

**In Confidence**

**Office of the Minister of Economic Development**

**Office of the Minister for Climate Change**

**Chair, Environment, Energy and Climate Committee**

**Transition to a low emissions economy: The Government's response to the Productivity Commission's *Low Emissions Economy* report**

## **Proposal**

1. This paper seeks agreement to publish the Government response to the Productivity Commission's Low Emission Economy Report and gives context as to where this response fits into the wider transition

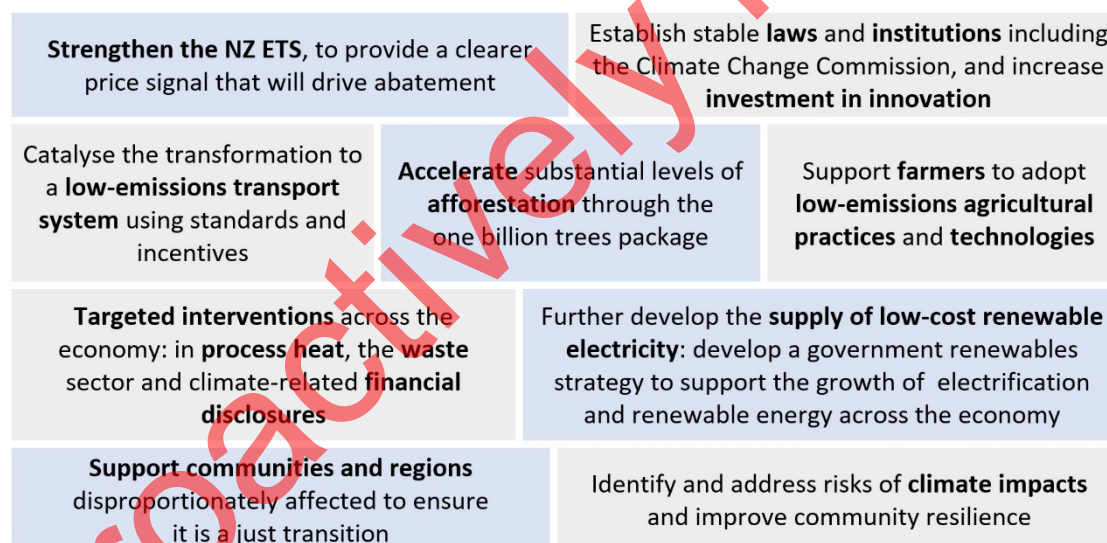
## **Executive Summary**

2. The Government is committed to transitioning to a low emissions climate-resilient economy. Through the Paris agreement we have committed to action on climate change mitigation and adaptation at home, and promoting transparent, credible and ambitious action overseas.
3. The Government has already welcomed the Productivity Commission's *Low Emissions Economy* report as providing a solid basis for a comprehensive approach to transition to a low emissions economy. The key finding of the report is that the transition will be challenging, yet achievable. Concerted effort will be required across all areas. The principle of stable and credible climate policy is essential to underpin long-term change.
4. Much of this work is already underway. We have already made decisions to:
  - Establish a durable legal and institutional framework through the Zero Carbon Amendment Bill
  - Reform the New Zealand Emissions Trading Scheme (NZ ETS)
  - Encourage low emissions investment
  - Invest in research and development to support innovation
  - Put in place supporting policies in key sectors with low cost abatement.
5. This paper is not an overarching climate strategy, but rather is an opportunity to present our existing cross government work programme on moving to a low emissions economy. Decisions still ahead of the Government include decisions on the settings of the New Zealand Emissions Trading Scheme (NZ ETS) and any other supporting policies, and tools to manage any distributional impacts.
6. This response will lead into the development of more comprehensive climate strategies such as our long-term low emissions development strategy (being prepared by 2020 in response to the Paris Agreement). It is also a step towards the overarching policies and plans that Government will be required to produce in response to emissions budgets (2021) as proposed in the climate legislation entering the House. These future iterations will need to be fully integrated into the Government's overarching economic strategy.

## Background

7. In 2015, New Zealand ratified the Paris Agreement as part of the global response to climate change. In doing so we formalised our international commitment to reducing our emissions by 30 per cent below 2005 levels by 2030.
8. Earlier this year, you saw a strategic overview of how the Government plans to manage this transition to a low emissions climate-resilient economy (ENV-19-MIN-0016 refers). This transition will be driven through a comprehensive and mutually-reinforcing package with three components:
  - **Durable long-term institutional arrangements** to set a long-term direction and keep us on track towards targets, including support for innovation and investment
  - **Effective emissions pricing**
  - **Key sector policies and regulations** to support emission reductions and ensure the transition is just and inclusive.
9. Alongside mitigating emissions the Government will also need to support communities and industries to adapt to the changing climate and build resilience. Supporting measures will be needed to ensure the transition is a just one and is manageable for all communities. All of these components are shown below in Figure 1.

*Figure 1: Key components of an effective transition to a climate-resilient and low emissions economy*



10. This paper builds on this strategic narrative. In responding to the Productivity Commission, this response does not present an all-encompassing climate strategy but rather a comprehensive work programme about how to transition to a low emissions economy.
11. This needs to be fully integrated into the Government's overarching economic strategy and aligned with other strategic work programmes such as industry policy and research, science and innovation strategies. Due to the focus on innovation and resource use efficiency, an effective response to climate change will be entirely consistent with these other policies. Together this work can help to drive our desired outcomes of a more productive, sustainable and inclusive economy.

## The Productivity Commission Report

12. In 2017 the Minister for Climate Change, the Minister of Finance, and the Minister for Economic Development (the referring Ministers) requested the Productivity Commission to 'identify options for how New Zealand could reduce its greenhouse gas emissions through a transition towards a lower emissions future, while at the same time continuing to grow incomes and wellbeing'.
13. The Productivity Commission released its final report in August 2018. Officials consider that the Productivity Commission conducted a thorough and comprehensive inquiry process and has produced an invaluable body of analysis to underpin the transition to a clean, green and carbon neutral New Zealand. Its conclusions included 174 findings and 77 recommendations.
14. The key overall finding is an essential message for New Zealand – the transition to a low emissions economy is achievable, but will be challenging. Concerted effort is required across many areas. The principle of stable and credible climate policy is essential to underpin long-term change.
15. The Productivity Commission recognised that in order to transition to a low emissions economy it would be important to:
  - Establish a comprehensive and durable legal and institutional framework
  - Reform the NZ ETS and apply some sort of pricing to methane
  - Avoid locking in emissions by supporting smart lower emissions choices in our investments in long term assets such as infrastructure, buildings, our vehicle fleet, and in planning our urban areas
  - Invest in research and development now to allow for the innovative and creative solutions that are needed to create and deploy new and existing technologies in a way that can also improve the economy and national wellbeing
  - Alongside emissions pricing, act now on low-cost abatement options. The Productivity Commission recognised opportunities for this in sectors such as transport and process heat.
16. Of the 77 recommendations, we agree with, or agree to investigate the majority. This highlights that much of the work needed for a successful transition is already underway, though early progress and ongoing commitment is essential. Individual responses to recommendations are presented in Appendix 1.
17. The only recommendation we disagree with is the need to investigate incentivising waste water treatment plants. This is because their contribution to emissions is minimal (0.4 per cent of total emissions) and work to reduce emissions from solid waste is being prioritised.
18. Responding to the Report in a detailed and considered way is an opportunity for Government to present to the public a cross-government work programme that is committed to reducing emissions.
19. This response will form a core part of the development of the Government's long term low emissions development strategy (LT-LEDS); and recommunication of, and updates to, New Zealand's future nationally determined contributions (NDCs) under the Paris Agreement.

## Much of this work is underway

20. This significant economic transformation will require concerted action across government, business, iwi, households and communities. However, this response highlights that much of this work is already underway.



### *Establishing an enduring architecture – laws and institutions*

21. Through the Zero Carbon Amendment Bill we have established the enduring architecture and framework for this transition. This includes:

- A new greenhouse gas emissions reduction target for 2050
- Establishing an independent Climate Change Commission to hold future governments to account and provide advice for meeting that target
- Establishing five yearly emissions budgets following the independent advice of the climate change commission to keep us on track to future targets
- Reforming the NZ ETS and setting supply of units into the market on a five year rolling basis to support meeting those targets
- Establishing a range of adaptation measures such as a National Climate Change Risk Assessment and National Adaptation Plan that will support communities to plan for the future effects of a changing climate, to improve resilience.

22. In addition to the legislative framework, work is underway to develop a climate impact assessment for significant government policies, so that we are clear that new policy proposals support a trajectory of declining emissions and support meeting future emissions budgets.

### *Effective Emissions Pricing*

23. We are already underway with reforming the NZ ETS to better incentivise emissions reductions. Most of the decisions made to-date have been about the institutional arrangements. The next set of key decisions that need to be made are on the settings themselves – how far should the transition go now and how fast should we move. Key decisions to be made in 2019 include decisions on:

- Whether and how to price biological emissions from agriculture
- Setting the level of the cap on emissions in the NZ ETS, and setting the volumes of units that will be released into the market
- The timing and speed of phasing-down allocation of free units to industry
- The maximum volume of international units with environmental integrity allowed into the NZ ETS (i.e. level of flexibility given to New Zealand business to meet their NZ ETS obligations cost effectively). It is likely international carbon markets will play a role bridging the gap between the level of mitigation delivered through the domestic transition (within limits recommended by the Climate Change Commission) and that required to deliver our NDCs
- Possible mechanisms to limit minimum or maximum prices (including decisions on the current fixed price option)
- The optimal mix of policies between emissions pricing and sector specific regulations, standards and incentives.

### *Low emissions investment*

24. s9(2)(f)(iv)

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<sup>[1]</sup> The current price in the NZ ETS is at \$25/tonne CO<sub>2</sub>-e, limited by the existing price cap mechanism.



- [REDACTED]
25. We have already begun work on a mandatory (comply-or-explain) regime for climate related financial disclosures (see Appendix 1 Recommendation 7.4). The Minister of Commerce and Consumer Affairs and the Minister for Climate Change intend to seek Cabinet agreement later this year to the release of a discussion document that will outline a set of preliminary disclosure proposals and discuss implementation matters that were not fully addressed by the Commission. The main issue that needs to be resolved relates to the classes of entity that would be subject to the regime.

*Research, development and innovation*

26. Achieving a transition to a low emissions economy will require new technologies to be developed and deployed in New Zealand. Our research, science and innovation (RSI) system builds the knowledge and solutions to help New Zealand do things differently and better. The Ministry of Business, Innovation and Employment is developing a RSI strategy that will set out how the Government plans to use the levers of the RSI portfolio to achieve the Government's goals, including transitioning to a clean, green low emissions New Zealand [DEV-18-MIN-0185].
27. The Government has set aside \$27 million to support the establishment and operations of a National New-Energy Development Centre to help lead New Zealand's transition to a low carbon economy. The Centre will be based in Taranaki to capitalise on the region's energy talent, infrastructure and international connections, and it will serve as a national energy systems integrator, working across multiple organisations, agencies and locations.
28. The Government is also investing \$20 million over four years to establish a new strategic science fund for research on cutting edge energy technology. The combination of providing a long term signal of the importance of transition, strengthening emission pricing and support for research and development through tax credits will provide an enabling environment for private sector investment in low emissions technology. Already new technologies are being developed and trialled, such as the Ports of Auckland hydrogen production and refuelling facility.

