Figure 2 also shows how we need to accelerate decarbonisation of the economy, and enhance climate ambition across government, business, and society, if we are to live within the emissions budgets and meet Climate Change Response Act (CCRA) targets, including biogenic methane targets and zero net accounting emissions (other than biogenic methane) by 2050.

⁷ Abatement projections are sensitive to ETS settings and related assumptions. These assumptions will be updated in the next sufficiency analysis (in February 2024). Decisions on ETS settings decisions were made in July 2023 (so outside of the January to June reporting period for this report). This included Cabinet re-making its decision on ETS price settings that will impact years that fall within the EB1 period. While it is challenging to quantify the abatement impact that the re-making of that decision will have on EB1, it is more likely to have a positive (rather than negative) impact towards achieving the emissions budgets. This is due to the decision now providing for a wider ETS price corridor and reduced auction supply, that if anything, will better support the draw down of the ETS NZU stockpile over time.

Aotearoa New Zealand's long term emissions, budgets and targets

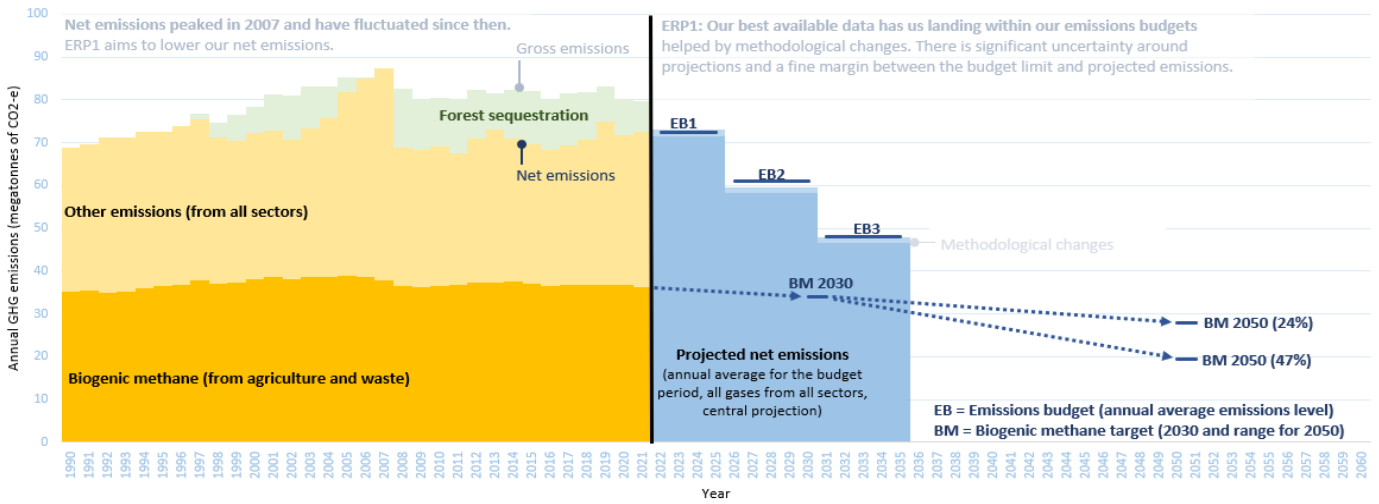


Figure 2: New Zealand's long-term emissions, budgets, and targets.

An earlier version of Appendix 2 was uploaded with a draft Figure 2 graph. This had a double counting error for years where forestry contributed to greenhouse emissions rather than removing emissions from the atmosphere. Appendix 2 has now been updated with the correct graph.

There are signs our emissions intensity is dropping but decarbonisation of the economy needs to accelerate

Stats NZ's most recent gross emissions data compared with GDP⁸ indicates absolute decoupling, which means emissions are dropping while the economy grows (Figure 3). Further decoupling and decarbonisation of Aotearoa New Zealand's economy depends on accelerating reductions in the emissions intensity of production. This includes the replacement of emissions intensive technologies, for example, under the GIDI fund, or as zero emissions technologies become available.

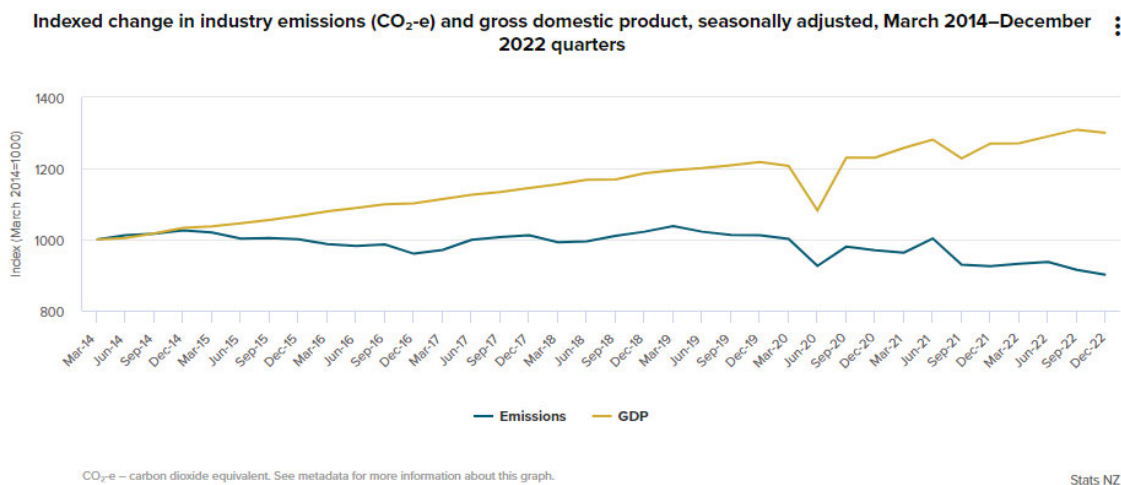


Figure 3: Indexed change in industry emissions and gross domestic product. Source: Stats NZ.

Sectoral emissions measurements are not yet available for the reporting period, nor for 2022

To get a sense of sectoral progress to date, indicators have been compiled in Figure 4⁹ (overleaf). These indicators attempt to fill a gap in timely sectoral emissions data. When timely sectoral data become available these sectoral

⁸ [Greenhouse gas emissions \(industry and household\): December 2022 quarter | Stats NZ](#)

⁹ The dashboard was developed because we currently lack timely GHG emissions data to assess progress in relation to sectoral sub-targets. Work is underway to have domestic reporting of timely emissions data that is directly comparable to sectoral emissions targets while also allowing monitoring of biogenic methane and other GHG emissions. When these data become available, the role of the dashboard will be revisited.

emissions will be reported, allowing direct assessments of sectoral progress in relation to sub-targets rather than relying on indicators.

The dashboard of indicators in Figure 4 shows:

Economy wide coal consumption and **renewables share of electricity generation** data suggest energy and heavy industry sectors are experiencing a shift towards lower emissions, reduced reliance on coal, and an increasing share of renewables in electricity generation. It should be noted that recent numbers were helped by favourable hydro lake conditions.

The significant increase in **new zero emission vehicle (ZEV) registrations for light vehicles** is positive, however uptake rates will need to lift considerably over the remainder of the decade given over 98% of the overall fleet is composed of internal combustion engine vehicles that use fossil fuels. We have 12 years to move from 1% to 35% of the light fleet being zero emission vehicles. Even at today's higher ZEV sales rates (shifting about 1% of the fleet every two years), achieving that goal would take about 60 years.

For **fluorinated gases** and bulk hydrofluorocarbon gases (HFC) imports, it is difficult to determine the emissions impact given the fluctuations in the data.

Milk production emissions intensity data suggests the emissions intensity of milk production is gradually dropping.

Although the overall volume of **waste disposal to landfills** has increased over time due to growth in population and economic activity since 1990, we have observed a gradual decrease of emissions since 2002. This decline is largely due to increasing landfill gas capture (driven by national environmental standards for air quality and the emissions trading system) and changes in the composition of waste (with a reduction in the proportion of garden, food, and paper waste).

Meanwhile, **forests** have far higher levels of afforestation than deforestation in the year ending December 2022.

Emissions indicator dashboard

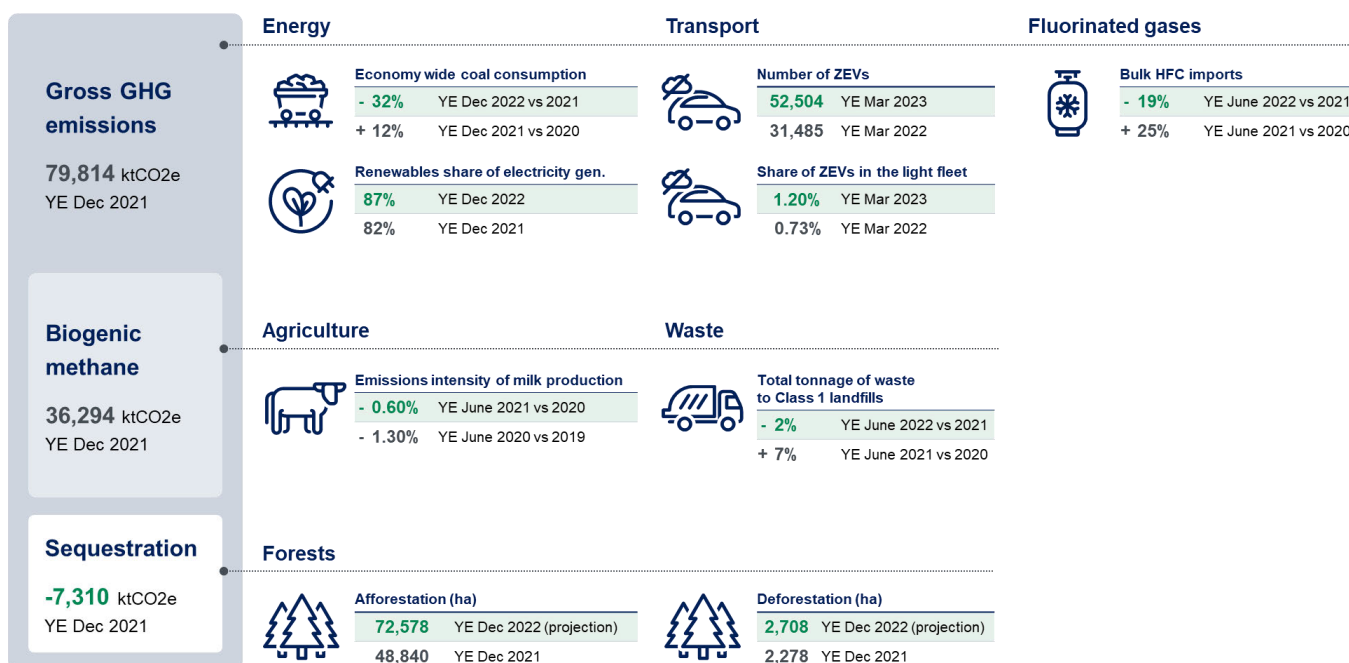


Figure 4: Dashboard of sectoral emissions related indicators.

5 Progress across actions in NAP1 and ERP1

This section of the report summarises progress at the action level across both NAP1 and ERP1. It sets out a summary across all actions in the plans and then discusses progress on the critical actions in them.

Overall progress across NAP1 actions

The dashboard (Figure 5 overleaf) summarises progress across the 127 actions in NAP1. Agencies reported on progress using RAG (red, amber, green, and discontinued) assessment, which we describe in Appendix D.

Three actions are red signalling major risks or issues, **30 actions are amber** indicating some risks or issues for delivery, **92 actions are green** and on track to meet planned delivery, and **three actions are discontinued**.

The large proportion of green actions is partly explained by lengthy delivery timeframes. 63% of active NAP1 actions reporting green have delivery timelines that extend beyond 2025. Adaptation actions have long lead in times built in to enable responsiveness as new information and understanding arises during the course of NAP1, while also ensuring the groundwork for NAP2 is being undertaken.

NAP1 is still in the early stages of implementation, with many actions at initial stage. This is also the first-time reporting on the NAP and agencies are developing their reporting maturity.

Overall progress across ERP1 actions

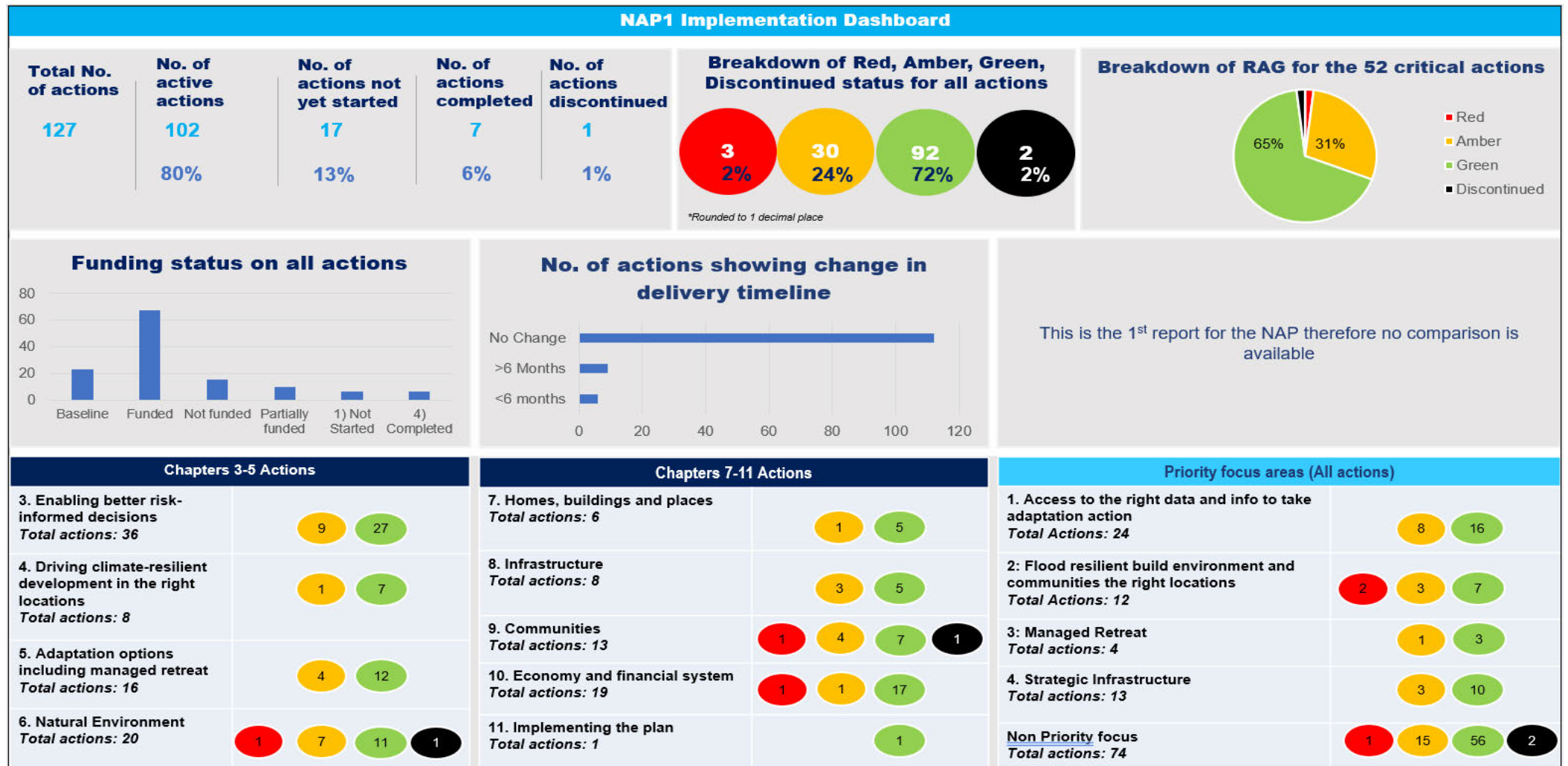
The dashboard (Figure 6) summarises progress across the 301 actions in ERP1. Like with the NAP1 reporting, agencies used RAG reporting as described in Appendix D. Of the 301 actions, **12 actions are red** (4%) signalling major risks or issues, **68 actions are amber** (23%) indicating some risks or issues for delivery, and **204 actions are green** (68%) and on track to meet planned delivery. The remaining **17 actions were discontinued** (6%).

Six of the 12 red actions are in the transport sector, signalling challenges ahead in meeting transport emissions reduction targets in the long term. Another **four red actions are in the equitable transitions chapter**, although we note that as development of the equitable transitions strategy has slowed down, it provides an opportunity to incorporate adaptation.

Compared with the previous six-monthly report covering the period July - December 2022, actions classified as **red are up by 11**, **amber are up by four**, **green are down by 17** actions, and **discontinued actions are up by two**. However, the RAG reporting methodology has been altered over this period so that it has a longer-term horizon, so this is not a perfect comparison.

