



Climate Change Commission's final advice - Key messages

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Date Submitted:	3 June 2021	Tracking #: BRF-116	
Security Level	Policy and Privacy In-Confidence	MfE Priority	Urgent

	Action sought:	Response by:
Members of the Climate Response Ministerial Group	Read this briefing prior to discussion at the Climate Response Ministerial Group meeting on 4 June 2021	4 June 2021

Actions for Minister's Office Staff	Return the signed report to MfE.
Number of appendices and attachments #4	- Appendix 1: Executive Summary of the Climate Change Commission's high-level policy advice for the emissions reduction plan - Appendix 2: Talking points - Appendix 3: Questions and answers - Appendix 4: Key decision-points and indicative milestones in 2021 - Appendix 5: Key changes in the Commission's recommendations

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Climate Change Commission's final advice - Key messages

Purpose

1. On 31 May 2021, the Climate Change Commission (Commission) provided the Minister of Climate Change (the Minister) with its final advice on the first three emissions budgets, the policy direction of the first emissions reduction plan, New Zealand's Nationally Determined Contribution for 2021-2030 (NDC1) and the eventual reductions required in biogenic methane.
2. This briefing provides members of the Climate Response Ministerial Group with:
 - key messages arising from the Commission's final advice
 - a summary of the Commission's high level policy advice for the emissions reduction plan (**Appendix 1**)
 - material to support inquiries about the Commission's final report, including legal considerations, talking points (**Appendix 2**) and anticipated questions and answers (**Appendix 3**)
 - an outline of next steps (**Appendix 4**)
 - the Commission's recommendations and an indication of how its final recommendations compare with those in the draft report (**Appendix 5**).

Context

3. In late 2019, Parliament unanimously passed the Climate Change Response (Zero Carbon) Amendment Act (the Act). This introduced the Zero Carbon framework, which – in addition to domestic emissions reduction targets for 2030 and 2050 – included:
 - a framework of emissions budgets (or interim targets) that step progressively towards our long-term emissions reduction targets
 - a requirement for emissions reduction plans that set out the policies and strategies needed to achieve the emissions budgets.
4. The Act also established the Commission, which is tasked with providing independent expert advice to the government on climate change matters and monitoring progress towards the government's mitigation and adaptation goals.
5. The Commission released its draft advice on the first three emissions budgets and the first emissions reduction plan for consultation on 31 January 2021. Consultation took



- place from 1 February to 28 March 2021, with over 15,000 written submissions received.¹ The Commission's final advice was received by the Minister on 31 May 2021.
6. Receipt of the Commission's final advice triggers a number of procedural requirements and mandatory considerations, culminating in the publication of the first three emissions budgets and the first emissions reduction plan by 31 December 2021.²
 7. Before the Minister sets the emissions budgets, the Act requires the Minister to (among other matters):
 - assess whether consultation on the emissions budgets has been adequate and, if necessary, undertake additional consultation³
 - have particular regard to how the emissions budgets and 2050 target may realistically be met, including the key opportunities, risks and uncertainties⁴
 - have regard to a range of matters, including scientific, technological and economic considerations, distributional impacts and the actions that other countries are taking under the Paris Agreement⁵
 8. If the Minister's proposed emissions budgets depart from the Commission's advice, the Minister is required to explain the reasons for such departures and decide whether it is necessary to undertake further consultation on the Minister's proposed emissions budgets.⁶
 9. Importantly, before the emissions budgets are notified in the Gazette and presented to the House (as is required), the Minister must consult with the appropriate representative of each of the political parties represented in Parliament.⁷
 10. Similarly, before the Minister sets the emissions reduction plan, the Act requires the Minister to (among other things):
 - consider the Commission's advice on meeting emissions budgets (as set out in Part Two of the Commission's advice)⁸

¹ The Commission received 14,463 individual submissions, 901 submissions from organisations, 40 submissions from Iwi/Māori organisations. The Commission's consultation period was extended by an additional two weeks – from 1 February – 16 March 2021 to 28 March 2021.

² Climate Change Response Act 2002, sections 5X(3), 5ZB, 5ZI

³ Climate Change Response Act 2002, section 5ZB(1)-(2)

⁴ Climate Change Response Act 2002, section 5ZC(2)(a)

⁵ Climate Change Response Act 2002, section 5ZC(2)(b) (see also section 5ZA)

⁶ Climate Change Response Act 2002, section 5ZB(4)

⁷ Climate Change Response Act 2002, section 5ZD(1)

⁸ Climate Change Response Act 2002, section 5ZI(1)(a)



- ensure consultation on the emissions reduction plan has been adequate, including with sector representatives, affected communities, and iwi and Māori, and undertake further consultation as the Minister considers necessary.⁹
11. At the request of the Minister, the Commission's report also includes advice on New Zealand's NDC and biogenic methane. The Prime Minister and Minister have publicly committed to enhancing New Zealand's NDC1 this year, following receipt of the Commission's final advice. Decisions on the NDC will follow a separate process to emissions budgets and the emissions reduction plan, as it is not prescribed under the Climate Change Response Act 2002. Enhancement of NDC1 is likely to require decision prior to the 26th United Nations Climate Change Conference of the Parties (COP26), scheduled for 1-12 November 2021.
12. At the Minister's request, the Commission's final advice also included recommendations on the eventual reductions in biogenic methane that will be required. The Commission did not receive substantial feedback or new evidence relating to their advice on long-term reductions of biogenic methane, and their recommendation remains unchanged. They recommend 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 level could be between 49% and 60% below 2017 levels by 2100."

Analysis and Advice

13. The following section provides a high-level overview of the Commission's final advice. Officials will provide more substantive advice in the coming weeks.
14. In summary, relative to its draft released for consultation, the Commission's final advice:
- has not made substantive recommended changes for the emissions budgets. The numbers have increased, but this is primarily due to the shift in baseline numbers, rather than a material change in ambition.
 - recommends that New Zealand's NDC1 needs to be 'much more than 36%' (below 2015 levels by 2030). This is not a material shift since the Commission released its draft advice.
- for biogenic methane, has suggested less reductions be delivered by agriculture, and there is a much greater focus on emissions reductions from the waste sector
- for the transport sector, has assumed a less ambitious uptake rate for electric vehicles (EVs), but assumed more reliance on public transport and mode shift to deliver emissions reductions. It has also recommended setting a time limit on light vehicles with internal combustion engines entering, being manufactured, or

⁹ Climate Change Response Act 2002, section 5Z(1)(b).



assembled in Aotearoa (of no later than 2035 and, if possible, as early as 2030 (in line with other countries))

- has undertaken significantly more economic sensitivity analysis to test assumptions and impacts
- has provided refined estimates of GDP impacts. These are slightly higher than in the draft advice – but still around 1% of GDP in 2050. The Commission has also modelled what happens if some key actions (notably supporting EV uptake and efficient farming practices) are delayed, and this indicates the loss in GDP would be greater if action is not progressed.

Emissions budgets

15. Emissions budgets cap the amount of greenhouse gas emissions permitted over a five-year period (or four years in the case of the first emissions budget (2022-2025)). In effect, they act as interim targets that step progressively towards our long-term targets and help to manage the impacts of the transition.
16. The Commission's final advice includes recommendation for the first three emissions budgets, the accounting rules that should apply, how they can realistically be met and a recommended cap on offshore mitigation.

Key messages

Proposed emissions budgets

17. The Commission recommends that the Government set and meet the emissions budgets as outlined below.

	2019	EMISSIONS BUDGET 1 (2022-2025)	EMISSIONS BUDGET 2 (2026-2030)	EMISSIONS BUDGET 3 (2031-2035)
All gases net (AR5)		290 MtCO ₂ e	312 MtCO ₂ e	253 MtCO ₂ e
Annual average	78.0 MtCO ₂ e	72.4 MtCO ₂ e	62.4 MtCO ₂ e	50.6 MtCO ₂ e

18. The headline numbers of the Commission's recommended emissions budgets are higher than those in the draft report, but this does not significantly affect the amount of abatement required. The increased numbers are due to:



- The release of the latest New Zealand Greenhouse Gas Inventory for 1990-2019 in April 2021, which provided more up-to-date information and increased the baseline emissions. The draft advice was based on the 2018 emissions.
- Changes to the Commission's modelling assumptions, including as a result of new evidence raised during consultation.
- The Commission has presented the headline numbers of its recommended emissions budgets in AR5 metrics (the Commission's draft emissions budgets used AR4 metrics). Note: the Commission has applied AR5 to the headline emissions budget numbers only. All other analysis in the final advice has been undertaken and presented using AR4 metrics.¹⁰

Suggested pathway by sector

19. The Commission has provided recommendations on the breakdown of the overall emissions budgets by the proportion of domestic reductions and removals and by reductions of each greenhouse gas, as required by the Act (section 5ZA(1)(d)). These breakdowns are not required to be included in the emissions budgets that are gazetted.¹¹
20. The Commission also provides a demonstration pathway that includes a variety of actions to deliver emissions reductions and removals across different sectors to show how our targets can be met. The Commission used the demonstration path to calculate the level of the first three emissions budgets. It has not provided the breakdown of emissions reductions by sector from the demonstration pathway in the report to avoid the perception that it was setting emissions budgets for specific sectors.
21. The Commission's advice demonstrates that there are multiple ways of meeting its recommended emissions budgets. In addition to the core demonstration pathway, the Commission tested alternative pathways with different technological and behaviour change assumptions. These would each enable New Zealand to achieve the recommended emissions budgets. In addition, the Commission has also undertaken significant additional sensitivity analysis to assess the impacts of a range of critical assumptions.

¹⁰ The Commission has now applied the GWP100 values from the Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5) so that they will be consistent with the way government will report greenhouse gas emissions for the year 2021 onwards. In the rest of the advice, including the detailed breakdowns of each budget by gas, they continue to present all emissions consistently using the IPCC's Fourth Assessment Report (AR4) GWP100 values. The main difference between the AR4 and AR5 values is that the global warming potential of methane has increased by 12%.

¹¹ Climate Change Response Act 2002, sections 5Y, 5ZD

¹² The critical assumptions include slower or faster rates of population and GDP growth, continued operation of New Zealand's Aluminium Smelter beyond 2024, potential closure or continued operation of other large industrial emitters, variability in hydro in-flow, uncertainty in projected levels of afforestation and deforestation, potential for constrained supply of used electric vehicles and uncertainty around projected



22. The Commission's demonstration pathway in its final advice would see more emissions reductions come from energy and waste in the first emissions budget period, relative to its draft advice.

Proposed emissions reductions by emissions budget period by sector (Mt CO₂e)¹³

Sector	1st budget period	2nd budget period	3rd budget period
Transport energy	-1.0 (-2%)	-8.7 (-10%)	-24.5 (-29%)
Non-transport energy	-4.3 (-7%)	-10.1 (-15%)	-20.0 (-29%)
Industrial processes and product use (IPPU)	-0.3 (-2%)	-0.7 (-3%)	-3 (-6%)
Agriculture ¹⁴	-1.5 (-1%)	-6.4 (-3%)	-11.8 (-6%)
Waste	-0.4 (-3%)	-2.3 (-5%)	-4.1 (-26%)
Forestry (removals)	-0.6 (+2%)	-5.6 (-13%)	-9.1 (+15%)
Gross	-7.6 (-2%)	-28.2 (-7%)	-61.7 (-17%)
Net	-8.1 (-3%)	-33.8 (-10%)	-70.8 (-23%)

* Numbers in the table are based on the difference between the Commission's demonstration pathway and the Commission's current policy reference case (CPR).¹⁵

The Commission's recommended emissions budgets would see New Zealand reach net zero long-lived gases before 2050

23. The Commission's recommended emissions budgets would put New Zealand on track to achieve net zero long-lived gas emissions in the early 2040s. This will allow New Zealand to meet and maintain the net zero component of our 2050 target and create some

energy and vehicle costs. Uncertainties associated with the waste sector may also affect the ability to meet emission budgets.

¹³ Please note that these are an indication of possible reductions and do not constitute sector-specific emissions budgets.

¹⁴ This includes biogenic methane and long-lived greenhouse gases.

¹⁵ The demonstration pathway is the Commission's recommended path, which represents future greenhouse gas emissions if all of their recommended actions were adopted. The CPR is the Commission's baseline (also called the reference case, counterfactual or status quo) and represents the future emissions path without any further actions.



headroom, which could accommodate the possible inclusion of emissions from international aviation and shipping in the future.

Revision of the second and third emissions budgets

24. The Commission's emissions budgets recommendations draw on greenhouse gas inventory figures that are subject to continuous methodological improvement through annual updates.
25. Under the Climate Change Response Act 2002, the Commission may recommend that emissions budgets be revised if certain criteria are met. These include methodological improvements since the emissions budgets were originally set, although only exceptional circumstances can justify revision of an emissions budget after that period has commenced.¹⁶
26. The second and third emissions budgets may also be revised if there has been a significant change to one or more of the considerations on which the emissions budgets were originally set. These considerations include, but are not limited to, scientific, technological and economic considerations, the results of public consultation and distributional impacts.¹⁷

Economic impact of the Commission's recommended emissions budgets

27. The Commission has revised its modelling of the GDP impact of the transition to reflect its revised emissions budgets and pathway, and now estimates the level of GDP could be around 0.5% lower in 2035 and 1.2% lower in 2050 than it would be otherwise. The previous estimate in the draft report was that the overall costs of meeting the 2050 targets and emissions budgets were likely to be less than 1.0% of projected GDP.
28. The Commission has now also provided an estimate of the GDP cost of delayed action. Delaying key actions like the move to electric vehicles (EVs) and embedding more efficient farm practices would lead to higher cost actions being required and make it harder to maintain agricultural production. The overall impact to GDP would be higher – potentially reducing GDP by up to 1.0% in 2035 and 2.3% in 2050 – if these key measures for New Zealand's low emissions transition are not successfully rolled out.

The cost of meeting emissions budgets

29. The Commission does not provide advice on how much specific policies to meet the first three emissions budgets are likely to cost. This will be considered as officials develop advice on the first three emissions budgets and the first emissions reduction plan.

Key uncertainties for achieving emissions budgets

30. Before setting emissions budgets, the Government will need to carefully consider key uncertainties and risks around emissions reductions projections, and how to manage these so that the emissions budgets can be met.

