Aotearoa New Zealand's first emissions reduction plan: The Government's response to He Pou a Rangi – Climate Change Commission's recommendations







Disclaimer

The information in this publication is, according to the Ministry for the Environment's best efforts, accurate at the time of publication.

- It is not legal advice. Users should take specific advice from qualified professionals on the information in this publication.
- The Ministry does not accept any responsibility or liability whatsoever whether in contract, tort, equity, or otherwise for any action taken as a result of reading, or reliance placed on this publication because of having read any part, or all, of the information in this publication or for any error, or inadequacy, deficiency, flaw in, or omission from the information in this publication.
- All references to websites, organisations or people not within the Ministry are for convenience only and should not be taken as endorsement of those websites or information contained in those websites nor of organisations or people referred to.

This document may be cited as: Ministry for the Environment. 2022. *Aotearoa New Zealand's first emissions reduction plan: The Government's response to He Pou a Rangi – Climate Change Commission's recommendations*. Wellington: Ministry for the Environment.

Published in May 2022 by the Ministry for the Environment Manatū Mō Te Taiao PO Box 10362, Wellington 6143, New Zealand

ISBN: 978-1-99-102537-1

Publication number: ME 1649

© Crown copyright New Zealand 2022

This document is available on the Ministry for the Environment website: environment.govt.nz

Contents

The Climate Change Commission's advice	4
Recommendations 1–4: Recommended emissions budgets	5
Recommendation 5: Rules for measuring progress towards emissions budgets and 2050 targets	8
Recommendations 6–10: Policy direction to create an enabling environment for change	11 11
Treaty of Waitangi and the Crown–Māori relationship	11
Cross-party support for emissions budgets	12
Aligning central and local government efforts	12
Coordinating efforts to address climate change across government	
Ensuring inclusive and effective consultation, engagement and public participation	16
Recommendations 11–16: Policy direction that cuts across sectors	17
Strengthen market incentives to drive low-emissions choices	17
Make investments net-zero compatible	20
Enable system-level change through innovation, finance and behaviour change	21
Increase the circularity of the economy	24
Develop a thriving, climate-resilient bioeconomy that delivers emissions reductions	25
Enable emissions reductions through changes to urban form, function and development	27
Recommendations 17–19: Policy direction for transport	30
Recommendations 20–22: Policy direction for energy, industry and buildings	36
Energy	36
Industry	43
Buildings	45
Recommendation 23: Policy direction for waste and fluorinated gases	48
Recommendation 24: Policy direction for agriculture	52
Recommendation 25: Policy direction for forests and other carbon stocks	55
Recommendations 26–27: Policy direction for an equitable transition for Iwi/Māori	59
Recommendation 28: Policy direction for a fair, inclusive and equitable transition	63
Recommendations 29–33: The global 1.5°C effort and Nationally Determined Contribution for Aotearoa	65
Appendix	68

The Climate Change Commission's advice

On 31 May 2021, He Pou a Rangi – Climate Change Commission (Commission) provided the Minister of Climate Change with its report, *Ināia tonu nei: a low emissions future for Aotearoa*.

This report included the Commission's advice on:

- the first three emissions budgets (2022-25 (EB1), 2026-30 (EB2), 2031-35 (EB3))
- the recommended policy direction of the first emissions reduction plan
- our Nationally Determined Contribution for 2021–30 (NDC)
- the reductions in biogenic methane that may eventually be required.

This document provides more information about how the Commission's 33 recommendations have shaped Aotearoa New Zealand's first emissions reduction plan – and our climate response more generally. It does this by setting each recommendation alongside the Government's response and cross-referencing to the actions within the plan.¹

¹ Under sections 5ZA and 5ZB of the Climate Change Response Act 2002 (CCRA), the Minister of Climate Change must also separately publish a formal response to some aspects of the advice received from the Commission.

⁴ The Government's response to He Pou a Rangi – Climate Change Commission's recommendations

Recommendations 1–4: Recommended emissions budgets

Report recommendation	Government response
Recommendation 1 – Emissions budget levels	Emissions budgets for 2022–25, 2026–30 and 2031–35 ²
We recommend the Government set and meet the emissions budgets as outlined in the Climate Change Commission emissions budgets 1 in the appendix.	The Minister of Climate Change has set the first three emissions budgets under the CCRA as shown in the Government response to the Commission's budgets 1 in the appendix.
These emissions budgets are expressed using GWP100 values from the IPCC's <i>Fifth Assessment Report</i> (AR5) for consistency with international obligations relating to Inventory reporting.	The first emissions budget of 290 Mt $\rm CO_2$ -e is the same as that recommended by the Commission.
	The emissions budgets for 2026–30 and 2031–35 are both lower than the emissions budgets recommended by the Commission. There is a reduction of 7 Mt CO_2 -e for Budget period 2 and a reduction of 13 Mt CO_2 -e for Budget period 3, compared with what the Commission recommended.
	Since the Commission provided its advice and recommended emissions budgets in May 2021, new forestry intentions survey information became available that changed the Government's forestry projections.
	The emissions budgets in the Government response to the Commission's budgets 1 in the appendix reflect the impact of the afforestation component of the new forestry projections.
	Responsible agency: Ministry for the Environment
	Responsible Minister: Minister of Climate Change
	Timeline: 2022–25 (EB1)

² The legal responsibility for deciding and setting emissions budgets rests with the Minister of Climate Change under the CCRA.

Report recommendation	Government response
Recommendation 2 – Break down of emissions budgets We recommend that the Government implement policies that will meet emissions budgets based on the balance of emissions and removals as outlined in the Climate Change Commission emissions budgets 2 in the appendix.	 The Government agrees in part with this recommendation. The Government will implement the policies necessary to meet the emissions budgets set out in the Government response to the Commission's budgets 1 in the appendix. This will result in a balance of emissions reductions and removals and gas-by-gas breakdowns along similar lines to those produced by the Commission in its modelling.³ To date, the Government's modelling of expected policy impacts has been sector- and policy-based and compiled in aggregate CO₂ equivalent terms only. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1)
Recommendation 3 – Reductions by greenhouse gas to meet the emissions budgets We recommend that the Government implement policies that deliver emissions reductions of each greenhouse gas as outlined in the Climate Change Commission emissions budgets 3 in the appendix.	 The Government agrees in part with this recommendation. The Government will implement the policies necessary to meet the emissions budgets set out in the Government response to the Commission's budgets 1 in the appendix. This will result in a balance of emissions reductions and removals and gas-by-gas breakdowns along similar lines to those produced by the Commission in its modelling.⁴ To date, the Government's modelling of expected policy impacts has been sector- and policy-based and compiled in aggregate CO₂ equivalent terms only. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1)
Recommendation 4 – Limit on offshore mitigation for emissions budgets and circumstances justifying its use	The Government agrees with this recommendation. 4a. This is consistent with the overall direction in the CCRA that emissions budgets should be achieved through domestic action (see sections 5W and 5Z of the CCRA).

³ The Commission's table for this recommendation uses 100-year time horizon global warming potential (GWP₁₀₀) values from the Intergovernmental Panel on Climate Change (IPCC) *Fourth Assessment Report* (AR4).

 $^{^4}$ The Commission's table for this recommendation uses AR4 GWP₁₀₀ values.

Report recommendation	Government response
We recommend that, given that emissions budgets must be met as far as possible through domestic action, for the purposes of meeting emissions budgets: 4a. The limit on offshore mitigation should be zero for the first three emissions budgets. 4b. The only circumstances that at this stage would justify the use of offshore mitigation is as a last resort in exceptional circumstances beyond the Government's control, such as force majeure events, where domestic measures cannot compensate for emissions impacts.	 4b. The CCRA states that offshore mitigation may be used if there is a significant change of circumstance that affects either the considerations on which the relevant budget was based, or the ability to meet the relevant budget domestically (section 5Z). The Commission's recommendation to limit the use of offshore mitigation to a last resort in exceptional circumstances beyond the Government's control is a narrow interpretation based on its current information and assessment "at this stage". The CCRA also requires the Commission to make an assessment after the end of an emissions budget period of the amount of offshore mitigation required to meet the emissions budget for that period. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1)

Recommendation 5: Rules for measuring progress towards emissions budgets and 2050 targets

Report recommendation	Government response
Recommendation 5 – The rules for measuring progress towards emissions budgets and the 2050 targets We recommend the following package of rules for measuring progress:	The Government agrees in principle with the recommended package of rules for measuring progress, subject to some exceptions and modifications as noted below.
5a. Use of the production-based approach from New Zealand's Greenhouse Gas Inventory as the basis for accounting for emissions budgets and the 2050 targets.	5a. The Government agrees with this recommendation. The accounting used for the emissions budgets and the 2050 targets follows the production-based approach from <i>New Zealand's</i> <i>Greenhouse Gas Inventory for 1990–2019</i> .
5b. Use of the modified activity-based framework for land emissions accounting, with a 1990 base year and 'averaging' for post-1989 forests, substantially aligning emissions budget accounting with the approach used for accounting for the Nationally Determined Contribution (NDC).	5b. The Government agrees with this recommendation. Using a 1990 base year, as in the recommendation, helps align emissions budget accounting with NDC accounting. Note that this decision could potentially be reconsidered at a later date.
5c. Within the modified activity-based land emissions accounting framework, to:i. Include the land areas and uses corresponding to afforestation, reforestation, and deforestation, as	5c.I. The Government agrees with this recommendation. This aligns with the rules that Aotearoa will apply to account for its first NDC (NDC1) under the Paris Agreement.
 confirmed for the first NDC. ii. Exclude forest management, the activity relating to the impact of management practices on pre-1990 forest carbon stocks. This is despite its inclusion in NDC accounting because the forest management reference level has not yet been set for the period through to 2030 and we have been unable to assess how it manages accuracy and uncertainty risks. Improved management of pre- 	 Sc.II. The Government disagrees with this recommendation. A reference level for accounting for pre-1990 forests under forest management is currently in development, and is expected to be completed by the end of 2023. Emissions from pre-1990 forest management activities could be included in rules for measuring progress for EB1, which would maintain alignment with NDC1 accounting. Sc.III. The Government agrees in part with this
1990 forests nevertheless remains important and should be encouraged through policy.iii. Include harvested wood products (HWPs) from post-1989 forests, but not HWPs from pre-1990 forests because they are accounted for as part of forest management which is excluded from	recommendation. HWPs from pre-1990 forests would be accounted for if forest management is included in the rules for measuring progress. This would maintain symmetry in how HWPs from production forests are treated between post-1989 and pre-1990 forests, and would align with NDC1 accounting.
emissions budget accounting. iv. Include a natural disturbances provision, aligned with the first NDC and the 2013 IPCC Kyoto Protocol Supplement. The Commission will judge whether to invoke the provision in its reports that monitor progress each year and at the end of an	5c.IV. The Government disagrees with this recommendation. The primary reason for not agreeing with this recommendation is the lack of evidence that would enable this provision to be implemented. In particular, there is little if any evidence on which to assess the background level of natural disturbance that

emissions budget period.

is occurring in a newly established forest, to which modified activity-based accounting is being applied.

Report recommendation	Government response
	Instead, we propose that the natural disturbance provision be considered if/when accounting for pre- 1990 forest management is considered (recommendation 5.c.II). The natural disturbance provision is relevant for existing pre-1990 forests where there is evidence for calculating the background level of natural disturbance, against which the provision to exclude emissions from natural disturbances can then be applied. The approach for implementing the natural disturbance provision for afforestation (when using modified activity-based accounting) is unclear and may only have a small potential impact on accounted emissions.
5d. From 2021, if the Government allows voluntary offsetting for carbon neutral claims to take place in Aotearoa through cancelling New Zealand Units (NZUs), adjustments corresponding to the amount of NZUs cancelled must be made to the relevant emissions budget, or to the inventory, to avoid the emissions reductions claimed from being negated by increases to the New Zealand Emissions Trading Scheme (NZ ETS) cap.	5d. The Government agrees in part with this recommendation . We do not regulate the voluntary carbon market (VCM); however, the Government's guidance aligns with the Commission's recommendation that NZU cancellation should not be used as a basis for carbon neutral claims.
We also recommend that the Government undertake the following work to improve emissions estimates and broaden the options available for emissions budgets accounting in future:	
5e. Continue to produce and improve annual reports on national consumption emissions estimates.	5e. The Government agrees with this recommendation. Stats NZ compiles and publishes consumption-based emissions estimates periodically as part of its environmental-economic accounting programme.
5f. Develop an appropriate method to reflect changes in carbon stored in above ground biomass and harvested wood products due to increased use of biomass for energy.	5f. The Government agrees with this recommendation. Aotearoa is already able to account for this in the Land Use, Land-Use Change and Forestry sector (when applying either stock change accounting or averaging).
 5g. Develop methods for tracking emissions and removals by sources and sinks not yet included in the country's domestic or international target accounting. This should include: i. Prioritising development of methods to account for carbon in organic soils (such as peat) and biomass (such as small lots of trees and 	5g.I. The Government agrees with this recommendation. The Government is considering how best to address this recommendation through ongoing and future inventory improvement work, to build the evidence base required for inclusion in target accounting.
 regenerating vegetation), with a view to allowing them to be included in future target accounting. ii. Examining the feasibility of using the land-based approach in accounting for targets and emissions budgets for sources and sinks other than production forests, while managing the uncertainty and emissions fluctuations from the harvest cycles of production forests. 	 Sg.II. The Government agrees with this recommendation. A land-based accounting system (which includes the total land area of Aotearoa) will be essential for adequately measuring progress towards our net-zero 2050 target. A land-based accounting system is consistent with reporting in the Greenhouse Gas Inventory, and therefore more straightforward to implement and interpret than activity-based accounting. This is contingent on building the evidence base identified in recommendation 5g.I.

Report recommendation	Government response
5h. Develop sound and transparent practices for accounting for domestic voluntary mitigation and offsetting claims, in relation to the NZ ETS, emissions budgets and NDCs.	5h. The Government agrees with this recommendation. Interim guidance for emitters on voluntary climate change mitigation was published by the Ministry for the Environment in February 2022. The Government will continue to work on this recommendation.
	Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change
	Timeline: 2022–25 (EB1) and ongoing

Recommendations 6–10: Policy direction to create an enabling environment for change

Treaty of Waitangi and the Crown–Māori relationship

Repo	ort recommendation	Government response
Crow We re princi are e The s 1 Ir w a 2 S p re k W 3 Ir 2 2 e	mmendation 6 – Treaty of Waitangi and the m–Māori relationship ecommend that the Government commit to: king in partnership with Iwi/Māori and local rnment to develop a strategy to ensure the iples of Te Tiriti o Waitangi/The Treaty of Waitangi mbedded in subsequent emissions reduction plans. strategy should: nclude an outcomes framework and action plan, as well as an evaluation framework outlining agreed ccountability milestones and measures. pecify outcomes that align with the principles of protection, partnership, participation, and equity, ecognising the guarantee of rangatiratanga and aitiakitanga for Iwi/Māori under Te Tiriti o Vaitangi/The Treaty of Waitangi. nclude actions to give effect to Recommendations 6 and 27 (see Chapter 19: Policy direction for an quitable transition for Iwi/Māori). Take a whole of systems approach that addresses	The Government agrees in principle with this recommendation. The emissions reduction plan commits to working in partnership with Māori and local government to develop the recommended strategy. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori, actions 2.1–3). Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1)
w	limate change in parallel with wai (water) and vhenua (land).	
5 B	e resourced appropriately.	

Report recommendation	Government response
 Recommendation 6 – Provisional progress indicators 6.1. Government to work in partnership with lwi/Māori, by 30 June 2022, to agree on an approach for developing the strategy, and to develop and publish the strategy. This should include an outcomes framework with a phased implementation plan. 6.2. Government to have initiated, by 31 December 2022, the first phase of implementation and work in partnership with lwi/Māori to develop an evaluation framework. 	 6.1–6.3. The Government agrees in part with these provisional progress indicators. Further collaboration with and direction from Māori will establish the merits of these indicators (chapter 2: Empowering Māori, actions 2.1–3). Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1)
6.3. Government to report annually, from 31 December2022, on a suite of indicators, including how the strategywill be resourced and funded.	