*Moving towards 100 per cent renewable electricity and shifting industry to lower emissions*

29. New Zealand already has up to 85 per cent of electricity generated from renewable sources, very high by international standards. But we do expect the demand for renewable electricity to increase to meet the needs of transport and to enable other shifts to a low emissions and climate resilient economy.
30. The Government is developing a policy package as part of a renewable energy strategy, which aims to accelerate the deployment of renewable electricity generation, encourage the uptake of renewable energy in industry energy use, and ensure fair and affordable electricity. This package will take into account the advice from the Interim Climate Change Committee (ICCC) and the Electricity Price Review. As part of this package, we are also developing a Green Hydrogen paper to encourage new zero emissions fuels and are investigating opportunities for biofuels to reduce emissions and create jobs (see Appendix 1 Chapter 13).

*Supporting agriculture to improve its productivity and sustainability*

31. Almost half of New Zealand's emissions come from agriculture. Agriculture plays an important role in meeting our emissions reduction targets while ensuring a productive and

prosperous economy. Well-formed policies can achieve these goals and ensure New Zealand retains its competitive advantage as a leading producer of low emissions food.

32. We can and will develop policies that meet these aims. The basis of these decisions will be our response to the Interim Climate Change Committee's work on how agricultural emissions should be reduced. Their recommendations include how best to price agricultural emissions. Central themes in their recommendations were the importance of:

- Having a price incentive to reduce emissions
- Additional support and training is required to help farmers reduce emissions
- Bringing together climate change mitigation and adaptation with other environmental objectives such as water and biodiversity. Any legislative changes made regarding agriculture are intended to be made via the Climate Change Response (Emissions Trading Scheme) Amendment Bill process, alongside the forestry changes to the NZ ETS.

33. Research and development into innovative solutions and low emissions technologies will play a key role in transitioning our agricultural sector. Through Budget 2019 we have announced \$25 million investment over four years to support world-class research here in New Zealand and an additional \$8.5 million to the Global Research Alliance on Agricultural Greenhouse Gases to reduce and mitigate agricultural emissions, and help agriculture deal with the effects of climate change.

#### *Harnessing forestry*

34. Expanding forestry will be essential for meeting a long-term net zero target. In October 2017, the Government announced the One Billion Trees programme, aimed to double rates of new tree planting to reach One Billion Trees by 2028. To incentivise new tree planting to reach this goal the Government has committed approximately \$480 million.

35. In addition to direct government investment, the One Billion Trees programme also encompasses changes to the regulatory settings to drive an increase in new tree planting. Changes are being made to the NZ ETS to simplify and de-risk participation of forest owners. These changes are designed to incentivise afforestation, and to increase the carbon stored by New Zealand's forests.

36. The Government has just allocated over \$49 million to Te Uru Rākau within the Ministry of Primary Industries to help transform this forestry sector. This year Te Uru Rākau will be developing a forest strategy (to be published by July 2020) to set a thirty year vision for forests and trees in New Zealand and identify the key actions required to achieve this vision.

#### *Decarbonising the transport sector*

37. Transport is New Zealand's fastest growing source of emissions and represents 20 per cent of total emissions. Emissions from light vehicles make up the bulk of transport emissions and are greater than emissions from electricity production and process heat combined. The Commission found that a comprehensive set of measures and policies are needed to mitigate transport emissions. The Government will be considering a low emissions vehicle package that responds to many of these recommendations, including consulting on both a vehicle fuel efficiency standard and a feebate scheme, and measures for low income households.

38. The Government Policy Statement on Land Transport released last year includes a priority to reduce greenhouse gas emissions from transport. This included \$14 billion investment towards public transport, rapid transit and walking and cycling over ten years.

39. Rail has significant benefits for New Zealanders' wellbeing, including regional economic growth, reducing emissions and traffic congestion and preventing deaths and injuries on our roads. Budget 2019 and the Provincial Growth Fund (PGF) provide \$1 billion to



support the redevelopment of rail system, with an additional \$405 million to contribute to building the Auckland City Rail link.

40. We are also working with industry to develop new solutions to reduce transport emissions. Through the Low Emissions Vehicles Contestable Fund (LEVCF) we have been trialling new low emissions vehicle technologies as proof of concept, including light and heavy electric vehicles in a range of sectors. For example, Waste Management's electric waste disposal trucks and conversion workshop, and smart battery-to-home chargers with Vector. The LEVCF has also co-funded installation of over 300 EV chargers with Vector. To date, we have committed over \$17 million in government co-funding to over 90 low emission vehicle projects, matched by \$28 million in project partner funding.

#### *Reducing our emissions in the Waste Sector*

41. New Zealand has the highest waste emissions per person of all members in the OECD. These emissions (which are almost entirely methane) account for around 5 per cent of our total greenhouse gas emissions, with 90 per cent of these emissions created through solid waste disposed to land. The Ministry for the Environment has begun a project to expand the Waste Disposal Levy to cover additional landfills. The levy expansion project should improve the collection of waste data, which in turn would assist in identifying actions to reduce waste sector emissions.
42. Overall, the current waste work programme aims to shift New Zealand away from a 'take-make-dispose' economy, towards a 'circular' economic model, where products are designed to last longer and waste and pollution are designed out of the economy; materials are kept in circulation and in productive use for as long as possible; and all activities are designed to restore natural capital.

#### *Changing the way we build*

43. Multiple Government work programmes are underway which have the potential to support a shift in our built environment, in order to avoid locking in high emissions infrastructure. MBIE's Building System Performance Climate Change Work Programme will assess the actions the building regulatory system could take to support the government's climate change objectives. Initial advice will be provided to the Minister for Building and Construction in late 2019.
44. One of the objectives of the Urban Growth Agenda is to assist emissions reductions and build climate resilience; it will promote intensification and infill which, if successful, will support a low emissions built environment.

### **Distributional impacts and adaptation**

45. In addition to the NZ ETS reforms and other work programmes listed above, the Government will have other opportunities to further shape and refine its policy response to climate change over the coming months.

#### *Managing distributional impact and ensuring a just transition*

46. The Commission focused their inquiry on institutions, price mechanisms and sector-specific policies, however the Government is also committed to making this a just transition, one that is fair, equitable and inclusive. This will require us to make choices up front about appropriate pathways for transforming our economy. In particular, a just transition will require us to:

- Build our understanding of the nature of different pathways to transition the economy and how a range of impacts might be distributed across regions, sectors and communities so we can make choices about how to best manage the



sequence, timing and adjustment required in transition in an equitable and inclusive way

- Partner with Māori/iwi, local government, business, communities and the workforce to identify, create, empower and support new opportunities, new jobs and skills, and new investments in urban and rural areas
  - Signal change early and build the social licence necessary to be ambitious in our approach to transforming the New Zealand economy.
47. Taking a just transition approach provides us with an opportunity to articulate a compelling long-term vision to: enhance the capability of our firms, regions and people to adjust to a lower emissions economy; to link to our investments in skills and capabilities of New Zealand firms and workers to transition and retrain lifelong; and to offer reassurance that the Government is working constructively with communities facing the greatest adjustment.
48. The Commission issued a finding that “the existing suite of benefits and tax credits should be adequate for offsetting the direct impacts of emissions-reducing policies on the cost of living for lower-income households, provided that tax credits are regularly adjusted for inflation”. However, the Commission did not make a recommendation on this point. The current legislative requirement is that the benefits are annually adjusted in line with the consumer price index (CPI), and that Working for Families tax credits are adjusted when the cumulative CPI increase is 5 per cent or more<sup>1</sup>. Officials are undertaking further analysis of the distributional impacts of emissions-reducing policies and options to mitigate those impacts [CAB-19-SUB-0194].

#### *Adapting to a changing climate*

49. The Government is committed to transitioning to a low emissions and climate-resilient economy. The Commission's terms of reference focused their inquiry on climate change mitigation and not adaptation, however, the Government also needs to support vulnerable communities, including rural and farming communities and industries who face significant risks to adapt to the effects of climate change.
50. The effects of climate change are already being felt in New Zealand, and will increase in the future. From the physical impacts such as coastal erosion and sea level rise, and the flow-on economic impacts of dealing with the aftermath of major storms and droughts, we know the costs to our economy will be significant.
51. The Government's adaptation programme has three key components:
- A National Climate Change Risk Assessment – to be completed by mid-2020. This will provide an overview of the hazards and threats of the physical impacts of climate change and consider the economic and social impacts on New Zealand as a whole
  - A National Adaptation Plan which will respond to the national risk assessment. The Climate Change Commission will regularly report and monitor progress against the National Adaptation Plan
  - The development of a programme of work through the inter-agency Community Resilience Group to progress recommendations of the Climate Change Adaptation Technical Working Group for how New Zealand can increase its resilience to natural hazards and climate change.

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<sup>1</sup> With recent low inflation, the Family tax credit has not met the cumulative 5 per cent threshold since 2012. Instead an ad hoc increase was made to rates as part of the Families Package. The In Work Tax Credit is not indexed to the CPI and is required by legislation to be reviewed every three years.

52. It is important to clearly link mitigation and adaptation policies so that action in one area does not have unintended consequences in another, and to maximise co-benefits. For example, planting trees to mitigate emissions can also have co-benefits of increasing resilience to erosion and improving water quality, but thought need to be given to what types of trees are planted and where, to avoid increasing the risks of effects such as wildfire or pests.
53. Addressing distributional impacts and ensuring a just transition is equally important for adaptation policies as for policies aimed at mitigating our emissions.

### **Next Steps**

54. We will be making relevant decisions and announcements in the coming weeks that may mean for some sector work programmes such as transport, agriculture and energy there is a greater story to tell. This paper proposes allowing myself and the Minister for Economic Development to make updates to the response to incorporate any policy decisions that occur between lodgement and publication.
55. This paper highlights that New Zealand has now clearly already begun its transition path to a low emissions and climate-resilient economy. But it is important to maintain the momentum and track our progress. We propose that the Climate Change Chief Executives Board be tasked with ensuring that all the line items in this response continue to progress, and in particular that those elements that are agreed for investigation only at this early stage, advance rapidly to solid policy options and proposals for action.

### **Consultation**

56. In drafting this paper the following agencies were consulted: the Ministry for Primary Industries, the Ministry of Transport, the Treasury, the Ministry of Housing and Urban Development, the Energy Efficiency and Conservation Authority, the Ministry for Foreign Affairs and Trade. The Department of the Prime Minister and Cabinet was informed.

### **Financial implications**

57. This paper has no financial implications at this stage but individual policies that are mentioned in this paper may have financial implications as they come before cabinet for confirmation.