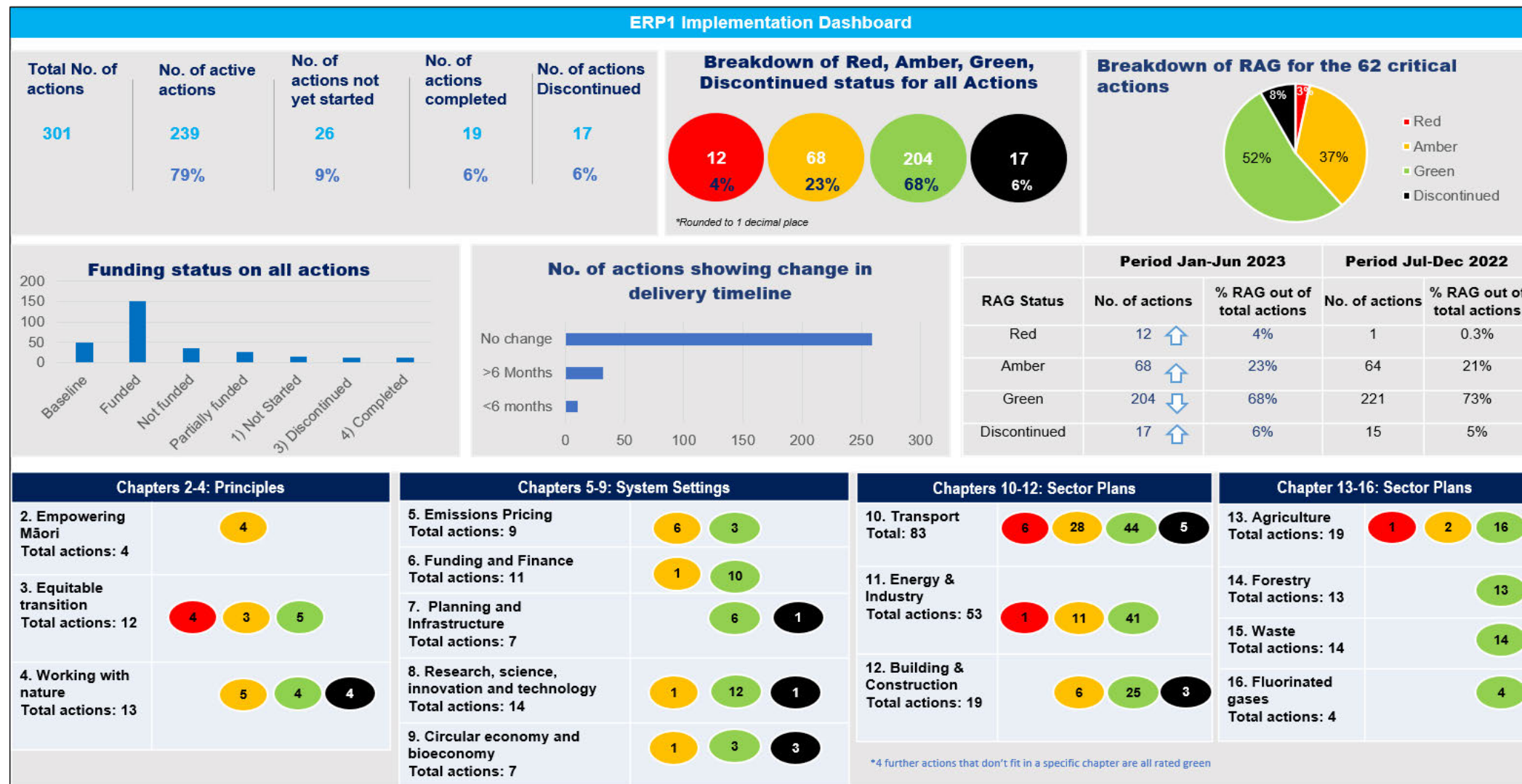
Overall progress across NAP1 actions

Figure 5: Summary of progress on NAP1 actions.



Overall progress across ERP1 actions

Figure 6: Summary of progress on ERP1 actions.



6 Progress across the critical actions

Critical actions are actions identified to be the most material for the delivery of both the NAP1 and ERP1, either for delivering substantial abatement, responding to risks, or setting up the conditions and foundations for future abatement and resilience. These actions were agreed upon by agencies and the Board.

Of the 52 NAP1 critical actions 35% are either amber, red, or have been discontinued

- One action has a red RAG status due to uncertainty in resourcing,
- 16 actions have an amber RAG status,
- 34 actions are green,
- One action is discontinued as it is unfunded.

Amber actions are due to reasons such as resource and capacity constraints (staffing, expertise), funding issues, changes in agency ownership of work, reprioritisation of resources (including pause of a work programme due to the cyclone recovery), and a delay to the introduction of legislation.

Of the 62 ERP1 critical actions 48% are either amber, red, or have been discontinued

- Two actions have a red RAG status,
- 23 actions are amber,
- 32 actions are green,
- Five actions are discontinued.

Of the five discontinued critical actions, three are transport actions that the government has halted: Sustainable Biofuels Obligation, Clean Car Upgrade and Social Leasing Scheme. The fourth is the Climate Innovation Platforms, which is unfunded.

One of the two actions that have a red RAG status is: *'10.1.2 – set sub-national VKT reduction targets for Aotearoa New Zealand's major urban areas by the end of 2022'* – the original ERP timeframe has not been met, initially due to resourcing constraints. Recent delays have occurred relating to Ministerial feedback and consultation. The other red critical action *'13.1.1 – an emissions pricing mechanism is developed, and agricultural emissions are priced by 1 January 2025'* will not meet its original timeline as key decisions have not been made within expected timeframes however, work is ongoing.¹⁰

The main themes of the amber critical actions are resourcing constraints, awaiting Cabinet and government decisions, dependencies on other delayed work, and changes in scope.

Comparison to previous reporting period

The number of critical actions that have a red, amber, or discontinued RAG status has increased to 30 since the last six-monthly progress report on the ERP1, when one critical action had a red RAG status and 16 were amber. However, the RAG status between reports is not directly comparable as guidance in making RAG assessments has been improved and updated (see Appendix D).

As at 30 June 2023, there are three critical actions delayed by up to six months and seven critical actions delayed by more than six months. In the previous report, five critical actions were delayed by up to six months, and six critical actions were delayed by more than six months. Following the previous report, the Board asked agencies to provide robust

¹⁰ Subsequent to this reporting period, Cabinet decided on 14 August 2023 to implement a farm level levy to price agricultural emissions from Q4 2025 and legislation will be introduced in 2024 to progress this.

delivery plans to address the identified delays, and the majority of these actions are now reporting as back on track (green status).

Capacity to deliver on initiatives continues to be a challenge.

Over the 2022/23 year there has been a slow start to Climate Emergency Response Funding (CERF) spending. This is telling as it is a key indicator of agencies' capacity for delivery. Agencies have lowered their forecast spend for each quarter and have consistently not met projected end of quarter spend. At the end of Q3 in March, agencies had spent a total of \$111 million against the CERF initiatives for the 2022/23 year. On average, this is 32.7% of the full-year baseline (unweighted initiative average). Actual spending in Q3 also fell short of agency forecasts submitted at the end of Q2, with an initiative average of 54% being spent of what was forecast for the quarter. The next set of CERF monitoring and reporting results for the end of the 2022/23 year will be collected at the end of August, and an update will be provided to the Board and Ministers.¹¹

Delays to highly interconnected strategies may have knock on effects to critical actions

The Board's first six monthly report identified 9(2)(g)(i) [redacted] The Climate IEB Unit worked on this with relevant agencies to better understand and communicate the key interdependencies across the ERP1 and NAP1 by identifying which strategies are highly linked.

The Climate IEB Unit identified that of all the plans and strategies in the ERP, the following had the highest number of identified linkages and appear central to the success of other plans and strategies: Equitable Transition Strategy, Energy Strategy, EV Charging Infrastructure Strategy, Freight and Supply Chain Strategy, Circular & Bioeconomy Strategy.

RAG reporting in ERP1 has found the following delays, which could have implications across the programme

9(2)(f)(iv) [redacted]
9(2)(g)(i) [redacted]
[redacted]
[redacted]

The National EV-charging infrastructure strategy has been delayed by over six months, and the Ministry of Transport are awaiting direction on timing of the publication of the strategy. Further delays could negatively impact the Transport sector targets and other transport and infrastructure actions in ERP1.

The nature of these highly interconnected actions suggests the need for ongoing coordination and connection between agencies to ensure delays do not negatively impact interlinked actions.

¹¹ Subsequent to the reporting period a rapid savings exercise was undertaken in July. This resulted in some savings being made across CERF. Further analysis will be provided to the Board on the possible abatement impact from the exercise through the next sufficiency exercise which will inform the next six-monthly report.

7 Risks across NAP1 and ERP1

Some challenges in the period January – June 2023 are a continuation from the first six months of implementation and others are new. Challenges over this reporting period include:

- Severe weather events experienced across New Zealand, requiring immediate and comprehensive responses, and diverting staff and funding from agencies
- Reliance on the progression of broader government programmes that need to be advanced, which is creating delays or uncertainties for other climate action
- 9(2)(g)(i) [REDACTED]
- Ongoing resourcing challenges for agencies (e.g., funding, staff, expertise – including cultural expertise), which is delaying implementation of some actions
- Ongoing supply chain constraints affecting the availability of decarbonisation kit and that may lead to lower than anticipated abatement from programmes such as the GIDI.
- Few options on the table to replace the emissions abatement that would have resulted from the Sustainable Biofuels Obligation, putting pressure on already challenging transport subsector abatement targets for EB2 and EB3
- Global events continue to have an impact on implementation of ERP1 and NAP1, including the ongoing Ukraine war squeezing supply chains, global inflationary pressures, and increasing scrutiny on climate change policies leading to public demand for more urgent action, including legal challenges.

Looking forward there are a range of risks across NAP1 and ERP1. These are identified and described, and responses are recommended in Table 2 below.

Strategic opportunities are addressed separately in the next section.

Table 2: Risks and opportunities in the ERP1 and NAP1 and the Board’s recommendations

Risk	Description	Recommended Responses
<p>1. Data limitations continue to make it challenging to assess whether we are meeting our emissions budgets.</p> <p>There are no measures to assess the sufficiency of our adaptation response to build climate resilience.</p>	<p>Timely data on emissions is limited. Meanwhile projected emissions and abatement estimates for EB1, EB2 and EB3 are very sensitive to uncertainty. This sensitivity means there is a risk of failing to meet EB1 if estimates and projections prove optimistic, even by a small percentage. The lag in actual data means this would only be realised after the fact and would place pressure on realising additional abatement for EB2 and EB3.</p> <p>Current projections already indicate there is a high chance that some sectors (e.g., transport) will fall short of meeting their abatement target for EB2 and EB3.</p> <p>There are no measures to assess progress towards adaptation outcomes, or levels of resilience. This means that we do not know whether the response is ‘sufficient’ to address the challenges, or the level of resilience we are expecting to build towards.¹²</p>	<p><u>Ongoing work by the agencies:</u></p> <ul style="list-style-type: none"> • Coordination on emissions measurement, reporting, and how to reduce data lag times, including the possibility of releasing provisional emissions estimates • Improved timeliness of abatement projections, feeding into the Board’s six-monthly reporting cycle (full sufficiency analyses feeding into February reports, followed by a mid-year update feeding into the August reports) • The development of ERP2 provides an opportunity to consider building buffers into the plan, for example some ‘overachievement’ of the emissions budget. This would provide options to manage the risk that some actions do not provide the originally expected emissions abatement. <p><u>Recommendation(s):</u></p> <p>To ensure CRMG can effectively monitor mitigation and adaptation outcomes, acknowledging limitations around data availability, the Board will:</p> <ul style="list-style-type: none"> • Commission analysis to develop a potential set of adaptation indicators to start to assess the ‘sufficiency’ of New Zealand’s adaptation response and consider including these in the next six-monthly report. Noting that this work will be iterative and will be informed by; the ongoing enhancing Critical National Infrastructure Resilience Work Programme examining what is meant by resilience for infrastructure, and ongoing work being undertaken by the Climate Change Commission. • Request timelier GHG emissions data for inclusion in the next six-monthly report and as part of a regular reporting system. These measurements should include data at the emissions budget level and sectoral sub-target level and include measurements for the reporting period.

¹² It is widely acknowledged that there are significant challenges with measuring progress of the implementation of national adaptation policies which as yet very few countries have addressed successfully. [The Annual Climate Action Monitor \(oecd.org\)](https://www.oecd.org/annual-climate-action-monitor/)

Risk	Description	Recommended Responses
<p>2. We may not be responding fast enough to adapt to increasing climate related events, and our approach to recovering from extreme weather is not well aligned with long term strategies to build resilience.</p>	<p>Adapting to the effects of climate change has historically been slow to gain momentum and we are still at an early stage of implementing the NAP1. The context of the NAP1 and ERP1 work programmes has changed significantly over the last six months, bringing a heightened sense of urgency for climate change action. There is a sense among agencies and the scientific community that impacts are arriving earlier than expected and our actions may not be delivering fast enough.</p> <p>The recent extreme weather events have highlighted that the implementation of NAP1 is not at a point to support recovery efforts; a long-term adaptation framework is not yet in place, and there is a need to look at the institutional arrangements governing adaptation more generally.</p> <p>As a result, decisions are being made at pace with a short-term view, without policy settings that ensure decisions to support long-term resilience-building. These decisions may not be well aligned with long term adaptation strategies or are potentially maladaptive. Furthermore, they have potential to set real or perceived precedents on matters such as future Crown funding and when/where to rebuild. There are opportunities to consider how the approach to recovery works with nature to build back better in a way that provides long-term resilience, including natural flood management.</p> <p>The impacts of climate-related weather events will increase in frequency and compound in severity. Current settings do not allow the system to focus on recovery and resilience building at the same time, and we can foresee the need to scale our adaptation response. There is the need to do more proactive work now to grow the system's adaptive capacity to absorb the response to these events.</p>	<p><u>Ongoing work to respond includes:</u></p> <p>The upcoming select committee inquiry to inform the Climate Change Adaptation Bill will be supported by an issues paper. This will address some of the contentious issues around the long-term adaptation framework including government's ongoing role in funding adaptation, and the trade-offs around adaptation actions.</p> <p>The Minister for Emergency Management has announced a comprehensive inquiry into the response to the North Island Severe Weather Events, which aims to assess the actions taken and the design of the Emergency Management system, and to incorporate lessons into future emergency management.</p> <p><u>Recommendation(s):</u></p> <p>The Board will commission advice to identify the most material actions for achieving the outcomes in NAP1. This will include assessing whether these actions can be delivered, are adequately resourced, making sufficient progress, and are timely enough, in light of the more rapid changes in the climate and the subsequent increased pressure for adaptation action.</p> <p>In the longer-term, and following delivery of the select committee inquiries into community-led retreat and adaptation funding, and the Inquiry into response to the North Island severe weather events (which is due no later than 26 March 2024) the Board will be in a more informed position to recommend the next steps required to build long term resilience, and to support their wider role in overseeing the climate change response.</p>

Risk	Description	Recommended Responses
<p>3. There is limited visibility of how Te Tiriti principles are being applied across the climate policy response.</p>	<p>Insights from cross-agency hui and the Climate Change Commission's consultation with Māori collectives indicate that there is inconsistency in how agencies are upholding the principles of Te Tiriti o Waitangi and undertaking their Māori rights and interests analysis.</p> <p>The existing process for engaging with Māori is not coordinated across agencies, and insights are not routinely shared across work programmes or between agencies.</p> <p>The Climate Change Commission reiterated in its 2021 advice that Treaty partners have limited capacity and are being saturated with requests for engagement that are often last minute, repetitive, transactional, and not aligned with their current priorities. This puts pressure on Treaty partners and can negatively impact Crown-Māori relationships.</p>	<p><u>Ongoing work to respond includes:</u></p> <p>The interagency Climate DCE group will support better coordination of upcoming engagements with Māori, and quality of analysis. Quarterly updates from agencies have been requested on planned upcoming engagements with Māori, insights from engagements and rights and interests analysis. These insights will increase cross-agency understanding of good practice and where pressures exist across the system.</p> <p>There is an opportunity to consistently uphold Te Tiriti in the design of ERP2. One of the aims of ERP2 is that it will be informed by creating and sustaining enduring relationships with Treaty Partners. A reference group of Māori representatives (Māori reference group) will be established to inform on-going decisions about key policy decisions, vision, and pathways.</p> <p><u>Recommendation(s):</u></p> <p>The Board will commission agencies to include analysis of how Te Tiriti principles are being applied in their ERP and NAP actions, as well as providing an overall picture in their chapter summary/priority focus area, for the next six-monthly report.</p>