¹⁶ Climate Change Response Act 2002, section 5ZE(1)(a)

¹⁷ Climate Change Response Act 2002, section 5ZC(2)



31. For the second and third emissions budget periods (covering 2026-2035) the amount of emissions reductions required and the range of uncertainties are larger, but there is more time to develop and implement policies to adapt to any surprises and manage uncertainties and risks.
32. In the first budget period, the amounts of emissions reductions suggested in the Commission's advice are smaller (relative to subsequent emissions budget periods), but there would be much less scope to adjust. For example, the closure of the New Zealand Aluminium Smelter (NZAS) is a key uncertainty for achieving the first emissions budget in the energy and industry sector. The Commission's demonstration path assumes that NZAS closes in 2024..¹⁸

Emissions reduction plan

33. The first emissions reduction plan will include the policies and strategies needed to meet the first emissions budget (2022-2025) and may look out to future budget periods.
34. On 31 May 2021, the Commission advised on the policy direction for the emissions reduction plan. The Government's decisions on the detailed design and implementation of policies will be informed by its consideration of the strategic direction provided by the Commission.

Key messages

35. To help navigate the most appropriate policies and approaches for inclusion in the emissions reduction plan, the Commission has identified three main areas ("pillars") for interventions:
- pricing to influence investments and choices
 - action to address barriers
 - enabling innovation and system transformation.
36. These pillars are relevant across every area of the upcoming emissions reduction plan. More specific messages are contained in the following sections.

Aligning system settings and cross-sector tools

37. The following table sets out key messages from the Commission's final advice relevant to aligning system settings and cross-sector tools.

¹⁸ The Commission has undertaken additional sensitivity analysis to assess the impacts of a range of critical assumptions. See explanation at footnote 13.



Area	Key message(s)
Te Tiriti o Waitangi and Māori	- To ensure a just transition occurs, the broad advice is that strategies, policies and decisions at all levels regarding the climate change response and its impacts should be made in partnership with Māori, and have He Ara Waiora framework embedded into policy development. - Māori rights and interests are acknowledged and provided for in low emission solutions, particularly those that have natural resource dependencies. - The Commission proposes that the government and Iwi/Māori develop a strategy with time-bound measures for progress that focus on enabling a system-wide, equitable transition for Māori and the Māori economy. - The Commission proposes that a strategy is developed and implemented to embed Te Tiriti principles in the low emissions transition and future emissions reduction plans by the end of June 2022. - The Commission's recommendation for a Māori emissions profile now includes enabling Māori collectives to quantify the emission removals that have and will occur on Māori land, including land that has been historically incorporated in Crown territorial and state ownership or management. Data sovereignty is important for Māori who want a Māori emissions profile. - NOTE: Taking the more comprehensive partnership approach recommended by the Commission, including co-development of policies, across all levels of government and multiple sectors, would have implications for both Iwi and Māori and the Crown in regards to resourcing and capacity, priorities for alignment, and timeframes. If we do not uphold our obligations under Te Tiriti o Waitangi, there is a risk of legal action and/or claims to the Waitangi Tribunal. - Section 2(f)(iv) [REDACTED] In addition to its public consultation, there has been ongoing engagement with Māori throughout the development of the Commission's final advice. The Interim Climate Change Committee also engaged with Māori.
Fair, inclusive and equitable transition	- The Commission's advice focuses on enabling a fair, inclusive and equitable transition and recommends that the government produce an Equitable Transitions Strategy to drive this (Recommendation 28). The Commission recommends the objectives of the Strategy include: - giving effect to the principles of Te Tiriti o Waitangi - supporting workers to transition from high-emissions sectors to low-emissions sectors



	○ factoring distributional impacts into how climate strategies and policies are designed and implemented. • The Commission recommends the Equitable Transition Strategy be developed in conjunction with workers, unions, education providers and businesses. • Compared to their draft advice, the Commission suggests a slightly longer timeframe (mid-2024 rather than end 2023) for the development of the Equitable Transitions Strategy. The Commission has also included a new recommendation that, by 31 December 2021, the Government use the emissions reduction plan process to articulate how they will prioritise and fund work laid out under the Strategy will be prioritise and funded. • The Commission has also increased its emphasis on the need for the Government to put policies in place to support those who are most disadvantaged and least able to adjust.
Role of central government and others	• The Commission recognises the importance of Government providing clear, credible, and consistent signals about the direction and pace of change. The Commission recommends the Government seeks cross-party political support on emissions budgets and that emissions budgets are debated in Parliament before they are notified, so that the positions of each political party are on parliamentary record. • The Commission recommends the Government provide 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. • The Commission recognises that Government agencies need to work together in an effective and efficient way to support climate action. The Commission recommends that specific Ministers and agencies are nominated with accountability for implementing policies and strategies in the emissions reduction plan. • The Commission recommends Government needs to explore ways for enabling effective public participation. • The Commission has been more specific in their recommendation on behaviour change, recommending that Government should establish a dedicated fund to support behaviour change initiatives that can deliver emissions reductions and nominate a lead agency. • The Commission acknowledges the important role that local government plays, and recommends government ensures policy and investments are aligned to allow local government to make effective decisions for climate change mitigation. • The Commission highlights the need for the Government to work collaboratively with business and industry, and leverage private sector

	leadership. The investment decisions and choices that businesses make are critical to the transition.
Funding and finance	• The Commission's final advice places increased emphasis on the importance of funding and financing the transition, including through mobilising private finance. • The Commission recommends assessing and meeting funding requirements for implementing each emissions reduction plan in line with emissions budgets. • The Commission also recommend establishing Vote Climate Change as a "specific multi-agency appropriation" for adaptation and mitigation funding. • On mobilising private sector finance towards climate objectives, the report recommends: ○ that the Government develops action for how to mobilise private sector finance, including for Māori collectives. ○ changes to the mandatory climate-related disclosure regime.
Emissions pricing	• Pricing to influence investments and choices is one of the Commission's three pillars for a comprehensive policy package. The Commission has highlighted the importance of a higher price signal for achieving abatement in a number of sectors. • The recommendations for the New Zealand Emissions Trading Scheme (NZ ETS) are broadly the same as the Commission's draft advice. • The Commission noted the NZ ETS needs to be amended and continually improved to ensure it incentivises reductions in gross emissions, including by managing the amount of exotic forest planting the NZ ETS covers. • The recommendation to increase the cost containment reserve to \$70 and increase by 10% plus inflation per year, and to increase the auction price floor to \$30 and increase by 5% plus inflation remains. In a Q&A session with agencies, the Commission noted that it did not receive substantial feedback on updating the NZ ETS unit supply and price control settings.
Planning and infrastructure	• The Commission recommends a stronger, more directive role of urban form in achieving emissions reductions, as a result of feedback from public and local government. The Commission notes that action is needed today due to long lived nature of the built environment. Key quantification and evidence gaps remain to better understand the urban emissions profile. The Commission recommends a greater partnership with iwi and Māori and collaboration with local government.

	The Commission recognises the planning system's cross-cutting role to enable recommendations to be implemented across all sectors and to enable adaptation
Research, science and innovation (RSI)	- The Commission did not previously have an over-arching recommendation on research and development. The Commission has have added a new recommendation in the final report after RSI came through as an important theme in submissions. - The Commission recommends that RSI includes targeted investments in climate related research and support of the development and innovation of new low emissions technologies. - The Commission recommends that RSI creates an enabling regulatory environment and removes barriers for new and emerging low emissions industries and sectors. - Transitioning Aotearoa to low emissions will require innovation across the economy. The Commission signals the central role that innovation can play in speeding up emissions reductions and reducing costs, but this requires the right level of access to knowledge, skills and finance. - The Commission has highlighted the need to create opportunities, learn from and remove barriers for Māori, and to enable the interface between Mātauranga and science in the RSI system.
Circular economy, bioeconomy and economic strategy	- In its final advice, the Commission looked at the opportunities surrounding the circular economy, bioeconomy and economic strategy. - There are no separate recommendations on the circular economy, which has been pulled out of the waste recommendation in the Commission's draft report. The Commission recommends that a lead Minister and a lead agency be appointed for this work. There is now a separate recommendation on the bioeconomy as a cross-cutting policy, while it had previously been part of the energy recommendations in the Commission's draft report. This change has been made in response to feedback that the bioeconomy is relevant to multiple sectors. The Commission has also included further detail on what the scope of the bioeconomy strategy should be, and recommended establishing a clear governance structure, including assigning a lead Minister and lead agency.

Sector-specific policies

38. The following table sets out key messages from the Commission's final advice on ways to reduce emissions from New Zealand's key sectors.



Sector	Key messages
Transport	• According to the Commission's approach, the transport system needs to be almost completely decarbonised by 2050 to meet New Zealand's emissions reduction target. • The Commission's demonstration pathway is based on reducing transport emissions by 41% by 2035 (relative to a 2019 baseline). The Commission's draft advice was to reduce transport emissions by 47% by 2035. • Compared to its draft advice, the Commission's final advice is more ambitious around shifting the way New Zealanders travel (e.g. by encouraging mode shifts to public transport and active travel). The Commission place less emphasis on private vehicle use, although accelerating EV uptake is still key to achieving our emissions budgets. • The Commission has also recommended a broader and more ambitious approach to reducing emissions from heavy vehicles and freight. • Other key changes in the Commission's final advice include: ○ focusing more on urban form to reduce transport emissions ○ providing more details on the co-benefits of reducing transport emissions (particularly for health) ○ taking a more fuel-neutral approach to low-carbon fuels. • The Commission now recommends three key areas for the Government to focus on to reduce transport emissions (and officials note these align closely with the three themes developed by the Ministry of Transport in Hīkina te Kohupara – Kia mauri ora ai te iwi: Transport Emissions: Pathways to Net Zero by 2050). These are: 1. Reducing reliance on cars, with shifts to public transport and active modes. 2. Rapidly adopting EVs, and importing more efficient vehicles until EVs are widely available and affordable. 3. Beginning work to decarbonise heavy transport and freight, by developing a national low-emissions freight strategy, and scaling up low emissions fuels like biofuels or hydrogen-derived synthetic fuels.
Heat, industry and power	• The Commission has recommended that the Government commit to delivering a strategy to decarbonise the energy system and ensure the electricity sector is ready to meet future needs. The proposed scope would cover a renewable energy target, ensuring access to affordable and secure low emissions electricity for all consumers, and managing the phase out of fossil fuels (including the phase out of gas in the energy system and coal for electricity generation). The Commission

	recommends the strategy be developed in partnership with iwi/Māori and in collaboration with energy system stakeholders. NOTE: that developing a strategy in the way that the Commission suggests would require a dedicated work programme and a significant level of resourcing. • The Commission suggests that government consider a target of 50 percent of all energy consumed coming from renewable sources, rather than a target of 60 percent renewable energy as a share of total primary energy supply. These two targets are broadly equivalent. In addition to suggesting that the government's target of 100 percent renewable electricity by 2030 be treated as aspirational, the Commission suggested the government consider replacing this target with a goal of aiming to achieve 95 to 98 percent renewable electricity by 2030. NOTE: the Government will need to carefully consider these proposed targets alongside its existing targets, within the context of developing an energy strategy. • The Commission has included a new recommendation for the scale up of investment in energy efficiency, noting that reducing the amount of energy consumed is the most cost-effective way to reduce emissions. • The Commission has also expanded its recommendations relating to natural gas. The Commission refers to natural gas as fossil gas in the report as it considers that this better distinguishes gases with high emissions from the low emissions alternatives. The Commission explicitly recommends creating a plan for managing the diminishing role of fossil gas, covering the associated consequences for network infrastructure and workforce during transition. The Commission has continued to recommend setting a date to end the expansion of pipeline connections to buildings (although a specific date is no longer included in its recommendations). However, in addition the Commission has also recommended evaluating the role of low emissions gases as an alternative use of pipeline infrastructure, and determining how to transition existing fossil gas users towards low emissions alternatives. • The Commission has also added a new recommendation on 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. The Commission notes this recommendation in the context that if NZAS closes at the end of 2024, there will be a significant shift in demand in the New Zealand electricity market. The Commission suggests a timeframe for publishing this assessment by 31 March 2022.
Building and construction	• The Commission's main recommendation for the building and construction sector (recommendation 22) is consistent with the direction of change already being discussed with the sector.



	• The Commission has not recommended a sector-specific emissions budget or emissions reduction target for building and construction. • The Commission has also recognised embodied emissions (e.g. emissions from construction and renovations) as a driver of emissions and a possible lever to support hard-to-abate industries. This will enable the building and construction sector to contribute to emissions reduction in other sectors (e.g. energy, industry, waste, transport). • The Commission's recommendations on planning and infrastructure may further enable the building and construction sector to make a contribution to emissions reductions.
Agriculture	• The Commission's demonstration pathway would see smaller emissions reductions from agriculture compared to the draft advice. This change is partly due to the Commission revising its assumptions about sheep and beef productivity gains downwards, based on feedback and evidence received during consultation. • The Commission has emphasised the importance of the Government deciding on a farm-level pricing mechanism in 2022 to 'avoid ongoing uncertainty which will defer farmers and growers from reducing emissions in the short term'. The Commission has added a new recommendation about developing and funding farm advisory services, including specific services for Māori collective landowners, though it notes that it will take time for farm advisors to be upskilled. • The recommendations overall have a stronger focus on partnership with Māori.
Waste and hydrofluorocarbons (HFCs)	• The Commission has recommended a much higher level of ambition for waste, a 40% decrease in biogenic waste methane emissions by 2035, compared to a 15% emissions reduction target in the draft advice. •  • NOTE: The Commission's recommendations on waste are consistent with the direction of travel for the emerging New Zealand Waste Strategy. • There are no significant changes to the Commission's recommendations for reducing emissions from HFCs. However, the Commission's Alternative Pathway A would require more significant user uptake of refrigerant product stewardship. • The Commission has also recommended improved data collection in waste. The assumptions underlying the Commission's recommendation

	(as with the inventory) are based on estimates rather than actual data for non-municipal landfills and farm fills.
Forestry	- The Commission's recommended policy direction for forestry is broadly consistent with the draft advice. The recommendation about changes to NZ ETS settings to manage the amount of exotic forest planting is more explicit, and there is an explicit recommendation that the Government clarify the role of 'different types of permanent exotic forests as carbon sinks' as part of the policy package to reduce reliance on forestry removals. - The recommendation on supporting increased native afforestation to establish a long-term carbon sink is now less prescriptive about the amount of native afforestation required prior to 2035. - Recommendations in other parts of the report, such as on the bioeconomy and transport, will have implications for forestry in terms of demand for biomass and the afforestation required to deliver this. For example, the Commission's final advice would see the recommended uptake of low carbon fuels double by 2035. - The Commission's final report includes projections for agriculture and forestry that were compiled in 2020. The Ministry for Primary Industries will be updating its agriculture and forestry greenhouse gas projections in June 2021 based on updated data and inputs, including the results of a new afforestation and deforestation intentions survey. Note: The updated findings will be available for the CRMG meeting on 23 June.