### **Legislative implications**

58. Some individual policies recommended by the Productivity Commission will have legislative implications if the Government agrees to them. Ministers will seek legislation-related approvals from Cabinet at later dates, when more specific policy approvals are being sought. For example, legislation will be needed if the Government decides to implement the mandatory (comply-or-explain) climate-related financial disclosure system discussed under the heading "Low emissions investment" – see the proposed government response to R7.4 Appendix 1.

### **Publicity**

59. I propose to publish the Cabinet paper and tabulated responses in Appendix 1 together with communication material that clearly articulates the wider strategic transition narrative. Because of the links between a range of environmental initiatives across water, climate change, forestry, biosecurity and biodiversity, I propose to develop, with other Ministers, an integrated communication plan <sup>s9(2)(f)(iv)</sup>

## Proactive Release

60. I propose to release this paper alongside the table of responses to recommendations in Appendix 1 as the Government's response to the Productivity Commission's report on a low emissions economy, subject to appropriate redactions under the Official Information Act 1982. The timing of the responses is to be agreed alongside other climate change announcements.

## Recommendations

The Ministers for Economic Development and Climate Change recommend that the Committee:

1. **agree** to the responses to the specific recommendations of the Productivity Commission in Appendix 1;
2. **s9(2)(f)(iv)**
3. **agree** to publish the Cabinet paper and tabulated responses in Appendix **s9(2)(f)(iv)**
4. **agree** to authorise the Minister for Economic Development and the Minister for Climate Change to make minor amendments to the specific responses to reflect other policy decisions made by cabinet before publication in consultation with relevant portfolio ministers as required;
5. **agree** that the Climate Change Chief Executives Board be responsible for monitoring progress against the agreed recommended responses to the Productivity Commission's report, in anticipation of future emissions budgets.

Authorised for lodgement.

Hon David Parker

**Minister for Economic Development**

Hon James Shaw

**Minister for Climate Change**



## Appendix 1 – Individual recommendations and responses

### Chapter 5. Emissions Pricing

An emissions price is the price emitters pay for each unit of greenhouse gas (GHG) they release to the atmosphere. This is an important policy lever for incentivising businesses and individuals to decrease their emissions. Pricing emissions is mainly done in two different ways, either as an emissions trading scheme (which is what we have in New Zealand) or a carbon tax. The New Zealand Emissions Trading Scheme (NZ ETS) is our main policy lever for reducing emissions and is currently being reformed, which has been broadly supported by the Productivity Commission. These reforms will see a limit placed on the amount of NZUs in the NZ ETS, aligned with the new emissions reductions targets set both domestically and internationally.

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 5.1</b> The Government should reform the New Zealand Emissions Trading Scheme (NZ ETS) rather than replace it with a carbon tax. The reforms should focus on making the NZ ETS effective in achieving New Zealand's post-Paris commitments to substantially reduce net domestic GHG emissions.	Agree	Ministry for the Environment reporting to Minister for Climate Change	Dec 2019	The Government agrees that the NZ ETS should continue to be the main policy tool to price emissions. The Government is making reforms to the NZ ETS which will improve its effectiveness and support New Zealand to meet international climate change targets. There are no plans to replace the NZ ETS with a carbon tax.*
<b>Recommendation 5.2</b> The Government should progressively withdraw free allocation to EITE firms over the next two to three decades to a pre-announced schedule but, subject to an ability to slow the withdrawal rate if, on independent advice, it finds that major competitors are not, actually or imminently, facing comparable emissions prices.	Agree	Ministry for the Environment reporting to Minister for Climate Change	Dec 2019	The Government has made decisions to phase-down industrial allocation from 2021 at a minimum rate of 1 per cent per annum, to start more rapid phase down for activities at low risk of emissions leakage from 2026, and to enable higher across the board phase-down rates from 2031. A key consideration in these decisions is ensuring that industrial allocation continues to mitigate the risk of emissions leakage.*
<b>Recommendation 5.3</b> Because international emissions trading could help New Zealand achieve a net greenhouse-gas emissions target at significantly lower economic cost, the Government should: <ul style="list-style-type: none"> <li>support and contribute to UNFCCC efforts to establish rules and an international trading infrastructure with high integrity</li> <li>establish sound guidance for New Zealand public or private purchases of offshore emissions reductions that properly cost such purchases against the alternative of investing in additional domestic reductions – in terms of capital and current costs, reputation costs, co-benefits and investment in future economic opportunities for New Zealand; and</li> <li>make clear decisions, based on expert advice, about how much international purchasing to allow within specified future time periods.</li> </ul>	Agree	Ministry for the Environment reporting to Minister for Climate Change	Dec 2019	The Government agrees to all the sub-recommendations. <b>Sub-recommendation 1:</b> the Government will continue to do this. The International Carbon Markets Project was established in 2016 to explore options for New Zealand to supplement domestic climate change action and forestry with high-integrity international emission reduction units in the 2020s. An important aspect of this work is ensuring the environmental integrity of these markets. <b>Sub-recommendation 2:</b> The basis on which offshore emissions reductions might be available for purchase in New Zealand has yet to be determined. However, the Government will continue to build the evidence base to enable the Government and businesses to understand the domestic costs of abatement opportunities (technical marginal abatement cost curves (MACCs)). Where overseas markets can be accessed and the price (and forward price) is known, the MACCs and policy appraisals will help inform the trade-offs between the use of offshore mitigation and investment in additional domestic emission reductions. These appraisals will necessarily incorporate reputation costs, co-benefits and investment in future economic opportunities for New Zealand. <b>Sub-recommendation 3:</b> the Government will make decisions on the level of offshore mitigation used to meet emissions reduction targets informed by the advice of the Climate Change Commission (CCC). The CCC will provide advice on how much offshore mitigation should be used towards emission budgets, as well as the limit on the use of international units within the NZ ETS.*
<b>Recommendation 5.4</b> The Government should undertake a well-crafted reform to fix the weaknesses in the New Zealand Emissions Trading Scheme that compromise its ability to deliver effective emissions pricing and New Zealand's emissions targets for 2021 to 2030 and beyond. The reform should establish: <ul style="list-style-type: none"> <li>control over the supply of New Zealand Units (NZUs) that is consistent with New Zealand's long-term, low-emissions strategy;</li> <li>clarity over the use of international units for reducing greenhouse gases; and</li> <li>a new independent agency to sell NZUs and exercise stewardship of the NZU market. The agency should operate within a clear government mandate and be responsible for market stability, transparency and forward guidance to support efficient decision making by investors to lower their net emissions.</li> </ul>	Agree in part	Ministry for the Environment reporting to Minister for Climate Change	Dec 2019	The Government agrees with the first and second sub-recommendations and will investigate the third sub-recommendation <b>Sub-recommendation 1:</b> the Government announced reforms in December 2018 that will enable a cap to be placed on emissions covered by the NZ ETS. The cap will be set through a 'coordinated decision-making process' which will set annual unit supply looking out five years. This will enable supply of NZUs to be aligned with New Zealand's emission reduction targets. The Government intends to introduce a Bill in mid-2019 to give effect to this decision. <b>Sub recommendation 2:</b> The NZ ETS is currently closed to international units. The Government has not decided if or when the NZ ETS will reopen to international units. If the NZ ETS were to reopen to international units in future the Government would set the limit on international units through regulations as part of the coordinated decision-making process. The Government will make decisions on the level of international purchasing informed by the advice of the CCC. The CCC will provide advice on how much international purchasing should be used towards emission budgets, as well as the limit on the use of international units within the NZ ETS. <b>Sub-recommendation 3:</b> the Government has decided to sell NZUs via auction into the NZ ETS with the aim of aligning unit supply with NZ's emission reduction targets. As part of the development of the auctioning platform, the Government is expected to make decisions on the auction regulator and monitor in 2019. The Government is also developing a broader



				market governance framework, which includes the issue of market stewardship.*
<p><b>Recommendation 5.5</b></p> <p>The Government should be responsible for specifying the New Zealand Unit (NZU) price threshold at which it considers the cost of further domestic emissions reductions would cause net detriment to New Zealand and that other means to achieve its emissions budget (e.g., purchasing qualifying international emissions reductions) could be less costly. The Government should also decide at what low price, if any, it would be desirable for the quantity of NZUs supplied to be reduced below the cap and for the price of NZUs to be maintained as a minimum incentive for long-term investments and innovations in low emissions.</p> <p>The new independent agency set up to auction NZUs and oversee the NZU market should have responsibility for implementing the Government's decisions cost-effectively and for the market's overall stability and efficiency. This will include setting the quantity caps for NZUs to meet the multi-year emissions budgets and conducting auctions. The agency's "constitution" should require it to act transparently via public notification of its rules and logic, and any changes in them, well in advance.</p>	Agree to investigate	Ministry for the Environment reporting to Minister for Climate Change	Dec 2019	<p>In December 2018, the Government made decisions to enable price management features to be incorporated into auctioning. A 'cost containment reserve' would act as a price ceiling, where a specified number of additional NZUs are available at auction if a specified price value is reached. The auction platform will also be developed to enable a price floor, where no NZUs are auctioned if the bids are below a specified price value. Both the ceiling and floor have the aim of protecting against 'unacceptable' emissions prices, so should be set well outside the range of expected prices given the level of abatement required.</p> <p>There are a number of criteria that must be taken into account when setting the limit on international units in the NZ ETS and the price ceiling/floor. These include (among others) the relevant emissions budget and the forecast abatement costs. When setting the price ceiling/floor the Government must also consider international emissions prices and the impact of emissions prices on the economy and households.</p> <p>As part of the 'coordinated decision-making process' the Government will make decisions on unit supply, including auction volumes, the international unit limit, price ceiling and price floor, after receiving advice from the Climate Change Commission. The Government does not see a role for a new agency to determine annual unit supply volumes.</p> <p>As part of the development of the auctioning platform, the Government is expected to make decisions on the rules for how auctions operate, including the role of an independent auction monitor in 2019.*</p>

## Chapter 6. Innovation

Innovation will play a central role in New Zealand's transition to a low emissions economy - innovative and creative solutions are needed to create and deploy new and existing technologies in a way that can also improve the economy and national wellbeing. Achieving this is a high priority in New Zealand's research, science and innovation (RSI) system. Our RSI system builds the knowledge and solutions to help New Zealand do things differently and better. The Ministry of Business, Innovation and Employment (MBIE) is developing an RSI strategy that will ensure that our RSI investment and efforts are targeted at areas that best achieve New Zealand's goals, and provide a focused and systematic plan of action. We recognise that it is only through research and development that New Zealand's economy can become more diverse, knowledge-intensive and produce lower emissions.