Risk	Description	Recommended Responses
<p>4. Many foundational climate policies need to be landed in the upcoming 12 months, to inform multiple work programmes and shape the direction of climate policy.</p>	<p>The government will need to take a number of significant decisions in the next 12 months around foundational climate policies in order to avoid delaying progress towards our climate goals.</p> <p>Some of the work towards these objectives is progressing slower than anticipated or may not achieve their original outcomes for supporting climate goals (e.g., water services reform).</p>	<p>The Board recommends <u>the following are priorities</u> for the Government to progress in the coming 12 months:</p> <ul style="list-style-type: none"> • Laying legislative foundations for adaptation to the impacts of climate change, including managed retreat • Completing the review of ETS settings • Clarity on the approach to agricultural emissions pricing • Changes to the resource management system to better prepare for adaptation and risks from natural hazards, and support the delivery of renewable energy projects • Deliver water services in a sustainable and resilient manner • Review of the emergency management system • Landing a strategy for equitable transition to the effects of climate change • Enhancing the resilience of critical infrastructure. <p>The Board will seek to ensure contributing work programmes retain their focus on objectives for building climate resilience and reducing emissions, and advise Ministers if climate outcomes are being downgraded or traded off in a way that risks them being ineffective.</p>

Risk	Description	Recommended Responses
<p>5. Resourcing pressures and delivery challenges across the climate change system</p>	<p><i>Capacity pressure was identified as a risk in the previous report and remains across the system.</i></p> <p>35% of NAP1, and 48% of ERP1 critical actions are reported as either amber, red, or discontinued.</p> <p>Delivery challenges include:</p> <ul style="list-style-type: none"> • The size and scale of climate related work programmes increasingly moving from the initial start-up to the delivery stage • Access to skilled labour and supply chain constraints impacting the availability of resources • Ongoing development of key strategies (such as the Equitable Transitions Strategy) requiring high levels of engagement from across government. Once finalised, strategies will require action from agencies to implement, on top of existing climate related work programmes • Cyclone recovery programmes absorbing resource from other climate related work programmes • Upcoming bottlenecks, particularly in the post-election period, and in mid-2024, with a high number of Cabinet papers and public engagement/consultations planned • Work beginning on the development of ERP2 while ERP1 actions require delivery focus (often from the same agency employees). 	<p>The Board continues to recommend a tight focus on prioritisation of the most important actions for climate change goals as advised in our last report.</p> <p>The Board has asked agencies leading critical actions with delays to ensure they have robust delivery plans in place. Actions that identified delays of over six months in the previous report are now largely on track, indicating that the delivery plans agencies put in place following delivery of the report were mostly successful.</p> <p>The Board will:</p> <ul style="list-style-type: none"> • Commission advice (to be delivered in October 2023 in the interim of six-monthly reporting periods) from relevant agencies on their plans to get critical actions back on track where there are reported delays. This will include asking agencies to identify points where the Board can help to unlock opportunities to make progress. • Continue to track progress of CERF actuals against projected spend as a key indicator of agency capacity for delivery. <p>Post-election there is a need for agencies to:</p> <ul style="list-style-type: none"> • Plan and coordinate the large number of public engagements/consultations on strategies and plans, with potentially reprioritisation to reduce pressure on agencies and sector partners. • Continue to develop understanding of interdependencies between actions, so the right connections are made and the impact of delays on other actions is better understood.

8 Strategic Opportunities for the NAP1 and ERP1

Table 3 provides a selection of cross-cutting opportunities that have arisen in the past six months to advance delivery across NAP1 and ERP1. These strategic opportunities help ensure we will remain on track for successive emissions budgets and seek to: maintain a variety of plausible pathways going forward, identify opportunities to scale up effective initiatives from NAP1 and ERP1, and prepare for likely more challenging EB2 and EB3 periods. The opportunities presented in this section are actions that can be progressed now to enhance delivery of NAP1 and ERP1 for this and successive emissions budgets.

It should be noted upfront that **ERP2 presents our most significant upcoming opportunity to consider how we improve New Zealand's climate response**, including progressing options to achieve greater abatement.

Table 3: Opportunities in the NAP1 and ERP1 and recommended response

Opportunity	Description/Impact	Recommended response	Timeline for benefits
1. Better understanding public views on climate change and how policy can support behavioural changes to adapt and reduce emissions	To achieve the scale of change necessary to deliver New Zealand's climate goals, it is essential that the public (and individuals) understand and support the direction of change, that policy is informed by the views of the public and considers how to enable people to take practical and positive steps in response. There is some existing public sentiment analysis of how New Zealanders perceive and relate to climate change.	The Board will review the existing analysis of public attitudes, research and surveys on climate change to inform the development of more effective policies and communications. Opportunity to develop tools and frameworks to use as a part of the policy-making process, informing decision making and testing what characteristics make certain policies more successful than others when it comes to enabling behavioural change or selecting emissions reducing or climate-resilient options. The Board will also look at existing policy frameworks that help consider how to support behavioural change by people, whānau and firms, and whether general guidance to agencies would support better policy analysis in the future.	2024 onwards
2. Leveraging the increasing	Increasingly, international trade and investment agreements, economic cooperation, and development finance are being used	MFAT will present to the Board the opportunities and possible implications for domestic action of New Zealand's recently	EB1 and onwards

Opportunity	Description/Impact	Recommended response	Timeline for benefits
<p>intersection of trade and climate policy in international trade and economic cooperation</p>	<p>to drive the global transition to low emissions and resilient economies. Most recently, New Zealand has signed free trade agreements that include ambitious climate provisions with the EU and the UK. In particular, the NZ-EU FTA includes binding legal obligations that require New Zealand and the EU to “effectively implement” the Paris Agreement. 9(2)(h)</p> <p>_____</p> <p>_____</p> <p>_____ New Zealand is also pursuing climate change objectives through economic forums like APEC, the Agreement on Climate Change, Trade and Sustainability (ACCTS), and negotiations on the Indo Pacific Economic Framework (IPEF).</p> <p>New Zealand can leverage these trade agreements to support domestic climate action. Specifically, they can: provide New Zealand better (and potentially cheaper) access to low and zero emissions technologies, attract investment in innovation and key infrastructure, ensure that climate and trade policy are mutually supportive, and can open avenues for cooperation with other countries on policy and best practices.</p>	<p>signed FTAs, and seek the Board’s strategic direction on New Zealand’s negotiation priorities for future international trade and economic cooperation agreements (e.g., IPEF) to enhance New Zealand’s domestic climate response. This may include priorities for: attracting international investment, cooperation on innovation, sharing best practice in achieving increased emissions efficiencies (for example in land use), development of new climate solutions for hard-to-address areas, opening new channels for securing offshore mitigation if needed to support achievement of New Zealand’s NDC, and opportunities for greater cooperation and information sharing across governments.</p> <p>The IEB Unit will work with MFAT and other agencies to explore how future reporting and strategic policy advice for the Board and Ministers can better incorporate international insights and New Zealand’s expertise on other countries’ climate action policies.</p>	
<p>3. Including non-forest land uses in New Zealand’s NDC accounting for additional sequestration and broader benefits</p>	<p>Expanding our NDC accounting to include non-forest land uses (e.g., grassland, cropland, wetlands, other land) would provide additional future emissions abatement potential and sequestration options, while also driving investment decisions that drive significant co-benefits, such as natural flood management and enhancing biodiversity.</p>	<p>MfE, MPI and Treasury, in consultation with DOC to bring a paper to Cabinet with a detailed analysis on expanding our NDC accounting to include non-forest land uses.</p>	<p>2024 onwards</p>

Opportunity	Description/Impact	Recommended response	Timeline for benefits
	<p>In the short term, modelling suggests broader land use inclusion might initially make our 2030 NDC harder to achieve but would contribute to meeting our 2050 target and beyond. Further analysis is needed.</p>		

Appendix A: NAP1 Priority focus areas

NAP1 priority focus area outlooks provide an overview of outcomes and challenges for the four priorities the Board has identified for adaptation.

These focus areas are thematic and correspond with multiple actions across NAP1, they are not specific to a chapter but focused on more cross-cutting issues. They examine how these issues fit in with the overall adaptation story, and if the 2023 extreme weather events materially shifted the context for this area of the adaptation work programme.

Progress reported through these priority focus areas will provide indicators towards the level of adaptation and resilience achieved.

NAP Priority focus area 1: Access to the right data and information to take adaptation action

Context

Access to the right data and information is critical to improving risk-informed decision making and increasing adaptation action at all levels. New Zealanders must be able to assess the exposure and vulnerability of their homes, businesses and communities to current and future climate hazards, and take adaptation action where necessary.

The North Island 2023 floods and cyclone (NI SWE) presented us with challenges and opportunities, highlighting the need and urgency for adaptation action. However, resource and funding have been shifted to recovery teams across agencies, with some implications on timeframes for delivery of longer-term data and information projects.

Objective

We will work together to ensure that data, information, tools and guidance about climate risks and adaptation solutions are accessible to all New Zealanders. This will enable risk-informed decision-making at every level.

Significant milestones

Funding has been provided to progress some critical data actions. Work to provide access to the latest climate projections data, to develop our climate data infrastructure, and to develop 3D coastal mapping is underway.

Climate change adaptation actions are progressing in line with NAP timelines. Our guidance development is progressing, ie, DAPP, socio-economic scenarios, local government, and assessing risk and impact on physical assets guidance are tracking well.

Methodology is being scoped to risk assess public buildings, the Data Investment Plan project has been endorsed by Cabinet, climate projections downscaling is underway, and scoping of various other projects is on-going, in line with NAP timelines.

Challenges and risks

Collecting, managing and sharing data is challenging and expensive. We already collect data and have access to information, but we need to be more effective at connecting. Data is often duplicated, it's not always easy to access, and there are variations in the way information is managed.

There is a gap in access to climate adaptation information. The climate adaptation information portal did not receive funding. The portal would help tackle data and information gaps. There is opportunity here to provide a home for climate change adaptation-related data, that is publicly accessible and can be used for local, regional and national action. Rescoping the approach is being undertaken as a first step to address this critical gap, but additional funding is still needed.

NAP implementation may be too slow. Climate impacts are being felt sooner than anticipated, creating pressure to progress on all fronts at the same time and competing funding needs. Data, tools and guidance are foundational actions, so they may not be prioritised when compared to actions providing more immediate impact on the ground.

ADDITIONAL COMMENTARY, OPPORTUNITIES AND ACTIONS

We can learn from the NI SWE recovery. Data has been essential to the effectiveness of our recovery efforts. We have received more requests and have made decisions at pace. We can use this experience to ensure the right data and information are accessible to support decision-making in the future.

Better data is needed to increase equity. Progressing actions in this priority focus area will provide data and information on social risks and support the assessment of climate vulnerability. This will include the exposure and sensitivity of disproportionately affected groups such as Māori, Pacific peoples, and people living in isolated/ rural areas.

More community engagement and socialisation of climate risk is timely. With public attention on climate change after the NI SWE, we have an opportunity to use existing actions to increase community engagement in understanding climate risk. This could be progressed through NAP action 3.4 Raise awareness of climate hazards and how to prepare.

Our work has dependencies:

- Effective implementation of key system changes i.e., Resource Management reforms and Climate Change Adaptation Bill relies on up-to-date climate risk information being available to councils. Further implementation measures are dependent on sequencing of key foundational work i.e., updated climate risk data and flood modelling will be available from mid-2024 – mid- 2025. Infrastructure and building standards based on 1 in 100-year flood risk modelling will only see change to risk mitigations after this updated data is available.

NAP Priority focus area 2: Managed retreat and advancing the Climate Adaptation Act

Context

On 14 December 2020 Cabinet agreed to develop legislation for managed retreat and funding for pre-emptive adaptation. Developing this legislation is an action in New Zealand's NAP1.

Retreat must be considered alongside the full spectrum of adaptation options under the PARA (protect, accommodate, retreat, avoid) framework.

North Island severe weather events have reinforced the pressing need to shift, where possible, from post-event response to proactive adaptation, to minimise wellbeing risks (to life, economy, cohesion, property, infrastructure). As climate change exacerbates risks, recovery and adaptation costs following disasters are increasingly unaffordable.

Objective

Overall objective: Enable an effective, equitable, integrated system for retreat (inc. through provision of powers and processes and a framework for funding and financing local adaptation actions) from natural hazard risk where appropriate.

Process objective: Introduce legislation to provide for retreat, and funding for local adaptation actions (including for retreat).

Significant milestones

On 22 June 2023, Cabinet Environment, Energy and Climate Committee (ENV):

agreed to **progress the Climate Change Adaptation Bill (CCAB)** via a jointly led inquiry by the Environment and Māori Affairs committees, **supported by an issues paper**.

considered a paper from the Minister for the Environment, reporting back on a **natural hazard planning framework**, and noted that the Minister for the Environment will consider whether any additional matters should be included within the NHPF to support implementation of CCAB proposals.

We are now **working towards a publication of an issues paper early August to support the jointly led inquiry**, which we anticipate beginning roughly around 7 August. This is with a view to introduction of the CCAB by the end of 2024.

Challenges and risks

This work covers contentious issues including who decides on, and who pays for, adaptation action (including retreat), and on what basis. The issues paper will cover these issues and trade-offs for public discussion.

Constant management of the scope and mandate of the work programme by MfE is required, as it closely relates to broader adaptation work programmes led by other agencies. For example, where communities could move to after a retreat, and flow-on effects for infrastructure (e.g., transport), businesses, livelihoods, economy for large scale retreats are not currently in scope and requires further policy work by relevant agencies.

There may be public expectation that adaptation legislation mirrors decisions taken during recovery efforts (particularly recent events in Hawke's Bay and Auckland). This risk will likely continue to build the more we see post-event retreat take place without a clear long-term framework in place for adaptation. Careful communications will be required for the issues paper and for the Future of Severely Affected Locations (FOSAL) work programme.

The NAP1 set expectations for the legislation to be introduced in 2023, but it is now likely to be introduced in 2024 due to Cabinet agreed shift in approach. Expectations will therefore need to be managed as announcements are made to this effect.

There are many related reforms and work programmes underway (such as Future of Local Government review; RM reform; Review of the emergency response) that need to be managed.

ADDITIONAL COMMENTARY, OPPORTUNITIES AND ACTIONS

The Crown must proactively work with iwi, hapū, and Māori groups to ensure Māori rights and interests are upheld and Tiriti obligations met. The FOSAL work programme will provide information to assist with this work.

It is planned that the issues paper will be made available alongside the Managed Retreat Expert Working Group report – these two papers are complementary.

The Environmental Defence Society is also researching climate adaptation and retreat. Two reports have been published, with a final report due for release later this year.

It is proposed that the inquiry is jointly led by the Environment and Māori Affairs Select Committees. This presents an opportunity for the inquiry to build on the report of the Māori Affairs Committee inquiry on Māori Climate Adaptation.

NAP Priority focus area 3: Flood-resilient built environment and communities

CONTEXT

Many communities across Aotearoa New Zealand are exposed to flood hazard, and this exposure is expected to increase in future as the frequency and intensity of extreme weather events increases¹³. Extreme weather events at Westport, Nelson, Northland, Auckland, Hawkes Bay, Tairāwhiti have shown the destructive impact of the changing climate on communities. Cyclone Gabrielle has highlighted the urgency of adapting to our changing climate and revealed the scale of the challenge.

We need to proactively reduce New Zealand's exposure to extreme weather events and the associated flood hazard. Building flood resilience is one of the domains where we can have the most impact in reducing risk. International research estimates that for every \$1 we spend on housing flood resilience improvements, we get approximately \$5 of benefits.¹⁴ While Government is investing in the recovery from recent extreme weather events, work is progressing on system level policy to proactively adapt to the changing climate and build long-term community resilience to flooding.

Objective

The Climate Change Chief Executives Board the Board) enables legislative, funding and policy conditions that support communities to effectively use tools across the PARA (protect, accommodate, retreat, avoid) framework to build resilience and to avoid, manage, and reduce the impacts of flooding. As well as monitoring progress and recommending course corrections to ensure flood resilience is built at scale and pace.

Progress (milestones)

In May 2023 Government announced \$22.9 million of co-investment funding for building flood resilience for Westport. Councils, iwi-Māori and central government are working to implement the package. The Reserve Bank of New Zealand published the results of a flood risk assessment for residential mortgages, and has developed and shared a climate change stress test scenario with New Zealand's five major banks. The stress test scenario has since been published (in August). The results of the stress test will be reported in 2024. Te Puni Kōkiri have completed mapping of the socio-economic and climate vulnerability of iwi-Māori. Regulatory tools are being created to enable local government to avoid new development in areas that have a high level of flood risk. Establishment of 10 water services entities from July 2024. The National Resilience Plan (NRP) will support medium-and long-term infrastructure investment to build resilience in critical infrastructure across the country, with an initial focus on the recovery from the recent weather events. \$6 billion has been funded to start with, with plans for further funding in the future.