Cross-party support for emissions budgets

Report recommendation	Government response
Recommendation 7 – Cross-party support for emissions budgets We recommend that the Government commit to: 7.1. Seeking cross-party support on emissions budgets.	The Government agrees with this recommendation. The Minister of Climate Change has approached all the parties represented in Parliament to discuss support for the emissions budgets, and a parliamentary debate has been scheduled.
7.2. Debating emissions budgets in Parliament before they are notified, so that the positions of each political party are on the parliamentary record.	Responsible Minister: Minister of Climate Change Timeline: May 2022

Aligning central and local government efforts

Report recommendation	Government response
Recommendation 8 – Aligning central and local government efforts We recommend that the Government commit to: 8.1. Aligning policy and investments to enable local government to make effective decisions for climate change mitigation and adaptation. This should include aligning the Local Government Act, the Building Act and Code, the Resource Management Act (RMA), national direction under the RMA, proposed RMA reforms and the infrastructure plan.	 8.1. The Government agrees in principle with this recommendation. This recommendation relates to several areas across the emissions reduction plan and relates to broader long-term systems changes. The Government will: integrate land use planning, urban development, and transport planning and investments to reduce transport emissions continue to support emissions reductions and climate resilience via existing urban development and housing policies and work programmes, including Urban Growth Partnerships, Government Policy Statement on Housing and Urban Development, and Māori Housing Strategy MAIHI Ka Ora embed climate objectives into new land use planning legislation through resource management reforms develop the new national planning framework after the Natural and Built Environment Act is enacted to give direction for regional spatial strategies and plans to be developed by new joint committees review existing and new national direction instruments for consistency with the policy intent of this emissions reduction plan respond in mid-2023 to the Future for Local Government Review respond in late 2022 to Rautaki Hanganga o Aotearoa, the New Zealand Infrastructure Strategy, which identifies strategic priorities for low-emissions infrastructure implement the Government Policy Statement on Land Transport (GPS-LT) 2021, which includes climate change as a priority, and begin development of the GPS-LT 2024 As part of the annual cycle of updates to the Building Code, further changes will be progressed to support emissions reduction and improve efficiency

Report recommendation	Government response
	 develop the national adaptation plan, with relevant actions to be addressed later in 2022 (chapter 7: Planning and infrastructure, actions 7.1–7; chapter 10: Transport, actions 10.1.1, 10.1.2; chapter 15: Waste, actions 15.2.2, 15.3.2, 15.5.1), (Building and Construction, actions 12.1.1, and 12.2.1)
	12.3.1). Responsible agencies: Ministry for the Environment, Ministry of Housing and Urban Development, Ministry of Transport, Treasury (Te Waihanga, Waka Kotahi, Kāinga Ora, Department of Internal Affairs, Ministry of Business, Innovation and Employment) Responsible Ministers: Ministers of Environment, Housing, Transport, Infrastructure
	Timeline: 2022–25 (EB1) and ongoing
8.2. Implementing funding and financing mechanisms that provide adequate funding to enable local government to take action aligned with emissions reduction plans, and the implementation of climate adaptation plans.	8.2. The Government agrees in part with this recommendation. Local government currently has access to a range of funding tools that can help to fund climate action, including mechanisms enabled under the Infrastructure Funding and Financing Act and cost recovery tools set out under the Local Government Act 2002 and the Resource Management Act 1991.
	The Government will:
	 consider funding to increase travel by public transport and active transport modes
	 respond in late 2022 to Rautaki Hanganga o Aotearoa, the New Zealand Infrastructure Strategy, which includes a principles-based approach to broadening funding and financing options for infrastructure
	 respond in mid-2023 to the Future for Local Government Review. The Review will consider the sufficiency of existing funding mechanisms for local government
	 investigate opportunities to refocus and align efforts to address the infrastructure funding, financing and delivery barriers that continue to constrain achievement of the Government's long-term housing and urban development objectives
	 investigate opportunities for economic instruments that may support local government to achieve climate objectives in existing or future work programmes, including:
	 resource management reform
	 three waters reform work on pricing tools
	 review of the transport revenue system
	 proposed work on transport pricing (chapter 7: Planning and infrastructure, actions 7.1–7.7; chapter 10: Transport, actions 10.1.2, 10.1.3).
	Responsible agencies: Ministry for the Environment, Ministry of Housing and Urban Development, Ministry of Transport, Treasury (Waka Kotahi, Kāinga Ora, Department of Internal Affairs)

Report recommendation	Government response
	Responsible Ministers: Ministers of Environment, Housing, Transport, Infrastructure
	Timeline: 2022–25 (EB1) and ongoing

Report recommendation	Government response
Recommendation 8 – Provisional progress indicators	
8.1. Government to have, by 30 June 2022, published an agreement that sets out the mechanism for achieving the necessary alignment between central and local government.	8.1. The Government agrees in part with this provisional progress indicator. So as not to pre-empt future policy decisions, or the outcome of public consultation and engagement, the Government will signal institutional arrangements for alignment between central and local government after central government has undertaken further work on existing and upcoming work programmes (as listed in the response to recommendation 8.1 above).
8.2. Government to have published a work plan by 31 December 2022, outlining how alignment and funding will be addressed, and the milestones for achieving this plan.	 8.2. The Government agrees in part with this provisional progress indicator. The Government is undertaking a series of actions in response to recommendation 8.2 (as listed in the response above). To avoid pre-empting future policy decisions, or the outcome of public consultation and engagement, the Government will not publish a work plan in the timeframe recommended by the Commission. Instead, regular reporting against the actions set out in the emissions reduction plan will help establish milestones and direct future work planning.
	Responsible agencies: Ministry for the Environment, Ministry of Housing and Urban Development, Ministry of Transport, Treasury (Te Waihanga (8.1), Waka Kotahi, Kāinga Ora, Department of Internal Affairs, Ministry of Business, Innovation and Employment (8.1)) Responsible Ministers: Ministers of Environment, Housing, Transport, Infrastructure
	Timeline: 2022–25 (EB1) and ongoing

Coordinating efforts to address climate change across government

Report recommendation

Government response

Recommendation 9 – Coordinate efforts to address climate change across government

We recommend that the Government commit to:

9.1. Nominating specific Ministers and agencies with accountability for implementing policies and strategies in the emissions reduction plans in line with emissions budgets.

9.2. Assessing and meeting funding requirements for implementing each emissions reduction plan in line with emissions budgets.

9.3. Establishing Vote Climate Change as a specific multi-agency appropriation which consolidates existing and future government funding for core climate change mitigation and adaptation activities.

9.4. Providing consistent signalling across investments, policy statements, direction to officials, internal policies and directives to ensure that all regulatory and policy frameworks and decisions are aligned with low emissions and climate resilience objectives.

9.1. The Government agrees with this

recommendation. An interdepartmental executive board of climate change public sector chief executives will be established to coordinate the implementation of the emissions reduction plan. Officials are preparing advice on institutional form and functions for a monitoring and accountability framework for the emissions reduction plan. Ministers and agency chief executives have been assigned committed actions in the emissions reduction plan and sector sub-targets (see CAB-22-Min-0055-01). Officials will also develop an implementation plan that aggregates sectoral targets and provides a baseline to monitor from; this plan will be provided to Cabinet later in 2022.

9.2. The Government agrees with this

recommendation. This is a key part of ongoing work to develop this and future emissions reduction plans. In the course of policy development, agencies are responsible for considering what funding is required, as well as considering whether existing funding can be used. Where additional funding is required, the Climate Emergency Response Fund (CERF) can provide funding to support initiatives related to the emissions reduction plan. (chapter 6: Funding and finance, action 6.1).

9.3. The Government disagrees with this

recommendation. The Government considers a specific Vote or Appropriation is not the best way of increasing transparency, and it would not align with how the public finance system operates. However, the Government believes that the establishment of the Climate Emergency Response Fund – as a dedicated funding source for new climate initiatives – will support the intent behind this recommendation (chapter 6: Funding and finance, action 6.1).

9.4. The Government agrees in principle with this recommendation. The Government agrees that climate change should be considered throughout government's work. Given the breadth of the recommendation, the Government does not consider it possible to accept it in full, as implementing it will be subject to the specifics of the area in question. Officials and ministers will need to consider how climate change can be best considered throughout all stages of their work on a case-by-case basis (chapter 6: Funding and finance, action 6.2).

Responsible agencies:

- 9.1. Ministry for Environment
- 9.2–4. Treasury

Report recommendation	Government response
	Responsible Ministers:
	• 9.1. Minister of Climate Change
	• 9.2–4. Minister of Finance
	Timeline: 2022–25 (EB1) and ongoing

Ensuring inclusive and effective consultation, engagement and public participation

Report recommendation	Government response
 Recommendation 10 – Ensure inclusive and effective consultation, engagement and public participation We recommend that the Government commit to: 1 Evolving more effective mechanisms to incorporate the views of the public when 	The Government agrees in principle with this recommendation. The Government is investigating ways to increase public participation in climate policy and prioritising actions (chapter 3: Equitable transition, action 3.5.2).
determining how to prioritise climate actions and policies to meet emissions budgets, to create more inclusive policy development.	Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1) and ongoing

Recommendations 11–16: Policy direction that cuts across sectors

Strengthen market incentives to drive low-emissions choices

Report recommendation	Government response
Recommendation 11 – Strengthen market incentives to drive low-emissions choices	
We recommend that, in the first emissions reduction plan, the Government commit to:	
Amending and continually improving the NZ ETS so that it delivers the incentives needed to achieve emissions budgets. This should include:	
11.1. Amending the NZ ETS to strengthen the incentive for gross emissions reductions and to manage the amount of exotic forest planting the NZ ETS drives, in line with the Commission's advice on the proportion of emissions reductions and removals necessary for meeting emissions budgets (see also Recommendation 25).	11.1. The Government agrees in principle with this recommendation . Policy analysis is underway on unit supply in the NZ ETS to assess whether changes to the scheme are needed to drive an appropriate balance of gross and net emissions reductions. The Government will decide by the end of 2022 on whether to change NZ ETS rules in the future and, if changes are necessary, will also decide on preferred options (chapter 5: Emissions pricing, action 5.2.1).
11.2. Updating NZ ETS unit supply and price control settings to:	11.2. The Government agrees with this recommendation.
 a. Align unit volumes with emissions budgets, taking into account the need to reduce the NZU stockpile. b. Increase the cost containment reserve trigger price to \$70 at the first possible opportunity and then 	11.2a. The Government agreed to update the NZ ETS settings out to 2026 as per the Commission's recommendations from 1 January 2022. Regulations were published in the NZ Gazette on 30 September
 every year by at least 10% plus inflation. Maintain continuity with recent prices, by increasing the auction reserve trigger price to \$30 as soon as practical, followed by annual increases of 5% plus inflation per year. 	2021. This year, as part of the 2022 update to the unit limit and price control settings for 2025-27, the Government will use the one-off provision to update the settings for 2023 and 2024, which will consider the newly set emissions budgets and advice from the Commission (chapter 5: Emissions pricing, action 5.1).
	11.2b . The Government agreed to update the NZ ETS settings out to 2026 as per the Commission's recommendations from 1 January 2022. Regulations were published in the NZ Gazette on 30 September 2021.
	11.2c. The Government agreed to update the NZ ETS settings out to 2026 as per the Commission's recommendations from 1 January 2022. Regulations were published in the NZ Gazette on 30 September 2021.

Report recommendation	Government response
11.3. Establishing an effective market governance regime for the NZ ETS as soon as possible to mitigate risks to market function, delivered through an interagency team.	11.3. The Government agrees with this recommendation. The Government is working on options to address seven identified market risks and construct an effective market governance framework for the NZ ETS. Policy decisions are expected in mid- 2022 with a legislative Bill to be introduced in late 2022 (chapter 5: Emissions pricing, action 5.3).
 11.4. Continually improving the NZ ETS, including by: a. Developing and implementing a plan for recycling proceeds from NZ ETS unit auctions into emissions reductions, adaptation, climate education, equitable transitions and meeting international climate change obligations. This plan should include mechanisms to ensure that it contributes to equitable outcomes for Iwi/Māori. 	 11.4a. The Government agrees with this recommendation. The Government has established the Climate Emergency Response Fund with a \$4.5 billion down payment. This is proportional to NZ ETS auction cash proceeds over 2022/23 to 2025/26, as forecast in the Treasury's Half-Year Economic and Fiscal Update 2021. The current criteria for the CERF determine eligibility
b. Implementing the legislated process for review and phase-out of industrial free allocation, reviewing other aspects of industrial free allocation policy to ensure they are fit for purpose and exploring other policy instruments that over the longer term could be used to address the risk of emissions leakage.	based on evidence of emissions reduction, addressing distributional impacts of the transition or taking an ao Māori approach to climate action. The outcomes noted by the Commission can therefore be addressed through the breadth of these existing criteria (which can additionally be amended in future) (chapter 6: Funding
 Providing more information to reduce uncertainty about adjustments to NZ ETS settings, to support informed decision-making by market participants. 	 and finance, action 6.1). 11.4b. The Government agrees with this recommendation. Implement the process for review
d. Urgently clarifying the role and avenues for voluntary mitigation in Aotearoa, so that businesses and other organisations can understand the options available to them for making robust voluntary commitments or claims.	and phase-out of industrial free allocation: The phase- out of industrial allocation has commenced. On the Minister's request, the Commission must consider and recommend if increased or decreased phase-out rates should be set (see section 5ZOB of the CCRA).
	Update industrial allocation policy: The Government will seek final decisions on updates to industrial allocation policy by mid-2022, with a legislative Bill to be introduced late 2022 (chapter 5: Emissions pricing, action 5.4.1).
	Investigate long-term options to address emissions leakage: The Government will assess the risk of emissions leakage in Aotearoa and long-term policy options to address any risks, starting with the cement sector (chapter 5: Emissions pricing, action 5.4.2).
	11.4c. The Government agrees with this recommendation. Alongside the 2022 update of the NZ ETS unit supply and price control settings, the Government intends to publish supporting information on how NZ ETS settings are determined. This will include how events such as significant changes in Aotearoa New Zealand's emissions profile, or the triggering of the cost containment reserve, will affect unit supply (chapter 5: Emissions pricing, action 5.1).
	11.4d. The Government agrees with this recommendation. The Government updated its VCM guidance in early 2022. Additional work is planned to develop a VCM framework. Next steps will be considered in November 2022 (chapter 5: Emissions pricing, action 5.5).

Report recommendation	Government response
	Responsible agencies: Ministry for the Environment, Ministry for Primary Industries, Ministry of Business, Innovation and Employment, Ministry of Transport, Treasury, Inland Revenue
	Responsible Ministers: Ministers of Climate Change, Agriculture, Forestry, Energy and Resources, Transport, Finance, Revenue
	Timeline: 2022–25 (EB1) and ongoing

Report recommendation	Government response
Recommendation 11 – Provisional progress indicators	
11.1. Government to have, by 31 December 2022, developed proposals for strengthening the NZ ETS incentive for gross emissions reductions and managing the amount of exotic forest planting driven by the scheme, with amendments to be effective by 31 December 2024.	11.1. The Government agrees in part with this provisional progress indicator . Policy analysis is underway, and the Government will decide by the end of 2022 whether changes are needed to the NZ ETS to drive an appropriate balance of gross and net emissions reductions. The Government cannot commit to amendments by 31 December 2024 due to uncertainty with policy decisions and legislative timelines (chapter 5: Emissions pricing, action 5.2.1).
11.2. Government to ensure that, in the next annual update to NZ ETS settings, unit volumes are aligned with emissions budgets and price control settings are increased.	11.2. The Government agrees with this provisional progress indicator. The Government agreed to update the NZ ETS settings as per the Commission's recommendations from 1 January 2022. Regulations were published in the NZ Gazette on 30 September 2021.
	The next annual unit supply and price control settings will be updated before the end of 2022 and take into account the newly set emissions budgets (chapter 5: Emissions pricing, action 5.1).
11.3. Government to develop proposals by 30 June 2022 for establishing an effective market governance regime for the NZ ETS, and to have legislated to address the most significant risks by no later than 30 June 2023.	11.3. The Government agrees in part with this provisional progress indicator. Policy decisions are expected in mid-2022 with a legislative Bill to be introduced in late 2022. The Government cannot commit to legislative changes to address the most significant market risks by 30 June 2023 due to uncertainty in legislative timelines (chapter 5: Emissions pricing, action 5.3).
11.4. Government to develop and publish a plan for recycling proceeds from NZ ETS unit auctions by 30 June 2022, followed by annual reporting on the implementation of the plan and how the proceeds have been used.	11.4. The Government agrees in principle with this recommendation. The Government is currently working through monitoring and reporting considerations for the CERF (chapter 6: Funding and finance, action 6.1).
	Responsible agencies: Ministry for the Environment, Ministry for Primary Industries, Ministry of Business, Innovation and Employment, Ministry of Transport, Treasury, Inland Revenue
	Responsible Ministers: Ministers of Climate Change, Agriculture, Forestry, Energy and Resources, Transport, Finance, Revenue
	Timeline: 2022–25 (EB1) and ongoing

Make investments net-zero compatible

Report recommendation

Recommendation 12 – Make investments net-zero compatible

We recommend that, in the first emissions reduction plan, the Government commit to: Ensuring policy decisions and investments made now support Aotearoa moving towards a thriving, climate-resilient and low-emissions society. This should include:

12.1. Starting to factor shadow emissions prices into policy and investment analysis in central government immediately.

12.2. Encouraging and facilitating local government and the private sector to use shadow emissions prices by, for example, providing guidance to upskill and grow local government capacity to use them in their policy and investment analysis.

12.3. Measuring and reporting on how the post-COVID-19 economic stimulus is delivering climate benefits and the transformational investment needed to reach the climate and economic goals.

Government response

12.1. The Government confirms this

recommendation. Efforts have focused on the development and implementation of shadow emissions values for use by central government. These values have been updated to reflect new information and have been integrated into Treasury's cost benefit analysis tool, CBAx, to support consideration of initiatives in Budget 2022. Agencies are recommended to use CBAx to support Budget initiatives, but do have the option of using other forms of cost benefit analysis. For Climate Emergency Response Fund (CERF) initiatives, a Climate Implications of Policy Assessment (CIPA) is required where the initiative meets the usual CIPA criteria. For CERF initiatives, agencies have also been required to use shadow emissions values to monetise the outputs of that CIPA (chapter 6: Funding and finance, action 6.2).

12.2. The Government agrees in principle with this recommendation. The Government agrees that it can play a supporting role to both local government and the private sector in passing on the knowledge obtained through developing and utilising shadow emissions values to inform decision making. Officials are considering how best to support others outside of central government to benefit from the learnings of central government's use and consideration of shadow emissions values.

Central government's use of shadow emissions values and the publication of our methodology, tools and selected emissions value ranges lead by example. From this experience, it can provide useful resources for local government and the private sector to understand how central government has considered which values to choose and options for incorporating this knowledge into cost benefit analysis (chapter 6: Funding and finance, action 6.2).

12.3. The Government disagrees with this

recommendation. The Government funded a range of measures to respond to COVID-19, including through economic stimulus, but the intent of this was not primarily to support climate objectives. At the time of expenditure, the Government did not put in place monitoring and reporting mechanisms to inform an analysis of how climate objectives were supported. Therefore, given that significant work would be required, the Government considers it would not be a

Report recommendation	Government response
	good use of resources to independently assess how this expenditure supported climate objectives in isolation.
	However, the monitoring and reporting framework we are developing for the CERF will meet the intent of this recommendation for climate expenditure going forward.
12.4. Requiring Crown agencies, entities and Crown- owned companies to include climate change as part of their decision making. This should be a particular focus for long-lived investments such as housing and transport infrastructure, to help achieve emissions reduction and climate-resilience objectives, and should include embedded emissions.	12.4. The Government agrees with this recommendation. The Carbon Neutral Government Programme and Government Procurement Rules (updated in 2019) already support this shift. Over the next financial year, options for issuing departments with guidance on how to address climate change objectives within departmental strategies and policies will also be identified and progressed.
	Responsible agencies:
	• 12.1–3. Treasury
	• 12.4. Ministry for the Environment
	Responsible Ministers:
	• 12.1–3. Minister of Finance
	12.4. Minister of Climate Change
	Timeline:
	• 12.1–3. 2022–25 (EB1) and ongoing
	• 12.4. 2022–23

Enable system-level change through innovation, finance and behaviour change

Report recommendation	Government response
Recommendation 13 – Enable system-level change through innovation, finance and behaviour change	
We recommend that, in the first emissions reduction plan, the Government commit to: Enabling system- level change in Aotearoa through innovation, finance and behaviour change. This should include:	
13.1. Accelerating the transition through innovation by:a. Giving high priority to low-emissions research, development and innovation within public science and innovation funding approaches. This should	 13.1a. The Government agrees with this recommendation. The Government will prioritise low-emissions research, development and innovation through the following approaches. Climate Innovation Platforms will provide the provide the following approaches.
include support for research, development and innovation that draws on mātauranga Māori. b. Introducing targeted measures to support low-	mechanism for disruptive innovation to be adopted at pace to support the transformation of Aotearoa.
emissions research, development and innovation. This could include tax incentives, research grants and intellectual property regulations, and must include mechanisms to enable Māori-collectives and researchers to equitably benefit.	 Optimising the research, science and innovation (RSI) system through Te Ara Paerangi – Future Pathways will involve setting clear priorities for the science system of Aotearoa to address challenges including climate change.