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<p><b>Recommendation 6.1</b></p> <p>New Zealand should establish the goal of transitioning to a low-emissions economy as a high priority within its national innovation system. It should also recognise that achieving it will require extensive economic transformation and restructuring. The Government should provide major public backing and funding support for innovation so that innovation can play a central role in the transition, alongside effective emissions pricing.</p>	Agree in part	Ministry of Business, Innovation and Employment reporting to Minister for Research, Science and Innovation	Ongoing	<p>We agree with this recommendation in principle, however, we must also recognise that there are other competing priorities and that further investment specifically targeting low-emissions science should not come at the expense of other investments.</p> <p>Projects that specifically target lowering emissions are not the only projects that may achieve that result. Carbon-equivalent emissions are often produced alongside other problems or forms of pollution. Transformative solutions will be found through less targeted research, such as:</p> <ul style="list-style-type: none"> <li>improving the performance of sectors that relate to emissions-important activities, without specifically targeting emissions</li> <li>basic science (and other science) may contribute to upstream innovations that will in turn impact low-emissions projects</li> <li>projects that contribute to the diversification of the economy, as these will reduce per-capita emissions, particularly if the growth is in knowledge-intensive industries.</li> </ul> <p>The Government provides significant support for innovation, particularly in R&amp;D. The R&amp;D Tax Incentive now signed into legislation will help contribute to our goal of increasing total investment in R&amp;D to two per cent of GDP, including a significant increase in business expenditure on R&amp;D. This is a broad-based support that will be accessible to about 2000 businesses.</p>
<p><b>Recommendation 6.2</b></p> <p>The Government should take steps to:</p> <ul style="list-style-type: none"> <li>strengthen the national innovation system by clarifying its low-emissions objectives, improving links, identifying relevant innovation priorities, and fostering knowledge transfer and sharing; and</li> <li>align the various complementary parts so they work well together in the transition to a low-emissions economy.</li> </ul> <p>The scope should include not only science and research, but broader innovation, knowledge dissemination and learning, skills, infrastructure, regulation and finance.</p>	Agree	Ministry of Business, Innovation and Employment reporting to Minister for Research, Science and Innovation	RSI strategy to be completed by end 2019	<p>The Government agrees, and has committed to significant action in the RSI portfolio. This includes investment signals to encourage low-emissions science, such as in the Endeavour Fund's 2019-201 Investment Plan, and investing heavily in agricultural R&amp;D.</p> <p>Equally important is ensuring that broad innovation supports are in place. The R&amp;D Tax Incentive (of \$1b over four years) will support businesses of all sectors to undertake R&amp;D, and helping increase New Zealand's total investment in R&amp;D to two per cent of GDP. The Research, Science and Innovation strategy will help coordinate future efforts to achieve this goal. The NZ ETS will help incentivise producers of carbon-equivalent emissions to use these supports and reduce emissions.</p> <p>MBIE is also in the process of evaluating the various mechanisms and interventions that ensure knowledge can transfer from research to impact. For example – we have reviewed the Technology Incubator programme, and are actively considering the Commercialisation Partner Network and the Pre-Seed Accelerator fund.</p>



<p><b>Recommendation 6.3</b></p> <p>The Government should investigate and implement any cost-effective institutional models that:</p> <ul style="list-style-type: none"> <li>scan new low-emissions technologies around the world to identify ones with promise for New Zealand but that may need adapting to suit local conditions; and</li> <li>help firms to improve their absorptive capacity for external knowledge, including new low-emissions technologies.</li> </ul>	Agree	Ministry of Business, Innovation and Employment with Callaghan Innovation reporting to Minister for Research, Science and Innovation	End 2019	<p>The Government is aware of the importance of technological adoption and translation – given that only a very small percentage of new-to-world innovations will come out of New Zealand. However, there is a significant government activity to increase the absorptive and R&amp;D capability of firms. The RS&amp;I Strategy's proposed focus on connectivity within the innovation system – although geared towards frontier research, will nonetheless aid absorptive capacity of firms. The R&amp;D Tax Incentive will increase the capacity of firms to adopt technologies and adapt them to their requirements. Callaghan Innovation, through its <a href="#">Industry 4.0 programme</a>, provides further advice, training and expertise. The Government just allocated \$6.2 million in Budget 2019 towards this programme.</p> <p>MBIE and Callaghan Innovation are not the only agencies with roles in this area. The Energy Efficiency and Conservation Authority (EECA) is currently looking at commercially available technologies that can produce significant energy and cost savings for the industrial sector (e.g. efficient electric high temperature heat pumps). This work will help large energy using businesses to map long-term energy use and emissions transition pathways. The first phase of this work will focus on process heat and food processing sectors with potential for replication across other sectors in New Zealand. This work will also support the Technology Demonstration programme currently delivered by EECA, which funds and de-risks new or under-utilised energy saving technologies for application by New Zealand businesses.</p>
<p><b>Recommendation 6.4</b></p> <p>Policy should keep the market environment competitive and flexible to allow “creative destruction” to take place, so that resources can flow from firms that lag in adopting low-emissions technologies to firms that lead.</p>	Agree	Ministry of Business, Innovation and Employment reporting to Minister for Research, Science and Innovation	Ongoing	<p>The Government agrees that there is value in keeping the market environment competitive and flexible. Significantly reducing emissions from today's levels will require the creation of disruptive low-emission technologies and the uptake of these technologies by firms and households. There are many policy levers available to Government to support this transition, such as regulation, tax, expenditure and information provision. For example, the Government sees emissions prices as an important lever for directing resources from high- to low emissions intensive activities, and to provide the incentives for firms and households to invest and innovate. However, it recognises that emissions prices will not be sufficient by themselves and that it will need to use the full range of policy levers available to support the transition based on careful assessment of cost and effectiveness.</p> <p>The Government agrees that the transition needs to be a just one, where communities and workers are supported to transition between industries.</p>

<p><b>Chapter 7. Investment</b></p> <p>Transitioning to a low-emissions economy requires a re-orientation of public and private investment away from emissions-intensive activities and towards those that support and catalyse low-emissions energy, land use and other activities. As pointed out by the Commission, the speed and scale of this reorientation is crucial. Avoiding a late, abrupt transition is part of ensuring financial stability and a just, inclusive transition. In light of this, we have already begun redirecting significant funds towards low emissions investment.</p>				
Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<p><b>Recommendation 7.1</b></p> <p>Any decisions made by the Government about the model or structure of the New Zealand Venture Investment Fund (NZVIF) should be informed by further analysis of the potential for giving priority to low-emissions investments, and whether (and if so, how) an investment exclusion should apply to high-emissions investments.</p>	Agree	Ministry of Business, Innovation and Employment reporting to Minister for Economic Development	Scope of this work in November 2019	<p>The Government agrees with the Productivity Commission. However, more work is necessary to understand the levers because the Venture Investment Fund currently co-invests with other funds and does not invest directly in firms, and there are questions about whether the exclusion should apply to the whole fund.</p> <p>Considerations include defining low- or high-emissions and whether they should be excluded on a case-by-case basis or assessed through an economy-wide lens. Some innovative companies might be considered high-emissions (for example in the space industry) but may unlock broad economy-wide opportunities for diversification which greatly reduces net emissions.</p> <p>There is currently a review of Early Stage Capital markets and the role of NZVIF underway, which will also consider how other seed and venture funds incorporate emission reduction targets. Advice was provided to Ministers outlining this work. Further ministerial consideration is needed as it may potentially touch on budget bids. At this stage, the intention is to go to Cabinet in November with an initial paper broadly outlining the work that needs to be done. Following further analysis, a follow up paper will be put to Cabinet with more detail on implementation and delivery.</p>
<p><b>Recommendation 7.2</b></p> <p>A Green Investment Fund (GIF) has potential to stimulate some of the technology and infrastructure needed to achieve the low-emissions transition in New Zealand. In work to establish a GIF, the Government should clearly identify the market failure that it seeks to address. The Government should specify the GIF's mandate, financing approach and funding source, expected duration, institutional structure (including its degree of independence), desired minimum rate of return, relationship to existing infrastructure and</p>	Agree	Ministry for the Environment and Treasury reporting to the Minister for Climate Change and the Minister for Finance	N/A has already been established	<p>The Government agrees with the recommendation and has established New Zealand Green Investment Finance Limited (NZGIF) to accelerate domestic low emissions investment. NZGIF is a new independent 100% Crown owned company. Budget 2018 set aside \$100 million of capital for NZGIF, as well as \$30 million over the next six years for operating costs and a total of \$5m across 2017/18 and 2018/19 for establishment costs, which are expected to be repaid once NZGIF is self-sustaining.</p> <p>The Productivity Commission set out a number of specific issues which it recommended that the Government should consider in setting up the fund. The Government has actively considered</p>



clean technology funding sources, and scale of investment (wholesale or retail). The Government should also state how the GIF will work in conjunction with any other initiatives for providing infrastructure or low-emissions technology finance.				these as a part of the process of deciding how the fund should be best established. The core principles of NZGIF were set out at its launch of 5 December 2018. See <a href="https://treasury.govt.nz/information-and-services/commercial-portfolio-and-advice/new-zealand-green-investment-finance">https://treasury.govt.nz/information-and-services/commercial-portfolio-and-advice/new-zealand-green-investment-finance</a> for further information.
<b>Recommendation 7.3</b> The Government should endorse the recommendations of the Task Force on Climate-related Financial Disclosures as one avenue for the disclosure of climate risk.	Agree	Ministry of Business, Innovation and Employment and the Ministry for the Environment reporting to Minister for Commerce and Consumer Affairs and the Minister for Climate Change	N/A	The Government agrees that material financial risks and opportunities associated with climate change should be disclosed. In June 2017, the TCFD published a set of recommendations for disclosing clear, comparable and consistent information about the risks and opportunities presented by climate change. Several other governments have endorsed the TCFD's recommendations. The New Zealand Government also endorses them as one avenue for the disclosure of climate change financial reporting.
<b>Recommendation 7.4</b> The Government should implement mandatory (on a comply or explain basis), principles-based, climate-related financial disclosures by way of a standard under section 17(2)(iii) of the Financial Reporting Act 2013. These disclosures should be audited and accessible to the general public.	Agree to investigate	Ministry of Business, Innovation and Employment and the Ministry for the Environment reporting to Minister for Commerce and Consumer Affairs and the Minister for Climate Change	Decisions will be made on approach to this in July 2019	The Government agrees with the comments of the Productivity Commission that investment needs to be redirected towards low-emissions investments to ensure New Zealand's economy remains resilient to the impacts of climate change. High quality disclosures will help investors, lenders and insurers make more informed decisions. They will also provide reporting entities with incentives to manage risks and take advantage of opportunities. To achieve this further consideration is required in relation to the following matters: 1. Whether the Financial Reporting Act is the most appropriate means for implementing climate-related disclosure requirements. 2. Consideration of the classes of entities the disclosure requirements should apply to. Subject to consultation, the Government considers that listed issuers, registered banks and licensed insurers should be covered. It is less clear whether any other classes of entities should also have climate-related disclosure requirements. 3. What, specifically, the disclosure requirements should require entities to disclose and whether the disclosures should be different for different classes of entity. Officials will work closely with a range of stakeholders on these issues over the coming months.
<b>Recommendation 7.5</b> The Government should align its project and programme funding so that it discourages high-emissions, path-dependent activities, and encourages low-emissions, path-dependent activities. This alignment should be supplemented by work to define what constitutes low-emissions investment, with the aim of identifying a clear taxonomy.	Agree to investigate	Ministry for the Environment and Treasury reporting to the Minister for Climate Change and the Minister of Finance	This work is ongoing. Decisions on CIPA will be made in June 2019	The Government agrees that part of the just transition to a low emissions economy will include aligning public sector projects and programmes to a low emissions future.  Mechanisms include the Treasury's Cost Benefit Analysis tool that allows for assessment of new investments, taking climate change into account. The Ministry for the Environment is also developing a Climate Implications of Policy Assessment (CIPA) tool kit to complement this, which will support Ministers to consider the potential climate change impacts of policy proposals when making decisions. Officials will consider the TCFD framework to inform public sector definitions of low-emissions investment.  The Government's work to align research and development towards low emissions economy is also relevant here, with more detail on the Government's activities outlined in Section 6.