Challenges and risks

Half of the actions in this theme have already gained funding and are progressing. Addressing broader funding and financing gaps (managed retreat, flood protection infrastructure, stormwater improvements, housing modifications) is an ongoing challenge. Some steps to build proactive resilience in communities are not progressing fast enough due to resourcing pressure ^{9(2)(g)(i)}

Local Government do not have all the regulatory tools and funding to be fully effective as the primary manager of flood risk, particularly for severe weather events.

ADDITIONAL COMMENTARY, OPPORTUNITIES AND ACTIONS

Central government, local government, communities and Māori can generate the right scale of effort to move the needle on flood resilient built environment and communities if we work together. We can improve flood resilience at the property and area-wide levels with the right regulatory tools and funding in place. We should continue to be mindful that communities have varying levels of capacity to cope with and adapt to flooding. Flood resilience initiatives need to take into account the different needs and aspirations of a wide range of communities including iwi/Māori, and rural and remote communities. Focus is needed to enhance community understanding of risk and resilience mitigations. Work on policy and legislation to support managed retreat will also help to achieve the outcomes in this priority area, by providing a framework for retreating from flood-prone areas. Resource management reform will contribute to improving flood resilience¹⁵. Through the recovery to Cyclone Gabrielle and the Auckland floods, work is being progressed to support repairs/rebuilds/relocations in affected locations while also increasing long-term flood resilience.

¹³ Ministry for the Environment (2020) National Climate Change Risk Assessment for New Zealand.

¹⁴ NZIER (August 2020) Investment in natural hazards mitigation: Forecasts and findings about mitigation investment.

¹⁵As indicated in NAP1; "A key objective of the reform is to better prepare for adapting to climate change and risks from natural hazards. The resource management system as a whole will deliver this objective, with each part contributing to improve resilience in a different way."

NAP Priority focus area 4: Strategic infrastructure

CONTEXT

Climate change will affect every aspect of the infrastructure system. The severe weather events this summer demonstrated the vulnerability of New Zealand's assets to climate change, and the cascading impact of outages due to the (increasing) interdependencies between infrastructures.

There is the opportunity to characterise risks and vulnerabilities, and to begin to build resilience and adaptive capacity now. However, infrastructure risk assessments are undertaken variably; there is limited ability and willingness to pay for resilience in advance of disruption; and current regulatory frameworks are siloed. This means that government has limited ability to understand cumulative risk, contingent liability, or the impact of resilience initiatives.

This focus area provides a unique forum for all agencies (currently 18) who have a role in infrastructure resilience to provide a collective view of progress, challenges, and potential future actions to support the objectives of the NAP. While the Infrastructure Chapter of the NAP focussed on horizontal infrastructure¹⁶ this focus area takes a wider view of infrastructure, consistent with the definition of Critical Infrastructure in the Emergency Management Bill¹⁷, noting that all infrastructure – publicly and privately held – is in scope.

Objective

The objective for this focus area is to **ensure that government creates the right environment (including through funding & financing and regulation) to ensure the infrastructure value chain (including asset owners, operators, planners, investors and funders) adequately incorporates risk and resilience into decision-making.**

Progress (milestones)

NAP critical action 8.1, **Waka Kotahi Adaptation Plan, Tiro Rangi** was successfully launched in December 2022.

He Whakakaupapa mō Te Hanganga o Aotearoa, The Infrastructure Action Plan, confirmed a programme of work to **enhance the resilience of New Zealand's critical infrastructure**. This was not included in the NAP due to the timing of the decision, but is a significant step towards delivering the objectives of the NAP, and provides a potential legislative mechanism to give effect to a **resilience standard or code** scoped by Te Waihanga (NAP critical action 5.8).

The **Emergency Management Bill** was introduced into the house on 7 June and proposes strengthening the duties and obligations of Critical Infrastructures, supporting the objectives of the NAP for infrastructure.

Challenges and risks

Ensuring resilience is integrated into **investment & planning decisions**, and that appropriate **funding & financing** are available, remain key barriers to infrastructure adaptation action.

There is **significant reliance on broader government programmes**. The work by the Urban Growth Agenda, including on funding & financing, will be important to progressing resilience actions in the built environment.

Significant reform programmes include the work to enhance the resilience of New Zealand's critical infrastructure, the review of the Emergency Management System, **Resource Management (RM) reform**, and **Affordable Water reform**. Affordable Water reform has progressed slower than anticipated, and the new RM system is not expected to be fully operational for 7 to 10 years, which means that interim direction, such as the National Policy Statement - Natural Hazards Decision Making, will become increasingly important, and it is **critical that infrastructure is adequately considered in this work**.

ADDITIONAL COMMENTARY, OPPORTUNITIES AND ACTIONS

There is **tension between the response to recent severe weather events, and longer-term resilience actions**. There is a risk that recovery actions could send the wrong signals in terms of how and when to adapt, as well as divert resources away from longer-term resilience, to shorter-term recovery. It will be important to ensure investment decisions are underpinned by robust analysis, and where the Crown is a proposed investor, it should seek to balance short-term and long-term risks. Creating the right incentives for resilience planning and investment requires a shared understanding of the respective role of the public and private sector. Central government will need to be clear about when it will provide support, financial or otherwise, to asset owners.

¹⁶ Horizontal infrastructure includes transport infrastructure (road and rail networks, ports and airports); three-waters infrastructure; flood mitigation infrastructure (such as seawalls and stop banks); energy infrastructure (including generation and distribution); and telecommunications infrastructure.

¹⁷ See Part 1, section 5, [Emergency Management Bill 225-1 \(2023\), Government Bill – New Zealand Legislation](#)

Appendix B: ERP Chapter outlooks

ERP Chapter 2 Empowering Māori

IMPACTS

This chapter is on track for delivery. In November 2022, the Interim Ministerial Advisory Committee (the Committee) responsible for designing the Māori Climate Platform (the Platform) was established. Guided by their agreed work programme, the first half of 2023 has seen the Committee begin to create kaupapa Māori and tangata Māori solutions that empower Māori in the response to climate change. This includes shaping how the platform could look and function. The proposals are due to Minister for Climate Change in Q3.

A crucial factor in the actions contained in this chapter is that they are designed by Māori. The advisory committee is an attempt to be empowering but through this approach there is inherent risk and opportunity that comes when adopting an approach different to previous initiatives.

MfE has continued to facilitate crown alignment to enable for better partnership and engagement with Māori. This includes hosting an official's level cross-agency monthly hui on Māori engagement. The hui has proved to be a valuable space for sharing information, critiquing practice, and planning engagement.

Opportunities	Challenges and risks
<ul style="list-style-type: none"> - Preparation across government for the successful implementation of the Committee's proposals. - A more strategic focus could be brought to the cross-agency information sharing group on Māori engagement for better partnership and engagement, and more cohesion across the climate policy response. MfE and the IEB Secretariat will utilise this group to provide senior leadership oversight of emerging risks and opportunities for aligning engagement with Māori. This would be particularly beneficial for the Energy Strategy, Transport mode shift and developing ERP2. 	<ul style="list-style-type: none"> - Timeframes: Initial proposals for the Māori Climate Platform are due in August 2023. - Relationships: Not aligning engagements and working collectively on key issues for Māori have potential to negatively impact on crown-Māori relationships. - Upholding Te Tiriti: Inconsistency in how agencies are upholding the principles of Te Tiriti o Waitangi and undertaking their Māori rights and interests analysis - R&I oversight: Lack of visibility of agencies Māori rights and interests analysis and engagement - Coordination: Uncoordinated and adhoc engagement with Treaty partners which negatively impact on our relationships

Additional commentary

This action is also an action in the Emission Reduction Plan and National Adaptation Plan. This reflects a holistic view of climate policy across both adaptation and mitigation.

Empowering Māori is identified as a guiding principle for the ERP. This is defined as 'building Crown-Māori relationships and capability to work together as equal partners in our climate response'. A key part of building better relationships is understanding how te Tiriti o Waitangi principles (the principles) are applied different policies and strategies. Quality Māori Rights and Interests analysis within central government increases the effectiveness of engagement and implementation of policies, as well as improving partnerships with Māori.

Steps have been taken at DCE level to ensure ongoing commitment and agency coordination, designed to consistently uphold Te Tiriti o Waitangi.

ERP Chapter 3 Equitable Transition

IMPACTS

Developing an Equitable Transitions Strategy (the Strategy) to enable a fair and inclusive transition is a key action in chapter 3. To inform development of a draft strategy, the project team co-led by MBIE and MSD held 37 in-person and online hui around the country with a variety of priority population groups, and 67 meetings with other interested organisations.

However, over the last few months there have been growing concerns about the escalating cost of living pressures and the impacts of extreme weather events. To address this, lead Ministers have asked the project team to undertake further work on options to support vulnerable New Zealanders to manage potential cost-of-living challenges and to provide further advice on how the Strategy's scope could be broadened to include adaptation issues. To allow time to fully consider these issues, Cabinet has agreed to postpone consultation on a draft Strategy, and to report back to Cabinet in late 2023 with an updated project timeline and scope.

Progress has been made across a range of actions that build on existing work programmes and support an equitable transition. Funding has been allocated for a range of Just Transition initiatives in Southland and Taranaki. The Regional System Leadership Framework has continued to strengthen regional leadership and increased public service collaboration with iwi/Māori and local government. Budget 2023 investment has ensured the continuation of some employment services that will meet the needs of displaced workers, including Early Response Redeployment Support and the Direct Career Guidance service. Actions to equip people with the skills needed for the transition and create a more responsive and flexible education and training system are also progressing, with the Te Pūkenga business case resulting in funding at Budget 2023 via a Crown Loan.

A prototype data tool that will enable Government and other users to monitor and respond to the distributional impacts of the transition has been developed, and will be tested and refined over the next 6 months.

In February 2023, Cabinet agreed to delay the New Zealand Income Insurance Scheme work, and not progress legislation or implementation this term. Ministers have requested further advice on whether a stand-alone scheme is the best option to deliver support. Actions to inform low-emissions choices and support community and participatory climate responses did not receive Budget funding and have not progressed. A proof of concept will be done to determine a 2024 Budget Bid.

Opportunities

Work on an Equitable Transitions Strategy is focused on seizing the opportunities as well as managing the impacts of the transition. In addition to supporting wellbeing, measures to support an equitable transition will help to maintain public support and build social license for any additional changes that are needed to address climate change in the future.

The Strategy will also include an approach to ensure equity considerations are embedded at the outset when new climate change policies are developed.

The potential inclusion of adaptation in the scope of the Equitable Transitions Strategy would also provide opportunities to bring actions in the ERP and the NAP closer together.

Challenges and risks

Expanding the scope of the Strategy to include adaptation will require broader engagement across government, and with iwi and stakeholders. It will be important to consider the interdependencies with existing adaptation work, including any future mechanisms for managed retreat.

Delaying development of the Strategy increases the risk that distributional impacts are not being considered as part of policy development and could raise expectations that these will be addressed through future actions in the Strategy. Delaying public consultation on the draft Strategy will also pose challenges with sequencing proposed policy actions and seeking funding through the Budget 2024 process.

The decision to delay the New Zealand Income Insurance Scheme work has left a gap in terms of measures to address the risk of job losses and displacement from the transition.

Not progressing actions to improve information and support community and participatory climate responses also leaves a gap in terms of empowering New Zealanders to make low-emissions choices and have a voice in the development of climate change policies and programmes.

Additional commentary

Ministers have requested that officials undertake further work on potential compensatory mechanisms for New Zealanders vulnerable to transition impacts, such as a climate dividend. The development of such a mechanism would help to address the potential impacts of emissions pricing on household costs.

ERP Chapter 4 Working with Nature

IMPACTS

The biodiversity and climate crises are inextricably interlinked. 'Working with nature' in the climate response has the potential to deliver positive outcomes for both biodiversity and climate and is a foundational principle of the ERP.

The recent all-of-government response has seen a positive shift towards working with nature, for example:

- Cabinet agreed, in principle, that non-forest abatement be encouraged in climate policy in advance of its eventual inclusion into NZ's Nationally Determined Contribution target accounting [CAB-23-MIN-0283]. Once implemented, this could encourage investment in climate action which also supports biodiversity.
- 9(2)(f)(iv) Biodiversity Incentives, and Native Afforestation programmes are starting to consider biodiversity. How this will translate into positive biodiversity outcomes is unclear at this stage (see challenges and risks below).
- 'Working with nature' is a draft guiding principle of the Carbon Removals Strategy [CAB-23-MIN-0287]. It will promote a broader mix of carbon removal activities, including nature-based solutions with potential biodiversity co-benefits.
- A proposed objective for the NZ Voluntary Carbon Market (VCM) is to support mitigation activities that achieve biodiversity and other environmental or social co-benefits.
- Cabinet agreed the ETS review should consider what levels of net emissions reductions should be from exotic forests and indigenous forests, and how to improve ETS incentives for indigenous afforestation [CAB-22-MIN-0412].
- Some relevant chapter leads for the ERP have started reporting on how their climate actions impact biodiversity (Action 4.3) although there are still significant gaps in key areas, such as Forestry and Agriculture.

These developments do not translate to emissions reductions in this reporting cycle. However, they are significant steps towards identifying and taking tangible action to enable native ecosystems to deliver climate abatement.

Opportunities

Climate mitigation action through the VCM 9(2)(f)(iv) could deliver low-cost biodiversity and climate outcomes by restoring and protecting non-forest ecosystems (e.g., rewetting peatlands) or by encouraging management interventions (e.g., deer and goat control) on regenerating native forest.

'Building back better' with nature after extreme weather events can sequester carbon whilst building climate resilience, e.g., through natural flood management.

Encouraging the restoration of native forests could rebuild the social license for afforestation. This could be leveraged to create opportunity for greater native afforestation in our climate response.

Analysis of the case for a biodiversity credit system in NZ could set the platform for transformational change by encouraging activities which mitigate, or help us adapt to, the impacts of climate change and provide biodiversity benefits.

MfE partnership with The Nature Conservancy Aotearoa New Zealand to research and analyse the policy landscape of coastal wetland blue carbon could be a first step towards a blue carbon credit system in Aotearoa New Zealand.

Challenges and risks

Agencies holding key policy levers are managing multiple priorities and policy objectives, and there is a risk that biodiversity is seen as a lower order priority or forgotten.

Workstreams, within and between agencies, are siloed and lack integration resulting in missed opportunities for mutually supportive policies and risking malignment. The IWP is not yet working as an integrated package as envisaged in Action 4.2.

Integrated evaluation of the biodiversity, climate mitigation and adaptation co-benefits of NbS is needed in investment decision-making. Otherwise, we risk undervaluing NbS and failing to invest in options which provide co-benefits. We are exploring how to improve on this in the design of ERP2.

A cyclone response focused on 'building back quickly' potentially risks opportunities to 'build back better' with nature.

Current ETS settings encourage exotic afforestation. There are fewer incentives for abatement by native ecosystems.

Important sources of native sequestration are not yet recognised in emissions target accounting.

Additional commentary

The Ministerial Inquiry into Land Use in Tairāwhiti/Gisborne and Wairoa report highlights the importance of working with nature. It calls for a 'mosaic pattern of land use', where biodiversity complements and supports diverse land uses.

ERP Chapter 5 Emissions Pricing

IMPACTS

Progress on all actions and all actions remain on track to achieve delivery dates outlined in “First Six-Monthly Progress Report on The Emissions Reduction Plan”.

Key updates:

- The 2023 annual NZ ETS settings consultation ended on 16 June 2023. Decisions on the 2024-2028 settings took place alongside a judicial review of the 2022 decisions that was settled on 14 July 2023. The settlement included an agreement to remake the 2022 decisions (which cover 2023-2028). On 25 July, the government announced decisions on NZ ETS settings for 2023-2028. The 2023 NZ ETS settings decisions largely accepted the Commission’s recommendations on both unit limits and price control settings. Decisions will take effect from the December 2023 auction with reductions in the available auction volume and the creation of a wider price corridor. Price controls will then increase annually in line with the Commission’s advice.
- The legal challenge has emphasised the requirements in the Act. The Minister must be satisfied that the settings are either: in accordance with emissions budgets, New Zealand’s Nationally Determined Contribution under the Paris Agreement (‘NDC’), and the 2050 target under the Act; or, if not strictly in accordance with an emissions budget or the NDC, that the discrepancy is justified (with reference to the statutory matters). Updated NZ ETS settings have been carefully considered and assessed against these measures.
- The NZ ETS Review discussion document was approved for consultation early June. An eight-week public consultation started on 19 June and will conclude on 11 August 2023. The review asks for feedback as to whether the NZ ETS should change to prioritise gross emissions reductions, while maintaining support for carbon removals, and if so - how could it be changed to support that objective. Once submission analysis is completed in August/September 2023, officials will provide advice to the next government on the next steps.
- Work to develop a robust market governance framework for the NZ ETS have been completed and agreed to by Cabinet in July, including drafting legislative changes to the Financial Markets Conduct Act. This work will alleviate potential advice, trading, and market conduct risks to the NZ ETS.
- The CCRA amendment bill to address industrial allocation over-allocation is currently before the Environment Select Committee. Officials have delivered a departmental report to the Committee, with its Select Committee report back due in Q3 2023. In parallel to the industrial allocation bill, additional research to address the long-term risk of emissions leakage is underway through a cross agency workstream (MfE, IRD, and TSY).
- In addition to the NZ ETS work programme, progress has been made on developing a voluntary carbon market framework. A draft cabinet paper has been completed and is under ministerial consideration. Consultation with Treaty partners and market participants/key stake holders is planned for August – September 2023.