Report recommendation	Government response
c. Creating an enabling regulatory environment for new and emerging low-emissions industries and sectors, including removing barriers for Iwi/Māori to participate in these opportunities.	 The Vision Mātauranga policy unlocks the science and innovation potential of Māori knowledge. Mātauranga Māori offers insights on and solutions to climate change issues that reflect a holistic worldview.
	 Funding signals for the Endeavour Fund emphasise proposals that aim to support the transition to a low-emissions and climate-resilient economy. Explicit consideration will be given to the potentia impact of research on greenhouse gas emissions (chapter 8: Research, science, innovation and technology, actions 8.1–14).
	13.1b. The Government agrees in part with this recommendation.
	Grants, including the Endeavour Fund and the Vision Mātauranga Capability Fund, support low-emissions research and development through funding signals. Grants provide a powerful mechanism for targeted intervention to aid in the prioritisation of specific activity such as low-emissions research and development. The Endeavour Fund has introduced signals to place enhanced emphasis on proposals that support the transition to a low-emissions economy and society (chapter 8: Research, science, innovation and technology, action 8.2).
	The Aotearoa Research and Development Tax Incentive (RDTI) is the main mechanism to support business innovation and allows companies to claim back 15% of eligible research and development (R&D) expenses.
	The Government is not considering changing the tax incentive or intellectual property regulations, as these are broad-brush regulations rather than specific to low-emissions R&D. Adding a multi-tiered RDTI system to an already complex system would create difficultie for the application and delivery of the programme.
	Additionally, given the potential for carbon reduction through emerging innovation is difficult to assess, supporting all innovation through the RDTI captures a innovation that could have an impact on emissions reduction and grow the low-emissions economy of Aotearoa.
	Finally, changing Aotearoa New Zealand's intellectual property regulations is not recommended as these are governed by international treaties, which restricts the ability to change them. Furthermore, international evidence shows weak to no correlation between intellectual property mechanisms (including patent boxes) and acceleration of technology development to address challenges such as climate change.
	13.1c. The Government agrees with this recommendation. The Climate Innovation Platforms will form strategic partnerships with relevant regulatory teams, sectors, iwi and communities to enable accelerated implementation of innovation

enable accelerated implementation of innovation

Government response

to address climate change and transform Aotearoa into a low-emissions economy and society (chapter 8: Research, science, innovation and technology, action 8.1).

13.2. Mobilising finance for low emissions and climateresilient investments:

Investigating and developing actions government can take to help mobilise private sector finance, including ways to improve access to low-emissions finance for Māori-collectives.

Exploring the extension of the mandatory climaterelated disclosure regime to cover a broader range of activities, for example, public entities at the national and local level.

Evaluating the benefits of extending mandatory climate-related disclosure to cover emissions enabled by loans, from financial institutions, over a certain threshold.

13.3. Supporting behaviour change:

- Including behaviour change in the design of climate change policies and programmes, in order to enable New Zealanders to make choices that support low-emissions outcomes.
- b. Identifying a lead agency and establishing a dedicated, well-resourced fund for education and information to promote and socialise the widescale behaviour changes needed. This should involve communities, Iwi/Māori and local knowledge.

13.2a. The Government agrees with this

recommendation. This recommendation aligns well with the Sustainable Finance Forum's recommendation for a Whole of Government Sustainable Finance Strategy. The Reserve Bank of New Zealand is leading a project investigating the barriers Māori collectives face in accessing finance. The Government is supportive of this work and its findings will help to inform what further actions the Government can take. The interagency group of Chief Executives responsible for the ERP will also direct further work in this area.

13.2b. The Government agrees with this

recommendation. Agencies will be considering the extension of the scope of the mandatory climate-related disclosure regime.

13.2c. The Government agrees in principle with this recommendation. We agree that agencies should explore this action.

13.3a. The Government agrees in principle with this recommendation. The Ministry for the Environment will scope appropriate mechanisms to incorporate behavioural outcomes into climate policy and communication initiatives.

13.3b. The Government agrees in principle with this recommendation. The Ministry for the Environment will develop proposals for a Climate Information Centre to inform low-emissions choices and for a fund to support community-based solutions and trials to encourage adoption of low-emissions behaviours.

Responsible agencies:

- 13.1–2. Ministry of Business, Innovation and Employment
- 13.2 b –c Ministry for the Environment
- 13.3. Ministry for the Environment

Responsible Ministers:

- 13.1–2. Minister of Science, Research and Innovation
- 13.2b-c , Minister of Climate Change, Minister of Commerce and Consumer Affairs
- 13.3. Minister of Climate Change

Timeline: 2022–25 (EB1) and ongoing

Increase the circularity of the economy

Report recommendation	Government response
Recommendation 14 – Increase the circularity of the economy We recommend that, in the first emissions reduction plan, the Government commit to: Developing and delivering a long-term strategy to move Aotearoa to a more circular economy. This should include:	The Government agrees with this recommendation. The emissions reduction plan commits to developing and delivering a long-term strategy to move Aotearoa to a more circular economy (chapter 9: Circular economy and bioeconomy). The Ministry of Business, Innovation and Employment supports the Commission's recommendation to increase the circularity of the economy.
 14.1. Acting in partnership: To be enduring, the strategy must be created in partnership with lwi/Māori, give effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, and align with the He Ara Waiora framework. Consideration should also be given to: a. How to embed a complementary mātauranga 	14.1. The Government agrees in part with this recommendation. The circular economy and bioeconomy strategy will be created with meaningful engagement with Māori rather than in partnership, recognising that ultimate responsibility for delivering a more circular economy rests with the Crown (chapter 9: Circular economy and bioeconomy, action 9.1).
 Māori approach in the strategy (see also Recommendation 26 on equitable and proactive partnership with Iwi/Māori). Enabling Māori-collectives to participate in associated business opportunities. 	The Government agrees with these recommendations. 14.1a and 1b. The development of the circular economy and bioeconomy strategy will consider how to embed a mātauranga Māori approach and how to enable Māori collectives to participate in associated business opportunities (chapter 9: Circular economy and bioeconomy, actions 9.1.4, 9.3, 9.4, 9.5).
14.2. Prioritising and investing in data collection to support measurable indicators to enable monitoring of progress towards circularity and the impact on emissions.	14.2. The Government agrees with this recommendation. The development of the circular economy strategy will include crafting resource flow maps, establishing a baseline and developing metrics to effectively track the transition to circular economy with a thriving bioeconomy, to ensure it achieves the Government's objectives on regenerative natural systems and lifting wellbeing (chapter 9: Circular economy and bioeconomy, action 9.1).
14.3. Providing a clear governance structure, including tasking a minister and lead agency to assess and implement actions for a more circular economy.	14.3. The Government agrees with this recommendation. The circular economy and bioeconomy strategy will clearly outline governance structures and Ministerial accountabilities (chapter 9: Circular economy and bioeconomy, action 9.1).
14.4. Setting up a mechanism that enables active collaboration with Iwi/Māori, local government and industry.	 14.4. The Government agrees with this recommendation. Developing the circular economy and bioeconomy strategy will include meaningful engagement, and the Government will set up a mechanism to enable active collaboration with key stakeholders, including Māori, local government, and industry (chapter 9: Circular economy and bioeconomy, actions 9.1.4, 9.5). For example, this could include using the platform Government will establish for Māori climate action to sit alongside the Government's climate policy response (chapter 2: Empowering Māori, actions 2.1, 2.2)
	Responsible agency: Ministry of Business, Innovation and Employment Responsible Ministers: Ministers for Economic and Regional Development, Energy and Resources
	Timeline: 2022–25 (EB1)

Develop a thriving, climate-resilient bioeconomy that delivers emissions reductions

Report recommendation Government response Recommendation 15 - Develop a thriving, climate-The Government agrees with this recommendation. resilient bioeconomy that delivers emissions The emissions reduction plan commits to developing reductions and delivering a long-term strategy to move Aotearoa to a thriving, climate-resilient bioeconomy (chapter 9: We recommend that, in the first emissions reduction Circular economy and bioeconomy). plan, the Government commit to: Developing and delivering a strategy for a thriving, climate-resilient The Ministry of Business, Innovation and Employment bioeconomy that reduces emissions through displacing supports the Commission's recommendation to fossil fuel-derived production materials and energy develop a thriving and climate-resilient bioeconomy sources. This should include: that delivers emissions reductions. 15.1. Acting in partnership: To be enduring, the 15.1. The Government agrees in part with this strategy must be created in partnership with recommendation. This will be carried out with Iwi/Māori, give effect to the principles of Te Tiriti o meaningful engagement with Māori rather than in Waitangi/The Treaty of Waitangi, and align with the partnership, recognising that ultimate responsibility He Ara Waiora framework. Consideration should also for delivering a thriving bioeconomy rests with the be given to: Crown (chapter 9: Circular economy and bioeconomy, action 9.1.4). a. How to embed a complementary matauranga

- Māori approach in the strategy (see also Recommendation 26 on an equitable and proactive partnership with Iwi/Māori).
- b. Enabling Māori-collectives to participate in associated business opportunities.

15.2. Providing a clear governance structure, including tasking a Minister and lead agency to assess and address competing interests and trade-offs within and across the sectors involved in the bioeconomy.

15.3. Setting up a mechanism that enables active collaboration with Iwi/Māori, local government and industry.

15.1a. The Government agrees with this

recommendation. This will be actioned through the development of the Circular Economy and Bioeconomy Strategy, which includes enabling Māori to shape and benefit from a thriving bioeconomy as a critical component, as part of the emissions reduction plan (chapter 9: Circular economy and bioeconomy, actions 9.1.4, 9.5).

15.1b. The Government agrees with this

recommendation. This will be actioned through the development of the Circular Economy and Bioeconomy Strategy, which includes enabling Māori to shape and benefit from a thriving bioeconomy as a critical component, as part of the emissions reduction plan (chapter 9: Circular economy and bioeconomy, actions 9.1.4, 9.5).

15.2. The Government agrees with this

recommendation. The Minister for Economic and Regional Development, the Minister of Energy and Resources, and the Minister of Forestry will be responsible for the circular economy and bioeconomy actions. The Minister of Business, Innovation and Employment is the responsible agency. (chapter 9: Circular economy and bioeconomy).

15.3. The Government agrees with this

recommendation. Developing the circular economy and bioeconomy strategy will include meaningful engagement, and the Government will set up a mechanism to enable active collaboration with key stakeholders, including Māori, local government, and industry (chapter 9: Circular economy and bioeconomy, actions 9.1.4, 9.5). For example, this could include using the platform Government will 15.4. Integrating considerations across the agriculture, building, energy, forestry, land, transport, and waste sectors (see relevant sector recommendations) including:

- a. Collating and publishing data on existing biomass resource supply and demand to identify potential regional supply chains.
- b. Introducing regulatory or investment settings that prioritise high value and emissions reduction uses for biomass resources.
- c. Evaluating the future value of the bioeconomy including as a source of fuels, construction materials, other products, employment and economic opportunity.
- Creating an environment that enables research and innovation to drive a valuable future bioeconomy (consistent with Recommendation 13 on innovation, finance, and behaviour change).

establish for Māori climate action to sit alongside the Government's climate policy response (chapter 2: Empowering Māori, actions 2.1, 2.2)

15.4. The Government agrees with this recommendation.

The circular economy and bioeconomy strategy will take a cross-sector view of New Zealand's bioresources and opportunities and integrate considerations for agriculture, building, energy, forestry, transport, waste and other sectors.

15.4a. Action 9.6 in the emissions reduction plan, "Accelerate sustainable and secure supply and uptake of bioenergy" include a sub-action to establish a baseline of supply and demand of bioenergy feedstocks (chapter 9: Circular economy and bioeconomy, action 9.6).

15.4b. The Government will use its position to address market and regulatory failures, shape markets and set direction by investing in science and innovation, and working in partnership with businesses by providing technical support (chapter 9: Circular economy and the bioeconomy, actions 9.1).

15.4c. The circular economy and bioeconomy strategy will evaluate the future value of existing bio-resources (following a stocktake of New Zealand's existing bio-resources) (chapter 9: Circular economy and bioeconomy, actions 9.1.5).

15.4d. The Government will use its position to address market and regulatory failures, and shape markets and set direction by investing in science and innovation, and working in partnership with businesses to support research and development and accelerate investment in the bioeconomy to commercialise bioeconomy technology and products (chapter 9: Circular economy and bioeconomy, actions 9.1, 9.7).

Responsible agency: Ministry of Business, Innovation and Employment

Responsible Ministers: Ministers of Economic and Regional Development, Energy and Resources Timeline: 2022–25 (EB1) subject to Cabinet agreement

Enable emissions reductions through changes to urban form, function and development

Report recommendation	Government response
Recommendation 16 – Enable emissions reductions through changes to urban form, function and development	
We recommend that, in the first emissions reduction plan, the Government commit to: Enabling emissions reductions through changes to urban form, function and development. This should include:	
16.1. Developing a policy approach in partnership with Iwi/Māori to ensure well-integrated planning and policies related to urban form, function and development. This approach must also be developed in active collaboration with local councils and communities.	 16.1. The Government agrees with this recommendation. The Government will take the following actions. Embed climate objectives into new land use planning legislation through resource management reforms. Te Oranga o Te Taiao is signalled to be in the proposed Natural and Built Environments Act. New entities (joint committees with central and local government and iwi/Māori representation) will be established to oversee the development of regional plans and strategies. Integrate land use planning, urban development and transport planning and investments to reduce transport emissions. Accelerate emissions reductions and climate resilience by implementing existing urban development and local government, and iwi), Government Policy Statement on Housing and Urban Development, and MAIHI Ka Ora (the National Māori Housing Strategy). The Government is committed to partnerships with Māori. Partnership will take time and appropriate structures to be effective (chapter 7: Planning and
16.2. Promoting urban design solutions that acknowledge Iwi/Māori whakapapa, identity and tūrangawaewae and the need to preserve and protect their wāhi tapu and sites of cultural significance.	 infrastructure, actions 7.1, 7.2). 16.2. The Government agrees with this recommendation. The Government will: incorporate mātauranga Māori in the decisionmaking framework of the Natural and Built Environments Act. This will enable any future urban design guidance to incorporate Māori whakapapa, identity and tūrangawaewae and the need to protect wāhi tapu continue to develop a national medium-density design guide to support the implementation of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 in consultation with local government, Māori and industry stakeholders (chapter 7: Planning and infrastructure, actions 7.1, 7.2).

Report recommendation	Government response
16.3. Developing a consistent approach to quantifying the emissions impacts of urban development decisions. Use this to continually improve the way emissions consequences are integrated into decision making on land use, transport and infrastructure investments.	 16.3. The Government agrees with this recommendation. The emissions reduction plan includes actions to: review existing tools and methodologies, and develop new tools, to establish a nationally consistent emissions measurement toolkit to assist decision making on urban and infrastructure development develop tools to assess transport emissions from proposed urban developments, and to require transport emissions impact assessments for transport projects and major urban developments (chapter 7: Planning and infrastructure, action 7.4; chapter 10: Transport, action 10.1.2A).
16.4. Improving the evidence base on the relationship between urban form, function, density, transport systems, land use and other factors. This will support the design of approaches to reduce emissions across different urban areas.	 16.4. The Government agrees with this recommendation. The emissions reduction plan includes actions to: develop tools to assess transport emissions from
	proposed urban developments, and to require transport emissions impact assessments for transport projects and major urban developments
	 improve the evidence base for understanding what can help reduce urban greenhouse gas emissions in an Aotearoa context, such as how land use planning and delivering infrastructure in our urban development can reduce emissions
	 identify and aim to pilot innovative approaches that deliver low-emissions alternatives to traditional neighbourhood and infrastructure approaches. Kāinga Ora – Homes and Communitie may lead this work within one or more existing projects (chapter 7: Planning and infrastructure, actions 7.4, 7.5; chapter 10: Transport, action 10.1.2A).
For existing urban areas:	
16.5. Retrofitting existing public spaces and infrastructure to prioritise the use of active and public transport and other low emissions choices. This recommendation should be considered alongside Recommendation 17 for transport and Recommendation 13 for behaviour change.	16.5. The Government agrees with this recommendation. Recommendation 16.5 is consistent with the direction set out in the National Policy Statement on Urban Development and Government Policy Statement on Housing and Urban Development, which enables more urban development to occur in existing urban areas to strengthen the use of public and active transport.
	The emissions reduction plan includes actions to:
	 incentivise local government to quickly deliver bike/scooter networks, dedicated bus lanes, and walking improvements by reallocating street space (including during street renewals)
	 consider regulatory changes to make it simpler an quicker to make street changes
	 scale up Waka Kotahi's 'Innovating Streets for People' programme to rapidly trial street changes (chapter 7: Planning and infrastructure, actions 7.1, 7.2; chapter 10: Transport, action 10.1.2A).