39. Officials will provide Ministers with further advice on the Commission's sector recommendations over the coming weeks.

Nationally Determined Contribution for 2021-2030

40. In October 2016 New Zealand communicated its first NDC under the Paris Agreement. This committed us to reducing net greenhouse gas emissions to 30 per cent below 2005 levels between 2021 and 2030 using an emissions budget approach.

41. In 2020 the Minister requested advice on:

- whether the NDC1 is compatible with contributing to global efforts to limit global average temperature rise to 1.5°C above pre-industrial levels
- recommendations on any changes to the NDC required to ensure it is compatible with global efforts to limit global average temperature rise to 1.5°C.

42. On 23 March 2021, the Climate Response Ministerial Group discussed the Commission's draft recommendation that increasing the ambition of New Zealand's NDC to at least 35 per cent below 2005 levels would be more consistent with the 1.5°C temperature goal. The Prime Minister and Minister of Climate Change have committed to enhancing NDC1 this year, following receipt of the Commission's final advice.



43. s 9(2)(f)(iv)

44. The process for taking decisions on NDC1 is not prescribed in the Climate Change Response Act 2002 and is separate to the requirements for domestic emissions budgets and the emissions reduction plan.

Key messages

45. The Commission's final advice on the NDC headline number is unchanged from the draft advice, and recommends New Zealand's current NDC (30% reduction on 2005 emissions) is not compatible with contributing to the global 1.5 degree effort.
46. The Commission recommends the NDC be strengthened to 'much more than 36% below 2005 gross levels by 2030'. This base number is a 1% change from the draft advice (35%) due to methodological changes in the underlying data and does not represent a change in recommended ambition.
47. The Commission used global emission pathways for limiting global average temperature rises to 1.5°C for carbon dioxide, agricultural methane, nitrous oxide, and synthetic gases to arrive at the 36% figure as a base for New Zealand's contribution to the global effort. The Commission assumes a gross-net approach continues to be used for New Zealand's NDC target and did not recommend changes to this approach.
48. The Commission has presented its advice on the NDC using conversion factors (for the warming resulting from emission of different gases) from the 4th Assessment Report of the Intergovernmental Panel on Climate Change (AR4), but has recommended that the Government set its enhanced NDC using values from the 5th report (AR5). Updating the NDC to be based on AR5 factors will not significantly affect percentage reductions, but will increase the NDC budget number associated with a given level of mitigation ambition. The Commission presented its final advice on domestic budget quantities in the AR5 metric. The use of AR5 for the NDC would be the same as what New Zealand is required to use for its GHG inventory reporting.
49. The Commission notes the principles of equality, responsibility and capability also need to be considered in coming to a final decision on consistency of the NDC level with contributing to the global 1.5°C effort. It does not quantify those for the NDC and considers that such equity perspectives and other factors need to be weighed up by the Government of the day.
50. The Commission recommends that any changes to the NDC should be developed in partnership with iwi/Māori, to give effect to the principles of Te Tiriti o Waitangi and align with the He Ara Waiora framework.
51. The Commission reinforced previous advice that offshore mitigation will be critical to meeting the NDC.
52. The Commission also highlights that Government needs to actively plan for how it will meet the NDC. This includes recommendations that the Government: reports annually on how it plans to meet the NDC, including the balance of planned domestic emission



reductions, removals, and offshore purchasing; and clearly communicate its strategy for purchasing offshore mitigation to meet the NDC.

Consultation and Collaboration

53. This advice has been jointly prepared by the Ministry for the Environment, the Department of Prime Minister and Cabinet, Treasury, the Ministry of Business, Innovation and Employment, the Ministry for Primary Industries, the Ministry of Transport, the Ministry for Foreign Affairs, Te Tūāpapa Kura Kāinga (the Ministry of Housing and Urban Development) and Te Waihanga (the Infrastructure Commission) and Waka Kotahi.

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Next Steps

59. The following table sets out key dates in the coming weeks.

Date	Action
4 June 2021	Climate Response Ministerial Group meeting.
9 June 2021	Media and stakeholder lockups prior to release of the Commission's final report. Commission's final advice to be presented to the House by the Minister and published on Parliament's website (Note: Parliamentary debate may occur on or after 9 June 2021). The Commission will also publish its final advice on its website after it has been presented to the House.
23 June 2021	Climate Response Ministerial Group meeting.
Late June (TBC)	Submissions received by the Commission to be published

60. The process for working up advice and seeking Cabinet decisions on emissions budgets, the emissions reduction plan and NDC1 will be defined through a series of Climate Response Ministerial Group meetings and Cabinet processes over the coming months.
61. **Appendix 4** provides a high-level timeline of the decisions that will be taken on the emissions budgets, emissions reduction plan and NDC1 this year, noting that the only fixed and legislated deadline is to publish the first three emissions budgets and the emissions reduction plan by 31 December 2021.
62. Please note that, given the interrelationship between the policy-heavy aspects of decisions on emissions budgets and policies for inclusion in the emissions reduction plan, decisions on emissions budgets may need to be made once there is clarity on the content and likely impact of the emissions reduction plan.



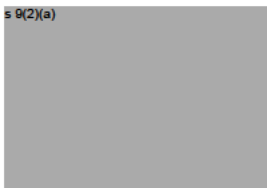
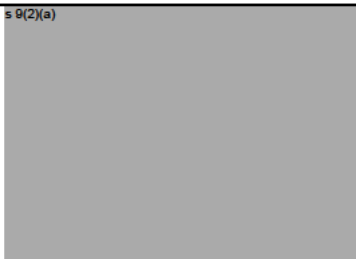
Recommendations

We recommend that you:

- **Meet** with other members of the Climate Response Ministerial Group on 4 June 2021 to discuss the contents of this briefing

Yes/No

Signatures

 s 9(2)(a) Lisa Daniell Director, Climate Change (Mitigation) Ministry for the Environment	 s 9(2)(a) Glenn Wigley Director, Waste and Resource Efficiency Ministry for the Environment
 s 9(2)(a) Vicki Plater Director Treasury	 s 9(2)(a) Kirsty Flannagan General Manager Ministry of Business Innovation and Employment
 s 9(2)(a) Ewan Delany Manager Ministry of Transport	 s 9(2)(a) Charlotte Denny Director Ministry for Primary Industries
 s 9(2)(a) Mel Rae Manager Te Tūāpapa Kura Kāinga (Ministry of Housing and Urban Development)	 s 9(2)(a) Kay Harrison Climate Change Ambassador Ministry of Foreign Affairs and Trade



Hon James Shaw, Minister of Climate Change

Date

Proactively released



Appendix 1: Executive Summary of the Commission's high level policy advice for the emissions reduction plan (copied from the Commission's final advice)¹

Lasting change – setting the right policy direction

The emissions reduction plan the Government is required to develop in response to this advice needs to provide a comprehensive and cohesive strategy, setting new policies that lay the foundation for the transition.

The plan should make the most of opportunities to reduce emissions immediately and set the country up for accelerated emissions reductions down the track. New Zealanders must be given a predictable and stable direction of travel, with changes signalled well in advance. They need to feel supported to make decisions that will change the way they live, work and operate.

To inform our advice on policy direction, we gathered information about current and likely future costs for various technologies. We tested different paths, gaining insights about the nature and timing of the actions needed to meet the 2050 targets.

We also assessed the climate policy landscape in Aotearoa to identify the gaps, barriers and opportunities. We considered where emission pricing is likely to drive change. For each sector, and across the broader system, we identified where barriers currently deter low-emissions choices, and where strategic investment can help drive deeper change over the long term.

In some areas, such as in relation to the New Zealand Emissions Trading Scheme (NZ ETS), a strong evidence base supports relatively specific policy advice. In other areas, particularly ones that have not been the focus of climate policy in the past, our advice is more focused on outcomes.

We have made recommendations that include strengthening market incentives to drive low emissions choices and investments. The NZ ETS is an important tool. However, the Government needs to make changes to ensure it is fit for purpose and sends a strong price signal.

International research and experience clearly show that the best approach to reducing emissions is to implement a comprehensive suite of climate policies alongside pricing schemes. We also recommend that the Government's emissions reduction plan includes action to address barriers and sustain focus on innovation and system transformation.

¹ Climate Change Commission (May 2021) *Ināia tonu nei: a low emissions future for Aotearoa*, pp 15-16



We must uphold the principles of Te Tiriti o Waitangi/The Treaty of Waitangi. We must also consider impacts on individuals, communities, workers, businesses and families. We need policies to ensure a fair, equitable, and inclusive transition.

Overall, our policy advice (laid out in part two of this report) is intended to provide strategic direction. This is summarised below. It is the Government's role to consider the detailed design and implementation of policies, guided by this direction.

Key elements of our policy direction

- Work in partnership with Iwi/ Māori, and with local government, to ensure the transition to a low emissions economy is firmly rooted in the principles of Te Tiriti o Waitangi/The Treaty of Waitangi.
- Send clear and consistent signals about how Aotearoa will transition to low emissions and work together across political parties, government agencies and local government.
- Improve the New Zealand Emissions Trading Scheme so that it provides stronger market incentives to drive low emissions choices.
- Make sure all government policy and investment decisions support the transition to low emissions.
- Drive system transformation by supporting innovation, mobilising finance for low-emissions investments and supporting behaviour change.
- Increase the circularity of the economy and develop a thriving bioeconomy that delivers emissions reductions.
- Take action to reduce emissions from existing and new urban areas and improve understanding of how changes to urban form and function can reduce emissions.
- Provide affordable, reliable and convenient low-emissions alternatives to high emissions vehicles.
- Introduce measures to make sure vehicles entering the fleet are efficient and to accelerate uptake of electric vehicles. Create options to decarbonise heavy transport and freight.
- Develop a national energy strategy to decarbonise the energy system and introduce measures to make sure the electricity sector is ready to meet future needs.
- Accelerate the switch to low-emissions fuels for process heat and drive energy efficiency improvements. Develop a plan to transform buildings to be low emissions.
- Reduce emissions from waste, through measures that reduce the amount of waste generated and increase resource recovery.
- Introduce policies, incentives and tools to speed up emissions reductions from agriculture. Support farmers to identify changes and put them in place. Invest to open up more options for deeper emissions reductions.
- Reduce reliance on forestry carbon removals and manage the impacts of afforestation.
- Incentivise the reversion and planting of new native forests to create an enduring carbon sink.
- Support a Māori-led approach to an equitable transition for Iwi/Māori and the Māori economy.
- Design an equitable transitions strategy that results in a fair, inclusive and equitable transition.



Appendix 2: Talking points

I want to thank the Commission for its hard work in delivering its final report to the Government.

This report is a major milestone in our journey to a low emissions Aotearoa New Zealand. It will help us set the future pathway for meeting our climate change ambitions and our international obligations.

This final report represents a lot of hard work. I recognise this was a long process that many agencies and individuals have contributed to, and I thank all involved for their excellent work and advice.

The Commission's recommendations are intended to ensure New Zealand's policy direction is on the right path to get our domestic emissions down, and to fulfil our international climate commitments. The Commission will also monitor our progress on climate action. I want to recognise and emphasise the importance of the independence of the Commission in this regard.

Aotearoa New Zealand has a unique opportunity to transition to a low emissions economy in a way that is equitable and fair, prioritises good jobs and capitalises on our strong history of innovation.

The Government will now consider the final advice provided by the Commission

Ministers and officials will now take the time to consider the Commission report in detail.

The advice from the Commission will be helpful in informing work on the country's first three emissions budgets and the first emissions reduction plan due to be released later this year, together with consideration of New Zealand's Nationally Determined Contribution and the plan for delivering the NDC. These pieces of work are key components of the Government's pathway to 2050 and contribution to the global effort to reduce emissions.

I look forward to being able to share with you further details of Government's response to the report over the coming months.

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Appendix 4: Questions and Answers

Officials anticipate that there will be significant interest in the Commission's advice, including from the media, stakeholders, the general public and other Members of Parliament. This appendix provides material to support Ministers to respond to the most likely inquiries.

Questions and answers to assist with commenting on the Commission's publicly, are provided below. Note that:

- Any questions on specific policies should be directed to the relevant portfolio Minister.
- Any technical questions on the Commission's report (such as questions about underlying assumptions in the modelling) should be directed to the Commission.

How is the draft report different to the final report?

Ambition is similar, although numbers have changed

- The headline numbers of the Commission's recommended emissions budgets are higher than those in the draft report, but this does not significantly affect the amount of abatement required.
- The Commission has revised its modelling of the GDP impact of the transition to reflect its revised emissions budgets and pathway, and now estimates the level of GDP could be around 0.5% lower in 2035 and 1.2% lower in 2050 than it would be otherwise. The previous estimate in the draft report was that the overall costs of meeting the 2050 targets and emissions budgets were likely to be less than 1.0% of projected GDP.
- The Commission's recommended emissions budgets would put New Zealand on track to achieve net zero long-lived gas emissions in the early 2040s. This will allow New Zealand to meet and maintain the net zero component of our 2050 target and create some headroom, which could accommodate the possible inclusion of emissions from international aviation and shipping in the future.

For changes in each of the sectors, see the table on appendix 5

Climate Change Commission and requirements in the Climate Change Response Act

What is the role of the Commission vs. the Government?

The Commission is an independent Crown entity tasked with providing expert advice to government and monitoring progress towards the government's mitigation and adaptation goals.

Does the Government have to accept the Commission's recommendations?

The Commission is an advisory body and has monitoring functions relating to tracking progress towards the emissions budgets and legislated 2050 target, and the implementation of the national adaptation plan. It does not have decision-making powers.



The Government will continue to make decisions about New Zealand's responses to climate change within the legislative framework. This ensures that the elected Government remains responsible and accountable for policy choices and allows the Commission to focus on its role as an independent advisor.

How will the Government respond to the Commission's recommendations?

The Government must respond to the Commission's advice on emissions budgets and the emissions reduction plan by 31 December 2021. If the Government wishes to depart from the Commission's advice on emissions budgets, it must explain why.

Emissions budgets

What are emissions budgets?

Emissions budgets act as interim targets that step progressively towards the reductions required by the legislated 2050 target. Each emissions budget will cap the net amount of greenhouse gas emissions permitted over a five-year period or, in the case of the first emissions budget, four years. Emissions budgets will be set by the Government 10-15 years in advance, after considering advice provided by the Commission.

As a transitional measure, the first three emissions budgets will be set together. These budgets will together cover the years 2022 to 2035. The first emissions reduction plan will be due at the same time.

What is the process for setting emissions budgets?

Before making decisions and gazetting an emissions budget, the Minister of Climate Change must satisfy the process steps and statutory requirements set out in the Climate Change Response Act 2002. These include a number of mandatory considerations, including ensuring that consultation on the emissions budgets has been adequate and consulting with appropriate representatives of each party represented in Parliament.