Opportunities

Due to the nature of emissions pricing being a strategic setting, there are several workstreams which connect in and require alignment with the ETS including: carbon removals strategy, 9(2)(f)(iv) biodiversity credits, NDC strategy. Alignment will create the opportunity to reduce emissions, incentivise new forms of carbon removals including to drive new native afforestation.

The CERF funded, Maximising Forest Carbon research programme is ongoing, this work looks to incentivise further planting of trees through updates to the carbon lookup tables for NZ ETS forestry participants.

The MfE/MPI jointly lead redesign of the NZ ETS permanent forest category is underway in parallel to the NZ ETS review. This workstream an opportunity to support carbon removals and the transition to a low emission economy. This workstream objective is to incentivise the long-term indigenous carbon sinks required to offset the hard to abate sectors of the economy.

Challenges and risks

There are several risks for the ETS Review workstream:

Future legal action challenging annual NZ ETS settings updates

The timing challenge between the ETS review work alongside the later question of gross/net targets and the overall 2050 pathway likely to be covered by ERP2 in 2024.

Legal action related to the NZ ETS review and upholding te Tiriti principles within the engagement process.

The launch of the ETS review and the timeframes has caused uncertainty in the NZU market. This may risk undermining investment decisions on both emission reductions and carbon removals until any decisions are made.

- The ETS Review is progressing into the next term, this creates a level of uncertainty as the nature of the next steps will be determined by the next government.

ERP Chapter 6 Funding and Finance

IMPACTS

The Funding and Financing chapter continues to be on track for action delivery, with three of the eleven actions completed, and ten of the eleven actions rated as green. CERF funding has been distributed through Budget 2023 toward ERP and NAP actions, the review of New Zealand Green Investment Finance was completed, and the FMA has published a number of pieces of climate-related guidance. The Government Procurement Rules are making an impact, with electric vehicles now making up 12% of the government fleet.

However, over the last six months, the tight labour market has impacted a number of ERP actions, including and beyond the Funding and Finance chapter. This is likely to have been a factor in trends seen in monitoring and reporting on the Climate Emergency Response Fund, where most initiatives have seen a slower pace of spending than anticipated.

Further, in Budget 2023, changes in the secondary market price for the New Zealand Emissions Trading Scheme meant that the cash proceeds available as the basis for the Climate Emergency Response Fund had to be revised down by \$2.7 billion. At the time, Government took a decision to top up the fund using a mix of borrowings and reprioritisation to leave the remainder in the Fund following Budget 23 decisions at \$1.5 billion.

Following a pre-commitment to the Government Policy Statement on land transport 2024 of \$500 million, the size of the CERF is now \$1.0 billion.

Opportunities	Challenges and risks
<p>A key point of collaboration with the finance sector (ERP action 6.9) is through joint engagement on developing definitional tools to encourage greater investment in ‘green’ projects (also reflected in NAP action 5.14). This work is gaining traction through a series of stakeholder workshops, and has potential to reorient finance flows toward green objectives.</p> <p>As agencies begin to develop initiatives for Budget 2024, there are opportunities to use the Sovereign Green Bond eligibility criteria to enhance the quality of supporting environmental information for new initiatives – both inside and outside of the Climate Emergency Response Fund.</p> <p>The establishment of an annual Climate Change and Finance Ministers meeting between Australia and New Zealand provides opportunities to explore:</p> <ul style="list-style-type: none"> • Aligning approaches to sustainable finance frameworks such as taxonomies • Coordinating implementation of climate-related disclosure requirements using internationally aligned standards • Developing best-practice modelling approaches to climate • Strengthening climate spending reporting in Budgets. • Establishing a sustainable finance strategy working group to support this work and position the region as a robust green finance market. 	<p>9(2)(f)(iv)</p> <p>Changes to the economic and fiscal environment also pose a likely challenge to future delivery of ERP actions and emphasise the need to prioritise across spending, including climate-related spending.</p>

ERP Chapter 7 Planning and Infrastructure

IMPACTS

The RM reform programme has progressed at pace with legislation expected to be enacted prior to the 2023 election. The objectives of the reform include both climate change adaptation and mitigation. Consolidated national direction (National Planning Framework) which includes further direction on emissions reduction and provision for emissions assessments in regional spatial planning processes is in progress, with consultation planned for Q1 2024.

Work is underway to progress a national toolkit to quantify the emissions impacts of urban development and infrastructure decisions. Local government must have regard to emissions reduction in their RMA decision-making and a range of tools have been developed by individual councils and sector organisations to meet this need. Consequently, there is broad support and a rapidly emerging need for a nationally consistent approach to standardise emissions assessment for urban development and infrastructure. Understanding the impact of emissions from urban development and infrastructure is central to meeting emission budgets over the long-term.

9(2)(f)(iv)

All 15 Tier-1 councils have notified an intensification planning instrument (as required by the RMA). While some Councils have requested extensions for the intensification streamlined planning process, overall progress is positive. All Tier-1 and most Tier-2 councils have begun to develop their Future Development Strategy. Work is also underway on expanding design guidelines to further enable intensive residential development.

Opportunities

The Infrastructure Action Plan was released in May and work is underway to review existing guidelines and tools to include climate mitigation in infrastructure investment decisions.

The first phase of work to develop a tool to assess urban development and infrastructure was completed in June. Understanding the emissions resulting from urban development and infrastructure is foundational for other actions and to understand the necessary direction for future ERP's. A cross-sector approach is being taken to incorporate the inter-relationships between transport, other infrastructure, buildings, and land use on emissions.

The continued development of the National Planning Framework provides opportunities to strengthen emission reduction initiatives outlined in the ERP.

Challenges and risks

Only two of the Planning & Infrastructure Chapter actions are fully funded. The remaining five actions in the Chapter (across six agencies and three entities) are partially funded or remain unfunded and as a result one project has been discontinued. Consequently, progress is slow in some critical areas, such as infrastructure funding and financing to support emissions reduction.

The impact of recent weather events has prioritised local and central government funding toward short term adaptation responses, potentially impacting delivery of longer-term mitigation measures.

Additional commentary

The current economic environment means that there are challenges maintaining momentum in infrastructure and housing delivery across Aotearoa, for example, related to cost escalation, availability of labour, access to capital and supply chain challenges. Driving climate mitigation in this environment is likely to be more challenging. The development of ERP 2 provides an opportunity for agencies responsible for urban development and infrastructure to work together to support the necessary changes in urban form and the built environment.

ERP Chapter 8 Research, Science, Innovation and Technology

IMPACTS

The Research, Science, Innovation and Technology system continues to fund research to support the vision of a low emissions, high wage economy. For example, the 2024 funding round of the Endeavour Research Fund will include a signal for climate research. Policy work continues to reorient the research system towards New Zealand's grand challenges (through the science system reforms).

The Climate Innovation Platforms (the Platforms) (the chapter's only critical action) did not receive Budget 23 funding to establish the Platforms central functions or to fund the pilot platform on low emissions energy. The Climate Innovation Platforms as previously envisioned cannot continue without new funding.

It is not clear the science and innovation system will be able to contribute to future emissions budgets without increased focus on commercialisation and scaling up of emerging technology (e.g., through enabling regulatory environment, early stage capital, pilots, international connection etc).

Opportunities

There is considerable opportunity to accelerate emissions reduction through a focus on commercialisation and adoption of early-stage tech, with 50% of tech needed to reduce global emissions now in prototype phase (International Energy Association). Opportunities exist around smart transport (mobility as a service, aviation, heavy freight), green steel (through hydrogen), green concrete, carbon storage, circular economy (eg using advanced tech to design out emissions), bioeconomy, alternative proteins/alternative high value land use, and digital technology. These areas also provide economic opportunity, with clean tech being a high growth investment area. NZ Tech, New Zealand's largest technology industry body is producing a skeleton of an action-oriented technology roadmap to set out opportunities from technology and recommended actions for Government to consider.

Challenges and risks

Climate Innovation Platforms cannot progress without new funding, leaving a significant gap in the climate agenda around innovation and scaling up emerging technology. The commitment to implement these Platforms is in the public emissions reduction plan and there is no current plan to replace these with an alternative initiative.

The Platforms were intended to help coordinate policy levers (eg regulation, skills, finance, international connection etc) as well as provide demonstration funding and innovation support. Without this mechanism, current activity on clean tech risks being fragmented and insufficient.

Challenges remain around mandate and funding in this area. For example, Callaghan Innovation has recently had to put their Clean Tech work on hold due to a lack of funding.

It remains challenging to prioritise more transformative, early-stage innovation and technology initiatives compared to shorter-term priorities and lower risk initiatives. Action in this area would be needed as soon as possible to be able to impact emissions budget 2 and 3 and New Zealand's Nationally Determined Contribution.

ADDITIONAL COMMENTARY

The Board previously endorsed the Climate Innovation Platforms as a critical action for the emissions reduction plan. The Board previously asked to play an active governance role in the Platforms and to receive scanning and foresight from the (now) unfunded proposed Climate Foresight and Intelligence Unit and Independent Expert Panel. With the unit, panel and Platforms not progressing as was originally planned, the Board may wish to consider whether there are alternative ways for them to receive independent expert advice on opportunities to accelerate emissions reduction and adaptation through a strategic and coherent approach to climate innovation and technology. The second emissions reduction plan could be one vehicle, however, this would be too late to have any meaningful impact on the second emissions budget or New Zealand's Nationally Determined Contributions.

In relation to paragraph three, under Challenges and Risks, Callaghan Innovation notes that this statement relates specifically to their Cleantech Whare, and that they still have involvement in the Cleantech Mission initiative, and their Research & Development Solutions (RDS) continue to work on customer clean-tech related projects.

ERP Chapter 9 Circular Economy and Bioeconomy

IMPACTS

The development of a Circular Economy and Bioeconomy Strategy and its supporting evidence base is the foundational action for this chapter. The Strategy will inform actions in future Emission Reduction Plans and government work programmes.

The first phases of the strategy; delivering a research programme, producing a strategic framework, and building synergies with other relevant government initiatives, is progressing to plan.

Several research projects are complete. A major study identifies commercial opportunities to grow New Zealand's low-emissions high-value bioeconomy and identifies the capabilities needed to leverage these. A stocktake and gaps analysis of circular initiatives and policy in New Zealand against international best practice has identified a number of initiatives across the public sector and therefore the critical gaps the strategy needs to focus on.

In parallel to developing the strategy, targeted engagement to incorporate actions into appropriate government plans has commenced, including incorporating a Māori circular business support action into He Kai Kei Aku Ringa – the Crown–Māori Economic Development Strategy.

Opportunities

International research indicates countries can reduce greenhouse gas emissions by 25 to 39 percent¹⁸ by adopting ambitious circular economy goals. This is because approximately 45 percent of all greenhouse gas emissions are created by extracting resource and making products.

Transitioning to a circular economy and a high value low-emission bioeconomy will not realise immediate emissions reduction but will complement short-term emissions reduction responses and lay a foundation for a low emissions economy in the future.

In addition to reducing emissions, the transition can maintain New Zealand export competitiveness as global markets demand improved environmental credentials, and reduce biodiversity loss, waste, and pollution. The Circular Economy and Bioeconomy Strategy is also exploring how the transition can support regional and community resilience.

Challenges and risks

While an increasing number of countries are adopting Circular Economy goals, it is still a novel approach without well tested blueprints on how to best achieve a circular economic transition. In addition, the scope is economy wide and the scale of change required is significant.

Therefore, to materially implement the circular economy and bioeconomy vision will require policy responses from multiple government agencies and ministerial portfolios, and considerable investment in order to de-risk business transformation.

ADDITIONAL COMMENTARY

The Climate Change Commission, in its draft ERP 2 advice, explores the need for strong governance, leadership and co-ordination if New Zealand is to realise the benefits of circularity and take an integrated approach to the bioeconomy, including directing large scale investments (e.g., into sustainable aviation fuel).

While MBIE is leading the circular and bioeconomy strategy, there has not yet been a system wide conversation on its relative role in shaping economic direction or how we agencies should collectively give effect to this direction.

Action 9.5, Investigate a circular economy hub has been completed. Investigation occurred when MBIE sought Budgets 22 and 23 funding.

ERP Chapter 10 Transport

IMPACTS

The transport portfolio has made significant delivery progress between January and June 2023. Overall, the majority of initiatives are progressing as planned, and 7 projects are now complete. All priority areas from the transport chapter have achieved major milestones during this period. Some of the notable successes include:

- conducting public consultation on the draft Electric Vehicle Charging Strategy
- implementing changes to the Clean Car Discount settings to ensure the scheme's sustainability
- advancing policy issues related to congestion charging
- progressing the Freight and Supply Chain Strategy
- scoping of the Clean Heavy Vehicle Grant scheme
- receiving funding to expand public transport fare discounts to include free public transport for five-12 year olds and half priced for under-25s
- progressing the VKT reduction plan and engagement on the urban programmes
- commencing the first round of Transport Choices projects
- supporting the public transport workforce through an uplift in bus driver terms and conditions
- receiving Government approval of a \$120 million for EV charging.

The main challenge in delivering the initiatives continues to be inadequate resourcing. Most of the initiatives with a red status either lack funding or have experienced delays due to resource constraints.

During the period the Government made the decision to discontinue several key transport initiatives, which affected our confidence in meeting the current and future emissions budgets. These initiatives include the Sustainable Biofuels Obligation, Clean Car Upgrade and Social Leasing Scheme. The latest emissions projections show that the transport sector remains on-track to meet its sub-sector target for the first emissions budget period. This can be attributed to the higher-than-expected uptake of low emission vehicles (which is in part a result of the success of the Clean Car Discount), as well as changes in baseline modelling assumptions. However, abatement estimates for the second and third emissions periods have reduced significantly due to the cancellation of the Sustainable Biofuels Obligation which has increased the scale of the challenge for transport to meet its transport sub-sector targets in future budget periods. These projections emphasise the importance of both delivering maximum reductions during the first budget period, and increasing the ambition of actions in ERP2 to both deliver on the second emissions budget, and set the sector up for success in the third.

Opportunities

Budget 2023 funding has been allocated to the Ministry of Transport to support the effective delivery of the Transport Chapter of the ERP. This funding will enable effective governance, reporting and monitoring systems. The funding is expected to enable an uplift in our ability to monitor and evaluate the impact of the ERP initiatives to inform future policy decisions.

The **Equitable Transition** Strategy provides a framework to guide our thinking about how we implement current policies and develop actions for ERP2. Transport inequity is a long-term transport and social policy issue, which is at significant risk of being compounded by the transition to a low-emissions transport system. While several initiatives relating to supporting the uptake of low emissions vehicles for lower income New Zealanders have been discontinued, there are opportunities to embed equity considerations in actions underway for ERP, particularly relating to active modes and

Challenges and risks

The Ministry, Waka Kotahi and local government are responsible for delivering many ERP initiatives alongside significant existing work programmes. Additional **resourcing, capability uplift and appropriate prioritisation** are needed to implement the actions effectively. The funding allocated through Budget 2022 and 2023 has reduced resourcing pressure in some areas, however capability building, and prioritisation are ongoing

There are challenges to meeting the **timeframes** for key milestones within the transport portfolio.

- A key element of the transport chapter is the publication of sub-national VKT reduction targets for large urban areas, and a National VKT Reduction Plan (and accompanying urban programmes) that will influence local government transport planning and investment. To enable local government to fully consider the Plan and Programmes when developing their Regional Land Transport Plans over the next year, it essential that both the sub-national VKT reduction targets and the National Plan are released soon
- The Government Policy Statement for land transport 2024 is a key mechanism that enables the achievement of a range of ERP chapter initiatives. Cabinet approval to

public transport, and when developing the ERP2.

As the planning phase for ERP2 gets underway, there is a significant opportunity to address the areas for improvement identified during the implementation of ERP1 to date. To facilitate a more flexible management process, it is recommended that a change or adaptive management framework be established for ERP2. This framework would empower agencies to modify their approach based on better information and the lessons learned from early initiatives.

The impact of the cost of living and the recovery effort from Cyclone Gabrielle have both been major focal points in the first half of the year and have impacted how Government views and responds to climate change. Through our ERP2 planning, there is an opportunity to consider how we can **achieve multiple benefits** through our emissions reduction programme by developing initiatives that contribute to and reinforce other outcomes.

release a Draft GPS 2024 for public consultation has been delayed.