Report recommendation	Government response
16.6. Ensuring regulatory settings allow for increased density and use of existing infrastructure, land and built form to reduce emissions.	16.6. The Government agrees with this recommendation. Recommendation 16.6 is consistent with the direction set out in the National Policy Statement on Urban Development and Government Policy Statement on Housing and Urban Development. These national direction tools enable increased densification in existing urban areas, encourage more efficient use of existing infrastructure and support well-functioning, integrated urban form connected to active and public transport.
	Increased densification in existing urban areas has been brought forward and strengthened by the passing of Resource Management (Enabling Housing Supply and Other Matters) Amendment Act in 2021.
	Resource management reform will also explore opportunities to better integrate infrastructure and land use decisions (see the response to recommendation 8.1) (chapter 7: Planning and infrastructure, actions 7.1 and 7.2).
For new urban areas:	
16.7. Enabling low emissions choices by ensuring services, amenities, facilities and infrastructure are accessible and interconnected. This includes providing safe cycle and walkways and connections to public transport.	16.7. The Government agrees with this recommendation. \ actions and direction set out in the Transport chapter of the Emissions Reduction Plan, National Policy Statement on Urban Development, Urban Growth Partnerships, and Government Policy Statement on Housing and Urban Development, provide frameworks for future decisions to better integrate infrastructure and land use decisions to enable better access to services, amenities and facilities, including via improved active and public transport.
	Resource management reform, in particular the Strategic Planning Act, will also explore opportunities to better integrate infrastructure and land use decisions (chapter 7: Planning and infrastructure, actions 7.1, 7.2).
	Responsible agencies: Ministry for the Environment, Ministry of Housing and Urban Development, Ministry of Transport (Waka Kotahi, Te Waihanga, Kāinga Ora)
	Responsible Ministers: Ministers of Environment, Housing, Transport
	Timeline: 2022–25 (EB1) and ongoing

Recommendations 17–19: Policy direction for transport

Report recommendation

Government response

Recommendation 17 – Improve mobility options and reduce emissions

We recommend that, in the first emissions reduction plan, the Government commit to: Improving mobility options and reducing emissions by providing affordable, reliable, convenient and low-emissions alternatives to high-emissions vehicle use. This should include the Government working with local authorities in:

17.1 Setting targets and implementing plans to substantially increase walking, cycling, public transport and shared transport use to displace vehicle use. This should be delivered through:

- Substantially increasing the share of central government funding dedicated to active and public transport infrastructure. Funding should be aligned with achieving a thriving, climate resilient and low-emissions Aotearoa.
- Better connecting communities, cities and regions by improving the frequency, accessibility and integration of intermodal low-emissions transport services.
- c. Reducing public transport fares to encourage greater use of public transport.
- d. Developing targets, plans and approaches:
 - In partnership with Iwi/Māori, giving effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, and aligning with the He Ara Waiora framework.
 - ii. In collaboration with local authorities, consideration should be given to the different circumstances for rural communities, towns and cities.
 - iii. In collaboration with stakeholders in the community and business to ensure that outcomes are low emissions, affordable, and support mobility options for diverse communities.

17.2. Encouraging higher rates of working from home and flexible work arrangements to reduce travel demand and associated emissions (see also Recommendation 24 (2c) in Chapter 17: Policy direction for agriculture).

17.3. Ensuring regulatory settings provide local authorities with the tools needed to deliver a low emissions and climate-resilient transport system at pace. This should include evaluating the role of pricing incentives beyond the NZ ETS. For example,

17.1. The Government agrees with this

recommendation. The emissions reduction plan sets a national total Vehicle Kilometres Travelled (VKT) reduction target for the light fleet that will be met through a range of measures, including through supporting people to walk, cycle and use public and shared transport (chapter 10: Transport, focus area 1).

It also commits to setting sub-national VKT reduction targets by the end of 2022 (chapter 10: Transport, action 10.1.2A).

17.1a and b. The emissions reduction plan commits to delivering major public transport service and infrastructure improvements (chapter 10: Transport, action 10.1.2B) and to substantially improving infrastructure for walking and cycling (chapter 10: Transport, action 10.1.2C).

17.1c. The emissions reduction plan commits to working with local authorities to make public transport more affordable, with a particular focus on low-income users (chapter 10: Transport, action 10.1.2F).

17.1d. The emissions reduction plan commits to partnering with Māori, local government and community representatives to develop new VKT reduction programmes, aligned with sub-national VKT reduction targets (chapter 10: Transport, action 10.1.2A).

17.2. The Government agrees in part with this recommendation. The costs and benefits of working from home should be explored to understand if agencies should develop a tool to inform individuals and businesses of the financial and emissions benefits of working from home.

17.3. The Government agrees with this recommendation. The emissions reduction plan commits to considering enabling congestion charging, as well as determining the most effective combination of additional pricing tools to reduce emissions from land

Re	port recommendation	Government response
reo	congestion charges or where public transport fare reduction would have the greatest impact on behaviour change.	transport, including parking pricing, VKT pricing and low- emissions zones. It also commits to considering changes to legislative settings to enable their use and investigate the equity impact of different tools (chapter 10: Transport, action 10.1.3).
		Responsible agencies:
		• 17.1 and 17.3. Ministry of Transport
		• 17.2. Ministry for the Environment
		Responsible Ministers:
		• 17.1 and 17.3. Minister of Transport
		Timeline:
		• 17.1 and 17.3. 2022–25 (EB1) and ongoing
-	commendation 18 – Accelerate emissions ductions from the light vehicle fleet	
pla en	e recommend that, in the first emissions reduction in, the Government commit to: Accelerating hissions reductions from the light vehicle fleet. This buld include the Government:	
int ma lim	1. Setting a time-limit on light vehicles with ernal combustion engines entering, being unufactured, or assembled in Aotearoa. The time it should be no later than 2035 and, if possible, as rly as 2030.	18.1. The Government agrees in part with this recommendation. The Government wants to consider more broadly what is required to support the transition to low-emissions vehicles. This includes considering what further measures are required from 2027 to increase the fuel efficiency of the imported fleet and prevent high- emitting vehicles from being dumped into Aotearoa (chapter 10: Transport, action 10.2.1).
lig	2. Setting an emissions efficiency standard for nt vehicle imports and steadily strengthening this improve overall efficiency of the light vehicle et.	 18.2. The Government agrees with this recommendation. The Government has passed the Clean Vehicles Act 2022, which sets an entry into force date of 1 January 2023 for the Clean Vehicle Standard. The Land Transport (Clean Vehicles Standard) Regulations to support this are being developed over 2022. The Clean Vehicle Standard is an emissions efficiency standard for light vehicle imports and will steadily strengthen over time to improve the overall efficiency of the light vehicle fleet (chapter 10: Transport, action 10.2.1).
	 Accelerating the uptake of electric vehicles by introducing a range of measures, including: 	18.3. The Government agrees with this recommendation. The Government has already taken
	A policy to reduce the relative upfront cost of EVs until they reach price parity with internal	significant steps to accelerate the uptake of EVs through introducing the Clean Vehicles package.
,	combustion engine (ICE) vehicles.	18.3a. The Government has introduced the Clean Vehicle Discount, which reduces the upfront cost of
р.	Supporting EV leasing, purchasing and sharing schemes to improve equitable access. Regard needs to be given to ensuring that Iwi/Māori, and those in low income and vulnerable groups have the opportunity to access electric mobility.	EVs (chapter 10: Transport, action 10.2.1).
		18.3b. The emissions reduction plan commits to supporting social leasing schemes to make access to cleaner vehicles affordable for low-income
c.	Enabling ways to bulk procure electric vehicle	households. This will have regard to the needs of
	fleets, working with the private sector and public	iwi/hapū, vulnerable groups and those on a low
4	sector procurement to do so.	income (chapter 10: Transport, action 10.2.2).
α.	Encouraging battery refurbishment, repurposing, and recycling systems, working with the private sector to do so. (See also Recommendation 13 in Chapter 13: Policy direction that cuts across	18.3c. The Government has set up an EV leadership group that, as part of its remit, will look at ways to enable bulk procurement of EV fleets.

Chapter 13: Policy direction that cuts across

Report recommendation	Government response
 sectors and Recommendation 22 in Chapter 16: Policy direction for waste.) e. Enhancing the roll out of EV charging infrastructure to ensure greater coverage, including at marae, multiple points of access, mandatory smart charging, and fast charging. (See also Recommendation 19, and Recommendation 20 in Chapter 15: Policy direction for energy, industry and buildings.) 	 18.3d. A product stewardship scheme for large batteries is currently being developed. A separate consultation was undertaken in late 2021 on proposed regulations for large batteries (which includes a system for EV battery refurbishment, repurposing and recycling). It links to a wider waste reduction work programme and regulated product stewardship schemes currently under development. 18.3e. The emissions reduction plan commits to supporting the rollout of EV charging infrastructure through developing an EV charging infrastructure work programme, completing a national EV charging infrastructure strategy and reviewing the Electricity (Safety) Regulations 2010 to cover the safety needs associated with charging EVs (chapter 10: Transport,
8.4. Determining how the tax system could be used to discourage the purchase of ICE vehicles and support the adoption of low-emissions vehicles. Note: Recommendation 19, part 2 would also deliver emissions reductions from the light vehicle fleet.	 associated with charging EVS (chapter 10: Transport, action 10.2.3). 18.4. The Government agrees in part with this recommendation. The emissions reduction plan commits to investigating how the tax system could support clean transport options to ensure low-emissions transport options are not disadvantaged. Part of this investigation is to review aspects of the tax system to ensure low-emissions transport options are not disadvantaged. This includes whether employer-provided public transport should be exempt from fringe benefit tax (FBT) and FBT treatment of work-related vehicles (chapter 10: Transport, action 10.2.1). This is a narrower scope than proposed in the recommendation so that it can enable a review to be completed in 2022 on key aspects of the tax system.
	 Responsible agencies: 18.1. Ministry of Transport 18.2. Ministry of Transport and Waka Kotahi 18.3. Ministry of Transport and Ministry for Environment 18.4. Inland Revenue Responsible Ministers:
	 18.1–3 (excluding 3d). Minister of Transport 18.3d. Minister of Environment 18.4. Minister of Revenue Timeline: 18.1. Late 2022 18.2. The Clean Vehicle Standard will come into force in 2023 18.3. The Clean Vehicle Discount was introduced in
	 2021; other initiatives 2022–25 (EB1) 18.4. Review to be completed in 2022

Report recommendation

Recommendation 19 – Create options to decarbonise heavy transport and freight by 2050

We recommend that, in the first emissions reduction plan, the Government commit to: Creating options to decarbonise heavy transport and freight by 2050. This should include:

19.1. Developing a national low-emissions freight strategy that establishes the investment settings and infrastructure required to deliver a low-emissions freight system. The strategy should:

- Be developed in partnership with Iwi/Māori, give effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, and align with the He Ara Waiora framework.
- Be developed in collaboration with freight stakeholders, to leverage private-sector action and finance.
- c. Enable opportunities to improve emissions efficiency and freight optimisation.
- d. Set clear targets to increase the share of rail and coastal shipping.
- e. Encourage fuel switching opportunities where appropriate. This should be aligned with Recommendation 19.2 below.

19.2. Developing low-carbon fuel markets through measures that include:

- a. A low-carbon fuel standard or mandate to increase demand for low-carbon fuels.
- b. Supporting demonstration and pilot projects for low-carbon heavy vehicles.
- c. Offering targeted support for the uptake of lowcarbon heavy vehicles. This could include broadening the exemption battery EVs have from paying road user charges to include other low-carbon technologies

19.3. Undertaking a detailed study into the use of low-carbon fuels for aviation and shipping in Aotearoa. This should identity options for Aotearoa, their barriers to uptake and actions to address them. **19.1. The Government agrees in part with this recommendation.** The Government has agreed to develop a national Freight and Supply Chain strategy. This strategy will set the direction for the national freight and supply chain for the next 30 years. It will set out detailed recommendations for action across the areas of decarbonisation, resilience, productivity and innovation and wellbeing (chapter 10: Transport, action 10.3.1).

19.1a. and b. The strategy will be developed collaboratively with Māori, local government and industry (chapter 10: Transport, action 10.3.1).

19.1c. The strategy will explore opportunities to improve efficiency and competitiveness of the freight system (chapter 10: Transport, action 10.3.1).

19.1d. The strategy will explore options for decarbonising freight modes and opportunities to encourage greater mode shift to rail and coastal shipping. Instead of setting specific targets for mode shift, we have set an overall target for reducing emissions across the freight system. This allows for achieving reductions through the most appropriate mechanisms (chapter 10: Transport, action 10.3.1).

19.1e. The strategy will signal a long-term investment pathway for infrastructure that supports freight decarbonisation (including fuels where appropriate). Also see response to 19.2a below (chapter 10: Transport, action 10.3.5).

The Government agrees with this recommendation. The Government is already progressing work to support a low-carbon fuel market, including by agreeing to a Sustainable Biofuels Obligation.

19.2a. The Government has agreed to introduce a Sustainable Biofuels Obligation to help overcome the cost and risk barriers facing biofuels uptake (chapter 10: Transport, action 10.3.5).

19.2b and c. The emissions reduction plan commits to provide funding to support the freight sector to purchase zero- and low-emissions trucks. It also commits to evaluating options for RUC to support emissions reductions, including whether to extend the heavy EV exemption from road user charges (RUCs) and set RUC rates differently by fuel type/emissions (chapter 10: Transport, action 10.3.1).

The Government agrees with this recommendation. Air New Zealand is undertaking a Sustainable Aviation Fuel (SAF) feasibility study. Once findings from this study are available, the Government will develop settings for a SAF-specific mandate (chapter 10: Transport, action

Government response

Report recommendation	Government response
	10.3.3). The emissions reduction plan also commits to undertake research to advance the development and uptake of alternative low- and zero-carbon fuels for shipping (chapter 10: Transport, action 10.3.4).
	Responsible agency: Ministry of Transport
	Responsible Minister: Minister of Transport
	Timeline:
	• 19.1. The strategy will be completed in 2023
	 19.2. Legislation and regulations for the Sustainable Biofuels Obligation will be enacted in 2023; RUC evaluation will be completed in 2023–24. Other initiatives 2022–25 (EB 1)
	 19.3. Proposed SAF-specific mandate settings to be developed by December 2022. Other initiatives 2022–25 (EB1)

Report recommendation	Government response
Recommendation 17 – Provisional progress indicators	
17.1. Government to have, by 31 December 2022, set targets and implemented a plan, including substantially increasing the share of central government funding, to increase walking, cycling, public transport and shared transport to displace vehicle use.	17.1. The Government agrees in principle with this provisional progress indicator. The emissions reduction plan sets targets for transport. The Ministry of Transport is working on a plan for delivering the transport actions in the emissions reduction plan. This should be completed in 2022.
17.2. Government to have, by 31 December 2022, identified and implemented the regulatory settings needed to enable local authorities to deliver a low- emissions transport system at pace.	17.2. The Government agrees in part with this provisional progress indicator. The emissions reduction plan commits to considering enabling congestion charging, as well as determining the most effective combination of additional pricing tools to reduce emissions from land transport, including parking pricing, VKT pricing and low-emissions zones. It also commits to considering changes to legislative settings to enable their use and investigate the equity impact of different tools (chapter 10: Transport, action 10.1.2).
17.3. Government to report on indicators annually from 31 December 2022. This could include mode share by distance travelled for walking, cycling and private car use, public transport, and would need to be measured regionally and aggregated nationally.	17.3. The Government agrees in principle with this provisional progress indicator. The Ministry of Transport already reports on a range of indicators. As part of delivering the emissions reduction plan, further work will be undertaken on what further reporting is required.
	Responsible agency: Ministry of Transport
	Responsible Minister: Minister of Transport
	Timeline: 2022–25 (EB1) and ongoing
Recommendation 18 – Provisional progress indicators	
18.1. Government to have, by 30 June 2022, implemented policy options to accelerate EV uptake.	18.1. The Government agrees with this provisional progress indicator. The Government has introduced the Clean Vehicle Discount (chapter 10: Transport, action 10.2.1).

18.2. Government to report at least annually, from 31 December 2022, on the emissions intensity of the whole light vehicle fleet, and the average emissions intensity of imported light vehicles. Imported light vehicles to average, by 31 December 2028, a maximum of 105 grams CO ₂ per kilometre.	18.2. The Government agrees with this provisional progress indicator. The Ministry of Transport collects some of these data already and will check if gaps exist and how those might be monitored.
18.3. Government to report on additional indicators at least annually, from 31 December 2022, including the number of EVs being registered in Aotearoa, the percentage of EVs in the fleet, average forecourt cost of an EV by make/model.	18.3. The Government agrees with this provisional progress indicator. The Ministry of Transport already collects data on electric vehicles registered in the fleet. Work is being done to expand data fields to include the cost of the registered vehicles and CO ₂ details.
	Responsible agency: Ministry of Transport
	Responsible Minister: Minister of Transport
	Timeline: 2022–25 (EB1) and ongoing
Recommendation 19 – Provisional progress indicators	
19.1. Government to have, by 30 June 2022, consulted on a national low-emissions freight strategy and on measures to support the development of low-carbon fuel markets.	19.1. The Government agrees in part with this provisional progress indicator. The Ministry of Transport has already commenced work on this strategy and will be consulting in the first half of 2022 on an issues paper. The draft strategy will be consulted on in 2023 (chapter 10: Transport, action 10.3.1).
19.2. Government to have, by 31 December 2022, introduced a national low-emissions freight strategy and made Cabinet decisions on preferred policy options to support the development of low-carbon fuel markets.	19.2. The Government agrees in part with this provisional progress indicator. The Ministry of Transport is going to complete a national Freight and Supply Chain strategy in 2023, following public consultation (chapter 10: Transport, action 10.3.1).
19.3. Government to report annually, by 30 June 2022, on the emissions intensity of the heavy vehicles fleet, and on additional indicators such as the mode share of freight distance by road, rail and coastal shipping.	19.3. The Government agrees with this provisional progress indicator. The Ministry of Transport already collects some data on the heavy fleet. Steps are being taken to assess where gaps might exist and how these may be addressed.
	Responsible agency: Ministry of Transport
	Responsible Minister: Minister of Transport
	Timeline: 2022–25 (EB1) and ongoing

Recommendations 20–22: Policy direction for energy, industry and buildings

Energy

Report recommendation	Government response
Recommendation 20 – Decarbonise the energy	The Government agrees with this recommendation.
system and ensure the electricity sector is ready to	The Government will develop an energy strategy to
meet future needs	consider key priorities, challenges and opportunities

We recommend that, in the first emissions reduction plan, the Government commit to: Delivering a strategy to decarbonise the energy system and ensure the electricity sector is ready to meet future needs. This should include:

20.1. Developing and implementing a national energy strategy to decarbonise the system. The scope would need to cover:

- Setting a target so that 50% of all energy consumed comes from renewable sources by 31 December 2035. Consideration should also be given to replacing the target for 100% renewable electricity with achieving 95%–98% renewable electricity by 2030.
- b. How to ensure access to affordable, secure, lowemissions electricity for residential, commercial, and industrial consumers. Regard needs to be given to the impacts on lwi/Māori, those in regional/rural areas, and vulnerable groups.
- c. Ensuring the use of coal for electricity generation is phased out as soon as possible.
- d. Creating a plan for managing the diminishing role of fossil gas across the energy system, covering the associated consequences for network infrastructure and workforce during the transition. This recommendation should be considered.
- e. The strategy should be developed in:
 - i. Partnership with Iwi/Māori, give effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, account for settlement commitments and obligations between energy-system stakeholders and Iwi/Māori, and align with the He Ara Waiora framework.
 - ii. Collaboration with energy-system stakeholders.

consider key priorities, challenges and opportunities for ensuring a successful transition of the energy system, including signalling pathways away from fossil fuels and toward greater levels of renewable electricity and other low-emissions fuels (chapter 11: Energy and industry, action 11.5.2).