Chapter 8 – Laws and Institutions				
Addressing the long-term nature of climate change requires credible commitment devices to drive the development of long-term response strategies, and well-designed laws and institutions will play a critical role. This is why a major part of our approach is getting the architecture in place for a long-term transition. Through the proposed Climate Change Response (Zero Carbon) Amendment Bill the Government will set an ambitious Emissions Reduction Target, develop a system of emissions budgets and establish an independent climate change commission. The Bill is being considered by Parliament and is on track to be in place by the end of 2019.				
Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 8.1</b> The broad principles and framework of the United Kingdom's Climate Change Act should be used as a basis for designing a new architecture for New Zealand's climate change legislation, but it should be carefully tailored to fit the New Zealand context	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	The Government agrees with this recommendation. The Climate Change Response (Zero Carbon) Amendment Bill incorporates key aspects of UK framework including: a legislated target, a series of national emissions budgets, a system of adaptation planning, and an arms-length body to advise the government and report independently on progress (the Climate Change Commission). It also incorporates lessons learnt from the UK Climate Change Committee as well as the experience of other jurisdictions. In line with its New Zealand context the Climate Change Response (Zero Carbon) Amendment Bill also has regard to the principles of te Tiriti o Waitangi. Consideration has also been given to other aspects in the New Zealand context including our emissions profile and the importance of the ETS as a tool for lowering emissions.*
<b>Recommendation 8.2</b> The Government should seek to achieve broad political support and consensus for new climate change legislation, so that legislation has a strong prospect of policy and legislative durability regardless of the make-up of the government.	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	The Government agrees. In order to achieve broad political support the Minister for Climate Change has sought broad cross party political support for the Climate Change Response (Zero Carbon) Amendment Bill. There has also been an extensive public consultation process in the development of this Bill.*



<p><b>Recommendation 8.3</b></p> <p>Long-term greenhouse gas (GHG) emissions-reduction targets should be set in primary legislation. Legislative emissions targets require careful design and should be formulated following a robust public policy process seeking broad agreement.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Government agrees and has established an Emission Reduction Target within the Climate Change Response (Zero Carbon) Amendment Bill has two components, it seeks to:</p> <ul style="list-style-type: none"> <li>• reduce all GHGs (except biogenic methane) to net zero by 2050.</li> <li>• reduce gross emissions of biogenic methane to 24-47 per cent below 2017 levels by 2050, including an interim requirement to reduce GHG emissions to ten per cent below 2017 levels by 2030.</li> </ul> <p>This Bill will give New Zealanders confidence that climate change policies and the long-term emissions reduction pathway will remain stable and predictable and continue delivering prosperity. Robust policy processes seeking broad agreement have been followed in the development of the Climate Change Response (Zero Carbon) Amendment Bill.*</p>
<p><b>Recommendation 8.4</b></p> <p>New Zealand's climate-change legislation should provide for a system of emissions budgets for both short- and long-lived gases. The government should set the budgets periodically at levels consistent with achieving emissions reductions targets. It should report publicly on progress towards them. The system should be credible and durable, while balancing predictability and flexibility.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Government agrees that any targets we set should be informed by the best available climate change science, including the different attributes of short-lived and long-lived GHGs. The Emissions Reduction Target set in the Climate Change Response (Zero Carbon) Amendment Bill has two components, one focused specifically on biogenic methane and another for all other GHGs. It seeks to:</p> <ul style="list-style-type: none"> <li>• reduce all GHGs (except biogenic methane) to net zero by 2050.</li> <li>• reduce gross emissions of biogenic methane to 24-47 per cent below 2017 levels by 2050, including an interim requirement to reduce GHG emissions to ten per cent below 2017 levels by 2030.</li> </ul> <p>This Bill also proposes that the Government set five-yearly budgets for the two components to provide regulatory certainty. This Bill also proposes that the Commission will report annually on the Government's progress towards each component as well as the overall target. It will publish a review after each five-year budget period.*</p>
<p><b>Recommendation 8.5</b></p> <p>Government should have a statutory duty to prepare and publish a long-term economy-wide low-emissions strategy. The strategy should set out the Government's policies and proposals for meeting both current and future emissions budgets (and with a view to meeting the long-term targets) and should be updated after each new emissions budget is set.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Government agrees. The proposed framework of the Climate Change Response (Zero Carbon) Amendment Bill provides accountability by requiring the government to prepare policies and plans to meet emission's budgets. This Bill proposes that policies and plans be updated as part of setting emissions budgets.*</p>
<p><b>Recommendation 8.6</b></p> <p>Mandatory processes should underpin a Climate Change Act. Legislation should include clear reporting obligations, including requiring regular reporting to Parliament on key aspects of New Zealand's transition to a low-emissions economy (such as GHG emissions, progress towards budgets and targets, and the Government's low-emissions strategy). Timeframes for the suite of processes should ensure regular review and reporting, but avoid over-engineering procedural obligations.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>Mandatory reporting requirements are proposed within the Climate Change Response (Zero Carbon) Amendment Bill and long term and transitional reporting obligations (until the Climate Change Commission becomes fully operational) have been defined. Under the proposals in the Bill the Commission will report annually on government's progress toward each emissions budget and the target, and publish a review after each five-year budget period. All the reports of the Commission will be presented to Parliament.*</p>
<p><b>Recommendation 8.7</b></p> <p>The regulatory framework to support New Zealand's transition to a low-emissions economy should include an independent climate change institution (a Climate Change Commission) that operates at "arm's length" from government.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Climate Change Response (Zero Carbon) Amendment Bill proposals include a Climate Change Commission to provide independent, expert advice beyond short-term considerations and political cycles. The Commission will hold successive governments to account for progress on reducing emissions and building climate resilience. The Government considers an independent Commission will provide "arm's length", expert advice to hold current and future governments to account on New Zealand's long-term climate change goals.*</p>
<p><b>Recommendation 8.8</b></p> <p>The independent Climate Change Commission should take an advisory role. Decision rights should not be delegated to such a Commission.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Climate Change Response (Zero Carbon) Amendment Bill proposes that the Climate Change Commission have an advisory and monitoring function. This function includes for example, advice and monitoring on the emissions budgets, the review of emission targets, independent recommendations on the settings of the NZ ETS and the preparation of the National Climate Change Risk Assessment.*</p>
<p><b>Recommendation 8.9</b></p> <p>The Climate Change Commission should be responsible for:</p> <ul style="list-style-type: none"> <li>• providing advice on emissions budgets, targets and New Zealand Emissions Trading Scheme (NZ ETS) caps (based on clear statutory parameters for that advice), and other matters materially relevant to New Zealand's low-emissions transition;</li> <li>• reporting on progress towards emissions budgets and targets, including assessing the performance of policy instruments and identifying emerging risks;</li> <li>• undertaking and publishing relevant research into transitioning to a low-emissions future; and</li> </ul>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Government agrees. The Climate Change Response (Zero Carbon) Amendment Bill proposes the Climate Change Commission have a range of functions including an advisory and monitoring function in relation to emissions budgets and the review of emission targets. It will also provide independent recommendations on the settings of the ETS, prepare the National Climate Change Risk Assessment (every six years) and, at the request of government, publish other reports related to emissions reductions and climate resilience. All of the reports of the Commission will be tabled in Parliament and published publicly. The Commission will be empowered to consult broadly with New Zealanders in preparing its reports.*</p>



<ul style="list-style-type: none"> <li>engaging in outreach and public communications (as required to carry out its role).</li> </ul> <p>Legislation should also oblige the government to have regard to the Climate Change Commission's advice when making decisions on emissions budgets, targets and NZ ETS caps, and give clear reasons for any material departure from that advice.</p>				
<p><b>Recommendation 8.10</b></p> <p>To properly perform its role, retain credibility over the longer term, and be viewed as independent, the Climate Change Commission should have a high degree of operational and institutional independence.</p> <p>The Climate Change Commission should have:</p> <ul style="list-style-type: none"> <li>broad discretion to exercise functions at "arm's length" from the executive and legislative branches of government or industry; and</li> <li>formal distance, and security of tenure for governors and senior management.</li> </ul> <p>The Climate Change Commission should be set up as an independent Crown entity</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	The Government agrees that there should be statutory provisions to maintain the independence of the Climate Change Commission. The Climate Change Response (Zero Carbon) Amendment Bill proposes the Commission operate as an independent Crown entity. In addition to appointment requirements in the Crown Entities Act, potential commissioners will be nominated by a nominating committee and appointments will be discussed with all parties in Parliament, to promote a rigorous and unbiased appointment process.*
<p><b>Recommendation 8.11</b></p> <p>The legislative framework for a low-emissions economy should provide mechanisms for Māori to advise the Government on policy, process, and decisions relating to emissions budgets and the Government's strategy to achieve them.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	The Government agrees, the Climate Change Response (Zero Carbon) Amendment Bill will give effect to the principles of te Tiriti o Waitangi. The Climate Change Response (Zero Carbon) Amendment Bill proposes that the responsible Minister must prepare and publish a plan that details policies and strategies for how New Zealand will meet the emissions budget. In preparing this plan, the Minister must ensure that New Zealanders, including sector representatives, affected communities, and iwi and Māori have been consulted. This plan must also include a strategy to recognise and mitigate impacts on workers, regions, iwi and Māori, and wider communities, including how any action can be funded.* <sup>2</sup>
<p><b>Recommendation 8.12</b></p> <p>Treasury should update the Regulatory Impact Analysis requirements to explicitly include consideration of climate change impacts, where relevant. The Cabinet Office should update its circular to require agencies making proposals for regulatory changes with climate change implications to consult with the organisation responsible for developing advice on the Climate Change Commission's recommendations, and to ensure that the agency's comments are fairly and accurately reflected in any final assessment.</p>	Agree to investigate	Ministry for the Environment and Treasury reporting to the Minister for Climate Change and the Minister of Finance	End of 2019	The Ministry for the Environment is developing a Climate Implications of Policy Assessment toolkit, which will support Ministers to consider the potential climate change impacts of policy proposals. This work is also investigating how to best implement a CIPA requirement, including choices about the range of policy proposals to which it would apply, the expectations for consultation and/or quality assurance, and how the CIPA requirement would interact with the existing Regulatory Impact Analysis requirements.