Focus area 1 of the transport chapter is **reducing reliance on cars and supporting people to walk, cycle and use public transport**. To achieve this, several initiatives enable changes to road space allocation to provide space for alternative modes. It is important that these changes are communicated and implemented well to ensure the public understands the benefits, and the impact on efficiency is limited. Additionally, meeting the targets set for this focus area, and the associated VKT reduction targets for Tier 1 areas, depends on sequencing of key enabling actions such as land use changes and pricing.

Focus area 2 of the transport chapter is **rapidly adopting low-emissions vehicles**. The increase in electric vehicle sales over the last 18 months has been significant, however significant ongoing increases are required to reach our long-term targets. The increase in the adoption of electric vehicles can be attributed to a variety of economic factors and the increased supply of vehicles in the market and maintaining the momentum of uplift is a core challenge for transport.

ADDITIONAL COMMENTARY

Biodiversity

Land transport is directly and/or indirectly linked to each of the five key pressures of biodiversity decline that have been identified globally: land-use change, pollution, climate change, natural resource use and invasive pest species. Land transport's construction, placement in landscape, maintenance and operational activities can all negatively affect biodiversity. Ecological effects of land transport may include:

- direct and indirect mortality of animals
- loss and degradation of indigenous vegetation, ecosystems and/or habitat for native fauna
- loss of ecological connectivity in the landscape, including for native fish
- alteration of animal behaviour (eg disturbance, avoidance)
- facilitating pest establishment and providing a corridor by which pests disperse.

Transport corridors may also have positive effects where they act as refuges in landscapes where little native habitat remains. Indigenous biodiversity here is likely to have disproportionate value because they are all that is left in an otherwise depauperate landscape (one which is lacking in numbers or variety of indigenous species).

A challenge for transport is achieving its core functions such as investing in land transport activities, managing the state highway network, and providing access to land transport while not adversely affecting indigenous biodiversity. Biodiversity is complex, dynamic and varied and, for the transport sector, biodiversity matters are diverse and expansive.

Waka Kotahi is committed to minimising the negative effects of its activities on ecological features, and to protect and, where possible, enhance biodiversity. There are opportunities for land transport corridors to support native biodiversity, with road verges potentially playing an important role either because of the species and/or habitat they support or the environmental function they perform.

To further support biodiversity outcomes, the Ministry of Transport is considering opportunities to include and embed nature-based solutions as part of the regular policy processes and investment settings that govern the transport system ^{9(2)(f)(iv)} Government Policy Statements and Emissions Reduction Plans).

Some examples of nature-based solutions in transport include:

- diverting stormwater run off from roading to create an extensive wetland feature
- using dunes as effective forms of coastal protection
- managing flood water – culverts designed to take increased flow and facilitate safe fish passage.

ERP Chapter 11 Energy and Industry

IMPACTS

Across the energy and industry chapter there is an ambitious and comprehensive programme of work underway to transition New Zealand to a highly renewable energy system and ensure we can meet New Zealand's domestic and international targets. This transition will support other sectors, including transport and building and construction.

The last six months has seen a continued focus on the importance of decarbonising the energy sector as an enabler to decarbonise other sectors of the economy. Removal of the biofuel obligation policy in February 2023 renewed focus on finding additional opportunities for abatement to meet the emissions budgets. Ongoing development of the energy strategy will help address strategic challenges and ensure coherence across the Government's energy and industry work programme.

The Energy and Industry sector is still on track to meet abatement estimates for Emissions Budgets 1-3. However there has been a reduction in abatement estimates from the Government Investment in Decarbonising Industry Fund (GIDI), largely due to the Ukraine war and the resulting global effort to decarbonise energy affecting availability of kit.

In the last funding round for GIDI the government committed \$16.233 million of co-investment towards 15 projects, with an expected lifetime carbon abatement of 943,115 tonnes.

In addition, the government announced the first GIDI large emitter partnership with a conditional funding agreement to support NZ Steel to decarbonise production at Glenbrook Mill. This partnership will be New Zealand's largest emissions reduction project to date, removing approximately 1% of the country's total annual emissions from its expected installation in 2027.

Biodiversity Impacts

New Zealand's transition to a highly renewable electricity system will require significant construction of renewable electricity generation (REG). Higher levels of REG will reduce fossil fuel usage, cut emissions and help to reduce the impact of climate change on our environment, and protect social and economic wellbeing. Indigenous biodiversity, in particular our forests and wetlands, also play an important role in mitigating climate change providing carbon sinks, buffers, flood mitigation and land stability.

If not managed carefully however, REG development could lead to impacts on biodiversity and other environmental values. The environmental effects of REG can vary significantly depending on the scale, type of generation and location. In general, it is in the construction phase of most REG where there is the greatest potential for adverse environmental effects. Once built, the effects from REG (aside from hydro-generation) are lessened as the environment can be restored or mitigation or offsetting measures undertaken.

Our resource management system seeks to provide a careful balance of the potential effects of REG on localised environmental impacts and its national benefits, including the long-term benefits for the environment.

Opportunities

- Transitioning New Zealand to a highly renewable energy system will unlock emissions reductions across the New Zealand economy
- Successful partnerships with large emitters under the expanded GIDI

Challenges and risks

- Continuing supply chain constraints may limit access to decarbonisation technology and our ability to accelerate existing policy interventions
- Perceived uncertainty in policy reform may delay investment in technologies necessary to support decarbonisation
- Cost of living and inflationary pressures
- Government agency resourcing pressures may delay delivery of some priority actions
- Resource Management reforms and consenting delays could slow the roll out of renewable energy infrastructure

ADDITIONAL COMMENTARY

We need bold moves to decarbonise the energy system, as signalled through the development of the energy strategy and related work programmes. This requires careful management to avoid the rising costs, reduced reliability, and inequitable impacts that could come from greater reliance on renewable energy sources.

Materially increasing Emissions Budget 1 reductions from GIDI is not feasible due to the timeframes typically required to deliver projects.

One action in this chapter is Renewable Energy Zones (REZ) pilot. This is on hold pending further clarity on regulatory settings. Officials propose waiting for (1) the outcome of the Commerce Commission's Input Methodologies Review to consider the extent to which it has addressed transmission investment challenges that might otherwise make REZs attractive and (2) the outcome on MBIE's consultation, commencing in July 2023, on what further actions may be needed to ensure sufficient investment in a resilient national grid.

ERP Chapter 12 Building and Construction

IMPACTS

Actions in the Building and Construction chapter are generally progressing as planned and are on track to contribute to Emissions Budgets.

The Building (Climate Change Response) Amendment Bill is on track for introduction before the end of the Parliamentary term. The Bill will contribute to reducing embodied carbon (through proposed waste minimisation plan requirements) and improve operational efficiency (through proposed energy performance rating requirements). The amendments will also enable future regulatory changes to support improved reporting and emissions caps for new buildings.

We are progressing technical work to develop methodologies, data and information resources to support the sector to reduce building-related emissions and are seeing encouraging evidence of uptake among industry and Government. For example, the Ministry of Education and a number of private practices applying an embodied carbon assessment methodology to new buildings and Kāinga Ora piloting emissions assessment tools for new buildings. New funding in Budget 2023 - for the Warmer Kiwi Homes scheme and GIDI funding to decarbonise New Zealand Steel - will support efforts in the building and construction sector to reduce embodied carbon and improve operational efficiency.

Over the past 6 months, progress on certain actions has been impacted by external factors – such as the reprioritisation of Government activities and the North Island weather events. Reprioritisation has meant that some emissions reduction plan actions (e.g., consultation on a regulation discussion document), whilst still progressing, are on a delayed timeline. The North Island weather events in January and February of this year have resulted in a shift of some industry focus and perception of climate change challenges, which has created new pathways and opportunities for action. However, this has also meant some policy resources have needed to shift to support greater adaptation and resilience work

Opportunities

- Over the past six months, we have developed our understanding of industry perceptions, barriers, and motivations for climate action. This can be leveraged into information and education activities, and development of new proposals.
- The North Island weather events have increased awareness of the impacts of climate change and focus on improving resilience. This presents opportunities to educate, promote, and encourage low emissions, climate resilient buildings.
- There are opportunities to partner with and learn from Government agencies who are completing emissions assessments from buildings, and through the continued roll out of Carbon Neutral Government Programme measures.
- Over the next 6 – 12 months there will be greater opportunities to engage and provide support to the industry on emissions reduction and climate resilience through the implementation of Building Act 2004 amendments, and consultation on operational efficiency and embodied carbon requirements.

Challenges and risks

- Changes to timelines for of the release of a discussion document on regulatory changes will delay implementation by 12 months.
- The sector faces real and perceived barriers to taking climate action – including industry motivations and perceptions of costs. Greater investment (funding and research) is required to understand how to address these barriers.
- Other Government initiatives are underway to reform aspects of the building and construction sector – such as the building consent system review and the building levy review. Alignment and careful communication are required to mitigate risk of consultation fatigue and resistance to change.

ERP Chapter 13 Agriculture

IMPACTS

Key successes

Accelerating new mitigations: MPI is addressing the inherent uncertainty of mitigation technology development by accelerating a range of different technologies as well as building research infrastructure and capability. It is expected new technology will either move through development stages, or be unsuccessful quickly, so resources can be concentrated in the solutions with the best prospects. Key progress to date includes:

- The Centre for Climate Action on Agricultural Emissions is established, comprising the NZ Agricultural Greenhouse Gas Research Centre (NZAGRC) and, since January 2023, a Joint Venture (AgriZeroNZ) between government and industry with co-funded investment of up to \$165 million for 2022-23 to 2025-26.
- MPI has already allocated \$54 million, alongside industry, in early investments through the Centre.
- AgriZeroNZ equity investment in Rumen Biotech was announced 3 April (to support development of a sustained release methane inhibitor for livestock).
- The NZ Government joined the International Enteric Fermentation R&D Accelerator project (contributing \$8m NZD over 3 years) which will leverage benefits of up to \$300m NZD of international investment.
- MPI approved 31 applications for research and development trials of inhibitor products as at 30 June.

Supporting producers to make changes: 27 Māori Agribusiness Pathway to Increased Productivity projects have been committed to provide support to Māori landowners to increase the productivity of their primary sector assets, and 22 Māori Agribusiness Extension programmes have been approved. This support will enable landowners to implement changes to improve sustainability and identify opportunities to reduce emissions.

Agricultural emissions pricing: Good progress has been made against the target of 100% of farms to have a farm plan to measure and manage their greenhouse gas emissions by 1 January 2025, with the He Waka Eke Noa partnership reaching 42% of farms having a written plan, and 81% of farms holding a documented annual total of on-farm greenhouse gas emissions by 31 December 2022.

Other complementary actions: Freshwater Farm Plans (FW-FP) regulations were gazetted on 8 June 2023 and rollout will commence in Waikato and Southland in August.

Estimated abatement across EB1, EB2, and EB3

There is a wide range of plausible scenarios for agricultural emissions across the three budget periods, from under achievement to significant overachievement of the agriculture sector sub-target. This range of estimates is due to factors including - uncertainty around the development of mitigation technologies and effect of other environmental policies; uncertainty of economic conditions and weather events that affect land use, productivity and livestock numbers; and methodological updates for how emissions are calculated. The mid-point of our projections assumes underachievement of EB1, achievement of EB2, and overachievement of EB3.

Opportunities	Challenges and Risks
<p>Market demand for farm-level mitigations NZ processors are responding to demand from large multi-national customers (e.g., Mars and Nestle) seeking to reduce emissions across their supply chains. Meat and dairy processors are considering setting emissions <u>intensity</u> targets that capture farm-level emissions. This may result in additional incentives to reduce <u>absolute</u> emissions at farm level.</p> <p>AgriZeroNZ is providing new investment and leveraging international opportunities AgriZeroNZ has already committed over \$8 million of funding to support development of a methane inhibiting capsule, ongoing research to develop a methane vaccine and methane inhibitor, and installing new respiration chambers. They are also in discussion with several other promising national and international opportunities for investment and partnership in mitigations solutions.</p>	<p>Delay to the introduction of agricultural emissions pricing There is uncertainty about key design elements of agricultural emissions pricing and its implementation timeline. This will likely result in lower than forecast emissions reductions in EB2.</p> <p>Timing for new mitigation technologies to come to market, their cost, likelihood of domestic regulatory approval and expected uptake by farmers, are also contributing factors to the uncertainty of emissions reductions in EB2 and EB3.</p> <p>Regulatory applications for methane inhibitors A methane inhibitor suitable for use in NZ on a commercial scale is not yet available. Any new slow-release product will need to go through the regulatory process - which requires efficacy, food safety requirements and maximum residue levels to all be satisfied - and be developed and tested in a pastoral farming system. Projected abatement for agricultural emissions currently assumes a methane inhibitor will be commercially available from 2028.</p>

ERP Chapter 14 Forestry

IMPACTS

There continues to be good progress on key forestry actions. Current projections estimate the forestry sector is well on track to meeting its sector sub-target for EB2 and EB3, and 2.2 Mt CO₂ short of meeting the sub-target for EB1. However, these estimates are within a range of uncertainty, and do not include impacts of the NZ Emissions Trading Scheme (ETS) review and decisions on permanent exotics in the ETS. Lower and upper removal scenarios range between ± 2 Mt CO₂ in EB1, ± 5 Mt CO₂ in EB2, and ± 10 Mt CO₂ in EB3. The ranges represent uncertainty in future levels of afforestation and deforestation, and the further forward we predict, the less certain our projections become.

Key achievements

- The number of trees planted under the One Billion Trees Programme is expected to exceed 500 million during the 2023 planting season, indicating that we are on course to achieve the 2028 target of one billion trees.
- Public consultation on changes to the NZ ETS and redesign of the permanent forest category commenced on 19 June.
- Changes to the National Environmental Standard for Plantation Forestry (NES-PF) were announced on 14 June and are expected to be in effect by the end of 2023. Plantation and exotic continuous-cover forestry (including exotic forests registered under the NZ ETS) will need to meet the NES-PF requirements, and councils will be able to develop policies and rules to control the location of exotic forests.
- The Wood Processing Growth Fund (WPGF) was launched late April 2023 with \$57 million available to expand NZ's wood processing sector, providing investment finance for innovative, exploratory support and investment-ready capital projects.
- The Industry Transformation Plan has provided \$0.65 million funding to support a \$1.3 million research partnership programme through Forest Growers Research to diversify NZ forestry. The programme is building a national seed library, identifying barriers to entry for diverse species in NZ forestry, and assessing the viability of a range of species and potential methods to improve their productivity.
- MPI has begun a trial to explore the use of remote sensing technology to accurately and more cost-effectively measure carbon storage in our forests.

Opportunities

The Ministerial Inquiry into Land Use (MILU), in the wake of Cyclone Gabrielle, made recommendations about the retirement of erosion prone, pastoral and production forest land, and the transition of exotic forests on erosion prone land to indigenous forests or permanent canopy. There is an opportunity for ERP actions to play a role in addressing these recommendations.

Challenges and Risks

- The risk of **not enough research capacity** to undertake planned research across all CERF funded forestry initiatives is being mitigated by taking a combined view of research plans and the establishment of the Forestry Research and Science Panel.
- **Labour shortages** could result in timeframes being pushed out for planting activities.
- Wood processing is impacted by **economic factors** such as falling log prices, and construction demand, which influence the amount of harvesting.
- **Natives are currently not an economic proposition** to plant at scale. In addition to increasing the supply and lowering the cost of seedlings, future policy settings will need to incentivise and support landowners to plant and maintain native forests and improve biodiversity.
- **Regulatory and investment uncertainty** owing to the number of reviews underway may result in new planting being delayed or being put on hold.

ADDITIONAL COMMENTARY

Currently, removals that contribute to achieving our Nationally Determined Contributions largely come from exotic afforestation. These removals make an essential contribution to lowering net emissions and meeting NZ's emissions budgets. The NZ ETS review is currently considering whether the ETS should be amended to prioritise gross emission reductions while maintaining support for removals. The NZ ETS review is also considering whether the ETS should strengthen incentives for removals with broader environmental outcomes, or include a broader range of removal activities.

Planting forests for sequestration can have co-benefits. ERP actions to encourage greater levels of native afforestation, like funding research into barriers (e.g., seed collection and propagation), contribute to a range of benefits broader than sequestration such as biodiversity outcomes and retiring erosion prone land.

ERP Chapter 15 Waste

IMPACTS

Good progress is being made on ERP1 actions to enable the waste sector to contribute to the Emissions Reduction Plan's long-term vision to reduce biogenic methane emissions.

Te rautaki para | Waste Strategy launched in March 2023 provides the overarching vision for Aotearoa New Zealand to become a low-emissions, low-waste society, built upon a circular economy.