When will the Government take decisions on emissions budgets?

The Climate Change Response Act 2002 requires the first three emissions budgets to be in place by 31 December 2021. These will cover the period from 2022 – 2035 (2022 – 2025; 2026 – 2030 and 2031 – 2035).

Emissions reduction plan

What is the emissions reduction plan?

The Government is required to publish an emissions reduction plan prior to each new emissions budget period. These emissions reduction plans will set out the policies and strategies for achieving the next emissions budget (in this case, 2022-2025) and may look out to the next two budget periods (2026-2030 and 2031-2035).



The emissions reduction plan must include:

- Sector-specific policies
- A multi-sector strategy
- A strategy to mitigate the impacts that reducing emissions and increasing removals will have on employees and employers, regions, Iwi/Māori, and wider communities, including funding for any mitigation action
- Any other policies or strategies that the Minister considers necessary.

When will the emissions reduction plan be in place?

The Climate Change Response Act 2002 requires the first emissions reduction plan to be published by 31 December 2021.

How will the first emissions reduction plan be developed?

There is a cross-government work programme to develop the first emissions reduction plan.

Relevant agencies will advise Ministers on the Government response to the Commission's recommendations, and on a detailed emissions reduction plan.

The Ministry for the Environment is coordinating this work, with different agencies developing different parts.

Will there be public consultation on the Government's response to the final CCC report?

Public consultation is planned for Quarter 3 2021, subject to Cabinet approval. Consultation will be open to all those who wish to submit a response to the consultation document.

Consultation will be carried out through a combination of in-person and online meetings. It will provide opportunities to ask questions of government officials.

What iwi/Māori engagement is planned?

Government will engage with Māori on the first emissions reduction plan ahead of and during public consultation.

The pre-consultation period will enable governance entities to identify interests or impacts that should be considered in policy. Direct hui, and select workshops and webinars are currently in the planning stages.

The public consultation period will allow for broader participation from Māori. In addition, individual agencies have been engaging with a range of Māori collectives and experts on the development of their sector-specific and cross-cutting work.

Nationally Determined Contribution for 2021-2030

What does this mean for updating New Zealand's NDC?



The Commission's advice reinforces the importance of ambitious and well-planned action for pursuing efforts to limit the temperature increase to 1.5 degrees.

The Government will consider the Commission's advice on the NDC.

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We will communicate an updated NDC ahead of COP26.

How are emissions budgets different from New Zealand's NDC the Paris Agreement?

Emissions budgets represent a limit on the total amount of greenhouse gases that can be emitted within New Zealand over a certain period. These are our domestic limits for net greenhouse gas emissions set in accordance with our domestic legislation. The Government is setting the first three emissions budgets (to 2035) for New Zealand to step down its emissions over time to meet its 2050 domestic emissions reduction target.

In contrast, New Zealand's NDC is our mitigation contribution to the global effort under the Paris Agreement to pursue efforts to limit temperature increase to 1.5 degree Celsius above pre-industrial levels.

New Zealand's first NDC was set in 2016 and is aimed at reducing greenhouse gas emissions by 30% below 2005 levels by 2030. It is designed to be met through a mixture of domestic emissions reductions, domestic removals (e.g. forestry) and international cooperation.

Appendix 5: Changes to the Climate Change Commission's recommendations

This sets out the recommendations included in the Climate Change Commission's draft and final reports and summarises any changes.

Emissions budgets

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
Emissions budget levels	Budget recommendation 1 – Emissions budget levels We recommend that the Government set and meet the emissions budgets as outlined... below. The Government should adopt emissions budgets expressed using GWP₁₀₀ values from the IPCC's fifth assessment report (AR5) for consistency with international reporting obligations relating to Inventory reporting: - Emissions budget 1 (2022-2025): 271 Mt CO₂e - Emissions budget 2 (2026-2030): 286 Mt CO₂e - Emissions budget 3 (2031-2035): 223 Mt CO₂e Note: the above figures are all gases net AR4.	Recommendation 1 – Emissions budget levels We recommend the Government set and meet the emissions budgets as outlined in the table below. These emissions budgets are expressed using GWP₁₀₀ values from the IPCC's Fifth Assessment Report (AR5) for consistency with international obligations relating to inventory reporting. - Emissions budget 1 (2022-2025): 290 Mt CO₂e - Emissions budget 2 (2026-2030): 312 Mt CO₂e - Emissions budget 3 (2031-2035): 253 Mt CO₂e	The total emissions permitted in each budget period has increased for 2022-2025, 2026-2030, 2031-2035. This is for three reasons: - The recommended emissions budgets reflect the latest New Zealand Greenhouse Gas Inventory for 1990-2019, which increased baseline emissions. This update provided estimates of emissions in Aotearoa for 2019, as well as improving estimates for past years. This has lifted the baseline for emissions – meaning Aotearoa has a slightly harder job ahead to meet the targets set under the Act. - A number of modelling assumptions have been updated, which variously reduced or increased ambition. Updated modelling assumptions related to transport (eg, availability of used EVs in the early years, use of low emissions fuels in heavy freight), agriculture (e.g. efficiency improvements on sheep and beef farms) and waste (e.g. increase in gas capture systems at landfills).

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
			The Commission has now applied the GWP100 values from the IPCC's Fifth Assessment Report (AR5), so that they will be consistent with the way that the Government will report greenhouse gas emissions for the year 2021 onwards. The Commission's recommended emissions budgets were also updated to reflect new evidence received during consultation.
Breakdown of emissions budgets (removals, long-lived greenhouse gases and biogenic methane)	Budget recommendation 2 – Breakdown of emissions budgets We recommend that the Government implements policies that will meet emissions budgets based on the balance of emissions and removals as outlined below. - Emissions budget 1 (2022-2025): 271 Mt CO₂e - Removals – 26 Mt CO₂e - Emissions – long-lived gases 174 Mt CO₂e - Emissions – biogenic methane 4.92 Mt CH₄ - Emissions budget 2 (2026-2030): 286 Mt CO₂e - Removals – 49 Mt CO₂e	Recommendation 2 – Breakdown 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 table below. Emissions budget 1 (2022-2025): 278 Mt CO₂e - Removals – 26 Mt CO₂e - Emissions – long-lived gases 178 Mt CO₂e - Emissions – biogenic methane 5.04 Mt CH₄ - Emissions budget 2 (2026-2030): 298 Mt CO₂e - Removals – 50 Mt CO₂e	

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
	○ Emissions – long-lived gases 190 Mt CO₂e ○ Emissions – biogenic methane 4.92 Mt CO₂e ● Emissions budget 3 (2031-2035): 223 Mt CO₂e ○ Removals – 68 Mt CO₂e ○ Emissions – long-lived gases 153 Mt CO₂e ○ Emissions – biogenic methane 5.53 Mt CH₄	○ Emissions – long-lived gases 199 Mt CO₂e ○ Emissions – biogenic methane 5.99 Mt CH₄ ● Emissions budget 3 (2031-2035): 513 ○ Removals – 69 Mt CO₂ – Mt CO₂e ○ Emissions – long-lived gases 166 Mt CO₂e ○ Emissions – biogenic methane 5.70 Mt CH₄	
Reductions by gas	Budget 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 below. ● Emissions budget 1 (2022-2025): Annual averages ○ Carbon dioxide – 33.1 Mt CO₂e ○ Nitrous oxide – 7.3 Mt CO₂e ○ F-gases – 1.8 Mt CO₂ ○ Non-biogenic methane – 0.8 Mt CO₂e ○ Biogenic methane – 1.23 Mt CH₄	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. ● Emissions budget 1 (2022-2025): Annual averages ○ Carbon dioxide – 34.0 Mt CO₂e ○ Nitrous oxide – 7.9 Mt CO₂e ○ F-gases – 1.8 Mt CO₂e ○ Non-biogenic methane – 0.8 Mt CO₂e ○ Biogenic methane – 1.26 Mt CH₄	No change for fluorinated gases (F-gases).

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
	- Emissions budget 2 (2026-2030): Annual averages - Carbon dioxide – 28.6 Mt CO₂e - Nitrous oxide – 7.1 Mt CO₂e - F-gases – 1.6 Mt CO₂e - Non-biogenic methane – 0.6 Mt CO₂e - Biogenic methane – 1.17 Mt CH₄ - Emissions budget 3 (2031-2035): Annual averages - Carbon dioxide – 22.2 Mt CO₂e - Nitrous oxide – 6.6 Mt CO₂e - F-gases – 1.3 Mt CO₂e - Non-biogenic methane – 0.4 Mt CO₂e - Biogenic methane – 1.11 Mt CH₄	- Emissions budget 2 (2026-2030): Annual averages - Carbon dioxide – 29.8 Mt CO₂e - Nitrous oxide – 7.6 Mt CO₂e - F-gases – 1.6 Mt CO₂e - Non-biogenic methane – 0.7 Mt CO₂e - Biogenic methane – 1.20 Mt CH₄ - Emissions budget 3 (2031-2035): Annual averages - Carbon dioxide – 24.1 Mt CO₂e - Nitrous oxide – 7.2 Mt CO₂e - F-gases – 1.3 Mt CO₂e - Non-biogenic methane – 0.7 Mt CO₂e - Biogenic methane – 1.14 Mt CH₄	
Offshore mitigation	Budget recommendation 4 – Limit on offshore mitigation for emissions budgets and circumstances justifying its use We recommend that, given that emissions budgets must be met as far as possible through domestic action, for the purposes of meeting emissions budgets:	Recommendation 4 – Limit on offshore mitigation for emissions budgets and circumstances justifying its use We recommend that, given that emissions budgets must be met as far as possible through domestic action, for the purposes of meeting emissions budgets:	No change to recommendation 4. The Commission continues to recommend that the Government should not have access to offshore mitigation for the purpose of meeting the first three emissions budgets, except in exceptional circumstances.

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
	a) The limit on offshore mitigation should be zero for the first three emissions budgets. b) 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.	a) The limit on offshore mitigation should be zero for the first three emissions budgets. b) 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.	
Rules for measuring progress	Budget recommendation 5 – The rules for measuring progress towards emissions budgets and the 2050 target We recommend the following package of rules for measuring progress: a) To use the production-based approach from the national Greenhouse Gas Inventory as the basis for accounting for emissions budgets and the 2050 target b) To use a 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 first NDC.	Recommendation 5 – The rules for measuring progress towards emissions budgets and the 2050 targets We recommend the following package of rules for measuring progress: a) 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. b) 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	No change to recommendations 5.a, 5.b, 5.c.i-iv and 5.d. Recommendation 5.c.v. is now recommendation 5.g, which includes more detail around what this should include No change to recommendation 5.d. Additional sub-recommendations were added, including around producing and improving annual reports on national consumption emissions estimates (recommendation 5.e) and developing an appropriate method to reflect changes to carbon stored above ground in biomass and harvested wood products (recommendation 5.f).

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
	c) Within the modified activity-based land emissions accounting framework, to: i. Include the land areas and uses corresponding to afforestation, reforestation, and deforestation, as confirmed for the first NDC. ii. Exclude forest management, the activity relating to the impact of management practices on pre-1990 forest carbon stocks, 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-1990 forests nevertheless remains important and should be encouraged through policy. iii. Include harvested wood product (HWP) from post-1989 forest, but not HWP from pre-1990 forests because they are accounted for as part of forest management which is excluded from emissions budget accounting	accounting for the Nationally Determined Contribution (NDC). c) Within the modified activity-based land emissions accounting framework, to: i. Include the land areas and uses corresponding to afforestation, reforestation, and deforestation, as 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-1990 forests nevertheless remains important and should be encouraged through policy. iii. Include harvested wood products (HWP) from post-1989 forests, but not HWP from pre-1990 forests because they are accounted for as part of forest management which is excluded	

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
	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 emissions budget period. v. Encourage the Government to develop methods for tracking emissions and removals by sources and sinks not yet included in the country's domestic or international target accounting, such as organic soils and biomass (including small lots of trees and regenerating vegetation), with a view to allowing them to be included in future target accounting. d) From 2021, if the Government allows voluntary offsetting for carbon neutral claims to take place in Aotearoa through cancelling 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	from 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 emissions budget period. d) 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. We also recommend that the government undertake the following work to improve emissions estimates and broaden the options available for emissions budgets in future:	

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
	claimed from being negated by increases to the NZ ETS cap.	e) Continue to produce and improve annual reports on national consumption emissions estimates f) 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 g) 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 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	

Area	Draft recommendation	Final recommendation	What has changed? (high level comments)
		emissions fluctuations from the harvest cycles of production forests. h) Develop sound and transparent practices for accounting for domestic voluntary mitigation and offsetting claims, in relation to the NZ E S, emissions budgets and NDCs	
Cross-party support	Enabling recommendation 1 – Cross-party support for emissions budgets We recommend the Minister for Climate Change seek cross-party support on emissions budgets. We note that the Minister must consult representatives of political parties on emissions budgets before they are notified but, in addition to this, the Minister should also seek to ensure that the emissions budgets are debated in the House of Representatives so that the positions of each political party are on the parliamentary record.	Recommendation 7 – Cross party support for emissions budgets We recommend that the Government commit to: 1. Seeking cross party support on emissions budgets 2. Debating emissions budgets in Parliament before they are notified, so that the positions of each political party are on the parliamentary record.	The Commission confirmed the need for cross-party support for the emissions budgets and for the Government's emissions reduction plan(s). However, the final recommendation emphasises that support for the emissions budgets is critical. It also recognises that views on the best policies and approaches to meeting emissions budgets are likely to be party-specific, making cross-party consensus more difficult to achieve.