20.1a. The Government agrees with this

recommendation. The Government is setting a renewable energy target of 50% of total final energy consumption coming from renewable sources by 2035. The Government's existing target of 100% renewable electricity is aspirational and will be reviewed in 2024 before the second emissions reduction plan is put in place (chapter 11: Energy and industry, action 11.5.1).

20.1b. The Government agrees with this

recommendation. In developing an energy strategy, the Government will consider how to ensure access to affordable, secure, low-emissions electricity for residential, commercial and industrial consumers. This will include considering the impacts on Māori, those in regional/rural areas, and vulnerable groups (chapter 11: Energy and industry, action 11.5.2).

20.1c. The Government agrees with this

recommendation. The Government has a manifesto commitment to ban the building of new fossil-fuelled baseload electricity generation. Work is underway to ensure the electricity system is ready to meet future needs and to address the capability of the electricity system to support a transition to a more renewable system over time as fossil fuel stations retire and new renewable electricity generation is built. This will be a key element of the energy strategy (chapter 11: Energy and industry, actions 11.2.2 and 11.5.2).

20.1d. The Government agrees with this

recommendation. The Government is working to develop a gas transition plan by the end of 2023. The gas transition plan will set out the transition pathway for fossil gas, explore opportunities for renewable gases and ensure an equitable transition. This will include considering what further actions may be required to support consumer wellbeing as the role of gas diminishes and the implications for gas infrastructure

Report recommendation	Government response
	and workforce. See also the response to recommendation 20.8.a (chapter 11: Energy and industry, action 11.3.1).
	20.1e.I. The Government agrees in principle with this recommendation. An energy strategy will be developed in full collaboration and engagement with Māori (chapter 11: Energy and industry, action 11.5.2).
	20.1e.II. The Government agrees with this recommendation. An energy strategy will be developed in collaboration with industry stakeholders (chapter 11: Energy and industry, action 11.5.2).
20.2. Scaling up of investment in energy efficiency to reduce the amount of energy produced and improve energy affordability.	20.2. The Government agrees with this recommendation. There is significant activity underway to invest in energy efficiency including through the Energy Efficiency and Conservation Authority's (EECA's) business and household support programmes, the Government Investment in Decarbonising Industry (GIDI) fund and the State Sector Decarbonisation Fund.
	Warmer Kiwi Homes offers insulation and heating grants to homeowners who either are living in areas identified as low income or have community services cards. Additional funding for this programme was provided as part of Budgets 2021 and 2022.
	National Direction for Industrial Greenhouse Gas Emissions will improve energy efficiency by requiring industrial process heat users, when renewing their consents, to use best available techniques in their processes and to develop transition plans for their fossil fuel process heat.
	An amendment to the Energy Efficiency (Energy Using Products) Regulations 2002 is underway for the following products: clothes washers and dryers, dishwashers, domestic refrigeration, air conditioners and electric motors.
	Public consultation concluded in July 2021 on a range of proposals to enhance the energy efficiency regulatory system for products and services. The Government is now preparing policy packages to implement the proposals from this consultation.
	The Electricity Authority also has a number of projects that align with this recommendation. These include projects to address critical current and emerging issues on distribution networks and develop options to address them, implement real-time pricing, and progress reform towards efficient distribution pricing (chapter 11: Energy and industry, actions 11.1.1, 11.2.3, 11.4.1).
20.3. Supporting the evolution to a low-emissions electricity system fit for technology evolution. This should include work to increase the participation of distributed energy resources including demand response, and determining whether lines companies can integrate new technologies, platforms and business models by:	20.3. The Government agrees with this recommendation. The Electricity Authority and the Commerce Commission have sought feedback on issues relating to the best regulatory environment for the distribution sector to invest efficiently in ways that support the transition to a low-emissions system. The Government is also addressing other potential barriers to connection of more renewable electricity generation

to connection of more renewable electricity generation and new demand for the electricity transmission and

Report recommendation	Government response
 Assessing whether they have the necessary capacity and capabilities to support climate 	distribution networks, to ensure settings enable independent and distributed generation.
 resilience and the transition. Evaluating whether the current regulatory environment and ownership structures of lines companies are fit for future needs. 	Other Electricity Authority projects that address this recommendation include:
	 Market Development Advisory Group project on market operation and investment with 100% renewable electricity
	 implementing real-time wholesale electricity pricing Electricity Authority and Transpower investigating future electricity system security and resilience identifying the critical current and emerging issues on the distribution network, and developing a range
	 of options to address them progressing the Open Networks technical standards to support the uptake of new technology on distribution networks
	 developing and implementing a new transmission pricing methodology progressing reform towards efficient distribution
	pricing. The Commerce Commission is exploring the impact of decarbonisation on the regulation of industries under Part 4 of the Commerce Act 1986. This follows feedback on an open letter seeking views on how it should prioritise its work programme to help the energy sector address issues including the transition to a low- emissions economy (chapter 11: Energy and industry, actions 11.2.2, 11.2.3).
20.4. Designing regulatory settings that meet the needs of diverse communities, ensuring that they enable independent and distributed generation, especially for remote, rural and Māori communities.	 20.4. The Government agrees with this recommendation. Work already underway that responds to this recommendation includes the following. Current national direction tools for enabling new renewable generation and electricity infrastructure are being reviewed to determine whether and how resource consenting processes could be improved. This work will help to enable independent and distributed generation. The Māori and Public Housing Renewable Energy Fund is supporting the development of community renewable energy generation. Funding is available for installation of renewable technology such as solar panels and batteries. The aim of this funding is to demonstrate innovative ways to reduce energy costs and deliver optimal low-cost solutions at a community level that integrate with the local electricity network.
	 recommendations include: identifying the critical current and emerging issues on the distribution network, and developing a range of options to address them progressing reform towards efficient distribution pricing (chapter 11: Energy and industry, actions 11.2.1–11.2.3).

Report recommendation	Government response
20.5. Enabling a fast-paced and sustained build of low-emissions electricity generation and infrastructure by ensuring resource management processes, other national and local government instruments, and settings for transmission and distribution investment decisions are aligned to the required pace for build.	20.5. The Government agrees with this recommendation. Some of the work underway that addresses this recommendation is outlined under the response to recommendation 20.4. Additionally, work is underway to support the electricity market to transition to 100% renewable electricity through investigating the need for additional market mechanisms and regulations to support affordable and reliable electricity supply while accelerating the transition to a highly renewable electricity system.
	Other work in progress is examining regulatory settings and potential barriers to connection of new renewable electricity generation and demand to the electricity transmission system. This includes:
	 implementing an updated transmission pricing methodology, which aims to address potential disadvantages for early investors seeking to connect renewable electricity generation or additional electricity load to the transmission network
	 ensuring Transpower and the Commerce Commission can assess and make investments based on up-to-date demand and supply scenarios that are consistent with the emissions budgets (chapter 11: Energy and industry, actions 11.2.1–11.2.3).
20.6. Assessing the consequences of significant changes to the balance of supply and demand of electricity (such as significant blocks of capacity), on the pace, equitable availability and cost of electrification in Aotearoa.	20.6. The Government agrees in principle with this recommendation. The Government will consider the implications of a significant change in supply or demand as and when the opportunity for such a change arises (such as a change in demand due to the closure of New Zealand's Aluminium Smelter (NZAS)). Some related work is already underway in the context of the work on the New Zealand Battery Project that is considering the supply and demand balance and price implications of any proposed solution to the dry year issue.
	The Electricity Authority has commissioned the system operator (Transpower) to deliver a report on future security and resilience challenges and opportunities based on current understanding, and a prioritised plan for monitoring and addressing these challenges and opportunities.
	The Just Transition Partnerships team has been working with the Southland region to support a just transition

20.7. Supporting development and deployment of low-emissions fuel options such as bioenergy and hydrogen. Māori-collectives should be enabled to participate in the associated business opportunities. This recommendation should be considered alongside Recommendation 26 for an equitable transition for Iwi/Māori, Recommendation 15 for the bioeconomy, and Recommendation 19 for transport. action 3.5).

following a 2021 announcement that the owners of NZAS plan to close it at the end of 2024. In February 2022, the Government and region launched an economic roadmap for the region (chapter 3: Equitable transition,

recommendation. The next stage of the hydrogen

undertaken by the private sector (some with

government support), developing hydrogen

strategy work is to develop a hydrogen roadmap. Other

work to support the development and deployment of

hydrogen includes a range of hydrogen projects being

international partnerships and reviewing and revising regulations and standards affecting the use of hydrogen.

20.7. The Government agrees with this

While the roadmap is being developed, consideration is being given to how the Government would partner with and enable participation of Māori collectives in the development of low-emissions energy supply (chapter 11: Energy and industry, action 11.3.2; chapter 9: Circular economy and bioeconomy, action 9.4).

20.8. The Government agrees in principle with this recommendation. The Government agrees with the intent of the recommendation to shift from higheremissions fuels to lower-emissions alternatives. A key action is the development of a gas transition plan that will identify transition pathways away from fossil gas and other measures required to support this transition. In addition, introducing operational regulatory requirements to cap new buildings' operational emissions will drive a transition away from use of fossil gas for new buildings (chapter 11: Energy and industry, action 11.3.1; chapter 12: Building and construction, action 12.3.1).

The Government is also assessing the barriers and equity impacts of shifting away from fossil gas use. It will investigate options to address these as part of the transition (chapter 12: Building and construction, actions 12.3.1, 12.3.2 and focus area 4).

20.8a. The Government agrees in part with this recommendation. The Government agrees with the need to clearly communicate the direction of travel for fossil gas. However, further work is required to avoid unintended consequences and mitigate potential distributional impacts before decisions are made on the appropriate mechanisms to reduce fossil fuel use in buildings.

The gas transition plan will outline transition pathways away from fossil gas, identify strategic opportunities to repurpose fossil infrastructure and include measures to ensure an equitable transition. In addition, introducing operational regulatory requirements to cap new buildings' operational emissions will drive a transition away from use of fossil gas for new buildings (chapter 11: Energy and industry, action 11.3.1; chapter 12: Building and construction, action 12.3.1, focus area 4).

20.8b. The Government agrees with this

recommendation. Work is underway as outlined in the response to recommendation 20.1.d and other parts of recommendation 20.8. The gas transition plan will explore opportunities for renewable gases. The Government will also investigate low-emissions energy supply options for renewable gas to support future emissions reductions (chapter 11: Energy and industry, actions 11.3.1, 11.3.2).

20.8c. The Government agrees with this

recommendation. Work is underway as outlined in the response to recommendation 20.1.d and other parts of recommendation 20.8 (chapter 11: Energy and industry, action 11.3.1; chapter 12: Building and construction, actions 12.3.1, 12.3.2 and focus area 4).

20.8. Determining how to eliminate fossil gas use in residential, commercial and public buildings. Actions should include:

- Setting a date to end the expansion of pipeline connections in order to safeguard consumers from the costs of locking in new fossil gas infrastructure.
- b. Evaluating the role of low-emission gases as an alternative use of pipeline infrastructure.
- c. Determining how to transition existing fossil gas users towards low-emissions alternatives.

Report recommendation	Government response
	Responsible agency: Ministry of Business, Innovation and Employment
	Responsible Minister: Minister of Energy and Resources
	Timeline:
	 20.1. 2022–25 (EB1) The Government will develop an energy strategy by the end of 2024. A renewable energy target has been set in the emissions reduction plan. The Government's aspirational target for 100 percent renewable electricity will be reviewed in 2024, ahead of setting the next emissions reduction plan. The gas transition plan will be developed by the end of 2023
	 20.2 and 3. Underway – programmes across 2022–25 (EB1) and beyond
	 20.4. Consultation on proposed changes to national direction tools expected in 2022, with changes in place in Budget period 1. The Māori and Public Housing Renewable Energy Fund is currently being implemented. Electricity Authority programmes are underway and work will take place across 2022–25 (EB1) and beyond
	 20.5. Consultation on proposed changes to national direction tools is expected in 2022, with changes in place in Budget period 1. Electricity Authority programmes are underway, and work will take place across 2022–25 (EB1) and beyond. Transmission system actions will take place in 2022–25 (EB1)
	 20.6. The Government will consider the implications of a significant change in supply or demand as and when the opportunity for such a change arises
	 20.7. 2022–25 (EB1). Work on hydrogen partnerships and standards is underway – programmes will take place across 2022–25 (EB1) and beyond
	• 20.8. 2022–25 (EB1)

Report recommendation	Government response
Recommendation 20 – Provisional progress indicators	
20.1. Government to undertake with urgency, and have published by 31 March 2022, an assessment of the consequences of significant changes in the balance of supply and demand of electricity (such as significant blocks of capacity) on the pace, equitable availability and cost of electrification in Aotearoa.	20.1. The Government agrees in principle with this provisional progress indicator. The Government will consider the implications of a significant change in supply or demand as and when the opportunity for such a change arises (such as a change in demand due to NZAS closure).
20.2. Government to have, by 30 June 2023, delivered a draft strategy to decarbonise the energy system for consultation. To have published the final strategy by 30 June 2024.	20.2. The Government agrees in part with this provisional progress indicator. The energy strategy is to be finalised by the end of 2024 (chapter 11: Energy and industry, action 11.5.2).
20.3. Government to have, by 30 June 2022, set a renewable energy target of at least 50% total final energy consumption, or equivalent – to be achieved by 31 December 2035.	20.3. The Government agrees with this provisional progress indicator. A target of 50% of total final energy consumption to come from renewable sources by 2035 has been set in the emissions reduction plan (chapter 11: Energy and industry, action 11.5.1).

Report recommendation	Government response
20.4. Government to report, from 31 December 2022, on a suite of indicators annually including the emissions intensity of the electricity grid, annual investment in electricity infrastructure, average retail electricity prices for households, volume of low-carbon fuels produced.	20.4. The Government agrees with this provisional progress indicator. Consideration of a suite of appropriate indicators is underway and these indicators will be developed to complement the renewable energy and renewable electricity targets (chapter 11: Energy and industry, action 11.5.1).
	Responsible agency: Ministry of Business, Innovation and Employment
	Responsible Minister: Minister of Energy and Resources
	Timeline: 2022–25 (EB1)
	 20.1. The Government will consider the implications of a significant change in supply or demand as and when the opportunity for such a change arises
	• 20.2. An energy strategy will be finalised by the end of 2024
	 20.3. A renewable energy target is being set in the emissions reduction plan
	 20.4. Appropriate indicators will be developed in EB1; monitoring will be ongoing

Industry

Report recommendation

Recommendation 21 – Reduce emissions from industry

We recommend that, in the first emissions reduction plan, the Government commit to: Outlining a plan for actions required to decarbonise the industrial sector. This should include:

21.1. Acting in partnership. To be enduring the policy approach must be created in partnership with Iwi/Māori, give effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, and align with the He Ara Waiora framework.

21.2. Developing the policy approach in collaboration with industrial and manufacturing stakeholders.

21.3. Accelerating industry switching to low-emissions fuels for process heat and uptake of energy efficiency measures. A high NZ ETS price signal is central to delivering this, along with policies that reduce barriers related to access to capital, behaviour change and infrastructure access (see also Recommendation 11 in Chapter 13: Policy direction that cuts across sectors, on the NZ ETS).

21.4. Ensuring no new coal boilers are installed and setting a timetable for the phase out of fossil fuels used in boilers (see also Recommendation 20, on energy).

Government response

The Government agrees with this recommendation. The Government will set an action plan for decarbonising industry by the end of 2024. The plan will support existing industries to decarbonise and innovative low-emissions industries to grow. The plan will sit within the energy strategy to align with the broader approach for decarbonising the energy sector, including ensuring competitive energy prices and security of supply (chapter 11: Energy and industry, action 11.4.1).

21.1. The Government agrees in principle with this recommendation. The action plan for decarbonising industry will be developed in full collaboration and engagement with Māori (chapter 11: Energy and industry, action 11.4.1).

21.2. The Government agrees with this

recommendation. The action plan for decarbonising industry will be developed in collaboration with industry stakeholders (chapter 11: Energy and industry, action 11.4.1).

21.3. The Government agrees with this

recommendation. In addition to the price signal set by the NZ ETS, the Government is undertaking significant action to decarbonise process heat and reduce industry emissions. This includes:

- expanding and continuing the roll out of the GIDI fund, which provides grants to improve energy efficiency and switch fossil fuel use to lowemissions renewable fuels
- supporting businesses to decarbonise through EECA's business programmes and funds, including the Energy Transition Accelerator, large energy user partnerships, sector decarbonisation plans and technology demonstration funding
- finalising and beginning implementation of the Advanced Manufacturing Industry Transformation Plan by the end of 2022
- implementing national direction for industrial greenhouse gas emissions under the Resource Management Act 1991 in the third quarter of 2022
- developing a mandatory energy and emissions reporting scheme for large energy users by mid-2024 (chapter 11: Energy and industry, action 11.4.1).

21.4. The Government agrees in principle with this recommendation. The Government will implement national direction for industrial greenhouse gas emissions in the third quarter of 2022 and ensure that this can be carried through to the National Planning Framework under the proposed Natural and Built Environments Act. The national direction will ban new low and medium temperature coal boilers, and phase out existing coal boilers by 2037.

Report recommendation	Government response
	Further work is required on setting a timetable for phasing out fossil fuel use in boilers. This will be considered as part of work to develop an action plan for decarbonising industry (chapter 11: Energy and industry, action 11.4.1).
 21.5 Supporting innovation for decarbonising hard-to-abate industrial sectors. This will require accounting for sector-specific circumstances and their interdependencies and investigating the need for bespoke solutions requiring research, development and demonstration specific to Aotearoa. This recommendation should be considered alongside Recommendation 15, in Chapter 13: Policy direction that cuts across sectors (bioeconomy strategy), and Recommendation 20 (national energy strategy). 	21.5. The Government agrees in principle with this recommendation. The Government will develop a strategic approach or framework for addressing emissions from single-firm industries with emissions that are hard to abate. This will consider how to support innovation, and the role these industries play in Aotearoa New Zealand's economic resilience and in the economic and social wellbeing of our regions (chapter 11: Energy and industry, action 11.4.2).
	Responsible agency: Ministry of Business, Innovation and Employment
	Responsible Minister: Minister of Energy and Resources
	Timeline: 2022–25 (EB1)
	• 2.1, 2.2 and 2.3. The Government will set an action plan for decarbonising industry by the end of 2024
	• 2.4. The Government will implement national direction for industrial greenhouse gas emissions in the third quarter of 2022. Setting a timetable for phasing out fossil fuel use in boilers will be considered as part of work to develop an action plan for decarbonising industry
	• 2.5. Development of a strategic approach or framework for addressing emissions from single-firm industries with emissions that are hard to abate will begin in late 2023

Buildings

Report recommendation

Recommendation 22 – Upgrading existing buildings and constructing new buildings that are low emissions

We recommend that, in the first emissions reduction plan, the Government commit to: Developing a plan to transform buildings to be low emissions and climate resilient. This should include Government:

22.1. Acting in partnership. To be enduring the policy approach must be created in partnership with Iwi/Māori, give effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, and align with the He Ara Waiora framework.