Seven national food waste reduction partnerships are expected to be established by the end of September (four have been established to date). The partnerships will deliver national scale practice change programmes across a mixture of household and business, with one partnership focused on reducing food waste on Marae and in other Māori-led settings.

Increased investment in organic waste processing and construction and demolition waste Infrastructure. A total of 237 investment enquiries from across the country have been processed by the Investments team, with 127 applications at various stages of being drafted, assessed, approved, and contracted. Of these 39 projects have been invited to application, 11 have been approved, and 5 contracted. This pipeline (including projects at application stage) represents an estimated funding commitment of ~\$68M of the \$75M available from Climate Emergency Response Fund. Current estimated diversion rates suggest that this investment has the potential to divert well in excess of 100,000 tonnes of organic waste from landfill (noting that not all applications will progress to contracting and completion).

A national communication campaign is being developed to support the kerbside standard materials roll out from 1 February 2024. The resources being developed will support councils with the standard materials transition. For mandatory food scraps collections (required from 2027 and 2030) councils can apply to the Waste Minimisation Fund for up to 50 per cent of costs associated with feasibility studies and business cases that help plan kerbside organics roll outs. Councils can also apply for a package of funding toward costs for bins and project management to support new organics collection services.

An external-facing dashboard is being developed for the presentation of aggregated waste data. The dashboard is a critical first step in building a national data reporting programme to improve data accessibility, consistency and ensure decision makers, researchers and the wider public have the information needed to further investigate and make informed decisions and choices about waste and resource recovery.

Consultation for the new Data Regulations was completed and are ready to go to Cabinet once Parliamentary Counsel Office has drafted the new data regulation legislation

Waste chapter of New Zealand's Greenhouse Gas Inventory was completed and provides the baselines for waste emissions modelling and projections.

Opportunities

The New Waste Strategy Action and Investment Plan will identify the priorities for the next five-year period. Engagement with key stakeholders has commenced; consultation is planned for later in 2023; with a view to confirming the plan and its priorities with the new government in early 2024.

Equity for Māori in Waste Investments is signalled in the Climate Change Commission's draft advice for ERP2. This supports improvements already made to Waste Investments processes through implementation of ERP1 to increase Māori involvement (such as more up-front advice for Māori organisations and iwi, and a stronger focus on building relationships) to increase the percentage of Māori led projects.

Challenges and risks

ERP1 impact on reducing emissions is limited after one year of implementing a three-year programme of work. Key ERP1 actions are being prioritised to improve our evidence base to better inform ERP2 development.

Delays in the review of the Waste Minimisation Act has a flow on impact to ERP, particularly action to develop a national waste licensing scheme which is included in the new waste legislation. There is limited scope to accelerate work due to capacity constraints across government.

ADDITIONAL COMMENTARY

MfE officials are working closely with MBIE to ensure synergies between the Waste Strategy and the Circular Economy & Bioeconomy Strategy are strong. This includes involvement on advisory groups for the circular economy and bioeconomy work programmes, and presence on the evaluation panel for the Impacts, Barriers and Enablers for a Circular Economy procurement led by MBIE.

ERP Chapter 16 Fluorinated Gases

IMPACTS

In late 2022, public consultation was undertaken on:

- details of proposed regulated product stewardship scheme for refrigerants (action 16.4)
- proposed prohibitions on the import and sale of pre-charged equipment containing hydrofluorocarbons (action 16.2).

Ministry officials completed submissions analysis in early 2023. A summary of submissions will be supplied to Cabinet in August along with final policy decisions for the regulated product stewardship scheme.

Emissions modelling was commissioned in March 2023 and completed in May 2023, subsequent to consultation submissions analysis. This was done to better understand how actions from this chapter would impact emissions.

Projections were provided for six scenarios covering:

- a baseline scenario
- the product stewardship scheme (action 16.4)
- the prohibitions on precharged equipment (action 16.2)
- the prohibitions on specific gases (action 16.3).

Projections suggested there were significant abatements attributable to the product stewardship scheme, but the abatements associated with prohibitions were notably small. In the case of the prohibitions on specific gases (action 16.3), it is predicted that limited supply of older refrigerants will cause consumers to retire their equipment early, leading to an initial increase in emissions. The projections also suggested significant emission reductions will already occur in the F-gas subsector as a result of policies already in effect. Ministry officials are continuing to assess the policy impacts of these projections prior to advising Ministers and Cabinet.

The Ministry has received an application for a priority product stewardship scheme. The Ministry is currently assessing whether the application is consistent with the Waste Minimisation Act requirements and will seek the decision of the Associate Minister for the Environment on the application.

Opportunities

The Climate Change Commission's draft advice for the second Emissions Reduction Plan did not contain any specific recommendations directed at fluorinated gases. Nonetheless consideration is being given to other actions to assist the transition to lower Global Warming Potential refrigerants. The Commission's draft report did contain recommendations related to improving the energy efficiency of buildings. Access to energy efficient refrigerants will play a key role in being able to address this recommendation.

The current voluntary product stewardship scheme for refrigerants has commissioned a domestic plasma arc destruction facility which is expected to be operational in 2024.

Challenges and risks

Consultation in 2022 provided submitters an opportunity to express their views in relation to the Government's controls on F-gases, both proposed and in effect.

Submitters expressed uncertainty about the supply of refrigerants in the future. As fluorinated gases are used in many essential applications, any policy that would impact their use needs to consider the alternatives available. As a result of countries ratifying the Kigali Amendment to the Montreal Protocol and imposing their own restrictions on fluorinated gases, hydrofluorocarbons are being phased out globally but, in many applications, there are not viable alternatives. Additionally, the decarbonisation of heating and cooling is heavily reliant on hydrofluorocarbons and the emissions abatement available through decarbonisation could be jeopardized by the availability of such refrigerants.

Emissions projections have indicated that there are likely very minor emissions abatements associated with prohibitions. Officials are analysing this information.

Appendix C: RAG status for NAP1 and ERP1 critical actions

NAP1: 52 Critical actions with timeline for planned delivery and their RAG status

NAP Chapters, Critical Actions	2022	2023	2024	2025	2026	2027	2028
03: Enabling better risk-informed decisions	3.1 Provide access to the latest climate projections data						
	3.2 Design and develop risk and resilience and climate adaptation information portals						
	3.3 Establish a platform for Māori climate action						
	3.4 Raise awareness of climate hazards and how to prepare						
	3.5 Support high-quality implementation of climate-related disclosures and explore expansion						
	3.6 Improve natural hazard information on Land Information Memoranda						
	3.7.1 Promote the use of the New Zealand Climate Change Projections guidance						
	3.7.2 Produce adaptation guidance for central government policy makers						
	3.7.3 Produce guidance for dynamic adaptive pathways planning (DAPP)						
	3.7.4 Produce guidance on using different socio-economic scenarios for adaptation planning						
04: Driving climate-resilient development in the right locations	3.7.5 Regularly update adaptation guidance for local government						
	3.8 Develop guidance for assessing risk and impact on physical assets and the services they provide						
	4.1 Reform the resource management system						
	4.2 Set national direction on natural hazard risk management and climate adaptation through the National Planning Framework						
	4.3 Establish an initiative for resilient public housing						
	4.4 Embed adaptation in funding models for housing and urban development, including Māori housing						
	4.5 Reform institutional arrangements for water services						
	4.6 Integrate adaptation into Treasury decisions on infrastructure						
05: Adaptation options including managed retreat	4.7 Integrate adaptation into Waka Kotahi decision making						
	5.1 Pass legislation to support managed retreat						
	5.2 The Future for Local Government review						
	5.3 Complete case study to explore co-investment for flood resilience						
	5.4 Develop options for home flood insurance						
	5.5 Publish work on how Aotearoa meets the costs of climate change and invests in resilience						
	5.6 Scope a resilience standard or code for infrastructure						
	5.7 Reduce and manage the impacts of climate hazards on homes and buildings						
	5.8 Support kaitiaki communities to adapt and conserve taonga/cultural assets						
	5.9 Prioritise nature-based solutions						

NAP1: 52 Critical actions with timeline for planned delivery and their RAG status (continued)

NAP Chapters, Critical Actions	2022	2023	2024	2025	2026	2027	2028
06: Natural Environment	6.1 Implement the Department of Conservation Climate Change Adaptation Action Plan						
	6.2 Engage with councils to implement the New Zealand Coastal Policy Statement						
	6.3 Implement Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020						
	6.4 Implement the proposed National Policy Statement on Indigenous Biodiversity						
	6.5 Establish an integrated work programme to deliver climate, biodiversity and wider environmental outcomes						
	6.6 Implement the Water Availability and Security programme						
	6.7 Implement the National Policy Statement on Freshwater Management 2020						
	6.8.1 Implement an on-farm biosecurity programme						
	6.8.2 Invest in strengthening border biosecurity						
	6.8.3 Continue the Freshwater Biosecurity Partnership Programme						
	6.8.4 Reduce the spread and impacts of marine pest species through the Clean Hull programme						
	6.8.5 Prevent the spread of wilding conifers, and contain or eradicate established areas of wilding conifers by 2030						
	6.8.6 Continue the National Interest Pest Responses programme						
	6.8.7 Invest in plant health and environmental capability facility						
6.8.8 Use the Animal Health Laboratory and Plant Health and Environment Laboratory							
08: Infrastructure	8.1 Develop and implement the Waka Kotahi Climate Adaptation Plan						
09: Communities	9.1 Modernise the emergency management system						
	9.2 Develop the Health National Adaptation Plan						
10: Economy and financial system	10.1 Deliver the New Zealand Freight and Supply Chain strategy						
	10.2 Strengthen fisheries rules						
	10.3 Deliver the Aquaculture Strategy						
	10.4 Reserve Bank of New Zealand supports the stability of the financial system						
11: Implementing the plan	11.1 Establish central government oversight and coordination for implementing the national adaptation plan						

ERP1: 62 Critical actions with timeline for planned delivery and their RAG status

ERP Chapters, Critical Actions	2022	2023	2024	2025	1 st emissions budgets & Ongoing
02: Empowering Māori	2.1 Establish a platform for Māori climate action.				
03: Equitable transition	3.2.1 Develop an equitable transition strategy.				
	3.2.2 Support regions and industries to manage the transition.				
	3.2.3 Implement the Just Transition Partnerships Programme.				
	3.3.3 Strengthen employment support services.				
	3.4 Build the evidence base and monitor and assess impacts.				
04: Working with nature	4.1 Prioritise nature-based solutions.				
	4.2 Establish an integrated work programme to deliver climate, biodiversity and wider environmental outcomes				
	4.3 Report on biodiversity outcomes.				
05: Emissions pricing	5.1 Align New Zealand Emissions Trading Scheme (NZ ETS) settings with emissions budgets.				
	5.2.1 Adjust the NZ ETS to drive a balance of gross and net emissions reductions.				
07: Planning and infrastructure	7.1 Improve the resource management system to promote lower emissions and climate resilience.				
	7.4 Improve the evidence base and tools for understanding and assessing urban development and infrastructure emissions.				
08: Research, science, innovation and technology	8.1.1 Establish a portfolio of Climate Innovation Platforms to support and coordinate strategic, effective and innovative initiatives.				
09: Circular economy and bioeconomy	9.2 Increase data collection and research to measure baselines and indicators.				
10: Transport	10.1.1: Require new investments for transport projects to demonstrate how they will contribute to emissions-reduction objectives				
	10.1.2 Set sub-national VKT reduction targets for Aotearoa NZ major urban areas (Tiers 1 and 2)				
	10.1.2 Revise Waka Kotahi's national mode shift plan (Keeping Cities Moving)				
	10.1.2 Develop VKT reduction programmes for Aotearoa NZ's major urban areas (Tiers 1 and 2)				
	10.1.2 Support a major uplift in all urban bus networks nationwide, including by improving bus driver terms and conditions.				
	10.1.2 Substantially improve infrastructure for walking and cycling.				
	10.1.2 Work with local government to make public transport more affordable, with a particular focus on low-income users.				
	10.1.3 Consider progressing legislative changes to enable congestion charging				
	10.1.3 Work with Auckland Council on a detailed design of congestion charging				
	10.1.3 Investigate ways to mitigate the adverse impacts of congestion charging on low-income household				
	10.1.3 Engage WCC & GWRC in response to their request for congestion charging				
	10.1.3 Monitor interest in congestion charging from other councils and engage as necessary				
	10.2.1 Implement the Clean Vehicle Standard to increase the quantity and variety of low- and zero-emissions vehicles.				
	10.2.2 Support social leasing schemes to make access to cleaner vehicles affordable for low-income households.				
		Implement an equity-oriented vehicle scrap-and-replace scheme to make cleaner vehicles and low-emissions affordable for low-income households.			

ERP1: 62 Critical actions with timeline for planned delivery and their RAG status (continued)

ERP Chapters, Critical Actions	2022	2023	2024	2025	1 st emissions budgets & Ongoing
10: Transport	10.2.3 Complete a national EV-charging infrastructure strategy to set out the Govt vision and policy objectives				
	10.3.1 Provide funding to support the freight sector to purchase zero- and low-emissions trucks.				
	10.3.1 Establish a freight decarbonisation unit to help decarbonise the freight sector through regulation and investment policy.				
	10.3.1 Evaluate options to: • improve the efficiency of heavy vehicles • regulate heavy vehicle imports to reduce emissions				
	10.3.1 Evaluate options for road user charges (RUC) to support emissions reductions				
	10.3.2 Require only zero-emissions public transport buses to be purchased by 2025				
	10.3.2 Identify and remove barriers to <u>decarbonisation</u> of the public transport bus fleet through the PTOM review.				
	10.3.5 Implement the Sustainable Biofuels Obligation				
	10.4 Ensure the next Government Policy Statement on Land Transport (GPS-LT) guides investment consistent with the emissions reduction plan.				
11: Energy and industry	11.2.1 Develop offshore energy regulatory framework.				
	11.2.2 Investigate options for dry-year electricity storage through the NZ Battery Project.				
	11.2.2 Support the electricity market to transition to 100 per cent renewable generation.				
	11.3.1 Develop a gas transition plan.				
	11.3.2 Develop a hydrogen roadmap.				
	11.4.1 Continue the roll out of the Government Investment in <u>Decarbonising Industry</u> (GIDI) fund.				
	11.4.1 Fund further <u>decarbonisation</u> of industry and heat through expansion of the GIDI.				
	11.4.2 Develop a strategic approach or framework for addressing emissions from single-firm industries with emissions that are hard to abate.				
11.5.1 Set a renewable energy target. Target set 2022, followed by ongoing monitoring					
12: Building and construction	12.2.2 Deliver building-related measures within the Carbon Neutral Government Programme (CNGP).				
	12.5.2 Develop a strong data and evidence base.				
13. Agriculture	13.1.1 An emissions pricing mechanism is developed, and agricultural emissions are priced by 1 January 2025.				
	13.2.2 Establish a new Centre for Climate Action on Agriculture Emissions				
	13.3.1 Develop further <u>climate-focussed</u> extension and advisory services.				
13. Forestry	13.3.2 Support Tikanga-based <u>programmes</u> to support needs and aspirations of whenua Māori entities.				
	14.2.2 Reduce the cost of native afforestation.				
	14.4.1 Develop forestry and wood processing industry transformation plan (ITP).				
15. Waste	14.4.2 Invest in expanding supply of woody biomass.				
	15.2.1 Improve household <u>kerbside</u> collection for food and garden waste.				
16: Fluorinated gases	15.2.2 Invest in organic waste processing and resource recovery infrastructure.				
	15.3.2 Invest in sorting and processing infrastructure for construction and demolition waste.				
	16.4 Introduce a mandatory product stewardship scheme for refrigerants.				

Appendix D: RAG and status guidelines

Green	Achieving the agreed actions is likely and there are no outstanding risks or issues at this stage that threaten delivery
Amber	Achieving the agreed actions is feasible but risks or issues exist requiring attention. These appear resolvable at this stage and if addressed promptly should not present significant long term issues.
Red	Achieving the agreed actions is in doubt with major issues apparent in key areas. Urgent action is needed to ensure these are addressed and to agree whether resolution is feasible.
Discontinued	Actions that have been discontinued. (E.g as a result of government decision not to fund work as well as those that have <u>formally</u> been discontinued by cabinet or ministerial decision or declined for funding)

Status Guidelines

Status	Data requirement	RAG
Not Started	Will require a "Please explain" and RAG colour.	Require RAG colour as per guidance above. e.g An action that is not due to start is likely to be green. Or an action that has a delayed start but no further issues with a plan to catch up on delivery could be green.
Active	All data required	Require RAG colour as per guidance above.
Discontinued	Will require a "Please explain". NO further data required	Automatic Black E.g Sustainable biofuel
Completed	No data required	Automatic Green.