## Chapter 9. Short-lived and Long-lived Gases

Greenhouse gases have different impacts on the warming of the planet. Carbon dioxide is a long-lived gas, which means it accumulates in the atmosphere warming the planet for centuries. Short lived gases like methane have a much stronger immediate impact on warming but only stay in the atmosphere for decades. In New Zealand, our long-lived gases come mostly from carbon dioxide in our transport sector, however we have a much higher percentage of short-lived gases in the form of methane from our agricultural and waste industries. In order to keep warming below 2 degrees Celsius, we have set up a process for determining a 'budget' of emissions, a target to aim for and a comprehensive set of policies to get there.

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<p><b>Recommendation 9.1</b></p> <p>The Government should seek to enact a long-lived gas target of net-zero by a specified point in time (e.g., 2050) in primary legislation.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Climate Change Response (Zero Carbon) Amendment Bill provides a framework for New Zealand to develop and implement clear and stable climate change policies that contribute to the collective global effort to limit the increase in global average temperature to 1.5 degrees Celsius above pre-industrial levels.</p> <p>The Emissions Reduction Target set in the Bill sets out to:</p> <ul style="list-style-type: none"> <li>reduce all GHGs (except biogenic methane) to net zero by 2050.</li> <li>reduce gross emissions of biogenic methane to 24-47 per cent below 2017 levels by 2050, including an interim requirement to reduce GHG emissions to ten per cent below 2017 levels by 2030.*</li> </ul>
<p><b>Recommendation 9.2</b></p> <p>The Government should establish separate emissions budgets for short-lived and long-lived gases and set their sizes based on the advice of the Climate Change Commission.</p>	Agree in part	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	The Government proposes to set a single emissions budget for each budget period. This will cover all GHGs. Although there will be a single emissions budget for each five year period, the proposed approach will reflect the distinction that the 2050 target draws between emissions of biogenic methane and all other GHGs. For example, the Climate Change Commission will provide regular monitoring reports that track the success of the emissions budgets against each component of the 2050 target. The plan for meeting emissions budgets will also include sector-specific policies, including those geared towards reducing New Zealand's biogenic methane emissions.*
<p><b>Recommendation 9.3</b></p> <p>The New Zealand Emissions Trading Scheme (NZ ETS) should include all long-lived greenhouse gases, as well as fossil methane (CH<sub>4</sub>) and all fluorinated gases.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	N/A	The Government has agreed to an Emissions Reductions Target which included reducing all GHGs (except biogenic methane) to net zero by 2050. This includes all long-lived gases, fossil methane and fluorinated gases. These gases are all included in the NZ ETS.

\* Subject to final Parliamentary Approval



<p><b>Recommendation 9.4</b></p> <p>The Government should enact in primary legislation the principle that New Zealand's emissions of biogenic CH<sub>4</sub> should be lowered to a specified level by a specified date, consistent with the Paris temperature limit. The legislation should also specify a framework for guiding how the target level of CH<sub>4</sub> should be set.</p> <p>The legislation should establish an obligation on the Government to set the specific target level of emissions for biogenic CH<sub>4</sub> based on the advice of the proposed Climate Change Commission. The legislation would include the power to change the target from time to time in the light of new information.</p>	Agree	Ministry for the Environment reporting to the Minister for Climate Change	End of 2019	<p>The Climate Change Response (Zero Carbon) Amendment Bill includes a component of the Emissions Reduction Target that is specifically focused on biogenic methane.</p> <p>The Emissions Reduction Target is part of a framework for New Zealand to develop and implement clear and stable climate change policies that contribute to the collective global effort to limit the increase in global average temperature to 1.5 degrees Celsius above pre-industrial levels. This Target has been informed by climate science, likely economic impacts, the international context, and the need to achieve political consensus.</p> <p>From 2024 the Commission's advice will include a review of the appropriateness of the Target.*</p>
<p><b>Recommendation 9.5</b></p> <p>The Government should establish separate emissions budgets for biogenic CH<sub>4</sub> based on the advice of the Climate Change Commission.</p>	Agree in part	Ministry for the Environment reporting to the Minister for Climate Change	First emissions budgets established at the end of 2021	<p>The Government agrees that there needs to be a specific focus on biogenic methane. This is why the Government intends to include two components in the 2050 target established by the Climate Change Response (Zero Carbon) Amendment Bill which seeks to:</p> <ul style="list-style-type: none"> <li>• reduce all GHGs (except biogenic methane) to net zero by 2050.</li> <li>• reduce gross emissions of biogenic methane to 24-47 per cent below 2017 levels by 2050, including an interim requirement to reduce GHG emissions to ten per cent below 2017 levels by 2030.</li> </ul> <p>However, instead of separate emissions budgets for biogenic methane and all other GHGs, the Government proposes to set a single emissions budget for each budget period that covers all GHGs.</p> <p>Emissions budgets will reflect the distinction that the 2050 target draws between emissions of biogenic methane and all other GHGs. For example, the regular monitoring reports will track emissions reductions and the success of the emissions budgets against both components of the 2050 target. The plan for meeting emissions budgets will also reflect this distinction by including sector-specific policies, some of which will be geared towards reducing New Zealand's biogenic methane emissions.</p> <p>The Climate Change Commission will be involved in each of these steps, including:</p> <ul style="list-style-type: none"> <li>• providing advice and recommendations on the emissions budgets, which will be set with a view to meeting both components of the 2050 target;</li> <li>• monitoring progress towards each component of the 2050 target; and</li> <li>• advising on the plan for meeting emissions budgets, including sector-specific policies.*</li> </ul>
<p><b>Recommendation 9.6</b></p> <p>Biogenic CH<sub>4</sub> should be included in an emissions pricing mechanism that recognises its different atmospheric properties compared to long-lived gases.</p> <p>The Interim Climate Change Committee should assess both a dual-cap NZ ETS and a methane quota system in its report to the Government on recommended policy for agricultural GHG mitigation due at the end of April 2019.</p>	Agree to investigate	Ministry for the Environment reporting to the Minister for Climate Change	July 2019	<p>The Government has agreed to an Emissions Reduction Target with a biogenic methane component in recognition of its impact as a short-lived gas. The Minister will prepare and publish a plan for achieving emissions budgets, including the sector-specific policies required. This will include looking at how to address emissions from the agriculture and waste sectors, which are two of the sectors that emit biogenic methane.</p> <p>The ICCC assessed the merits of a dual-cap NZ ETS and a methane quota system as part of its analysis on policy options to reduce agricultural emissions. The ICCC recommended implementing a farm-level levy/rebate by 2025, and in the interim, pricing emissions in the NZ ETS at a processor level. The Government is currently consulting on a preferred policy approach for agriculture, including its position on the ICCC recommendations.*</p>

## Chapter 10. Inclusive Transition

*The Government has committed to making this process a "just transition" – one that is fair, equitable and inclusive. This will require us to make choices about the appropriate pathway for transforming our economy. This will not always be easy as whatever choices we make will have a diverse range of impacts on different sectors and communities. However, we can build our understanding of the different pathways for transforming the economy, make choices that take account of the likely distributional impacts on sectors and communities and seize opportunities as they present themselves. MBIE has established a Just Transitions Unit to support this approach.*

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<p><b>Recommendation 10.1</b></p> <p>Stats NZ working with the Ministry for the Environment and the proposed Climate Change Commission should evaluate the benefits of a system of consumption-based emissions accounting that recognises emissions embodied in the import and export of goods and services.</p>	Agree to investigate	Statistics New Zealand and the Ministry for the Environment reporting to the Minister for Statistics and Minister for Climate Change	June – Sept 2019	<p>The Government agrees this needs investigation. Stats NZ will undertake an evaluation of the benefits of a consumption-based approach to GHG emissions accounting. An evaluation will determine whether such statistics can add value to decision makers.</p> <p>Initial consultation has suggested that consumption-based emissions will assist Stats NZ in advancing its outputs 'beyond GDP', yield valuable insights into potential policy levers, and unpick the distributional impacts of the transition to the low emissions economy.</p>



## Chapter 11. Land Use

The land sector contains both the greatest source and sink of greenhouse gases in New Zealand – agriculture and forestry respectively. Given pastoral farming and forestry's significant contribution to New Zealand's economic prosperity, the key challenge for the country is how to unlock our economic potential while reducing emissions. We have an ambitious agriculture and climate change work programme for 2019 that includes following advice from the interim Climate Change Committee on agriculture and the ETS and developing policies that, over the long term will incentivise development and uptake of new, low emissions technologies as they become available. The Government also has a vision to transform New Zealand's forests to drive social, environment and economic outcomes.