22.2. Developing the policy approach in collaboration with the building and construction sector.

22.3. Upgrading existing buildings and constructing new buildings that are low emissions, healthier and climate resilient. Measures should include:

- Continuous improvements to minimum Building Code requirements such as energy efficiency standards.
- Encouraging construction based on lowemissions designs and practices to reduce building energy use and embodied emissions.
- c. Scaling up energy efficiency assistance to lowincome households to enable them to benefit from lower emissions, lower energy costs and healthier buildings.
- d. Mandating participation in energy performance programmes for existing commercial and public buildings.

Government response

The Government agrees with this recommendation. A variety of actions in the emissions reduction plan will support the development of an approach to reduce emissions across the building and construction sector, while managing potential distributional impacts.

22.1. The Government agrees with this

recommendation as intended by the Commission. The Government will work with Māori to shape the building and construction sector's climate transition. This will include engagement and exploring cross-government partnerships with Māori and iwi, where appropriate. The Government will explore establishing systems such as a mātauranga Māori reference group to enable Māori views to be represented effectively and on an ongoing basis (chapter 12: Building and construction, action 12.5.1).

22.2. The Government agrees with this recommendation as intended by the Commission. The Government will partner with the building and construction sector and Construction Sector Accord to develop and deliver actions across all emissions reduction plans. Potential actions to be conducted with the sector include exploring workforce transition supports, establishing innovation supports and developing and delivering a behaviour change programme (chapter 12: Building and construction, actions including, but not limited to, 12.1.2, 12.4.1, 12.5.3, 12.5.4).

22.3. The Government agrees with this recommendation as intended by the Commission.

The Government is progressing regulatory and non-regulatory actions in the first emissions reduction plan to support emissions reduction from new and existing buildings. Actions include updating the New Zealand Building Code, introducing mandatory energy performance certificates for certain building types and exploring options to expand the existing Warmer Kiwi Homes programme (chapter 12: Building and construction, actions 12.1.1, 12.2.1, 12.3.1, 12.3.2, 12.5.3).

22.3a. The Government agrees with this recommendation as intended by the Commission.

The 2021 Building Code update included changes to compliance documents that will lift minimum insulation requirements for new buildings. As part of the annual cycle of updates to the Building Code, further changes will be progressed to support emissions reduction and improve efficiency (for example, introducing new regulatory requirements to cap embodied carbon and operational emissions) (chapter 12: Building and construction, actions 12.1.1, 12.3.1).

22.3b. The Government agrees with this recommendation as intended by the Commission.

The Government is progressing regulatory and non-regulatory actions to encourage construction based on low-emissions designs and practices. Actions include developing and delivering a behaviour change programme, progressing regulatory changes that will require new buildings to meet whole-of-life embodied carbon reduction and operational efficiency caps, and working to support medium-density housing and modular design and manufacturing processes (chapter 12: Building and construction, actions 12.1.1–12.1.3, 12.2.1, 12.5.3).

22.3c. The Government agrees with this recommendation as intended by the Commission.

The Government is working to understand and mitigate the costs and impacts that the move to lower-emissions building and construction might have for low-income households. Actions include exploring options to expand the Warmer Kiwi Homes programme, continuing to implement and enforce the Healthy Homes Standards, and working to grow and mainstream the low-emissions building market, which will drive down the cost of lowemissions building (chapter 12: Building and construction, actions including, but not limited to, 12.1.2, 12.3.2, 12.4.1; chapter 11: Energy and industry, action 11.1.1).

22.3d. The Government agrees with this recommendation as intended by the Commission. The Government will introduce mandatory energy performance certificates for specific types of existing buildings, starting with commercial and government buildings. The Government also supports the Carbon Neutral Government Programme, which requires some agencies' larger office buildings to meet thirdparty energy efficiency requirements. Actions that apply to existing buildings may have significant distributional impacts and complexities, so this work will be progressed carefully and in partnership with the sector (chapter 12: Building and construction, actions 12.2.2, 12.3.2).

Responsible agency: Ministry of Business, Innovation and Employment

Responsible Minister: Minister of Building and Construction

Timeline: 2022–25 (EB1) and ongoing

Report recommendation	Government response
Recommendation 22 – Provisional progress indicators	
22.1. Government to have, by 31 December 2022, implemented measures to improve the energy performance of existing buildings, such as mandating participation in energy performance programmes.	22.1. The Government agrees in part with this provisional progress indicator – deviating from the advice. Enabling legislation to introduce mandatory participation in energy performance programming will be introduced to the House before the end of 2022. Full implementation of requirements will take place over a longer timeframe to ensure that the system is well designed, and complexities and impacts for businesses and building owners are considered and managed. Energy performance measures are already in place for some public buildings through the Carbon Neutral Government Programme (chapter 12: Building and construction, action 3.2).
22.2. Government to have, by 30 June 2022, scaled up energy efficiency assistance to low-income households.	22.2. The Government agrees in principle with this provisional progress indicator. Further energy efficiency assistance for low-income households will be explored and built upon throughout EB1, taking into account distributional impacts, data from implementation and other pressures in the sector (chapter 11: Energy and industry, action 11.1.1; Chapter 12: Building and construction, actions 12.3.2, 12.4.1).
22.3. Government to report annually, from 31 December 2022, on a suite of indicators, including residential and commercial energy intensity.	22.3. The Government agrees in principle with this provisional progress indicator. The Government agrees that it is important to measure and report on the transition to a lower-emissions building and construction sector. Data and evidence will be collected and reported to inform effective policy development, monitoring and decision making (chapter 12: Building and construction, action 12.5.2).
	Responsible agency: Ministry of Business, Innovation and Employment
	Responsible Minister: Minister of Building and Construction
	Timeline: 2022–25 (EB1) and ongoing

Recommendation 23: Policy direction for waste and fluorinated gases

Report recommendation

Recommendation 23 – Revise the waste strategy so it will deliver emissions reductions in the waste sector

We recommend that, in the first emissions reduction plan, the Government commits to: Revising the New Zealand Waste Strategy so that it will deliver emissions reductions, and implement measures to reduce HFC emissions.

23.1. The revised New Zealand Waste Strategy should include:

- Acting in partnership with Iwi/Māori, giving effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, and aligning with He Ara Waiora framework.
- Acting in collaboration with local government, community groups and industry to leverage crosssector action and finance.
- c. Shaping plans in line with the 'waste hierarchy' to:
 - Significantly decrease waste generation and increase resource recovery across waste streams.
 - ii. Reduce emissions via specific, time-bound goals.
 - iii. Identify and implement regulatory changes to assist people to take actions to reduce waste emissions.
- d. Accelerating investment in:
 - Research, development, and demonstration to reduce waste through more efficient processes.
 - ii. Infrastructure for waste collection, processing, and resource recovery.
 - Support for consumers to reduce waste emissions through switching to low-waste or low emissions alternatives.
 - iv. Improved data collection across the waste sector, including farm dumps, non-municipal fills and wastewater treatment plants.
- e. Setting a date by which high performance gas capture systems are mandated for all landfills that accept organic waste.

Government response

The Government agrees with this recommendation. The Government is already committed to revising the New Zealand waste strategy to reduce waste and associated emissions. The emissions reduction plan commits to implementing measures to reduce hydrofluorocarbon (HFC) emissions and a suite of actions to support emissions reductions across the waste sector.

23.1a and b. The Government agrees with this recommendation. The work to develop and implement a new waste strategy, new legislation and new administrative processes includes developing strong collaborative relationships and partnerships with iwi/Māori, local government, non-governmental organisations, industry and others (chapter 15: Waste – links to wider waste reduction work programme and revised Waste Strategy).

23.1c.I. The Government agrees with this

recommendation. The Ministry for the Environment's waste reduction work programme, including the emissions reduction plan initiatives to reduce emissions from waste, is directed towards these goals. Part of this programme is the work on a new waste strategy to drive long-term coordinated change (chapter 15: Waste – links to a wider waste reduction work programme and revised Waste Strategy).

23.1c.II. The Government agrees with this

recommendation. This will be addressed through the suite of proposals in the emissions reduction plan and the revised waste strategy, subject to funding, noting data limitations. A time-bound emissions reduction target for waste was included in the consultation proposals for the revised waste strategy (chapter 15: Waste – links to wider waste reduction work programme and revised Waste Strategy).

23.1c.III. The Government agrees with this

recommendation. This will be addressed through the emissions reduction plan, revised waste strategy and proposals for improved powers in new waste legislation subject to funding, future regulatory impact assessments and consultation for specific policy proposals (chapter 15: Waste, actions 15.2.1, 15.2.3, 15.3.3, 15.4, 15.5.1, 15.6.1).

23.1d.I. The Government agrees with this recommendation. Investment to support research and innovation was included as a priority in the consultation proposals for the new waste strategy and

the emissions reduction plan, both of which will guide future investment and funding activity (chapter 15: Waste, actions 15.3.1, 15.5.2).

23.1d.II. The Government agrees with this

recommendation. This will be addressed through the emissions reduction plan proposal for consumer organic waste reduction programmes and the proposed circular economy and bioeconomy strategy (see the response to recommendation 14) subject to Budget 2022 funding. It will also be addressed through the revised waste strategy (chapter 15: Waste, actions 15.2.2, 15.3.2).

23.1d.III. The Government agrees with this

recommendation. This will be addressed through the emissions reduction plan proposal for consumer organic waste reduction programmes and proposed circular economy and Bioeconomy Strategy (see the response to recommendation 14), subject to Budget 2022 funding. In addition, it will be addressed through the revised waste strategy (chapter 15: Waste, actions 15.1.1–15.1.3).

23.1d.IV. The Government agrees with this

recommendation. This will be addressed through the emissions reduction plan proposal for national waste licensing and the national data collection and reporting programme on emissions reductions from waste, including landfill gas capture feasibility and research, subject to consultation and funding. In addition to new requirements for waste disposal facilities to report waste tonnages to the Ministry for the Environment, proposals are in place to improve waste data collection for landfill disposal (to some facility types). However, broader regulation is required to make provision for more comprehensive data that will enable emissions reduction planning. Further investigation is required for farm fills and wastewater treatment (chapter 15: Waste, actions 15.5.2, 15.6.1, 15.6.2).

23.1e. The Government agrees in part with this recommendation. The Government agrees in principle with setting a date for mandating landfill gas capture from landfills. The timeframe in which this could be in place for all landfills differs from the Commission's proposed timeline of 2026 (in their provisional progress indicators) This timeframe is suitable for requirements for landfill gas capture from municipal landfills (Class 1), but not for all landfills. This recommendation requires further investigation to determine if gas capture should be mandated for nonmunicipal landfills. Emissions reduction plan proposals to improve and expand landfill gas capture systems require feasibility studies and future change to regulation subject to consultation (chapter 15: Waste, actions 15.5.1, 15.5.2).

Report recommendation	Government response
 23.2. Measures to reduce HFCs should include: a. Expanding import restrictions where feasible. b. Improving industry practice to reduce leakage. c. Enabling businesses and consumers to switch to low climate impact alternatives. 	23.2a. The Government agrees with this recommendation. A proposal to create prohibitions on the import/sale of pre-charged equipment is included in the work programme of the emissions reduction plan. Further consultation on the specific design and implementation of regulations will be required once Cabinet approval has been received. Further proposals regarding expansion of import restrictions will be further investigated for implementation in later emissions budget periods (chapter 16: Fluorinated gases, action 16.2).
	23.2.b. The Government agrees with this recommendation. This will be addressed in part through an improved training and an accreditation scheme. WorkSafe has work on this scheme underway, and the Ministry for the Environment will ensure that this captures the recommendations from the Commission. This will include a focus on improving industry practice to reduce leakage, as well as to address health and safety concerns raised through the consultation process regarding alternative refrigerants (chapter 16: Fluorinated gases, action 16.1 and 16.4).
	23.2.c. The Government agrees in principle with this recommendation. Specific measures targeted to industry/consumer needs will be considered as part of further detailed consultation on fluorinated gas (F-gas) policy (chapter 16: Fluorinated gases, actions 16.3).
	Responsible agency: Ministry for the Environment
	Responsible Minister: Minister for the Environment Timeline: 2022-2025 (EB1) and ongoing

Report recommendation	Government response
Recommendation 23 – Provisional progress indicators	
23.1. Government to have, by 31 December 2022, finalised the revised waste strategy with goals to: a. reduce biogenic methane waste emissions to at least 40% below 2017 levels by 2035. b. Ensure, by 31 December 2026, that all landfills (except farm fills) that accept organic waste have effective gas capture systems. c. prioritise and fund ongoing data collection across the waste sector.	 23.1. The Government agrees in part with this set of provisional progress indicators. The New Zealand Waste Strategy is currently under revision, following public consultation in late 2021. It is anticipated that the revised Waste Strategy will be released in 2022 and will include targets for waste and biogenic methane emissions reductions. 23.1.a. The waste sector actions in the emissions reduction plan place us on a pathway to reduce biogenic methane waste emissions in line with this provisional progress indicator. 23.1.b. The Government's approach to the implementation of landfill gas capture for municipal (Class 1) landfills aligns with the recommended timeframe. However, further data and evidence work must be completed before the Government considers policies that mandate this across all landfill types.

Report recommendation	Government response
	23.1.c. The Ministry for the Environment has committed to ongoing waste data collection improvements, including new regulations due to come into effect in 2023 for mandatory reporting for territorial authorities, updated conversion factors for waste tonnages and activity source reporting. In addition, investment in a national data collection and reporting programme on emissions reductions from waste will be implemented as part of the emissions reduction plan.
23.2. Government to publish, from 31 December 2023, annual waste statistics that track waste flows from generation to disposal across all landfill types.	23.2. The Government agrees in part with this provisional progress indicator. The Ministry for the Environment currently publishes waste data on the environment.govt.nz website. It will continue to do so, and from 31 December 2023 all available waste statistics will be published. As the waste data regulations expand, the types of data available will increase.

Recommendation 24: Policy direction for agriculture

Report recommendation

Government response

Recommendation 24 – Reduce emissions from agriculture

We recommend that, in the first emissions reduction plan, the Government commit to: Accelerating reductions in agricultural emissions by rolling out policies, incentives and tools, and investing to create future emissions reduction options. This should include the Government:

24.1. Following through on its legislated commitment to decide in 2022 on a pricing mechanism for agricultural emissions, to avoid ongoing uncertainty which will deter farmers and growers from reducing emissions in the short term. The design of this pricing mechanism:

- Must be both suited to the characteristics of the sector and capable of driving emissions reductions in line with emissions budgets and targets.
- Must not disproportionately disadvantage or compound historical grievances for lwi/Māori and must factor in the unique characteristics of Māori collectively-owned land and Māori collectives. This is particularly important in the design of any methods for providing assistance to participants in the pricing mechanism.

24.2. Supporting farmers and growers to identify and implement changes on farm to reduce emissions by:

- a. Collaborating with industry to further develop and fund effective advisory services.
- Partnering with Iwi/Māori and Māori-collectives to further develop and fund Māori-focused advisory services targeting the specific needs of Māoricollective landowners.
- c. Resourcing and prioritising rural digital connectivity.

24.1. The Government agrees with this

recommendation. Addressing this recommendation through He Waka Eke Noa – Primary Sector Climate Action Partnership (He Waka Eke Noa), the Government is working with industry and Māori to design a pricing mechanism, to be implemented from 2025. The Government will make final decisions by the end of 2022. Budget 2022 provided one year's funding to support essential work to enable decisions on agriculture emissions pricing in 2022. In addition, in support of the pricing mechanism adopted, all producers will have emissions reports by the end of 2022 and a farm plan in place by 2025 (chapter 13: Agriculture, actions 13.1.1, 13.1.2).

24.1.a. The Government agrees with this

recommendation. In addition to the broad response to recommendation 24.1 above, the Government is considering support for early adoption of available mitigation technologies and practices before the introduction of an emissions price (chapter 13: Agriculture, action 13.1.3).

24.1.b. The Government agrees with this

recommendation. The Federation of Māori Authorities is leading the cross-cutting Te Aukaha workstream within He Waka Eke Noa. This aims to integrate Māori perspectives into the design of an emissions pricing system. Before making the final decisions on a pricing system, the Government will consider how the design impacts Māori and accounts for the unique characteristics of Māori collectively owned land and collectives (chapter 13: Agriculture, action 13.1.1).

24.2.a. The Government agrees with this recommendation. Budget 2022 funding of \$34.6m will support new climate focused extension and advisory services to help producers to reduce emissions. (chapter 13: Agriculture, action 13.3.1).

24.2.b. The Government agrees with this recommendation. The funding referred to in recommendation 24.2a will enable tikanga-based programmes to support whenua Māori entities to change to lower-emissions production systems in a

manner that enhances the intergenerational wellbeing of Māori and does not compound long-standing barriers to utilisation. (chapter 13: Agriculture, actions 13.3.2).

24.2.c. The Government agrees with this

recommendation. Improvements to rural digital connectivity will improve access to information and online tools to identify and implement changes. Government initiatives include the rollout of the Rural Broadband Initiative and Mobile Blackspot Initiative, and developing a strategic long-term approach to guide the Government's investment in telecommunications infrastructure (chapter 13: Agriculture, action 13.3.3).

24.3. The Government agrees with this

recommendation. Work is underway to enable the regulatory oversight of greenhouse gas inhibitors under the Agricultural Compounds and Veterinary Medicines Act 1997. The Ministry for Primary Industries is also developing a research and development plan for reducing biological emissions from agriculture, which will examine how regulatory processes for new technologies can be streamlined (chapter 13: Agriculture, actions 13.2.1, 13.2.4).