Appendix E: Discontinued actions in the NAP1 and ERP1

There are two discontinued actions in the NAP1

NAP Chapter	Lead Agency	Actions for delivery (Discontinued)	Please explain if Status is "Not Started" or "Discontinued"
06: Natural Environment	MPI	6.8.1 Implement an on-farm biosecurity programme	Original project was to be joint funded by MPI and Industry. Project discontinued as Industry elected to pursue other options to strengthen on farm biosecurity. Some activities have been picked up by other industry-led programmes.
09: Communities	MBIE	9.10 Implement an income insurance scheme to support adaptive capacity of communities and the economy	In February, Cabinet agreed to delay the NZII work, and not progress legislation or implementation this term. Ministers have requested further advice on whether a stand-alone scheme is the best option to deliver support.

There are 17 discontinued actions in the ERP1

ERP Chapter	Action Lead/Co Lead (Support)	Actions for Delivery (Discontinued)	Reasons for Discontinued status
04: Working with nature	DOC/MfE	i. researching coastal wetland sequestration (National Institute of Water and Atmospheric Research)	This line item was not intended to be an action, just an illustration of what building a blue carbon evidence base might look like.
		ii. researching kelp contribution to carbon sequestration in marine sediments (Blue Carbon Services Limited)	This line item was not intended to be an action, just an illustration of what building a blue carbon evidence base might look like.
		iii. assessing present and future carbon storage capacity of the Fiordland seabed (University of Otago)	This line item was not intended to be an action, just an illustration of what building a blue carbon evidence base might look like.
		iv. Sustainable Seas' work on seaweed and blue carbon.	This line item was not intended to be an action, just an illustration of what building a blue carbon evidence base might look like.
07: Planning and infrastructure	Kāinga Ora (HUD, Waka Kotahi, MoT, MfE, Te Waihanga)	7.5 Promote innovation in low-emissions, liveable neighbourhoods, through Crown-led urban regeneration projects.	The project has been discontinued as a budget bid was unsuccessful to progress recommended projects. The feasibility study included some policy-based recommendations which will be shared with wider government.

08: Research, science, innovation and technology	MBIE (Cross government)	8.1.1 Establish a portfolio of Climate Innovation Platforms to support and coordinate strategic, effective and innovative initiatives.	Climate Innovation Platforms as envisioned are not being progressed as the Climate Innovation Platform centralised function bid and the pilot innovation platform were not funded in Budget23. No other alternatives are being considered for the ERP1 timeframe (work is underway to inform ERP2).
09: Circular economy and bioeconomy'	MBIE (MFE)	9.3 Integrate circular practices across government, communities and businesses.	12 government initiatives underway and reported via the ERP process provide effect to this action. These include 6.11, 11.4.1 and 12.1.3. It is therefore a duplicate action and can be discontinued.
	MBIE (MPI)	9.6 Accelerate sustainable and secure supply and uptake of bioenergy in Aotearoa.	20 government initiatives underway and reported via the ERP process provide effect to this action. These include 11.5.2 and 14.1.1. It is therefore a duplicate action and can be discontinued.
		9.7 Support research and development and accelerate investment in the bioeconomy to commercialise bioeconomy technology and products.	3 government initiatives underway and reported via the ERP process provide effect to this action. These are 8.1.2, 10.3.3, and 14.4.1. It is therefore a duplicate action and can be discontinued .
10: Transport	MoT	Implement an equity-oriented vehicle scrap-and-replace scheme to make cleaner vehicles and low-emissions alternatives affordable for low-income households.	March 2023: Discontinued as part of Government reprioritisation
		Investigate whether further targeted support is required to make low-emissions vehicles more accessible and affordable for other disadvantaged groups and communities.	This initiative was dependent on a review of Clean Car Upgrade and Social Leasing Scheme
		Support initiatives to increase the uptake of e-bikes.	No further work expected from MoT other than to monitor Waka Kotahi trails. This item is no longer funded.
		Support social leasing schemes to make access to cleaner vehicles affordable for low-income households.	March 2023: Discontinued as part of Government reprioritisation
	MoT/MBIE	Implement the Sustainable Biofuels Obligation, which requires liable fuel suppliers to reduce the total emissions of the fuels they supply by a set percentage each year through the deployment of biofuels (in blended or neat form).	The Sustainable Biofuels Obligation is no longer proceeding as at 8 February 2023. Ministerial direction.
12: Building and construction	MBIE	12.5.6 Introduce an energy and emissions reporting scheme.	This action duplicates reporting against action "11.4.1 Decarbonise Aotearoa Industries." which is in chapter 11 Energy and Industry. The action is not included in the Building and Construction chapter.
		Deliver building-related measures within the Carbon Neutral Government Programme (CNGP).	Duplication. Carbon Neutral Government Programme (CNGP) measures are being addressed in action 'Support implementation of Government procurement guidelines and rules for buildings' above
		Establish an Embodied Emissions Climate Innovation Platform.	This action should never have been inserted into ERP1 as it was a example. Recommend closing

Appendix F: Critical actions not on track to planned delivery

NAP1: 18 out of 52 (35%) critical actions have RAG status of Amber, or discontinued which means they are not on track to meet planned delivery.

NAP Chapter	Actions for delivery	Red, Amber, Green Status	If RAG is Red, Amber please explain
03: Enabling better risk-informed decisions	3.2 Design and develop risk and resilience and climate adaptation information portals	Amber	The Action Hub bid not being funded currently means we can't fully deliver against this action
	3.3 Establish a platform for Māori climate action	Amber	Interim Ministerial Advisory Committee has worked independently since its inception and has not requested support from the MfE Māori Climate Action Team. The Committee is meeting and developing proposals for cabinet. But no analysis has been undertaken on the potential proposals by officials.
	3.4 Raise awareness of climate hazards and how to prepare	Amber	NEMA is not currently funded to deliver a dedicated public education programme to raise awareness of climate hazards and how to prepare.
	3.5 Support high-quality implementation of climate-related disclosures and explore expansion	Amber	Prioritisation of resources has delayed some timelines re possible extension to non-listed entities
	3.7.2 Produce adaptation guidance for central government policy makers	Amber	Publication has been delayed from the original timeline so as to be able to incorporate socioeconomic scenarios
05: Adaptation options including managed retreat	5.1 Pass legislation to support managed retreat	Amber	Amber status based on the delay of introduction of legislation until 2024.
	5.6 Scope a resilience standard or code for infrastructure	Amber	The Amber status is based on the fact that the role Te Waihangā will take within the broader DPMC-led programme is still underway

	5.8 Support kaitiaki communities to adapt and conserve taonga/cultural assets		Ability to progress action constrained by limited internal resource and no external resource to support engagement with cultural sector, local government, and whanau/hapu/iwi. Whanau/hapu/iwi engagement is critical to this action and must be supported with appropriate resource
	5.9 Prioritise nature-based solutions		A joint DOC-MfE team was established to develop a 'Prioritising NbS' work programme. The team developed thinking which contributed to the CCIEB deep dive on NbS. The work programme has since been paused due to the redistribution of resources post-cyclone Gabrielle. Outside of a formal work programme, work to prioritise NbS has been consistent and constant, but has lacked strategic direction.
06: Natural Environment	6.1 Implement the Department of Conservation Climate Change Adaptation Action Plan		Resourcing is currently uncertain
	6.5 Establish an integrated work programme to deliver climate, biodiversity and wider environmental outcomes		This action sits in the ERP (Action 4.2) and the subactions support biodiversity and mitigation outcomes. There has been no work to broaden the scope of the subactions to include adaptation outcomes.
	6.6 Implement the Water Availability and Security programme		Resourcing has not yet been confirmed for early solutions in 2023/4
	6.8.1 Implement an on-farm biosecurity programme		Original project was to be joint funded by MPI and Industry. Project discontinued as Industry elected to pursue other options to strengthen on farm biosecurity. Some activities have been picked up by other industry-led programmes.
	6.8.3 Continue the Freshwater Biosecurity Partnership Programme		Programme has been slowed down due to resourcing issues.
	6.8.4 Reduce the spread and impacts of marine pest species through the Clean Hull programme		Programme has been delayed due to recruitment challenges.
	6.8.6 Continue the National Interest Pest Responses programme		Programme has been slowed down due to resourcing issues.
09: Communities	9.1 Modernise the emergency management system		The development of the National Plan has been delayed due to internal reprioritisation of work programmes

9.2 Develop the Health National Adaptation Plan

CHAP ownership moved to Te Whatu Ora - work progressing well, HNAP final draft expected Jan 2024

ERP1: 30 critical actions out of 62 (48%) have a RAG status of Amber, Red, or Discontinued which means they are not on track to meet planned delivery.

ERP Chapter	Action Lead/Co Lead (Support)	Actions for Delivery	RAG Status	If RAG is Red, Amber please explain
02: Empowering Māori	MFE	2.1 Establish a platform for Māori climate action.	Amber	Interim Ministerial Advisory Committee has worked independently since its inception and has not requested support from the MfE Māori Climate Action Team. The Committee is meeting and developing proposals for cabinet. But no analysis has been undertaken on the potential proposals by officials.
03: Equitable transition	MBIE/MSD	3.2.2 Support regions and industries to manage the transition.	Amber	RSPF: Green ITP: Amber - Emissions work across ITPs progressing, focused on foundational data collection, and building understanding and commitment for change. Potential future budget bids required to achieve transformation. RSLF: Green
	MBIE/MSD (MoE and MoT)	3.2.1 Develop an equitable transition strategy.	Amber	The Ministers for Social Development and Economic Development will be seeking approval from Cabinet to ^{9(2)(f)(iv)} and delay consultation on a draft Strategy until early 2024.
04: Working with nature	DOC/MfE	4.1 Prioritise nature-based solutions.	Amber	A joint DOC-MfE team was established to develop a 'Prioritising NbS' work programme. The team developed thinking which contributed to the CCIEB deep dive on NbS. The work programme has since been paused due to the redistribution of resources post-cyclone Gabrielle. Outside of a formal work programme, work to prioritise NbS has been consistent and constant, but has lacked strategic direction.

ERP Chapter	Action Lead/Co Lead (Support)	Actions for Delivery	RAG Status	If RAG is Red, Amber please explain
		4.2 Establish an integrated work programme to deliver climate, biodiversity, and wider environmental outcomes. This work programme is focused on:		The desired impacts of the IWP have not yet been felt. The work programmes sitting under the IWP (including CNGP, Maximising Carbon Storage, the Native Afforestation Programme and Biodiversity Incentives) are progressing but they are not coordinated towards achieving an integrated work programme. The Q1 2023 milestone recorded in the last reporting cycle "key maladaptation risks are identified" has not been progressed. Work should start to better understand how to operationalise this action and achieve alignment of biodiversity and climate outcomes
		4.3 Report on biodiversity outcomes.		Amber status is due to delays in delivery of >6 months, and limited resourcing for this work. Closing gaps in this reporting requires a collective effort from agencies. Agencies are managing multiple priorities, and there is a risk that this work is seen as a lower order priority or forgotten
05: Emissions pricing	MFE	5.1 Align New Zealand Emissions Trading Scheme (NZ ETS) settings with emissions budgets.		The 2022 NZ ETS settings have been judicially reviewed, this has impacted the approach this year, which has delayed some aspects of the policy development and put renewed focus on the process to reach decisions.
		5.2.1 Adjust the NZ ETS to drive a balance of gross and net emissions reductions.		The ETS review is a complex, cross agency work stream, with critical dependencies with other climate work, including ERP2.
08: Research, science, innovation and technology	MBIE (Cross government)	8.1.1 Establish a portfolio of Climate Innovation Platforms to support and coordinate strategic, effective and innovative initiatives.	Discontinued	Climate Innovation Platforms as envisioned are not being progressed as the Climate Innovation Platform centralised function bid and the pilot innovation platform were not funded in Budget 23. No other alternatives are being considered for the ERP1 timeframe (work is underway to inform ERP2).
10: Transport	MOT	Consider progressing legislative changes to enable congestion charging.		This action is contingent on the Government deciding to introduce the Bill.
		Engage with Wellington City Council and Greater Wellington Regional Council in response to their request		This action is contingent on the Government deciding to introduce the Bill.

ERP Chapter	Action Lead/Co Lead (Support)	Actions for Delivery	RAG Status	If RAG is Red, Amber please explain
		for congestion charging (contingent on the Government decision to enable congestion charging).		
		Ensure the next Government Policy Statement on Land Transport (GPS-LT) guides investment consistent with the emissions reduction plan.		Release of the Draft GPS 2024 for consultation has been delayed for reasons unrelated to the ERP
		Implement an equity-oriented vehicle scrap-and-replace scheme to make cleaner vehicles and low-emissions alternatives affordable for low-income households.	Discontinued	March 2023: Discontinued as part of Government reprioritisation
		Investigate ways to mitigate the adverse impacts of congestion charging on low-income individuals and households (contingent on the Government decision to enable congestion charging).		This action is contingent on the Government deciding to introduce the Bill.
		Monitor interest in congestion charging from other councils and engage as necessary (contingent on the Government decision to enable congestion charging).		This action is contingent on the Government deciding to introduce the Bill.
		Require new investments for transport projects to demonstrate how they will contribute to emissions-reduction objectives and set a high threshold for approving new investments for any transport projects if they are inconsistent with emissions-reduction objectives.		Release of the Draft GPS 2024 for consultation has been delayed for reasons unrelated to the ERP
		Set sub-national VKT reduction targets for Aotearoa New Zealand's major urban areas (Tiers 1 and 2) by the end of 2022.		The original ERP timeframe has not been met. Ministerial consultation has not commenced on the draft Cabinet paper seeking approval to confirm and publish the targets. Cabinet could consider them during the pre-election period but it is unclear whether this will happen.
		Support social leasing schemes to make access to cleaner vehicles affordable for low-income households.	Discontinued	March 2023: Discontinued as part of Government reprioritisation

ERP Chapter	Action Lead/Co Lead (Support)	Actions for Delivery	RAG Status	If RAG is Red, Amber please explain
		Work with local government to make public transport more affordable, with a particular focus on low-income users.	Amber	Community Connect for CSC holders remains on track (Green). However, with the expansion of Community Connect which is more complex will not be nationally delivered by 01 Jul 23, with expected delivery times still be established.
		Require only zero-emissions public transport buses to be purchased by 2025. • Set a target to decarbonise the public transport bus fleet by 2035, and support regional councils to achieve these outcomes through additional funding.	Amber	GPS yet to be formally endorsed by Cabinet for consultation. Dependency with GPS ref 4.1
	MOT/Auckl and Council	Work with Auckland Council on a detailed design of congestion charging for Auckland (contingent on whether the Government decided to enable congestion charging).	Amber	This action is contingent on the Government deciding to introduce the Bill.
	MOT/MBIE	Implement the Sustainable Biofuels Obligation, which requires liable fuel suppliers to reduce the total emissions of the fuels they supply by a set percentage each year through the deployment of biofuels (in blended or neat form).	Red	The Sustainable Biofuels Obligation is no longer proceeding as at 8 February 2023. Ministerial direction.
	Waka Kotahi/local government	Develop VKT reduction programmes for Aotearoa New Zealand's major urban areas (Tiers 1 and 2) in partnership with local government, Māori and community representatives.	Amber	All Tier 1 councils (except AT) have expressed concern that they will not be able to meet the 31 Dec deadline. They have also indicated that this date is too late for programmes to inform RLTP development.
		Substantially improve infrastructure for walking and cycling.	Amber	Delivery risk for programme to fully deliver all projects within timeframe.
	MBIE	Develop a hydrogen roadmap.	Amber	In line with advice provided to the Minister of Energy and Resource in September 2022 we are publishing an Interim Hydrogen Roadmap in 2023 and a final alongside the New Zealand Energy Strategy in 2024.
		Investigate options for dry-year electricity storage through the New Zealand Battery Project.	Amber	Resourcing is tight. Timelines will be at risk without very quick recruitment and procurement processes post-July report back.

ERP Chapter	Action Lead/Co Lead (Support)	Actions for Delivery	RAG Status	If RAG is Red, Amber please explain
		Support the electricity market to transition to 100 per cent renewable generation.	Amber	Resourcing could be tight for future stages, depending on specifics of options/initiatives that are progressed following consultation
	MBIE/EECA	Fund further decarbonisation of industry and heat through expansion of the GIDI.	Amber	GIDI not tracking to deliver on forecast emissions reductions; work underway to identify ways to maximise impact of GIDI
	MBIE	Deliver building-related measures within the Carbon Neutral Government Programme (CNGP).	Black	Duplication. Carbon Neutral Government Programme (CNGP) measures are being addressed in action 'Support implementation of Government procurement guidelines and rules for buildings' above
	MPI	13.1.1 An emissions pricing mechanism is developed, and agricultural emissions are priced by 1 January 2025.	Red	We have passed the point where the Jan 2025 Go-live is feasible due to deferred Cabinet decisions. 13.1.1 – amber last time, now red (unlikely to meet timeframe published) Cabinet decided on 14 August to implement a farm level levy to price agricultural emissions from Q4 2025 and will introduce legislation in 2024 to implement this.