Policy direction of the emissions reduction plan

Sector/area	Draft recommendation	Final recommendation	What has changed?
General			
Coordinated effort	Enabling recommendation 2 – Coordinate efforts to address climate change across Government We recommend that the Government: - In each emissions reduction plan, include policies and strategies for meeting both the next and future emissions budgets (as recommended but not required under the Climate Change Response Act). - In each emissions reduction plan, nominate specific Ministers and agencies with accountability for implementing policies and strategies in line with emissions budgets. - Assess and meet funding requirements for implementing each emissions reduction plan in line with emissions budgets.	Recommendation 9 – Coordinate efforts to address climate change across government We recommend that the Government commit to: - Nominating specific Ministers and agencies with accountability for implementing policies and strategies in the emissions reduction plans in line with emissions budgets. - Assessing and meeting funding requirements for implementing each emissions reduction plan in line with emissions budgets. - 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.	This chapter was framed differently in the final advice and has looked more at government coordination. Recommendation 9.4 This recommendation providing consistent signalling was moved to this section, and recommendation 9.4.a has been taken out.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	d) Establish Vote Climate Change as a specific multi-agency appropriation which consolidates existing and future government funding for core climate change mitigation and adaptation activities.	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.	
Meeting the net zero challenge			
Partnership with iwi/Māori	Enabling recommendation 3 – Genuine, active and enduring partnership with iwi/Māori We recommend that, in transitioning Aotearoa to a thriving, climate-resilient and low emissions future, central and local government take action to ensure genuine and enduring partnership with iwi/Māori that gives effect to: Tiakitanga and manaakitanga by acting as good stewards and demonstrating equitable and mana enhancing behaviour within the Treaty Partnership. This requires real acknowledgement of rangatiratanga and enables iwi/Māori to exercise their role as kaitiaki. Tikanga and kotahitanga by working in partnership with iwi/Māori through the right decision-makers and following the right process, to ensure Māori communities can prepare for and	Recommendation 6 – Treaty of Waitangi and the Crown Māori relationship We recommend that the Government commit to: Working in partnership with iwi/Māori and local government to develop a strategy to ensure the principles of Te Tiriti o Waitangi/The Treaty of Waitangi are embedded in subsequent emissions reduction plans. The strategy should: Include an outcomes framework and action plan, as well as an evaluation framework outlining agreed accountability milestones and measures. Specify outcomes that align with the principles of protection, partnership, participation, and equity, recognising the guarantee of rangatiratanga and kaitiakitanga for iwi/Māori under Te Tiriti o Waitangi/The Treaty of Waitangi.	Now focused on outcomes for future emissions reduction plans. Government (local and central) and Māori to create a strategy for embedding Te Tiriti principles (not He Ara Waiora) in subsequent emissions reduction plans. Requires action to give effect to recommendations 26 and 27, which are about removing barriers for Māori in the economy and society, Māori rights, Māori interests, Māori co-design, Māori co-investment and decision-making for green infrastructure and clean technology, and funding mātauranga Māori. Removes requirement for He Ara Waiora to be embedded into this strategy, although other recommendations do.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	transition to a climate-resilient, low emissions Aotearoa. This is premised on iwi/Māori aspirations for intergenerational wellbeing; aspirations that are shared by many New Zealanders. c) Whanaungatanga by enhancing relationships within whānau and communities and with the whenua (land) or taiao (environment).	3. Include actions to give effect to Recommendations 26 and 27 (see <i>Chapter 19: Policy direction for an equitable transition for Iwi/Māori</i>). 4. Take a whole of systems approach that addresses climate change in parallel with wai (water) and whenua (land) 5. Be resourced appropriately. Recommendation 6 – Provisional progress indicators 1. Government to work in partnership with iwi/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. 2. Government to have initiated, by 31 December 2022, the first phase of implementation and work in partnership with iwi/Māori to develop an evaluation framework 3. Government to report annually, from 31 December 2022, on a suite of indicators, including how the strategy will be resourced and funded.	Now a requirement for funding to be attached to resource this strategy. Provisional progress indicators The recommendation has requirements for delivery of the strategy as well as indicators and an implementation plan and evaluation framework. The strategy and first phase of implementation has come forward from December 2022 to June 2022.
Just transition	Time-critical necessary action 1 – An equitable, inclusive and well planned climate transition	Recommendation 26 – An equitable transition for iwi/Māori	The scope of the recommendation 26 is now more directly linked to Iwi/Māori and ensuring that the Crown and Māori are on an

Sector/area	Draft recommendation	Final recommendation	What has changed?
	The transition to a low emissions society needs to be well-signalled, equitable, and inclusive in order to maximise the opportunities, minimise disruption and inequalities, and be enduring as a result. We recommend that in the first emissions budget period the Government develop an Equitable Transitions Strategy that is linked to the Government's Economic Plan and outlines: • How the Government will build the evidence base for assessing the distributional impacts of climate change policy decisions that align with tikanga values • A process for factoring distributional impacts into climate policy and designing social, economic and tax policy in a way that minimises or mitigates the negative impacts • Guidance for developing localised transition plans that are customised for and co-developed with local government and affected communities. • How the Government will support affected workers to transition into new work Necessary action 1 – An equitable, inclusive and well planned climate transition	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: 1. Recognition and active protection of Iwi/Māori rights and interests 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 3. Equitable access for Iwi/Māori to information, resources, services, and funding 4. The development of climate change policy that draws on mātauranga Māori as well as western science. 5. Equitable outcomes for Iwi/Māori in alignment with Iwi/Māori aspirations for intergenerational wellbeing. 6. The embedding of the He Ara Waiora Framework throughout the development of climate change related policies. Recommendation 27 – A Māori-led approach to an equitable transition for Iwi/Māori and the Māori economy	even for making decisions about climate policy. rather than a strategy, a 'mechanism' for partnering is recommended that will give Iwi/Māori greater institutional, social, political and cultural impact. Recommendation 27 Requires Te Tiriti o Waitangi partners to agree a strategy that will establish a Māori-led

Sector/area	Draft recommendation	Final recommendation	What has changed?
	We recommend that, in the first budget period the Government progress the following steps to meet emissions budgets: - Identify communities and regions that may be particularly affected by climate change and the transition to a low emissions society, and initiating processes for localised transition planning in these areas. This would require the Government to work in partnership with local government and regional economic development agencies, iwi/Māori, local communities, businesses, civil society groups and stakeholders. - Develop policies for creating a workforce with the skills needed for accelerating the low emissions transition, including: - Assessing how the education system sets all New Zealanders up for the low emissions jobs of the future, with skillsets that enable workers to adapt and lifelong learning	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: - 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. - Creating opportunities and mechanisms for iwi/Māori to actively participate in co-decision making, co-design, investment in infrastructure and new clean technology, knowledge contribution, and leadership as Aotearoa takes action to address climate change. - Funding research and development in mātauranga Māori to enable developing policy, strategy, technology and innovation to be informed from an equitable knowledge base. - Making funding available to assist iwi/Māori that are not economically enabled to transition equitably.	response for ensuring the transition is equitable and supports Māori to leverage their land and capital. Time-bound measures for the strategy now included.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	- Upskilling and redeploying workers transitioning from high emissions sectors. - Developing skills and training into low emissions industries by Māori, for Māori. c) Investigate the specific impacts of the climate transition on small businesses, and develop a plan for how to support them through the transition. d) Assess the Government's current standards and funding programmes for insulation and efficient heating to determine whether they are delivering at an appropriate pace and scale, and how they could impact housing and energy affordability. The Government should give particular consideration to potential flow through costs to tenants, and to government owned housing stock. Improve the evidence base and approach for factoring in co-benefits into climate policy, planning and investment decisions, including to health, transport accessibility and the environment.	5. Including timebound measures for progress for each of the elements of the strategy. Recommendation 27 – Provisional progress indicators 1. Government to start working with mandated representatives for Iwi and other relevant Māori collectives to determine an approach to support Iwi/Māori collective 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 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.	Recommendation 28 Includes an increased focus on upholding Te Tiriti o Waitangi principles as part of an equitable transition and a stronger emphasis on strengthening the education and training system to provide the workforce needed to deliver on the transition. The development of a plan to support small businesses to transition, and the assessment of the Government's standard and funding for insulation and efficient heating have been removed but have been highlighted in other chapters. The Commission has also suggested a slightly longer timeframe (mid-2024 rather than the end of 2023) for the development of the Equitable Transitions Strategy. They have also included a new recommendation that by 31 December 2021, the Government use the ERP

Sector/area	Draft recommendation	Final recommendation	What has changed?
		Objectives of the strategy should include: 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 perspective on wellbeing, and co-designing climate policies and strategies with Iwi/Māori. 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. 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. 4. Supporting workers to transition from high-emissions sectors to low-	process to articulate how they will prioritise and fund work laid out under the Strategy.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		emissions sectors, including redeploying and upskilling workers. This will need to be developed in conjunction with workers, unions, education providers and businesses. 5. Factoring distributional impacts into how climate strategies and policies are designed and implemented so that they minimise negative impacts, maximise co-benefits 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. 6. Clarifying how the Government is going to prioritise and fund the work laid out under the Strategy. Recommendation 28 – Provisional progress indicators 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. 2. Government to have, by 30 June 2024, delivered a draft for	

Sector/area	Draft recommendation	Final recommendation	What has changed?
		consultation, and, prior to June 2023, published an Equitable Transitions Strategy linked to the Iwi/Maori strategy, economic plan, and national energy strategy	
Public participation	Enabling recommendation 5 – Establish processes for incorporating the views of all New Zealanders We recommend that central and local government develop new and more effective mechanisms to incorporate the views of all New Zealanders when determining how to prioritise climate actions and policies to meet emissions budgets over the next 30 years, to create more inclusive policy development. One possible mechanism is funding and establishing an ongoing public forum for climate change to bring forward the views and perspectives of all New Zealanders.	Recommendation 10 – Ensure inclusive and effective consultation, engagement and public participation We recommend that the Government commit to: Evolving more effective mechanisms to incorporate the views of the public when determining how to prioritise climate actions and policies to meet emissions budgets, to create more inclusive policy development.	The sentiment is the same, but takes out specific reference to the citizens' assembly.
Aligning system settings and using cross-sector tools			
Central and local government partnership	Enabling recommendation 4 – Central and local government working in partnership We recommend that, in transitioning Aotearoa to a thriving, climate-resilient and low emissions future, central and local government work together to	Recommendation 8 – Aligning central and local government efforts We recommend that the Government commit to: 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	No significant change since draft advice. This recommendation relates to several other recommendations, including urban form and transport mode-shift, managing environmental effects of afforestation, consenting renewable energy generation and

Sector/area	Draft recommendation	Final recommendation	What has changed?
	a) Align legislation and policy to enable local government to make effective decisions for climate change mitigation and adaptation, including aligning the Local Government Act, the Building Act and Code, national direction under the RMA, the proposed RMA reforms, implementation of the freshwater management framework and the 30-year infrastructure plan. b) Implement funding and financing mechanisms to enable the emissions reduction plans to be implemented effectively and to address the distributional effects of policy change today and for future generations.	Act, the Building Act and Code, the Resource Management Act (RMA), national direction under the RMA, proposed RMA reforms and the infrastructure plan 2. Implementing funding and financing mechanisms that provide adequate funding to enable local government to take action aligned with emissions reduction plan, and the implementation of climate adaptation plans Recommendation 8 – Provisional progress indicators 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 Government to have published a work plan by 31 December 2022, outlining how alignment and funding will be assessed, and the milestones for achieving this plan.	transmission and bioeconomy. See recommendations 15- 17, 20, 24.
Investment and behaviour change	Necessary action 15 – Integrate Government policy making across climate change and other domains We recommend that, in the first budget period the Government make progress on integrating policy making across climate change and other domains by:	Recommendation 12 – Make investments net-zero compatible	

Sector/area	Draft recommendation	Final recommendation	What has changed?
	a) Providing consistent signaling across investments, policy statements, direction to officials, internal policies and directives to ensure that all regulatory and policy frameworks are aligned with low emissions and climate resilience objectives. b) Investigating emissions reduction potentials and interdependencies amongst multi-sector activities, such as food production and distribution, tourism, construction and international education. c) Ensuring that central and local government considers climate change alongside other environmental, social, economic and cultural aspects by including requirements in new resource management legislation, such as the proposed Natural and Built Environments Act, the Strategic Planning Act and the Managed Retreat and Adaptation Act. d) Requiring government procurement policies to include climate change considerations in order to leverage purchasing power to support low emissions products and practices,	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: 1. Starting to factor shadow emissions prices into policy and investment analysis in central government immediately. 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. 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. 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.	Recommendation 12.4 This is new. It focuses on requiring Crown agencies, entities and Crown-owned companies to include climate change as part of decision making for consistency (as opposed to only the Infrastructure Commission). Behaviour change - important to note: Recommendation 13 is far more specific towards action across behaviour change than in the draft report, recommending nominating a lead agency and the establishment of a fund to support public education and promote behaviour change.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	particularly with regard to third party funding and financing transactions. e) Facilitating opportunities for iwi/Māori to participate in ownership of infrastructure or involvement in projects that align with iwi/Māori aspirations and climate positive outcomes. Necessary action 16 – Support behaviour change We recommend that, in the first budget period the Government embed behaviour change as a desired outcome in its climate change policies and programmes in order to enable New Zealanders to make choices that support low emissions outcomes. Necessary action 17 – Require entities with large investments to disclose climate related risks We recommend that in the first budget period the Government: - Implement the proposed mandatory financial disclosures regime and explore the creation of a similar regime that covers public entities at the national and local level - Evaluate the potential benefits of mandatory disclosure by financial	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: - Accelerating the transition through innovation by - Giving high priority to low-emissions research, development and innovation within public science and innovation funding approaches. This should include support for research, development and innovation that draws on mātauranga Māori. - Introducing targeted measures to support low-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.	Research, Science and Innovation The Commission has increased the emphasis on the importance of innovation, and low emissions research, development and demonstration (RD&D) and now have a specific recommendation Targeted research, development and innovation support to ensure Māori researchers and collectives equitably benefit. Māori emissions profile Recommendation 18 in the draft advice (Māori emissions profile) is now a Provisional progress indicator under recommendation 27. It is now focused on supporting Māori collectives with rural landholdings (including native forests) to quantify how much Maori land is removing and has removed emissions historically. The profile will help quantify the effect of Maori land being re-zoned or acquired for the Crown conservation estate in terms of emissions storage.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	institutions of the emissions enabled by loans over a specified threshold. Time-critical necessary action 6 – Align investments for climate outcomes To meet emissions budgets and achieve the 2050 target, it is important that policy decisions and investments made now do not lock Aotearoa into a high emissions development pathway. Safeguards and signals will be needed to prevent this, including a specific focus on ensuring long-lived assets such as infrastructure are net-zero compatible. To achieve this, we recommend in the first budget period the Government: - Immediately start to factor target-consistent long-term abatement cost values into policy and investment analysis in central government. These values should be informed by the Commission's analysis which suggests values of at least \$140 per tonne by 2030 and \$250 by 2050 in real prices. - Encourage local government and the private sector to also use these values in policy and investment analysis. - Ensure that economic stimulus to support post-COVID-19 recovery helps to bring forward the transformational investment that needs to happen	- 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. - Mobilising finance for low emissions and climate-resilient 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 climate-related 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. - Supporting behaviour change: - Including behaviour change in the design of climate change policies and programmes, in order to enable New Zealanders to make	Recommendations 13.2 and 13.3 are new to the final advice. Other changes Recommendation 15.a has been added to recommendation 9. Recommendation 15.b has been removed. The content is reflected in the text of the document. Recommendation 15.d has been taken out due to the advances New Zealand Government Procurement and Property have made. Recommendation 15.e reflected in recommendations 13, 26 and 27 more broadly as actively removing barriers for Māori procurement, investment and lending.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	anyway to reach our joint climate and economic goals. d) Investigate and develop a plan for potential incentives for businesses to retire emissions intensive assets early. e) Require the Infrastructure Commission to include climate change as part of its decision- and investment-making framework, including embedded emissions and climate resilience f) Investigate and develop plans to mobilise private sector finance for low emissions and climate-resilient investments Necessary action 18 – Building a Māori emissions profile We recommend that, in the first budget period the Government facilitate a programme and direct funding to support Māori-collectives (particularly at an iwi level) to capture and record their own emissions profile within their respective takiwā. This will give effect to rangatiratanga by enabling iwi/Māori-collectives to effectively manage and monitor their emissions and enhance inter-generational planning.	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 wide scale behaviour changes needed. This should involve communities, iwi/Māori and local knowledge.	
New Zealand Emissions Trading	Time-critical necessary action 7 – Driving low emissions choice through the NZ ETS	Recommendation 11 – Strength market incentives to drive low-emissions choices	The Commission's final recommendations on the NZ ETS are broadly consistent with the