24.4. The Government agrees with this

recommendation. The streamlining of regulatory pathways for new technologies initiatives include action to increase regulatory capacity, work with partners to establish international standards for maximum residue levels in food products, and incorporate new mitigations in the Agriculture Greenhouse Gas Centre of Excellence (chapter 13: Agriculture, actions 13.2.2, 13.2.4–13.2.5).

24.5.a. The Government agrees with this

recommendation. Budget 2022 funding of \$338.7 million provides a step change in investment in research and development. This will be underpinned by a research and development plan for science and mātauranga Māori to reduce biological emissions from agriculture. It also provided for the government to work in partnership with primary sector representatives to establish a new Agriculture Greenhouse Gas Centre of Excellence (chapter 13: Agriculture, actions 13.2.1–13.2.3).

24.5.b. The Government agrees with this recommendation. Relevant actions include those described in the response to recommendations 24.2a and 24.5a. Other supporting work is to ensure all producers generate emissions reports by the end of 2022 and have farm plans in place by 2025 (chapter 13: Agriculture, actions 13.1.2, 13.2.1–13.2.3, 13.3.1–13.3.2).

24.5.c. The Government agrees with this recommendation. The emissions reduction plan includes a range of initiatives to support the transition to lower-emissions farming systems and products.

24.3. Removing barriers to the deployment of new technologies to reduce emissions on farm by ensuring relevant regulatory regimes, such as the Agricultural Compounds and Veterinary Medicines Act, do not unnecessarily hinder their adoption.

24.4. Facilitating domestic and international market acceptability of proven low emissions food and fibre products, by working with the sector, including Māori agribusinesses, to demonstrate their environmental credentials to international customers.

24.5. Investing to create options for deeper emissions reductions in future by:

- Developing a long-term plan for targeted research and development (and uptake/deployment) of technologies and practices to reduce biogenic emissions from agriculture.
- b. Supporting farmers, growers and local government to make well-informed land-use decisions by investing in nationwide land and climate information and decision-making tools, including information and tools relevant for Māori collectively-owned land.
- c. Supporting deployment of the systems and infrastructure needed for alternative lower emissions farming systems and products, including enabling Māori-collectives to participate in these new opportunities.

Report recommendation	Government response
	These include building the evidence base for regenerative agriculture, food and fibre science and mātauranga Māori accelerators, and low-emissions Pāmu (chapter 13: Agriculture, actions 13.4.1–13.4.3).
	Responsible agency: Ministry for Primary Industries
	Responsible Minister: Minister of Agriculture
	Timeline:
	• 24.1, 24.2a and b. 2022–25 (EB1)
	• 24.2c. 2022–25 (EB1). However, any new work as a result of the future of connectivity programme could be implemented from 2026–30 (EB2)
	 24.3. This work will commence from 2022–25 (EB1) but implementation will likely span over all three budget periods depending on progress and funding
	 24.4. Further investigating will commence from 2022–25 (EB1). However, any new work programme established as a result of this work could commence from 2026–30 (EB2)
	 24.5a. This work will commence from 2022–25 (EB1) but implementation will likely span over all three budget periods depending on progress and funding
	• 24.5b and c. Policy work from 2022–25 (EB1) with any new actions commencing from 2026–30 (EB2)

Report recommendation	Government response
Recommendation 24 – Provisional progress indicators	
24.1. Government to have, by 31 December 2022, developed and published a long-term plan for funding research and development to support reductions in agricultural emissions. Note: The Commission will also be assessing the progress made towards the milestones of He Waka Eke Noa.	24.1. The Government agrees in principle with this provisional progress indicator. The Government, in partnership with industry, Māori and the science sector, is currently developing a research and development plan for science and mātauranga Māori to reduce biological emissions from agriculture. This i expected to be published in mid-2022 (chapter 13: Agriculture, action 13.2.1).
24.2. Government to annually, from 31 December 2022, report information on the total investment into research and development into reducing agricultural emissions.	24.2. The Government agrees with this provisional progress indicator. This information will be included a part of Aotearoa New Zealand's climate change reporting.
	Responsible agency: Ministry for Primary Industries
	Responsible Minister: Minister of Agriculture
	Timeline:
	• 24.1. 2022–25 (EB1)
	• 24.2. 2023 onwards

Recommendation 25: Policy direction for forests and other carbon stocks

Report recommendation

Government response

Recommendation 25 – Manage forests to provide a long-term carbon sink

We recommend that, in the first emissions reduction plan, the Government commit to: Developing a framework of actions to deliver a mix of exotic and native forest sinks, and manage these and other carbon stocks, to provide flexibility to meet emissions budgets and targets. This should include:

25.1. Establishing a long-term carbon sink through a comprehensive national programme to incentivise the reversion and planting of new native forests to maintain net zero long-lived greenhouse gas emissions beyond 2050.

25.2. Designing a package of policies to reduce reliance on forestry removals and manage the impacts of afforestation including:

- a. Amendments to the NZ ETS to manage the amount of exotic forest planting driven by the scheme (see also Recommendation 11 on the NZ ETS).
- A clear position on the role and desirability of different types of permanent exotic forests as carbon sinks, and amending the NZ ETS and other policies accordingly.
- Land-use planning, direction and tools to help local government manage afforestation, mitigate localised impacts of afforestation and to achieve environmental co-benefits.

The Government will also work with the nursery sector to investigate options to lower costs, address supply chain barriers, and improve the successful establishment of native forests including through research to protect/enhance carbon stored in existing native forests. It will also explore science-based technologies to support sustainable expansion of the sector, and provide training in silviculture as well as support for Māori-led approaches to native forest establishment (chapter 14: Forestry, actions 14.1.2, 14.1.3, 14.2.1 to 14.2.3, 14.3.1,14.3.2, 14.4.1).

25.1. The Government agrees in principle with this recommendation. To encourage native forest as longterm carbon sink, the Government is reviewing the NZ ETS yield tables (carbon look-up tables) to include indigenous species as well as extending the table beyond 50 years. It is also exploring technologies that enable accurate measurement of carbon stored in specific forests

25.2.a. The Government agrees in principle with this recommendation. The Government is consulting on potential measures to ensure regulatory settings deliver the right type and scale of forests in the right place. These measures may involve changes to the NZ ETS to support a better mix of forest type, retain important productive land uses and better manage the potential long-term environmental effects of exotic forests, including restricting exotic forests from the permanent post-1989 forest category and adjusting the application of accounting rules to remote/marginal land to support production of this land (chapter 14: Forestry, action 14.1.1).

25.2.b. The Government agrees in principle with this recommendation. The Government is currently consulting on possible changes to forestry settings in the NZ ETS to balance the mix of forests (chapter 14: Forestry, action 14.1.1).

25.2.c. The Government agrees in principle with this recommendation. The Government later in 2022 will consult on possible changes to the land use planning systems (National Environmental Standards for Plantation Forestry) to ensure environmental management of all exotic afforestation. This work will include consulting on whether greater local control over location and forest types/species of forests is required (chapter 14: Forestry, action 14.1.1).

Report recommendation	Government response
25.3. Managing pests in an integrated way, to ensure forests are successfully established and all forests are maintained long term.	25.3. The Government agrees in principle with this recommendation. The Government is investigating the option of developing an updated strategy for the pest management part of the biosecurity system, which will clarify future investment needs. The Government is further developing pest control plans and looking at how they can contribute to protecting and enhancing our carbon stores. The Government's long-term work programme to support native restoration and afforestation will look at the role that pest control can play in enhancing the carbon stored by indigenous vegetation (chapter 4: Working with nature, action 2; chapter 14: Forestry, actions 14.2.1-14.3.2, 14.4.3.
25.4. Considering ways to allow more flexibility for Māori-collectives with pre-1990 forest on their whenua, to give them more scope to manage their whenua in alignment with the intergenerational aspirations of their members. This could include, for example, assisting capital constrained Māori- collectives to offset deforestation on pre-1990 forest land.	25.4. The Government agrees with this recommendation. The Government is working with Māori to understand their aspirations and to inform advice on options for forestry policies and support Māori-led approaches to native forest establishment (chapter 14: Forestry, all actions).
25.5. Maintaining and increasing other carbon stocks through:	25.5.a. The Government agrees in principle with this recommendation. The Government will monitor the
 Improving and enforcing measures to reduce deforestation of pre-1990 native forests. 	effectiveness of existing policies to manage or restrict the harvest or deforestation of pre-1990 native forests
 b. Noting that emissions and carbon dioxide removals may not currently be reliably quantifiable or accounted for in targets (see Recommendation 5 on rules for measuring progress), taking steps to: Protect and increase the carbon stocks of pre-1990 forests through activities such as pest and fire control, and enrichment planting. Encourage carbon removals by new and additional small blocks of trees and vegetation. Preventing further loss of carbon from organic soils, particularly due to the degradation of drained peatlands and the destruction of wetlands. 	 and consider changes if required (chapter 14: Forestry, action 143.1). 25.5.b. The Government agrees in principle with this recommendation. Research has been commissioned into the sequestration rates of non-forestry vegetation as the first step in investigating how these can be better recognised and incentivised. Work underway for species diversification will also respond to the aim of increasing the resilience of carbon stock (chapter 4: Working with nature, action 2; chapter 14: Forestry, actions 14.1.1, 14.1.3, 14.2.1, 14.3.2). 25.5.b.I. The Government agrees in principle with this recommendation. The Government will undertake research to: understand the drivers and opportunities for maintaining and increasing carbon stocks in existing native forests, including quantifying the carbon impacts of pests on native ecosystems, and identifying the management interventions and areas to target for maximum benefit expand the Ministry for the Environment's Land Use and Carbon Analysis System (LUCAS) programme of monitoring and research that also supports this recommendation (chapter 4: Working with nature, action 2; chapter 14: Forestry, actions 14.1.1, 14,1.214.1.3, 14.2.1, 14.2.214.3.2, 5). 25.5.b.II. The Government agrees with this recommendation. This is addressed through He Waka Eke Noa. The Government is working with industry and

port recommendation	Government response
	implemented from 2025. The Government will make final decisions by the end of 2022. Budget 2022 provided one year's funding to support essential work to enable decisions on agriculture emissions pricing in 2022 (chapter 13: Agriculture, actions 13.1.1 and 13.1.2; chapter 14: Forestry, actions 14.1.1-14.1.3).
	25.5.b.III The Government agrees in principle with this recommendation. The Ministry for Primary Industries is currently funding a project to scope how to improve national organic soil emissions estimates and what further work is required to acquire estimates that are specific to Aotearoa. These improved data will improve understanding of the emissions removals and whether they can be included in our international targets (chapter 4: Working with nature, actions 4.1–4.3).
	Responsible agencies:
	 25.1, 25.2, 25.4 and 25.5a. Ministry for Primary Industries
	• 25.3. Ministry for Primary Industries, Department of Conservation
	 25.5.b. Ministry for Primary Industries, Department of Conservation, Ministry for the Environment
	Responsible Ministers:
	• 25.1, 25.2, 25.4 and 25.5a. Minister of Forestry
	• 25.3. Ministers of Forestry, Conservation
	• 25.5.b. Ministers of Forestry, Conservation, Climate Change
	Timeline:
	• 25.1. Action from 2022–25 (EB1). Impact (EB2) onwards
	• 25.2a. Recommendations to Cabinet (EB1)
	 25.2b. 4 March to 22 April 2022 – public consultation. Mid-2022 decisions on proposals to limit incentives for permanent exotics. December 2022 – option to adjust how averaging accounting applies to remote and marginal land
	• 25.2c. Public consultation expected 2022
	• 25.3. Implementation planning 2023
	• 25.4. 2022 and ongoing. Impact (EB2) onwards
	 25.5a and b. 2022–25 (EB1) onwards

Report recommendation	Government response
Recommendation 25 – Provisional progress indicators	
25.1. Government to have, by 31 December 2022, developed proposals for incentives for native forests and for managing the amount of exotic forest planting driven by the NZ ETS, with amendments to be effective by 31 December 2024.	25.1. The Government agrees in principle with this provisional progress indicator. The Government is currently consulting on possible changes to forestry settings in the NZ ETS to balance the mix of forests (chapter 14: Forestry, actions 14.1.1, 14.2.2, 14.2.3).
25.2. Government to report, from 31 December 2022, on the hectares of exotic and native forest that are afforested and deforested at least annually.	25.2. The Government agrees in principle with this provisional progress indicator. This information will be included as part of Aotearoa New Zealand's climate change reporting.
25.3. Government to report at least annually, from 31 December 2022, on a suite of indicators including information on labour, nurseries, land purchases, pest eradication data (area to which 1080 has been applied or farm management plans).	25.3. The Government agrees in principle with this provisional progress indicator. This information will be included as part of Aotearoa New Zealand's climate change reporting.
	Responsible agency: Ministry for Primary Industries
	Responsible Minister: Minister of Forestry
	Timeline:
	• 25.1. 2022–25 (EB1) and ongoing
	• 25.2 and 25.3. 2023 onwards

Recommendations 26–27: Policy direction for an equitable transition for Iwi/Māori

Report recommendation	Government response
Recommendation 26 – An equitable transition for Iwi/Māori In the context of the transition to a low-emissions society, we recommend that central and local government work with Iwi/Māori to develop a mechanism to build authentic and enduring partnerships that results in:	The Government agrees in principle with this recommendation. Authentic and enduring partnerships between the Crown and Māori are a central Tiriti principle and whole-of-government obligation. To facilitate this, a platform for Māori climate action will be established to sit alongside the Government's climate policy response, including the emissions reduction and national adaptation plans. This will establish mechanisms to build Te Tiriti-led relationships and recognition of Māori rights and interests across the climate response (chapter 2: Empowering Māori, actions 2.1, 2.2).
26.1. Recognition and active protection of Iwi/Māori rights and interests	26.1. The Government agrees in principle with this recommendation. Recognition and active protection of iwi/Māori rights and interests are a central Tiriti principle and whole-of-government obligation. To facilitate this, a platform for Māori climate action will be established to sit alongside the Government's climate policy response, including the emissions reduction and national adaptation plans. This will establish mechanisms to build Te Tiriti-led relationships and recognition of Māori rights and interests across the climate response (chapter 2: Empowering Māori, actions 2.1, 2.2).
26.2. Equitable decision-making with Iwi/Māori at all levels, through Māori representation on local, regional, and national bodies, and robust engagement and consultation process with Iwi/Māori.	26.2. The Government agrees in principle with this recommendation. The Government agrees with the intent of this recommended outcome where it is achievable through the Government's climate response. To facilitate this, a platform for Māori climate action will be established to sit alongside the Government's climate policy response, including the emissions reduction and national adaptation plans. This will establish mechanisms to build Te Tiriti-led relationships and recognition of Māori rights and interests across the climate response (chapter 2: Empowering Māori, actions 2.1, 2.2).
26.3. Equitable access for Iwi/Māori to information, resources, services, and funding.	26.3. The Government agrees in principle with this recommendation. The Government agrees with the intent of this recommended outcome where it is achievable through the Government's climate response. To facilitate this, a platform for Māori climate action will be established to sit alongside the Government's climate policy response, including the emissions reduction and national adaptation plans. This will establish mechanisms to build Te Tiriti-led relationships and recognition of Māori rights and interests across the climate response (chapter 2: Empowering Māori, actions 2.1, 2.2).

Report recommendation	Government response
26.4. The development of climate change policy that draws on mātauranga Māori as well as western science.	26.4. The Government agrees in principle with this recommendation. The Government agrees with this recommended outcome. To facilitate this, a platform for Māori climate action will be established to sit alongside the Government's climate policy response, including the emissions reduction and national adaptation plans. This will establish mechanisms to build Te Tiriti-led relationships and recognition of Māori rights and interests – including mātauranga Māori as a taonga to Māori – across the climate response (chapter 2: Empowering Māori, actions 2.1, 2.2).
26.5. Equitable outcomes for Iwi/Māori in alignment with Iwi/Māori aspirations for intergenerational wellbeing.	26.5. The Government agrees in principle with this recommendation. We agree with the intent of this recommended outcome where it is achievable through the Government's climate response. To facilitate this, a platform for Māori climate action will be established to sit alongside the Government's climate policy response, including the emissions reduction and national adaptation plans. This will establish mechanisms to build Te Tiriti-led relationships and recognition of Māori rights and interests across the climate response (chapter 2: Empowering Māori, actions 2.1, 2.2).
26.6. The embedding of the He Ara Waiora Framework throughout the development of climate change related policies.	26.6. The Government agrees in part with this recommendation. Other indigenous frameworks should be considered along with the Commission's recommended framework – He Ara Waiora – when making national strategies and climate policy (chapter 2: Empowering Māori, actions 2.1, 2.2).
	Responsible agency: Ministry for the Environment, with support from other agencies where appropriate to align with whole-of-government responsibilities under Te Tiriti
	Responsible Minister: Minister of Climate Change, with support from other Ministers where appropriate to align with whole-of-government responsibilities under Te Tiriti
	Timeline: 2022–25 (EB1)

Report recommendation	Government response
Recommendation 27 – An equitable transition for Iwi/Māori We recommend that the Government work with Iwi/Māori to develop a strategy to advance a Māori- led approach to an equitable transition for Iwi/Māori and the Māori economy. The strategy should focus on:	The Government agrees in principle with this recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori actions 2.1-2.4).
27.1. Removing existing barriers that disadvantage Iwi/Māori particularly where they undermine the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, compound historic grievance, and/or prevent Iwi/Māori from an equitable transition.	27.1. The Government agrees in principle with this recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori, actions 1–4).