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 11.1</b> The Government should increase its yearly funding for research on agricultural mitigation technologies to a level that better reflects the potential value of successful outcomes. Funds could, for instance, be allocated from the proceeds of auctioning New Zealand Units (NZUs)	Agree	Ministry for Primary Industries and the Ministry for the Environment reporting to the Minister for Agriculture and the Minister for Climate Change	June 2019	<p>The Government agrees and has provided funding to a number of organisations to research agricultural GHG emissions mitigation practices and technologies including :</p> <ul style="list-style-type: none"> <li>A total of \$65 million over 10 years ending in June 2019 was provided to the Global Research Alliance on Agricultural Greenhouse Gases (GRA). Budget 2019 provided a further \$8.5 million to the GRA</li> <li>MPI will provide ongoing funding of \$4.85 million per annum to support the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC) from June 2020. In Budget 2019, MBIE reprioritised funding of \$4.8 million per annum for 4 years to support a platform on climate change mitigation and adaptation.</li> <li>The Pastoral Greenhouse Gas Research Consortium invest \$5.4 million annually via a 50/50 funding partnership with the MBIE. This funding ceased in June 2019, however Budget 2019, along with reprioritised funds from Vote BSI, will provide a further \$2.3 million p.a. (matched by industry investment) until August 2021.</li> </ul> <p>The Government is considering whether proceeds from auctioning NZUs should be directed towards specific purposes, and if so where the proceeds should be directed. A decision on this is expected to be made in 2019.</p> <p>The Government is committed to recycling revenue collected from emissions pricing to support farmers to reduce emissions. The Government is currently considering how this would work and where funding should go e.g. research and development. Policy decisions on addressing agricultural emissions are expected in September.</p>
<b>Recommendation 11.2</b> Agricultural nitrous oxide emissions should be fully included in the New Zealand Emissions Trading Scheme (NZ ETS). Agricultural methane emissions should be fully included in the NZ ETS if that is the option recommended by the Interim Climate Change Committee in its report to Government due at the end of April 2019.	Agree to investigate	Ministry for Primary Industries and the Ministry for the Environment reporting to the Minister for Agriculture and the Minister for Climate Change	September 2019	<p>The ICCC has provided the Government advice on the inclusion of agriculture in the NZ ETS. The ICCC has recommended that Government price livestock emissions:</p> <ul style="list-style-type: none"> <li>at the farm-level by 2025 through a levy/rebate scheme;</li> <li>at a processor-level as soon as practicable through the NZ ETS.</li> </ul> <p>The Government is currently consulting on its response to the ICCC recommendations. Policy decisions on addressing agricultural emissions are expected in September.</p>
<b>Recommendation 11.3</b> Unless and until there is a better alternative, the Government should use OVERSEER to monitor emissions at the farm level. The Ministry of Primary Industries should undertake work with AgResearch and the Fertiliser Association of New Zealand to further improve the capabilities of OVERSEER as a tool for modelling farm-level emissions. The improvements should capture as far as possible the full range of on-farm actions that can reduce emissions.	Agree to investigate	Ministry for Primary Industries and the Ministry for the Environment reporting to the Minister for Agriculture and the Minister for Climate Change	2020	<p>The Government agrees that OVERSEER has a significant potential as a tool for estimating on farm emissions. MPI has commissioned AgResearch to prepare a technical report on possible approaches to estimating on farm emissions, this will include consideration of OVERSEER alongside other options. Decisions on this will be factored into future work on implementing a farm level scheme.</p> <p>The Government set aside funding in Budget 2018 and 2019 to improve the performance of OVERSEER over a range of farm systems and situations. This investment will help farmers understand and manage their GHG emissions and discharges to freshwater.</p>
<b>Recommendation 11.4</b> Fertiliser manufacturers and importers should be the point of obligation in the NZ ETS for nitrous oxide emissions caused by the use of fertilisers.	Agree to investigate	Ministry for Primary Industries and the Ministry for the Environment reporting to the Minister for Agriculture and the Minister for Climate Change	September 2019	<p>The ICCC has provided the Government advice on the inclusion of agriculture in the NZ ETS. The Committee's terms of reference specifies that the Committee consider points of obligation e.g. at the farm level, processor level, input producer level or a hybrid approach in the development of its advice.</p> <p>A joint Ministry for Primary Industries and Ministry for the Environment work programme was established to focus on how to reduce emissions from agriculture, including providing Government advice on the ICCC's report. Policy decisions are expected in September.</p> <p>The ICCC recommended pricing fertiliser emissions through the NZ ETS, at the manufacturer or importer level. The Government is consulting on the ICCC's recommendation. Policy decisions on addressing agricultural emissions are expected in September.</p>
<b>Recommendation 11.5</b> The Government should establish a farm-level emissions threshold for the point of obligation for pastoral agricultural emissions not caused by the use of fertilisers. <ul style="list-style-type: none"> <li>Farms with emissions above the threshold should have a farm-level point of obligation</li> </ul>	Agree to investigate	Ministry for Primary Industries and the Ministry for the Environment reporting to the Minister for Agriculture and the Minister for Climate Change	September 2019	<p>The ICCC has recommended that livestock emissions is priced at the farm-level by 2025 through a levy/rebate scheme. The Government is currently consulting on specifying in legislation a move from processor-level to farm-level surrender obligations on livestock emissions. Policy decisions on addressing agricultural emissions are expected in September</p>



<ul style="list-style-type: none"> <li>Farms with emissions below the threshold should have the option of a farm-level point of obligation.</li> <li>Meat and dairy food processors should be the point of obligation for remaining pastoral agricultural emissions not covered by a farm-level point of obligation (and not caused by the use of fertilisers).</li> </ul> <p>The threshold should be adjusted down over time as the cost to farmers of participating in a farm-level point of obligation falls relative to the value of obligations to surrender NZUs.</p>				
<p><b>Recommendation 11.6</b></p> <p>The Ministry for Primary Industries (MPI) should review expert research into the potential for permanent exotic forests to convert to native forests and the conditions under which such conversion could reliably and economically occur. MPI should commission further expert research, if this is likely to resolve doubts about the efficacy or not of this approach to establishing native forests.</p>	Agree	Ministry for Primary Industries reporting to the Minister for Forestry	Ongoing	<p>The Government agrees with this recommendation. In 2018 MPI commissioned a review of the current state of forestry science and this is expected to be released shortly.</p> <p>Current research into the potential for permanent exotic forests to convert to native forests is limited, and we have identified addressing this gap as a priority in the science and research plan to support the One Billion Trees programme.</p> <p>The One Billion Trees Fund, launched in November 2018 will provide funding that will support the One Billion Trees programme, including the potential for transitioning from exotic to permanent forests.</p>
<p><b>Recommendation 11.7</b></p> <p>The Ministry for Primary Industries, working with Land Information New Zealand and Landcare Research, should undertake a complete audit of the availability of government-controlled land suited for afforestation (whether native or exotic), and develop policy options that would cost-effectively establish forestry on such land as is available.</p>	Agree in part	Ministry for Primary Industries and Land Information New Zealand reporting to the Minister for Forestry	N/A	<p>The Government agrees with this recommendation in principle but sees this work as something that has already been done. In 2018, to support the One Billion Trees programme, Te Uru Rakau completed a desk-top analysis of available Crown land for tree planting, drawing on previous analyses and from first principles GIS analysis.</p> <p>This indicated that there are not significant amounts of Crown Land that are suitable for new tree planting. However, we are continuing to work closely with central government agencies and regional councils to understand and align planned programmes for planting.</p> <p>Land Information NZ is developing a State Land Register to create a combined dataset of government controlled land. Land Information NZ is also working on ensuring departments apply common decision making processes to assess the best use of Crown land. Any more detailed analysis of Crown land suitable for afforestation would depend on this work from LINZ first being completed.</p>
<p><b>Recommendation 11.8</b></p> <p>The Government should continue to refine the NZ ETS for forestry to make it easier and less risky for small foresters to participate; and to provide recognition for carbon sequestered in harvested wood products.</p>	Agree	Ministry for Primary Industries reporting to Minister for Forestry	Decision in mid-2019	<p>The Government is working to simplify the NZ ETS and improve incentives. This work is informed by the NZ ETS review completed in 2017.</p> <p>The Government consulted on proposed improvements to simplify and de-risk the NZ ETS in 2018. Cabinet has subsequently made decisions to introduce into the NZ ETS:</p> <ul style="list-style-type: none"> <li>A permanent forest category which will reduce the cost of participation and simplify access to carbon income</li> <li>a suite of operational improvements to simplify the NZ ETS and provide better tools to manage unexpected events</li> <li>an averaging approach to accounting that reduces risk and provides a greater afforestation incentive for rotation forests.</li> </ul> <p>There is still ongoing work on how to incentivise increased carbon in harvested wood products.</p> <p>The One Billion Trees programme aims to double rates of new tree planting to reach one billion trees over 10 years (to 2028). To date the government has committed an investment of approximately \$480 million to incentivise new tree planting, through:</p> <ul style="list-style-type: none"> <li>an expanded mandate for Crown Forestry to enter into joint venture arrangements with landowners for up to 24,000 hectares of commercial plantation forests,</li> <li>a tree-planting grants fund worth approximately \$120 million over three years, targeted at integrating trees onto farming landscapes and with a target of two thirds native species,</li> <li>partnerships funding of up to \$140 million to address barriers to tree planting such as labour, research and innovation and advice to landowners,</li> <li>\$34 million over four years for the Hill Country Erosion Fund to support regional councils to address erosion prone land, including through tree planting.</li> </ul>



## Chapter 12. Transport

Reducing emissions in transport is crucial as emissions from this sector make up around 20% of our total greenhouse gases. In New Zealand we are heavily reliant on personal transport, we have an ageing fleet with poor fuel economy and our public transport use is low. Our trains, planes, ships and lengthy vehicle ownership means that if we don't act now, we are locking in potential emissions for decades to come. The Government recognises a comprehensive set of measures and policies are needed to mitigate emissions in this sector for both the short and long term, and are investigating a range of regulatory and price measures.

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 12.1</b> The Government should introduce a price feebate scheme for new and used vehicles entering the fleet, subject to identifying the most suitable design features for the New Zealand context (including features to limit the burden on low-income households). The feebate scheme should replace the existing road-user charge exemptions for light EVs.	Agree to investigate	Ministry for Transport reporting to the Minister for Transport	Ongoing	The Government is investigating a feebate scheme, as part of a wider low-emission vehicles package. This package is exploring potential levers to reduce emissions from light vehicles and transition the fleet to be low emissions through time. This package includes assessing how to mitigate impacts on low income transport users.  The Energy Efficiency and Conservation Authority currently administers a contestable fund of up to \$6 million per year to encourage and support innovative low emission vehicle projects.
<b>Recommendation 12.2</b> The Government should continue to provide financial support for charging infrastructure projects to support the uptake of EVs. Support should be limited to specific gaps in the charging network that are not commercially attractive to the private sector (e.g., charging stations in lowly populated regions).	Agree in part	Ministry for Transport and the Ministry for Business, Innovation & Employment reporting to the Minister for Transport and the Minister for Energy & Resources	Ongoing	The Government agrees to this recommendation. It aligns with one of three priority areas set out in the New Zealand Energy Efficiency and Conservation Strategy 2017 – 2022 (NZECS). The Low Emissions Vehicles Contestable Fund delivered by the Energy Efficiency and Conservation Authority (EECA) is already funding a number of charging infrastructure projects across the country.  The fund's current investment focus includes support for the development of the national charging network by identifying and filling key gaps in the network, and by supporting EV charging stations in priority locations where further facilities are needed. The contestable fund will continue this focus and maintain flexibility to direct investment towards charging infrastructure projects that provide regional coverage and suitable density in key locations to ensure the network continues to keep pace with growing demand from EV uptake. The Minister of Energy and Resources is responsible for updating the investment focus of the contestable fund, which is reviewed periodically to ensure investments meet the Government's objectives and changes in the market with EV uptake. The Government plans to review the Low Emission Vehicles Contestable Fund to determine whether it should be extended beyond its current completion date of 2021.
<b>Recommendation 12.3</b> The Government should encourage government agencies where practical to procure low-emissions vehicles. It should regularly review its procurement catalogue with a view to increasing the model range of lower-cost low-emissions vehicles.	Agree	Ministry for Business, Innovation and Employment reporting to the Minister for Economic Development and the Minister of State Services	2025/26	The Government agrees with this recommendation. Ensuring that the emissions profile of the government fleet is sinking over time to reach the Government's goal of that all new vehicles entering the Government fleet are fully electric by 2025/26 is a priority work programme.  There are already several projects underway that will progress this recommendation. This includes the establishment of an all-of-government dashboard that will show the progress each agency is making in transitioning its vehicle fleet. This dashboard was made publically available in April 2019. This dashboard will first include the emission profiles of the 136 agencies mandated under the Government Rules of Sourcing, and will be expanded to include further agencies from the public sector over time.  A letter from Ministers to their respective agencies have been sent in early 2019, informing chief executives of the government's expectation that when they purchase vehicles from the all-of-government motor vehicles contract, they purchase vehicles with emission profiles 20 percent below their current average.  Agencies will be able to track the progress of their vehicle emissions profiles on the all-of-government dashboard. It is also intended that the 4th edition of the Government Rules of Sourcing will include a rule that directs agencies to support the procurement of low-emissions goods, services and works in specific areas. The procurement of vehicles is one of three specified areas.  As the 2025/26 goal nears, further policies to promote the purchase of zero emission vehicles will be investigated.
<b>Recommendation 12.4</b> The Government should introduce CO2 emissions standards for light vehicles entering the New Zealand fleet, subject to detailed consideration of design issues (for example, the treatment of small traders).	Agree to investigate	Ministry of Transport reporting to the Minister for Transport	End of 2019	As part of the cross-government low emissions vehicle package, the Ministry of Transport is actively investigating the introduction of a vehicle fuel efficiency standard for new and used vehicles entering the fleet. This package includes assessing how to mitigate impacts on low income transport users.
<b>Recommendation 12.5</b> The Ministry of Transport should further evaluate the benefits and costs of incentivising the early scrapping of fossil-fuel vehicles to be replaced by low-emissions vehicles, taking into consideration any impacts of other mitigation policies (e.g., feebates and the emissions price) on low-income households.	Agree to investigate	Ministry of Transport reporting to the Minister for Transport	End of 2019	The Ministry of Transport is actively investigating the desirability of having a voluntary scrappage scheme in Auckland as part of the low emissions vehicle package. This package includes assessing how to mitigate impacts on low income transport users.