Sector/area	Draft recommendation	Final recommendation	What has changed?
Scheme (NZ ETS)	The Emissions Trading Scheme (NZ ETS) needs to drive low emissions choices consistent with emissions reduction targets in Aotearoa, including a focus on gross emissions reductions. In the first budget period the Government should: - In the next annual update to NZ ETS settings: - Align unit volumes with emissions budgets, taking into account the need to reduce the NZU stockpile. - Increase the cost containment reserve trigger price to \$70 as soon as practical and then every year by at least 10% plus inflation. - To maintain continuity with recent prices, immediately increase the auction reserve trigger price to \$30 as soon as practical, followed by annual increases of 5% plus inflation per year. These changes are needed because maintaining current settings will lead to failure to meet emissions budgets. - Amend the NZ ETS so that it contributes, as part of a package of policies (see time-critical necessary action 5), to delivering the amount of affordable emissions aligned with our advice on	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: - 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). - Updating NZ ETS unit supply and price control settings to: - Align unit volumes with emissions budgets, taking into account the need to reduce the NZU stockpile - Increase the cost containment reserve trigger price to \$70 at the first possible opportunity and then 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.	draft advice, but some have been slightly refined or clarified. Specific examples include: - recommendation 11.1 is more explicit in the need to amend the NZ ETS to strengthen the incentive for gross emissions reductions and manage the amount of exotic forest planting - recommendation 11.4.a added that the plan for recycling NZ ETS proceeds should include mechanisms to ensure that it contributes to equitable outcomes for Iwi/Māori - recommendation 11.4 d. has been strengthened to “urgently” clarify the role and avenues for voluntary mitigation.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	the proportion of emissions reductions and removals, consistent with budget recommendation 2. c) Establish a sound market governance regime for the NZ ETS as soon as possible to mitigate risks to market function, as some of these risks are potentially catastrophic for the scheme's effectiveness. This work should be advanced through an interagency team including MBIE for its financial markets expertise. Necessary action 19 – Continued ETS improvements We recommend that, in the first budget period the Government make progress on: a) Developing options and implementing a plan for recycling some or all of the proceeds from NZ ETS unit auction into emissions reductions, adaptation, equitable transitions and meeting international climate change obligations. b) Undertaking a first principles review of industrial allocation policy. c) Continuing to phase out industrial allocation.	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 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 contribute to equitable outcomes for Iwi/Māori. 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. c. Providing more information to reduce uncertainty about adjustments to NZ ETS settings, to support informed	

Sector/area	Draft recommendation	Final recommendation	What has changed?
	d) Exploring alternative policy instruments that could address the risk of emissions leakage. e) Providing more information to reduce uncertainty about adjustments to NZ ETS settings, particularly how it intends to manage unit volumes in light of the split-gas 2050 target. f) Clarifying the role and avenues for voluntary mitigation in Aotearoa.	decision-making by market participants. 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. Recommendation 11 – Provisional progress indicators 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 - 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 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.	

Sector/area	Draft recommendation	Final recommendation	What has changed?
		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.	
Planning and infrastructure (incl. urban form)	Necessary action 10 – Reduce emissions from urban form We recommend that, in the first budget period the Government promote the evolution of urban form to enable low emissions transport and buildings through ongoing legislative reform: - Develop a consistent approach to estimate the long-term emissions impacts of urban development decisions and continually improve the way emissions consequences are integrated into decision making on land use, transport and infrastructure investments. - Ensure a coordinated approach to decision making is used across Government agencies and local councils to embed a strong relationship between urban planning, design, and transport so that communities are well designed, supported, integrated, accessible transport options, including safe cycle ways between home, work and education.	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: - 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. - Promoting urban design solutions that acknowledge Iwi/Māori whakapapa, identity and tūrangawaewae and the need to preserve and protect their wāhi tapū and sites of cultural significance. - Developing a consistent approach to quantifying the emissions impacts of urban development decisions. Use this to	Necessary action 10 is now partially contained in recommendation 16. It has been strengthened from 'promote the evolution of urban form to enable low emissions transport and buildings' to 'commit to enabling emissions reductions through changes to urban form, function and development'. Recommendations 16.1, 16.2, and 16.4-7 are new. Recommendation 10.b does not appear in the new version of the recommendation.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		continually improve the way emissions consequences are integrated into decision making on land use, transport and infrastructure investments. 4. Improving the evidence base on the relationship between urban form, function, density, transport system, land use and other factors. This will support the design of approaches to reduce emissions across different urban areas. For existing urban areas: 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. 6. Ensuring regulatory settings allow for increased density and use of existing infrastructure, land and built form to reduce emissions. For new urban areas: 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.	

Sector/area	Draft recommendation	Final recommendation	What has changed?
Sectors			
Transport	Necessary action 2 – Develop an integrated national transport network to reduce travel by private vehicles and increase walking, cycling, low emissions public and shared transport We recommend that, in the first budget period the Government progress the following steps to meet emissions budgets: a) Deliver specific and timebound targets to increase low emissions public and shared transport and walking and cycling, and supporting infrastructure through strengthening the direction of the Government Policy Statement on Land Transport. b) Significantly increase the share of central government funding available for these types of transport investment, and link funding with achieving our emissions budgets. c) Improve mobility outcomes through measures including supporting public transport uptake nationally and locally by reducing fares for targeted groups (such as for those under 25 years of age), and improving the quality and integration of services.	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 1. Setting targets and implementing plans to substantially increase walking, cycling, public transport and shared transport use to replace vehicle use. This should be delivered through: a. 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. b. Better connecting communities, cities and regions by improving the frequency, accessibility and	Recommendation 17.1 has shifted from 'delivering specific and timebound targets' to 'setting targets and implementing plans' to increase mode-shift and increasing the share of central government funding dedicated to active and public transport infrastructure. Reference to achieving this through the GPS on Land Transport has been removed. Recommendation 17.1.d is new, emphasising the need for collaboration when developing targets, plans and approaches. The draft recommended: 'Evaluate the role other pricing mechanisms beyond the NZ ETS, such as road pricing, can play in supporting the change to a low emissions and equitable transport system' (necessary action 3f). This has been replaced by recommendation 17.3, which emphasises the need for supportive regulatory settings to enable local authorities to deliver low-emissions transport systems <u>at pace</u> (including evaluating the role of pricing incentives, such as congestion charges).

Sector/area	Draft recommendation	Final recommendation	What has changed?
	d) Encourage Councils to implement first and last kilometre travel solutions in their transport networks, such as increased on-demand and shared vehicle and bike services, secure park and ride solutions at public transport, and encouraging micro-mobility options. e) Further government encouragement for working from home arrangements. Time-critical necessary action 2 – Accelerate light electric vehicle uptake Light electric vehicle uptake needs to be accelerated as fast as possible. To meet our proposed emissions budgets and be on track for 2050, at least 50% of all light vehicle (cars, SUVs, vans and utes) and motorbike imports should be electric by 2027 (both battery EV and plug-in hybrid EV). To achieve this, we recommend in the first budget period the Government: a) Place a time limit on light vehicles with internal combustion engines entering, being manufactured or assembled in Aotearoa, other than in specified exceptional circumstances. The limit should be no later than 2035 and, if possible, as early as 2030.	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. - In collaboration with local authorities, consideration should be given to the different circumstances for rural communities, towns and cities. - In collaboration with stakeholders in the community and business to ensure that outcomes are low emissions, affordable, and support mobility options for diverse communities.	

Sector/area	Draft recommendation	Final recommendation	What has changed?
	b) Introduce a package of measures to ensure there are enough EVs entering Aotearoa, and to reduce the upfront cost of purchasing light electric vehicles until such time as they are cost competitive with the equivalent ICE vehicle. c) Improve the efficiency of the light vehicle fleet and stop Aotearoa receiving inefficient vehicles by introducing an emissions target for light vehicles new to Aotearoa of 105 grams CO₂ per kilometre by 2028. d) Develop a charging infrastructure plan for the rapid uptake of EVs to ensure greater coverage, multiple points of access and rapid charging, and continue to support the practical roll out of charging infrastructure. Necessary action 3 – Accelerate light electric vehicle uptake We recommend that, in the first budget period the Government make progress on the following: a) As part of a policy package introduce a fiscal incentive such as a feebate or subsidy, to reduce the upfront cost of EVs until such time as there is price parity with ICEs.	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). 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, congestion charges or where public transport fare reduction would have the greatest impact on behaviour change. Recommendation 17 – Provisional progress indicators 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. 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.	Provisional progress indicators These progress indicators are new. The draft recommended introducing a feebate or subsidy to reduce the upfront cost. This has been broadened in recommendation 18.3.a to 'a policy' to reduce the upfront cost. The draft recommended developing a charging infrastructure plan for the rapid uptake of EVs. This has been changed to 'enhancing the roll out of EV charging infrastructure' with a specific addition of at marae.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	b) As part of an equitable transition, evaluate and support interventions such as leasing, hire and sharing schemes to remove barriers and address some of the upfront capital costs of EVs. c) Investigate ways to bulk procure and ensure the supply of EVs into Aotearoa and work with the private sector to do so. d) Evaluate how to use the tax system to incentivise EV uptake and discourage the purchase and continued operation of ICE vehicles. e) Work with the private sector to roll out EV battery refurbishment, collection and recycling systems to support sustainable electrification of light vehicle fleet. f) Evaluate the role of other pricing mechanisms beyond the NZ ETS, such as road pricing, can play in supporting the change to a low emissions and equitable transport system. g) In setting these policies the Government needs to mitigate impacts for low-income households and people with disabilities, regional and remote access, and with limited access to electricity.	3. Government to report on indicators annually from 31 December 2022. This could include mode share by distanced travelled for walking, cycling and private car use, public transport and would need to be measured regionally and aggregated nationally. Recommendation 18 – Accelerate emissions reductions from the light vehicle fleet We recommend that, in the first emissions reduction plan, the Government commit to: Accelerating emissions reductions from the light vehicle fleet. This should include the Government: 1. Setting a time limit on light vehicles with internal combustion engines entering, being manufactured, or assembled in Aotearoa. The time limit should be no later than 2035 and, if possible, as early as 2030. 2. Setting an emissions efficiency standard for light vehicle imports and steadily strengthening this to improve overall efficiency of the light vehicle fleet. 3. Accelerating the uptake of electric vehicles (EVs) by introducing a range of measures, including: a. A policy to reduce the relative upfront cost of EVs until they reach	The draft recommended introducing an emissions target for light vehicles new to Aotearoa of 105 grams CO₂ per kilometre by 2028. This has changed to recommendation 18.2, focusing on <u>steadily strengthening</u> an emissions efficiency standard for light vehicles over time. Recommendation 18.3.b This has been strengthened from ‘evaluate and support’ to ‘support’ EV leasing, purchasing and sharing schemes. Recommendation 18.3.c This has been strengthened from ‘investigate ways to bulk procure’ to ‘enable ways to bulk procure’ – working with both the private and public sector (previously focused on just the private sector). The draft recommended ‘In setting these policies the Government needs to mitigate impacts for low-income households and people with disabilities, regional and remote

Sector/area	Draft recommendation	Final recommendation	What has changed?
	Necessary action 4 – Increase the use of low carbon fuels for trains, ships, heavy trucks and planes We recommend that, in the first budget period the Government take the following steps to support the use of low carbon fuels for heavy vehicles such as trucks, planes, ships, and off-road vehicles to meet emissions budgets: a) Set a target and introduce polices so that at least 140 million litres of low carbon liquid fuels are sold in Aotearoa by 31 December 2035. b) Introduce low carbon fuel standards or mandates to increase demand for low carbon fuels, with specific consideration given to aviation. c) Introduce incentives to establish low emissions fuel plants, such as biofuel sustainable aviation fuel, and make those fuels more competitive with traditional fossil fuels. d) Place further emphasis on decarbonising the rail system, and establish an investment strategy and clear targets to increase the share of rail and coastal shipping.	- price parity with internal combustion engine (ICE) vehicles. b. 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. c. Enabling way to bulk procure electric vehicle fleets, working with the private sector and public sector procurement to do so. d. 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 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:	access, and with limited access to electricity' (Necessary Action 3g). This has been removed. Recommendation 1 of these indicators has been strengthened from 'to have consulted' to 'have implemented' policy options for accelerating EV uptake. This brings forward the timeframes for consultation and Cabinet decisions on policy options. However, it has also removed placing a time limit on the import of ICEs within this timeframe. Recommendation 2 of these indicators has been strengthened. Instead of implementing regulations to improve fuel efficiency by 30 June 2022 it sets a 2028 target for emissions intensity of the whole vehicle fleet.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		Policy direction for energy, industry and buildings). 4. Determining how the tax could be used to discourage the purchase of ICE vehicle and support the adoption of low emissions vehicles. Recommendation 18 – Provision 1 progress indicators 1. Government to have, by 30 June 2022, implemented policy options to accelerate EV uptake 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 CO₂ per kilometre. 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.	Recommendation 3 of these indicators is new. Recommendation 19.1 This recommendation is new. Replacing a previous recommendation to ‘place further emphasis on decarbonising the rail system, and establish an investment strategy and clear targets to increase the share of rail and coastal shipping’. This new recommendation is broader, with the strategy covering freight efficiency, optimisation, mode-shift, and fuel switching.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		Note: Recommendation 19, part 2 would also deliver emissions reductions from the light vehicle fleet. Recommendation 19 – Create options to decarbonise heavy transport and freight by 2050 We recommend that, in the first emission reduction plan, the Government commits to: Creating options to decarbonise heavy transport and freight by 2050. This should include 1. Developing a national low-emissions freight strategy that establishes the investment setting and infrastructure required to deliver a low-emissions freight system. The strategy should: a. 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. b. Be developed in collaboration with freight stakeholders, to leverage private-sector action and finance. c. Enable opportunities to improve emissions efficiency and freight optimisation.	Recommendation 19.2.b and 19.2.c are new, emphasising the need to support uptake of low-carbon heavy vehicles. Recommendation 19.3 is new. The draft recommendation setting a target for the sale of low carbon liquid fuels has been removed. The draft recommendation to introduce incentives to establish low emission fuels plans has been removed.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		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. 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 low-carbon heavy vehicles. This could include broadening the exemption battery EVs have from paying road user charges to include other low-carbon technologies. 3. Undertaking a detailed study into the use of low-carbon fuels for aviation and shipping in Aotearoa. This should identify options for Aotearoa, their barriers to uptake and actions to address them. These recommendations should be considered alongside the recommendations for a national energy strategy and a bioeconomy strategy.	Provisional progress indicators Recommendations 1-3 for these indicators are new. Links to other sections This recommendation also overlaps with recommendation 16, which is discussed in the cross-sector buildings and urban form section below.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		Recommendation 19 – Provisional progress indicators 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. 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. 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.	
Energy and industry (previously heat, industry and power)	Time-critical necessary action 3 – Target 60% renewable energy no later than 2035	Recommendation 20 – Decarbonise the energy system and ensure the electricity sector is ready to meet future needs We recommend that, in the first emissions reduction plan, the Government commits to: Delivering a strategy to decarbonise the energy system and ensure the electricity sector is ready to meet future needs. This should include:	The Commission has reframed its recommendation for a renewable energy target, changing the basis on which this is calculated. The Commission suggests that government consider a target of 50 percent of energy consumed coming from renewable sources, rather than a target of 60 percent of total primary energy supply. These two targets are broadly equivalent, the Commission recommends a consumption-