 27.2. Creating opportunities and mechanisms for lw/Main to actively participate in co-decision making. 27.3. The Government agrees in principle with this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and the order size as action to address climate change. 27.3. Funding research and development in matauranga Main to enable developing policy, strategy. Lechnology and innovation to be informed from Main villes and the Main in the RSI system and better enable matauranga Main it will compare to the Vision Main vanga. 27.3. Funding research and development in matauranga Main it needs to expand the impact of the Vision Main vanga. This will support Main to determine and make future investments in RSIR. Additionally. Te Ara Paerangi – Future Pathways programme will explore how the Actearoa science system can support Main and the use of matauranga Main it. It will consider how to strengthen the role of Main it will science innovation to be informed from an equitable knowledge base. 27.3. The Government agrees in principle with this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from Main vill establish if and how this recommendation. Further collaboration with and direction from M	Report recommendation	Government response
 mätauranga Måori to enable developing policy, strategy, technology and innovation to be informed from an equitable knowledge base. recommendation. Further collaboration with and direction from Mäori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Mäori climate platform. This outcome also links to the RSI&T actions. The Government has provided \$33 million over four years to expand the impact of the Vision Mätauranga. This will support Mãori to determine and make future investments in RSI&T. Additionally, Te Ara Paerangi – Future Pathways will explore how the Aotearoa science system can support Mãori and the use of mătauranga Mãori (Langter 2: Empowering Mãori, actions 2.1–2.4; chapter 8: Research, science, innovation and technology, action 8.1.2). 27.4. Making funding available to assist Iwi/Mãori that are not economically enabled to transition equitably 27.5. Including timebound measures for progress for each of the elements of the strategy 27.5. Including timebound measures for progress for each of the elements of the strategy 27.5. The Government agrees in principle with this recommendation. Further collaboration with and direction from Mãori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Mãori climate platform (chapter 2: Empowering Mãori, actions 2.1, 2.2). 27.5. The Government agrees in principle with this recommendation. Further collaboration with and direction from Mãori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Mãori climate platform (chapter 2: Empowering Mãori, actions 2.1, 2.2). 27.5. The Government agrees: Ministry for the Environment 27.2 and 27.3. Ministers of Climate Change 27.2 and 2	Iwi/Māori to actively participate in co-decision making, co-design, investment in infrastructure and new clean technology, knowledge contribution, and leadership as	recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform. This outcome also links to the RSI&T actions (Chapter 8). The Government has provided \$33 million over four years to expand the impact of the Vision Mātauranga. This will support Māori to determine and make future investments in RSI&T. Additionally, Te Ara Paerangi – Future Pathways programme will explore how the Aotearoa science system can support Māori and the use of mātauranga Māori. It will consider how to strengthen the role of Māori in the RSI system and better enable mātauranga Māori (chapter 2: Empowering Māori, actions 2.1–2.4; chapter 8: Research, science, innovation and technology,
are not economically enabled to transition equitablyrecommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori, actions 2.1, 2.2).27.5. Including timebound measures for progress for each of the elements of the strategy 27.5. The Government agrees in principle with this recommendation. Further collaboration with and direction from Māori will establish if and how this recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori, actions 2.1, 2.2). 27.5. Responsible agencies: Ministry for the Environment 27.2 and 27.3. Ministry for the Environment, Ministry of Business, Innovation and Employment Responsible Ministers: Minister of Climate Change 27.2 and 27.3. Ministers of Climate Change, Science,	mātauranga Māori to enable developing policy, strategy, technology and innovation to be informed	recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform. This outcome also links to the RSI&T actions. The Government has provided \$33 million over four years to expand the impact of the Vision Mātauranga. This will support Māori to determine and make future investments in RSI&T. Additionally, Te Ara Paerangi – Future Pathways will explore how the Aotearoa science system can support Māori and the use of mātauranga Māori. It will consider how to strengthen the role of Māori in the RSI&T system and better enable mātauranga Māori (chapter 2: Empowering Māori, actions 2.1–2.4; chapter 8: Research, science,
each of the elements of the strategyrecommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori, actions 2.1, 2.2).Responsible agencies: Ministry for the Environment 27.2 and 27.3. Ministry for the Environment, Ministry of Business, Innovation and EmploymentResponsible Ministers: Minister of Climate Change 27.2 and 27.3. Ministers of Climate Change, Science,		recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform
of Business, Innovation and Employment Responsible Ministers: Minister of Climate Change 27.2 and 27.3. Ministers of Climate Change, Science,		27.5. The Government agrees in principle with this recommendation. Further collaboration with and direction from Māori will establish if and how this recommended strategy and its focus areas should be progressed as part of the Māori climate platform (chapter 2: Empowering Māori, actions 2.1, 2.2). Responsible agencies: Ministry for the Environment
		of Business, Innovation and Employment Responsible Ministers: Minister of Climate Change
Timeline: 2022–25 (EB1)		Research and Innovation

Report recommendation	Government response
Recommendation 27 – Provisional progress indicator	
27.1. Government to start working with mandated representatives for Iwi and other relevant Māori collectives to determine an approach to support Iwi/Māori collectives to build an emissions profile within their respective takiwā that quantifies total Iwi/Māori contribution to national emissions and emissions reductions, including hapū lands that were taken for conservation purposes and allocated to SNAs (Significant Natural Areas), by no later than 30 June 2022.	27.1. The Government agrees in part with this provisional progress indicator. The Government agrees that Māori emissions profiles are one tool to aid decision making across the transition. Māori entities who wish to build technically feasible emission profiles will be supported under the Māori climate platform. Due to Budget 2022 and engagement dependencies, this indicator date is not feasible (chapter 2: Empowering Māori, actions 2.1, 2.2). Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: 2022–25 (EB1)

Recommendation 28: Policy direction for a fair, inclusive and equitable transition

Report recommendation

Recommendation 28 – A fair, inclusive and equitable transition

We recommend that, in the first emissions reduction plan, the Government commit to: Developing an Equitable Transitions Strategy that aims to deliver a well-signalled and inclusive transition, so it maximises opportunities, and minimises disruption and inequities. Objectives of the strategy should include:

28.1. Acting in partnership with Iwi/Māori, giving effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi, aligning with the He Ara Waiora framework to align with Iwi/Māori perspectives on wellbeing, and co-designing climate policies and strategies with Iwi/Māori.

28.2. Undertaking proactive transition planning that aligns with tikanga values and is co-designed with Iwi/Māori, local government, regional economic development agencies, workers, unions, businesses, and community groups with particular regard to those most disadvantaged.

28.3. Strengthening efforts to support a nimble and responsive education system with equitable access that sets New Zealanders up with skills needed for a low emissions future. This should include putting in place strategies for identifying and building the skillsets needed to support sectors key to move to a low-emissions economy over the next decade, and education pathways by Māori, for Māori.

28.4. Supporting workers to transition from highemissions sectors to low-emissions sectors, including redeploying and upskilling workers. This will need to be developed in conjunction with workers, unions, education providers and businesses.

28.5. Factoring distributional impacts into how climate strategies and policies are designed and implemented so that they minimise negative impacts, maximise cobenefits and take opportunities to reduce inequities. This will need to include a plan for improving the evidence base and tools for quantitatively assessing the distributional impacts and benefits in line with Treasury's Living Standards Framework and He Ara Waiora.

28.6. Clarifying how the Government is going to prioritise and fund the work laid out under the Strategy.

Government response

The Government agrees with this recommendation as intended by the Commission. The Government agrees to develop an Equitable Transitions Strategy to identify and develop policies to maximise the benefits and to reduce negative impacts of the transition.

The Strategy will be designed with Māori and a range of stakeholders including unions, workers, business, women, education providers, regional and rural communities, local government, disabled people Pasifika and representatives for groups such as lowincome and beneficiary households.

The Strategy will incorporate and address the objectives recommended by the Climate Change Commission (chapter 3: Equitable transition, action 3.2.1).

Responsible agencies: Ministry of Business, Innovation and Employment, Ministry of Social Development with support from additional agencies as appropriate to align with the strategy objectives

Responsible Ministers: Ministers for Economic and Regional Development, , and Social Development and Employment with additional Ministers included as appropriate to align with the objectives

Timeline: 2022-24 (EB1):

- draft strategy for consultation by June 2023
- final strategy by June 2024
- identification of priority issues necessitating more urgent intervention as needed

Report recommendation	Government response
Recommendation 28 – Provisional progress indicators	
28.1. Government to have, by 31 December 2021, outlined in their emissions reduction plan how they will prioritise and fund work on a fair, inclusive and equitable climate transition.	28.1. The Government agrees with this recommendation and has addressed this in the emissions reduction plan. The plan sets out the Government's approach to ensuring an equitable transition and how Government will fund initiatives to manage impacts across different groups in society as they emerge. (Chapter 3: Equitable transition)
28.2. Government to have, prior to June 2023, delivered a draft for consultation, and, by 30 June 2024, published an Equitable Transitions Strategy linked to the Iwi/Māori strategy, economic plan, and national energy strategy.	28.2. The Government agrees with this provisional progress indicator as intended by the Commission Chapter 3: Equitable transition sets out how the Government will develop an equitable transition strategy. (chapter 3: Equitable transition, action 3.2.1)
	Responsible agencies: Ministry of Business, Innovatio and Employment, Ministry of Social Development
	Responsible Ministers: Minister for Economic and Regional Development and the Minister for Social Development and Employment
	Timeline: 2022–24

Recommendations 29–33: The global 1.5°C effort and Nationally Determined Contribution for Aotearoa

Report recommendation	Government response
Recommendation 29 – Compatibility of the NDC with contributing to the global 1.5°C effort. We advise that the first NDC is not compatible with Aotearoa making a contribution to global efforts under the Paris Agreement to limit the increase in global average temperature to 1.5°C above preindustrial levels.	The Government agrees with this recommendation. In 2021, Government updated Aotearoa New Zealand's 2021–30 NDC to improve its compatibility with the 1.5°C temperature limitation goal. Aotearoa New Zealand's 2021–30 NDC is now for a 50% reduction on 2005 levels by 2030. The full NDC including information for clarity, transparency and understanding is available here. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: Completed

Report recommendation	Government response
Recommendation 30 – Making the NDC compatible with contributing to the global 1.5°C effort	
30.1. We recommend that to make the NDC more likely to be compatible with contributing to global efforts under the Paris Agreement to limit warming to 1.5°C above pre-industrial levels, the contribution Aotearoa makes over the NDC period should reflect a reduction to net emissions of much more than 36% below 2005 gross levels by 2030, with the likelihood of compatibility increasing as the NDC is strengthened further.	 30.1. The Government agrees with this recommendation. In 2021, Government updated Aotearoa New Zealand's 2021–30 NDC to improve compatibility with the 1.5°C temperature limitation goal. Aotearoa New Zealand's 2021–30 NDC is now for a 50% reduction on 2005 levels by 2030. The full NDC including information for clarity, transparency and understanding is available here. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: Completed
30.2. How much the NDC is strengthened beyond 36% should reflect the tolerance for climate and reputational risk and economic impact, and principles for effort sharing, which require political decisions. Any changes to the NDC should be developed in partnership with Iwi/Māori, to give effect to the principles of Te Tiriti o Waitangi/The Treaty of Waitangi and align with the He Ara Waiora framework.	 30.2. The Government agrees with this recommendation. In 2021, Government updated Aotearoa New Zealand's 2021–30 NDC to improve compatibility with the 1.5°C temperature limitation goal. Aotearoa New Zealand's 2021–30 NDC is now for a 50% reduction on 2005 levels by 2030. The full NDC including information for clarity, transparency and understanding is available here. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change Timeline: Completed

Report recommendation	Government response
Recommendation 31 – Planning and reporting on the NDC	
We recommend that the Government should:	
31.1. In making its decisions, continue to enable the NDC to be met through a combination of domestic emission reductions, domestic removals, and use of international carbon markets.	31.1. The Government agrees with this recommendation. Aotearoa New Zealand's updated NDC reconfirms that a combination of domestic emissions reductions and removals, and the use of offshore mitigation may be used to achieve the NDC. Aotearoa will prioritise domestic mitigation in meeting its NDC and will develop a portfolio of offshore mitigation options to supplement this.
31.2. Report annually on how it plans to meet the NDC, including the balance of planned domestic emission reductions, removals, and offshore purchasing.	31.2. The Government agrees in principle with this recommendation. Aotearoa will fulfil its international obligations and report biennially on its NDC implementation and achievement (among other things) through the Paris Agreement's enhanced transparency framework. More frequent reporting for domestic purposes is under active consideration/work programme.
31.3. Clearly communicate its strategy for purchasing offshore mitigation to meet the NDC and how it will identify and manage fiscal and other risks and their consequences.	31.3. The Government agrees in principle with this recommendation. Aotearoa will develop a portfolio of options for offshore mitigation, to supplement domestic action and meet the NDC. The Government will consider the fiscal risks associated with our climate targets, including the NDC.
	Responsible agencies: Ministry for the Environment, Ministry for Foreign Affairs and Trade, Treasury
	Responsible Minister: Ministers of Climate Change,
	Timeline:
	• 31.1. 2021–30 (NDC period)
	• 31.2. 2022 onwards. First biennial report due 2024
	• 31.3.
	 strategy for purchasing offshore mitigation to meet the NDC - 2022 -2023
	 identification of fiscal risks for meeting the NDC – end 2022

Report recommendation	Government response
Recommendation 32 – Form of the NDC	
We recommend that the Government should:	
32.1. We recommend that the Government should continue to define the NDC on the basis of all greenhouse gases using the most recent IPCC global warming potentials adopted by the Parties to the UNFCCC. If the NDC is updated, the Government should express it on a basis that is consistent with how emissions will be reported in the national greenhouse gas inventory from 2021–30.	32.1. The Government agrees with this recommendation. New Zealand's updated NDC1, submitted in 2021, continues to cover all greenhouse gases. Consistent with international greenhouse gas inventory reporting requirements under the Paris Agreement, the national greenhouse gas inventory from 2031-2030 will cover CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF6 and NF3 and use the 100-year global warming potentials (GWPs) from the IPCC's 5th assessment report as agreed by Parties to the Paris Agreement in decision 18/CMA.1.

Report recommendation	Government response
32.2. Continue to contribute to further global mitigation beyond the NDC through the provision of climate finance to developing countries and active participation in mitigation mechanisms, including for international aviation and shipping.	32.2. The Government agrees with this recommendation. Aotearoa does and will continue to provide climate finance for climate action, including both mitigation and adaptation action. Provision and mobilisation of climate finance is a developed country obligation under the Paris Agreement that is separate and distinct from all countries' emissions reduction commitments. Supporting other countries' emissions reductions through climate finance does not entitle New Zealand to claim those emissions reductions towards its NDC – that is, through climate finance, Aotearoa contributes to further global mitigation beyond its NDC.
	The 2022–25 climate finance commitment of 1.3bn NZD announced by Aotearoa in 2021 is a four-fold increase over previous commitments. At least half of this will go to the Pacific, and at least half to adaptation action.
	Aotearoa is an active participant in a number of international mitigation initiatives that support our emissions reduction priorities and aspirations for effective global action.
	Aotearoa will continue to push for ambitious action across all sectors, including international aviation and shipping. Work will continue to advocate for and implement measures under the jurisdiction of the International Civil Aviation Organization and International Maritime Organization.
	Responsible agencies: Ministry for Foreign Affairs and Trade, Ministry of Transport
	Responsible Ministers: Ministers of Climate Change, Foreign Affairs, Transport
	Timeline:
	 32.1. Completed 33.2. Provision of 1.3bn NZD of climate finance
	over 2022-2025
	• 33.2 2022 and ongoing

Report recommendation	Government response
Recommendation 33 – Reductions in biogenic methane that might be required of Aotearoa in the future as part of a global 1.5°C effort We advise that the reductions in emissions of biogenic methane that Aotearoa may eventually need to make as part of a global effort to limit the global average temperature increase to 1.5°C above pre-industrial levels could be between 49% and 60% below 2017 levels by 2100.	This recommendation responds to a request made under section 5K of the Climate Change Response Act 2002. It is not part of the statutory requirements for setting the first three emissions budgets or finalising the first emissions reduction plan. Responsible agency: Ministry for the Environment Responsible Minister: Minister of Climate Change

Appendix

Climate Change Commission emissions budgets 1

	2019	Emissions budget 1 2022–25	Emissions budget 2 2026–30	Emissions budget 3 2030–35
All gases, net (AR5) (Mt CO ₂ -e)		290	312	253
Annual average (Mt CO ₂ -e/yr)	78.0	72.4	62.4	50.6

Government response to Commission's budgets 1

	Emissions budget 1	Emissions budget 2	Emissions budget 3
	2022–25	2026–30	2030–35
All gases, net (AR5) (Mt CO ₂ -e)	290	305	240

Climate Change Commission emissions budgets 2

	Emissions budget 1 2022–25	Emissions budget 2 2026–30	Emissions budget 3 2030–35
Total net emissions budget (Mt CO ₂ -e)	278	298	240
Annual average (Mt CO ₂ -e/yr)	69.5	59.7	47.9
Removals			
Forestry carbon removals (Mt CO ₂ -e)	26	50	69
Annual average (Mt CO ₂ -e/yr)	6.6	10	13.8
Emissions – long-lived gases			
Gross long-lived gases (Mt CO ₂ -e)	178	199	166
Broken down by:			
Carbon dioxide (Mt CO ₂ -e)	136	149	121
Nitrous oxide (Mt CO ₂ -e)	32	38	36
<i>F-gases</i> (Mt CO ₂ -e)	7	8	6
Non-biogenic methane (Mt CO ₂ -e)	3	4	3
Emissions – biogenic methane Gross biogenic methane* (Mt CH ₄)	5.04	5.99	5.70

* Note that biogenic methane amounts are provided in megatonnes of methane (Mt CH₄).

Megatonnes of methane do not equate one-for-one to megatonnes of carbon dioxide equivalent (Mt CO_2 -e). As a result, the amounts in this table cannot be summed to give the total net emissions budget. However, the methane volume can be converted into a CO_2 -e amount by multiplying by 25, the IPCC AR4 GWP100 value for methane.

Climate Change Commission emissions budgets 3

	2019	Emissions budget 1 2022–25	Emissions budget 2 2026–30	Emissions budget 3 2030–35
Total net emissions (Mt CO ₂ -e/yr)				
Annual average	74.9	69.5	59.7	47.9
Reduction from 2019		5.4	15.3	27.0
Total gross emissions (Mt CO ₂ -e/yr)				
Annual average	82.3	76.1	69.7	47.9
Reduction from 2019		6.2	12.6	27.0
Broken down by:		·		
Carbon dioxide (gross)(Mt CO ₂ -e/yr)				
Annual average	37.5	34.0	29.8	24.1
Reduction from 2019		3.5	7.7	13.4
Nitrous oxide (Mt CO ₂ -e/yr)				
Annual average	8.4	7.9	7.6	7.2
Reduction from 2019		0.4	0.8	1.2
F-gases (Mt CO ₂ -e/yr)				
Annual average	1.8	1.8	1.6	1.3
Reduction from 2019		0.0	0.2	0.6
Non-biogenic methane (Mt CO ₂ -e/yr)				
Annual average	0.9	0.8	0.7	0.7
Reduction from 2019		0.1	0.2	0.3
Biogenic methane (Mt CO ₂ -e/yr)				
Annual average	1.35	1.26	1.2	1.14
Reduction from 2019*		0.09	0.15	0.21