Sector/area	Draft recommendation	Final recommendation	What has changed?
	Setting a target for renewable energy enables the Government to signal the required emissions reductions across the full energy system. Within that context, the 100% renewable electricity target should be treated as aspirational and considered in the broader context of the energy system that includes electricity, process and building heat and transport. We recommend the Government: a) Develop a long-term national energy strategy that provides clear objectives and a predictable pathway away from fossil fuels and towards low emissions fuels, and the infrastructure to support delivery. b) Under the framework of the national energy strategy, set a renewable energy target to increase renewable energy to at least 60% by 31 December 2035. Necessary action 5 – Maximise the use of electricity as a low emissions fuel We recommend that, in the first budget period the Government take steps to ensure a low emissions, reliable and affordable electricity system to support electrifying	1. Developing and implementing a national energy strategy to decarbonise the system. The scope would need to cover: a. Setting a target so that 50% of all energy consumed come 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, low-emissions electricity for residential, commercial, and industrial consumers. Regard needs to be given to the impacts on Iwi/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.	based renewable energy target because a supply-focused target can be distorted by geothermal energy used for electricity generation. This is because geothermal generation has a very low conversion efficiency from heat to electricity. In addition to suggesting that the government's target of 100 percent renewable electricity by 2030 be treated as aspirational, the Commission suggested the government consider replacing this target with a goal of aiming to achieve 95 to 98 percent renewable electricity by 2030. The Commission has provided more detailed recommendations regarding the phase out of natural gas. The Commission has referred to natural gas as 'fossil gas' as it considers that this better distinguishes gases with high emissions from their low emissions alternatives. The Commission explicitly recommends creating a plan for managing the diminishing role of fossil gas, covering the associated consequences for network infrastructure and workforce during transition.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	transport and industry through progress on the following: a) Under the framework of a national energy strategy, set a date by which coal electricity generation assets must be retired. b) Under the framework of a national energy strategy, decide how to progress solutions to the dry year problem, when this should happen, and at what cost. c) Introduce measures, such as a disclosure regime, to reduce wholesale electricity market uncertainty over Emissions Budgets 1 and 2, to encourage investment in new renewable generation. d) Assess whether electricity distributors are equipped, resource and incentivised to innovate and support the adoption on their networks of new technologies, platforms and business models, including the successful integration of EVs. e) Enable more independent generation and distributed generation, especially for remote rural and Māori	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 He Ara Waiora framework 2. Scaling up of investment in energy efficiency to reduce the amount of energy produced and improve energy affordability. 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: a. Assessing whether they have the necessary capacity and capabilities	<i>For discussion on changes to the previous recommendation regarding no new gas connections, see the building and construction section of this table.</i> The Commission has strengthened its recommendations regarding affordability and security of energy supply and suggested that these issues be included in the scope of an energy strategy. The Commission has placed greater emphasis in its recommendation for an energy strategy on working in partnership with iwi, and in collaboration with other stakeholders. Recommendations 20.2-20.6 There is a new recommendation that acknowledges the role that energy efficiency has in assisting to decarbonise, through reducing the amount of energy that needs to be produced, particularly at peak times. The Commission recommends scaling up of investment in energy efficiency to reduce the amount of energy produced and improve energy affordability. The Commission has added a new recommendation relating to ensuring

Sector/area	Draft recommendation	Final recommendation	What has changed?
	communities, and ensure access to capital for this purpose. f) Monitor and review to ensure electricity remains affordable and accessible, and measures are in place to keep system costs down, such as demand response management.	to support climate resilience and the transition. b. Evaluating whether the current regulatory environment and ownership structures of line companies are fit for future needs. 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. 5. Enabling a fast-paced and sustained build of low-emission 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. 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. 7. Supporting development and deployment of low-emissions fuel options such as bioenergy and hydrogen. Māori-collectives should be enabled to participate in the	processes, such as resource management processes and setting for transmission and distribution system investments, are aligned to enable renewable electricity generation to be built at the speed required for transition. The Commission has added a new recommendation for the government to assess and communicate to the public the potential impact of a significant change in the balance of supply and demand on the accelerated electrification of transport and process heat. This should involve an evaluation of the costs, benefits, risks and opportunities of how and when this electricity is used. The Commission mentions this recommendation in the context of the modelling assumption that NZAS closes in 2024, which makes a significant amount of electricity available in the market. Recommendation 20.7 Highlights Māori interest in this area, noting Māori-collectives should be enabled to participate in the associated business opportunities.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	Necessary action 6 – Scale up provision of low emissions energy sources We recommend that, in the first budget period the Government make progress in scaling up the provision of new low emissions fuels by: - Developing a plan for the bioeconomy alongside the new national energy strategy, across transport, buildings, energy, waste, land use and industry. - Assessing the place that hydrogen has in the new national energy strategy.	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. - 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. - Evaluating the role of low-emission gases as an alternative use of pipeline infrastructure. - Determining how to transition existing fossil gas users towards low-emissions alternatives. Recommendation 20 – Provisional progress indicators - 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	Recommendation 20.8 In relation to use of gas in residential, commercial and public buildings, the Commission has made new recommendations to evaluate the role of low emissions gases as an alternative use of pipeline infrastructure the need to carefully consider how to transition existing fossil gas users to lower emissions alternatives.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		significant blocks of capacity) on the pace equitable availability and cost of electrification in Aotearoa. 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. 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 2025. 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.	
	Necessary action 7 – Reduce emissions from process heat We recommend that, in the first budget period the Government take steps to reduce carbon emissions from fossil fuelled boilers by:	Recommendation 21 – Reduce emissions from industry We recommend that, in the first emissions reduction plan, the Government commits to: Outlining a plan for actions required to decarbonise the industrial sector. This should include:	The Commission now recommends a plan for actions required to decarbonise the industrial sector, working in partnership with Iwi/Māori and in collaboration with industrial and manufacturing sectors. Meeting emissions budgets requires the same reductions in emissions from process heat

Sector/area	Draft recommendation	Final recommendation	What has changed?
	a) Urgently introducing regulation to ensure no new coal boilers are installed. b) Introducing measures to help reduce process heat emissions from boilers by 1.4 Mt CO₂e over 2018 levels by 2030 and by 2 Mt CO₂e by 2035. c) Increasing support for identifying and reporting on emissions reduction opportunities in industry, including energy efficiency, process optimisation, and fuel switching. d) Helping people to access capital to reduce barriers to the uptake of technology or infrastructure upgrades such as boiler conversions, energy efficiency technologies, and electricity network upgrades. Necessary action 8 – Support innovation to reduce emissions from industrial processes We recommend that, in the first budget period the Government take steps to support innovation in hard-to-abate industrial processes, including by: a) Developing a long-term strategy for the future of hard-to-abate industries, including iron/steel making, cement and lime production and petrochemical production. This strategy should be	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 H Ara Waiora framework. 2. Developing the policy approach in collaboration with industrial and manufacturing stakeholders. 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). 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). 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.	emissions – reduction in the use of coal by around 1.4 PJ per year in food processing. The draft recommendation Necessary Action 7.b to introduce measures to reduce process heat emissions from boilers by 1.4 and 2 MT has been replaced by a recommendation for government to set a timetable to phase out of fossil fuels used in boilers. Recommendation 21.3 This specifically acknowledges that a higher emissions price should play a role in driving emissions reductions in the sector alongside other policies. Other parts of the report (Table 11.1 and Figure 11.2) articulate how complementary policies and a package of policies should be considered alongside emissions pricing (including that due to the uncertainty about future emissions prices, putting standards or target dates in place for phasing certain technologies in or out can provide the certainty people need to invest in reducing their emissions in a timely manner). The previous Necessary Action 7.c made specific reference to emissions reporting and opportunity identification. Recommendation 21.3 replaces this with behaviour change and infrastructure access.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	developed alongside the national energy strategy, future Economic Plans and strategies for an equitable transition (see time-critical necessary actions 1 and 3). b) Based on the outcome of the strategy, investigating whether bespoke solutions requiring research and development specific to Aotearoa will be required.	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).	The final recommendation no longer mentions energy efficiency, a separate new action has now been included as part of recommendation 20. The Commission still recommends developing a plan to address emissions from hard to abate industries, but there is a greater focus on supporting innovation as a way to decarbonise these industries.
Buildings and urban form	Necessary action 9 – Increase energy efficiency in buildings We recommend that, in the first budget period the Government introduce measures to transform, transition and reduce energy use in buildings. Measures should include: - Continuing to improve energy efficiency standards for all buildings, new and existing stock, through measures like improving insulation requirements. Expand assistance which targets low-income households. - Introducing mandatory measures to improve the operational energy performance of commercial and public buildings. - Setting a date by when no new natural gas constructions are permitted, and where feasible, all new or replacement	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: - 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. - Developing the policy approach in collaboration with the building and construction sector.	The Commission's final advice signals a much stronger and more directive role for urban form in emissions reduction than the draft advice, including emphasis on partnership with iwi and Māori and separate recommendations relating to existing and new urban areas. This change was informed by public and local government submissions. Key quantification and evidence gaps remain, but the Commission recognises that system transformation should begin today due to the long-lived nature of the built environment. Several related recommendations are relevant to consider alongside buildings and urban form, particularly around infrastructure needs. Recommendation 16 is also complementary to:

Sector/area	Draft recommendation	Final recommendation	What has changed?
	heating systems installed are electric or bioenergy. This should be no later than 2025 and earlier if possible.	3. Upgrading existing buildings and constructing new buildings that are low emissions, healthier and climate resilient. Measures should include: a. Continuous improvements to minimum Building Code requirements such as energy efficiency standard. b. Encouraging construction based on low-emissions designs and practices to reduce building energy use and embodied emissions. c. Scaling up energy efficiency assistance to low-income 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. Recommendation 22 – Provisional progress indicators 1. Government to have, by 31 December 2022, implemented measures to improve the energy performance of existing	• recommendation 17 on improving mobility by providing alternatives to high-emissions vehicle use • recommendation 22 on reducing emissions from buildings • recommendation 12 on making investments net-zero compatible • recommendation 8 on aligning central and local government efforts • recommendation 9.4 on consistent signalling across investments and policy to align with low emissions goals • recommendation 13 on supporting behaviour change.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		buildings, such as mandating participation in energy performance programmes. - Government to have, by 30 June 2022, scaled up energy efficiency assistance to low-income households. - Government to report annually, from 31 December 2022, on a suite of indicators, including residential and commercial energy intensity	
Agriculture	Time-critical necessary action 4 – Reduce biogenic agricultural emissions through on-farm efficiency and technologies Currently available changes to management practices have the potential to meet the 2030 biogenic methane target. New technologies would provide greater flexibility and the ability to meet the more ambitious end of the 2050 biogenic methane target range without reducing output. We recommend that in the first budget period that the Government: Ensure that effective mechanisms are in place so that the plans, advisory and guidance tools developed by He Waka Eke Noa will endure beyond 2025 and	Recommendation 24 – Reduce emissions from agriculture We recommend that, in the first emissions reduction plan, the Government commits 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: 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	Recommendation 24.1 The Commission has emphasised the importance of Government deciding on a pricing mechanism through the He Waka Eke Noa partnership in early 2022. The Commission has more clearly outlined its role in reviewing progress through He Waka Eke Noa in 2022 and noted that any further policies needed to reduce agricultural

Sector/area	Draft recommendation	Final recommendation	What has changed?
	can support achievement of the emissions budgets and targets. b) Drawing on the work of He Waka Eke Noa, decide in 2022 on a pricing mechanism for agricultural emissions as is required by legislation that is suited to the characteristics of the sector and capable of supporting achievement of the emissions budgets and targets. c) Ensure the Rural Broadband Initiative is resourced and prioritised to achieve its 2023 target, so that farmers have access to data and information to support decision making and the ability to practice precision agriculture. d) Review current arrangements and develop a long-term plan for targeted research and development of technologies (including evaluating the role of emerging technologies such as genetic engineering) and practice to reduce biogenic emissions from agriculture. e) Review and update processes and regulatory regimes to ensure that new emissions reducing technologies and practices can be rapidly deployed as and when they are developed. Necessary action 11 – Create options for alternative farming systems and practices	emissions in the short term. The design of this pricing mechanism: a. Must be both suited to the characteristics of the sector and capable of driving emissions reductions in line with emissions budgets and targets b. Must not disproportionately disadvantage or compound historical grievances for Iwi/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. 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. b. Partnering with Iwi/Māori and Māori-collectives to further develop and fund Māori-focused advisory services targeting the specific needs of Māori-collective landowners.	emissions should be considered alongside advice on the design of the pricing mechanism. The Commission also emphasises the need for the pricing mechanism to factor in the unique characteristics of Māori land. Recommendation 24.2 The Commission has added a new recommendation on developing and funding effective farm advisory services, including services that are Māori-focused. The Commission has also expanded the scope of the recommendation relating to rural digital connectivity (previously Time-critical necessary action 4.c), which was previously focused only on the Rural Broadband Initiative. Recommendations 24.3-24.5

Sector/area	Draft recommendation	Final recommendation	What has changed?
	We recommend that, in the first budget period the Government support alternative farming systems to reduce emissions by: a) Accelerating investment in high resolution, consistent, publicly available nationwide land and climate information, and decision-making tools and processes, to better inform local and national land use decisions. b) Supporting deployment of the systems and infrastructure needed for alternative farming systems and products. c) Prioritising initiatives to reduce barriers and enable international market access for proven low emissions food and fibre products.	c. Resourcing and prioritising rural digital connectivity. 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. 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. 5. Investing to create options for deeper emissions reductions in future by: a. 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	The remaining recommendations are broadly consistent with the draft advice but have been slightly refined or altered, including increased focus on Māori collectives. The recommendation relating to developing a long-term plan for research and development of technologies and practices to reduce agricultural biogenic emissions (previously Time-critical necessary action 4.d) no longer explicitly directs officials to evaluate the role that genetic engineering could play in this.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		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. Recommendation 24 – Provisional progress indicators 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. Government to annually, from 31 December 2022, report information on the total investment into research and development into reducing agricultural emissions.	Provisional progress indicators Provisional progress indicator 2 under recommendation 24 is new.
Forestry	Time-critical necessary action 5 – Manage forests to provide a long-term carbon sink Production forests will play an important role in meeting the first three emissions budgets, and new permanent native forest will also balance emissions from hard-to-abate sectors in the long term. The Government should enable	Recommendation 25 – Manage forests to provide a long-term carbon sink We recommend that, in the first emissions reduction plan, the Government commits to: Developing a framework of actions to deliver a mix of exotic and native forest sinks, and manage these	This recommendation is more directive. The Commission recommends a package of policies to reduce reliance on forestry removals and manage impacts of afforestation – including ETS amendments, policy position on role of permanent exotics, and land-use

Sector/area	Draft recommendation	Final recommendation	What has changed?
	afforestation to provide a carbon sink over the long-term by: - Implementing measures to incentivise establishing and maintaining at least 16,000 hectares of new permanent native forests per year by 2025, increasing to at least 25,000 hectares per year by 2030 and continued until at least 2050. - Requiring an appropriate forest management plan for all forests over 50 hectares defined as permanent to monitor the forest's permanence and limit exposure to risks such as climate change impacts, governance failure, and community impacts. - Designing a package of policies that must include amendments to the NZ ETS and land use planning rules, to deliver the amount and type of afforestation needed over time to align with our advice on the proportion of emissions reductions and removals and addressing intergenerational equity Necessary action 12 – Manage forests to provide a long-term carbon sink We recommend that, in the first budget period the Government make progress in maintaining and increasing the amount carbon stored in forests by:	and other carbon stocks, to provide flexibility to meet emissions budgets and targets. This should include: - Establishing a long-term carbon sink through a comprehensive national programme to incentivise the reversion and planting of new native forest to maintain net zero long-lived greenhouse gas emissions beyond 2050 - Designing a package of policies to reduce reliance on forestry removals and manage the impacts of afforestation including: - 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	planning tools for adverse effects. See <i>Recommendation 8</i>. Recommendations 25.1, 25.2.a and 25.2.c The recommendation on supporting increased native afforestation to establish a long-term carbon sink is now less prescriptive about the amount of native afforestation required over specific timeframes. The Commission's final advice is more explicit on the recommendation to amend the ETS to manage the amount of exotic forest planting driven by the scheme. This is also covered under recommendation 11. Recommendations 25.2.b, 25.3, 25.4 and 25.5.b.iii The final advice includes a more explicit recommendation to manage pests in an integrated way and a new recommendation relating to permanent exotic forests.

Sector/area	Draft recommendation	Final recommendation	What has changed?
	a) Improving and enforcing measures to reduce deforestation of pre-1990 native forests. b) Encouraging storage of additional carbon and maintaining carbon stocks in pre-1990 forests through activities such as pest control, noting that these removals may be outside of current emissions accounting approaches. c) Evaluating approaches for storage of new and additional carbon through small blocks of trees and vegetation, noting that these removals may be outside of current emissions accounting approaches.	and to achieve environmental co-benefits. 3. Managing pests in an integrated way, to ensure forests are successfully established and all forests are maintained long term 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. 5. Maintaining and increasing other carbon stock through: a. Improving and enforcing measures to reduce 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: i. Protect and increase the carbon stocks of pre-1990 forests through activities	The Commission also recommends considering ways to enable Māori collectives to manage their land with pre-1990 forest more flexibly. There is a new recommendation relating to preventing further loss of carbon from drained peatlands and the destruction of wetlands. The remaining recommendations are broadly consistent with the draft advice, but some have been slightly refined or altered.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		such as pest and fire control, and enrichment planting. ii. Encourage carbon removals by new and additional small blocks of trees and vegetation ii. iii. Preventing further loss of carbon from organic soils, particularly due to the degradation of drained peatlands and the destruction of wetlands. Recommendation 25 – Provisional progress indicators 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. 2. Government to report, from 31 December 2022, on the hectares of exotic and native forest that are afforested and deforested at least annually. 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	Provisional progress indicators Provisional progress indicators 2 and 3 under recommendation 25 are new. Changes in advice relating to the bioeconomy and other sectors (such as transport) may also have an effect on forestry in relation to the supply of and demand for biomass.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		data (area to which 1080 has been applied or farm management plans).	
Waste and HFCs	Necessary action 13 – Reduce emissions from waste Reduce emissions from waste - We recommend that, in the first budget period the Government take steps to support the reduction of waste at source, increase the circularity of resource in Aotearoa and reduce waste emissions by: (a) Setting ambitious targets in the New Zealand Waste Strategy (NZWS) for waste reduction, resource recovery and landfill gas capture to reduce waste emissions in Aotearoa by at least 15% by 2035	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.	The Commission has significantly increased the ambition for waste emissions reduction, recommending a decrease in waste related biogenic methane emissions by at least 40% by 2035, up from 15% in the draft advice. The Commission has confirmed this is due to a combination of factors, including: • updates to the latest New Zealand Greenhouse Gas Inventory (+10% increase) • consultation submissions that indicated waste could do more, particularly through landfill gas capture and resource recovery (+10% and +5% increases respectively).

Sector/area	Draft recommendation	Final recommendation	What has changed?
	(b) Investing the waste levy revenue in reducing waste emissions through resource recovery, promotion of reuse and recycling, and research and development on waste reduction. (c) Measuring and increasing the circularity of the economy by 2025. (d) Extending product stewardship schemes to a wider range of products, prioritising products with high emissions potential. (e) Legislating for and funding coordinated data collection across the waste industry before 31 December 2022. Necessary action 14 – Manage the transition from hydrofluorocarbons Manage the transition from hydrofluorocarbons - Consistent with the Kigali Amendment to the Montreal protocol, we recommend that, in the first budget period the Government supports reducing emissions of hydrofluorocarbons (HFCs) used as refrigerants by: a) Extending HFC import restrictions, where feasible, to include finished products and recycled bulk HFCs by 2025.	1. The revised New Zealand Waste Strategy should include: a. Acting in partnership with Iwi/Māori giving effect to the principle of Te Tiriti o Waitangi/The Treaty of Waitangi, and aligning with He Awa Waiora framework b. Acting in collaboration with local government, community groups and industry to leverage cross-sector action and finance. c. Shaping plans in line with the ‘waste hierarchy’ to: i. 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: i. Research, development, and demonstration to reduce waste through more efficient processes.	The increased biogenic methane reductions of waste are contrasted against revised assumptions about the level of difficulty in reducing agricultural emissions, resulting in a reduced level of ambition for biogenic methane emission reductions. Overall, the Commission’s recommendations aim to reduce biogenic methane emissions from agriculture and waste by 12.5% by 2030, relative to 2017 under the demonstration path, 11.4% under alternative path A, and 13.3% under alternative path B. The Commission notes it recommends aiming for slightly more than a 10% reduction in biogenic methane by 2030, as this gives some flexibility to deal with unexpected events, setting Aotearoa on course to achieve the 2050 targets. While the overall recommendations for waste are consistent with the direction of travel, the level of ambition has been elevated to nearly halving biogenic methane emissions by 2035. The circular economy recommendation has been moved to the section on the multisector strategy. The Commission considered that this better reflected what submitters said about

Sector/area	Draft recommendation	Final recommendation	What has changed?
	Reducing leakage and improper disposal of HFCs through mandating good practice from business and technicians.	ii. Infrastructure for waste collection, processing, and resource recovery. iii. 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. 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. Recommendation 23 – Provisional progress indicators 5. Government to have, by 31 December 2022, finalised the revised waste strategy with goals to:	the potential for emissions reductions through a more circular economy extending beyond waste. The Commission's recommendations for improved data collection are based on estimates rather than actual data (eg the uncertainty in activity data is estimated to be +/- 140% for non-municipal and farm fills in the 2019 New Zealand Greenhouse Gas Inventory). Recommendation 23.2 For HFCs, the recommendations are broadly the same as in the draft advice. There is now an added focus on supporting businesses and consumers to switch to low climate impact alternatives. We interpret this to mean education and behaviour change in addition to previously identified regulatory options.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		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. 6. Government to publish from 31 December 2023, annual waste statistics that track waste flows from generation to disposal across all landfill types	Alternative Pathway A significantly accelerates the phase out of F-gases to achieve emissions reductions attributed to agriculture in the demonstration pathway.
Significant cross-sector issues			
Bioeconomy		Recommendation 15 – Develop a thriving, climate resilient bioeconomy that delivers emissions reductions We recommend that, in the first emissions reduction plan, the Government commit to:	The Commission has moved its recommendation on the bioeconomy to a chapter containing multi-sector recommendations in response to feedback that the bioeconomy is relevant to multiple sectors. The Commission has included further details on what the scope of the bioeconomy strategy should be, and recommended establishing a clear governance structure, including assigning a lead Minister and lead agency.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		Developing and delivering a strategy for a thriving, climate-resilient bioeconomy that reduces emissions through displacing fossil fuel-derived production materials and energy sources This should include: 4. Acting in partnership: To be enduring, the strategy 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. Consideration should also be given to: a. How to embed a complementary mātauranga 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 5. 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. 6. Setting up a mechanism that enables active collaboration with Iwi/Māori, local government and industry.	

Sector/area	Draft recommendation	Final recommendation	What has changed?
		7. 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 source 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. d. Creating an environment that enables research and innovation to drive a valuable future bioeconomy (consistent with Recommendation 13 on innovation, finance, and behaviour change).	

Sector/area	Draft recommendation	Final recommendation	What has changed?
Circular economy	See WASTE (necessary action 13)	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: 1. Acting in partnership: To be enduring, the strategy 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. Consideration should also be given to: a. How to embed a complementary mātauranga Māori approach in the strategy (see also Recommendation 26 on equitable and proactive partnership with Iwi/Māori). b. Enabling Māori-collectives to participate in associated business opportunities. 2. Prioritising and investing in data collection to support measurable indicators to enable monitoring of progress towards circularity and the impact on emissions.	This has been shifted out of the recommendations relating to waste and HFCs.

Sector/area	Draft recommendation	Final recommendation	What has changed?
		3. Providing a clear governance structure, including tasking a minister and lead agency to assess and implement action for a more circular economy. 4. Setting up a mechanism that enable active collaboration with Iwi/Māori local government and industry.	

Nationally Determined Contribution for 2021-2030

Area	Draft recommendation	Final recommendation	What has changed?
Compatibility of our current NDC with the 1.5°C temperature goal	NDC recommendation 1 – Compatibility of the NDC with contributing to a global effort towards keeping warming to 1.5°C We advise that the first NDC is not compatible with Aotearoa making a contribution to global efforts under the Paris Agreement to limit warming to 1.5°C above pre-industrial levels.	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 pre-industrial levels.	No change.
Recommended changes	NDC recommendation 2 – Changes to the NDC to make it compatible with contributing to a global effort towards keeping warming to 1.5°C a) 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	Recommendation 30 – Making the NDC compatible with contributing to the global 1.5°C effort	The final advice was fundamentally the same, but the final NDC headline number was updated (a 1% change) to reflect the latest greenhouse gas inventory, and applying emission reductions from IPCC pathways to HFCs, PFCs and SF6 individually.

Area	Draft recommendation	Final recommendation	What has changed?
	contribution Aotearoa makes over the NDC period should reflect a reduction to net emissions of much more than 35% below 2005 gross levels by 2030, with the likelihood of compatibility increasing as the NDC is strengthened further. b) How much the NDC is strengthened beyond 35% should reflect the tolerance for climate and reputational risk and economic impact, and principles for effort sharing, which require political decisions.	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. 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.	The final advice also added that changes to the NDC should be made in partnership with Iwi/Māori and uphold the principles of Te Tiriti o Waitangi/The Treaty of Waitangi.
Form of the NDC	Enabling NDC recommendation 1 – Form of the NDC a) We recommend that the government in making its decisions should continue to define the NDC on the basis of all greenhouse gases using the most recent	Recommendation 32 – Form of the NDC 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	No change.

Area	Draft recommendation	Final recommendation	What has changed?
	IPCC global warming potentials adopted by the Parties to the UNFCCC. If the government updates the NDC, it should adjust it to use the GWP100 values from the IPCC's Fifth Assessment Report. b) We recommend that the government in making its decisions should 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 for international aviation and shipping.	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 2021-2030. 2. We recommend that the Government should 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.	
Reporting and meeting the NDC	Enabling NDC recommendation 2 – Reporting on and meeting the NDC a) The government in making its decisions should continue to enable the NDC to be met through a combination of domestic emission reductions, domestic removals and use of international carbon markets. b) The government should report annually on how it plans to meet the NDC, including the balance of planned domestic emission reductions, removals and offshore purchasing. c) The government should clearly communicate its strategy for purchasing offshore mitigation to meet the NDC and	Recommendation 31 – Planning and reporting on the NDC We recommend that the Government should: 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. 2. Report annually on how it plans to meet the NDC, including the balance of planned domestic emission reductions, removals, and offshore purchasing. 3. Clearly communicate its strategy for purchasing offshore mitigation to meet	No change.

Area	Draft recommendation	Final recommendation	What has changed?
	how it will manage any fiscal risks in doing so.	the NDC and how it will identify and manage fiscal and other risks and their consequences.	