<b>Recommendation 12.6</b> The Ministry of Transport should work with the Ministry of Business, Innovation and Employment to remove any remaining tariffs on low-emissions vehicles, or parts for low-emissions vehicles.	Agree to investigate	Ministry of Transport and Ministry for Business, Innovation and Employment reporting to the Minister for Transport and the Minister for Commerce and Consumer Affairs	Scope to define this work is currently underway	The Government agrees with the Commission that retaining tariffs on larger low emission vehicles, like buses, is inconsistent with the policy direction to encourage their uptake. This is because tariffs artificially raise the price of the items affected. Removing them would help lower the cost barrier that is currently slowing the rate of EV uptake. Officials will investigate the desirability of removing these tariff this year.
<b>Recommendation 12.7</b> The Ministry of Transport, with other relevant agencies, should explore the suitability of low-carbon fuel standards, and a grant scheme for low-carbon fuels, for decarbonising New Zealand's heavy transport fleet.	Agree to investigate	Ministry of Transport and the Ministry of Business, Innovation and Employment reporting to the Minister for Energy and Resources	Ongoing	The Government agrees to investigate lowering the emissions from New Zealand's existing vehicle fleet through ways such as diversifying fuel mixes and reducing the carbon intensity of the fuels used.
<b>Recommendation 12.8</b> The Ministry of Transport and the Energy Efficiency Conservation Authority should investigate the suitability of specific emissions-reducing technologies for regulating heavy vehicles in New Zealand.	Agree to investigate	Ministry of Transport and Energy, Efficiency & Conservation Authority reporting to the Minister for Transport and Minister for Energy and Resources	Initial advice in July 2019	The Ministry of Transport is scoping the potential to reduce GHG emissions from trucks through alternative 'green' fuels, as part of wider efforts to move towards zero net emissions in the freight sector. It will look at alternative 'green' fuels (particularly electrification, hydrogen and biofuels) for trucks in the freight sector, and the role that they could play in reducing GHG emissions over the next 30 years. The Ministry will provide its Initial advice in July 2019.
<b>Recommendation 12.9</b> The Government should take steps to amend the pricing system for transport so that a greater share of the external costs associated with private vehicle use are internalised. For example, the Government should continue to work with councils to enable and encourage the use of road pricing tools to reduce congestion and emissions in main urban centres. It should also investigate the potential for a comprehensive network pricing of road use through an expanded Road User Charges system.	Agree to investigate	Ministry of Transport reporting to the Minister for Transport	Ongoing	The Ministry of Transport is undertaking two projects that are considering transport pricing. The first is a project with Auckland Council investigating whether congestion pricing should be introduced in Auckland and what that might look like. The second is exploring the future of the land transport revenue system, which will include consideration of a range of possible options including comprehensive network pricing.
<b>Recommendation 12.10</b> The Government should make emissions reductions an ongoing strategic focus in transport investment and broaden the scope of the Government Policy Statement on Land Transport to cover the whole land transport system.	Agree	Ministry of Transport reporting to the Minister for Transport	Mid 2020	The Government agrees and have made emissions reductions an ongoing strategic focus within the Government Policy Statement (GPS) on land transport 2018 through its strategic environmental prioritisation and the expectation that transport GHG emissions will be reduced. Policy work is continuing in this space and will be considered for reflection in the GPS 2021

<b>Chapter 13. Electricity</b> <i>New Zealand already has up to 85% of electricity generated from renewable sources, very high by international standards. But we expect the demand for renewable electricity to increase to meet the needs of transport and to enable other shifts to a low emissions economy. The Productivity Commission points to the need to ensure that planning laws and practices don't impede that growth (such as new wind farms) and that electricity market regulations will allow for innovative new technologies and approaches that benefit consumers and reduce emissions. An independent Electricity Price Review focusing on whether the current electricity market delivers a fair and equitable price to consumers has been completed. The interim Climate Change Committee (ICCC) has provided advice on ways to achieve 100% renewable electricity by 2035. Taking into consideration the advice of the ICCC and the findings of the Electricity Price Review, the Government is developing a policy package as part of a renewable energy strategy, which aims to accelerate the deployment of renewable electricity generation, encourage the uptake of renewable energy in industry energy use, and ensure fair and affordable electricity.</i>				
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Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 13.1</b> Given rapid changes in electricity-generation technology and potential effects of rising electricity prices on adoption of low-emissions technology in other parts of the economy, the Government should not use subsidies or regulation to favour particular technologies that generate low-emissions electricity.	Agree to investigate	Ministry for Business, Innovation and Employment reporting to the Minister for Energy and Resources	Mid 2020	The Government is developing a policy package as part of a renewable energy strategy, taking into consideration this recommendation and ICCC's advice on ways to achieve 100% renewable electricity. The Minister of Energy and Resources will seek Cabinet agreement to release a draft policy package for public consultation later this year.
<b>Recommendation 13.2</b> The Government should rely on an effective emissions-pricing system as the main instrument to achieve an efficient trade-off between emissions reductions in electricity and emissions reductions in other parts of the economy. The Government should be cautious in specifying targets for emissions within the electricity sector, and make sure that technology is available to meet them without significantly increasing wholesale electricity prices above the levels achieved with current technology.	Agree to investigate	Ministry for Business, Innovation and Employment reporting to the Minister for Energy and Resources	Mid 2020	As above. See 13.1
<b>Recommendation 13.3</b> The Government should give priority to revising both the NPS-REG and the NPS-ET to ensure that local authorities give sufficient weight to the role that renewable electricity generation and upgrades to the transmission network and distribution grid will play in New Zealand's transition to a low-emissions economy. This will likely require making the language of the NPS-REG and the NPS-ET more directive, and to be more explicit about how the benefits of renewable electricity generation should be recognised and given effect in regional and territorial authority planning instruments.	Agree to investigate	Ministry for Business, Innovation & Employment and the Ministry for the Environment reporting to the Minister for Energy & Resources and the Minister for the Environment	Mid 2020	The Government is developing a policy package as part of a renewable energy strategy, taking into consideration this recommendation and ICCC's advice on ways to achieve 100% renewable electricity. The work underway for developing this package includes examining and prioritising options for addressing consenting barriers to renewables development, such as revising the NPS-REG and considering the development of National Environmental Standards on renewable energy. The Minister of Energy and Resources will seek cabinet agreement to release a draft policy package for public consultation later this year.
<b>Recommendation 13.4</b> The Government should issue a new National Environmental Standard for Renewable Electricity Generation that sets out the conditions under which renewable energy activities are either permitted, controlled, restricted discretionary or non-complying activities under the Resource	Agree to investigate	Ministry for Business, Innovation & Employment and the Ministry for the Environment reporting to the Minister for Energy & Resources and the Minister for the Environment	Mid 2020	As above. See 13.3



Management Act 1991. This should be drafted to increase the speed, and lower the cost and uncertainty for obtaining resource consents for a significant proportion of renewable electricity generation projects that have only minor environmental and social impacts.				
<b>Recommendation 13.5</b> The Electricity Authority should continue its programme of work to update pricing and regulation to facilitate the integration of distributed energy resources (DER) and demand response (DR) into the electricity system. The programme should cover changes to pricing to better incentivise investment in DER and DR capability; and changes to regulation to provide for: <ul style="list-style-type: none"> <li>consumers to be involved in multiple trading relationships;</li> <li>more fluid data exchange between retailers and electricity distribution businesses;</li> <li>a default distribution agreement between EDBs and electricity retailers to support competition, efficiency and innovation in retail and related markets;</li> <li>consumers to become active buyers and sellers of electricity and related services; and</li> <li>equal access of participants to electricity networks.</li> </ul>	Agree to investigate	Ministry for Business, Innovation & Employment reporting to the Minister for Energy & Resources	End of 2019	The Government will make decisions on these issues, once it has considered the relevant findings of the Electricity Review.
<b>Recommendation 13.6</b> The Government should review and amend the legislative framework for regulation of electricity distribution network businesses to: <ul style="list-style-type: none"> <li>ensure that the regulatory agencies (the Commerce Commission and the Electricity Authority) are able to respond in a flexible and timely manner to technology-driven changes in the mix of monopoly and contestable electricity-distribution services, network-support services and activities where regulated firms are competing with non-regulated firms;</li> <li>clarify and provide stronger checks and balances on regulated electricity distribution businesses (EDBs) owning contestable activities which erode their neutrality in operating electricity distribution networks; and</li> <li>provide simpler, quicker and lower-cost methods for holding regulated EDBs accountable for equal access to their networks of parties providing contestable services.</li> </ul>	Agree to investigate	Ministry for Business, Innovation & Employment reporting to the Minister for Energy & Resources	End of 2019	As above. See 13.5
<b>Recommendation 13.7</b> More collaboration among electricity distribution businesses (EDBs) could increase their efficiency and their collective capability to use emerging technologies for the benefit of consumers. The Government should review and, if appropriate, amend the legislative framework for regulation of electricity distribution network businesses to provide clearer incentives for EDBs to collaborate where this will deliver net benefits for consumers.	Agree to investigate	Ministry for Business, Innovation & Employment reporting to the Minister for Energy & Resources	End of 2019	As above. See 13.5

## Chapter 14. Heat and Industrial Process

15% of our greenhouse gas emissions come from burning fossil fuels to generate process heat and industrial processes such as iron sands into iron. Process heat refers to thermal energy (heat) used to manufacture products in industry, for example turning milk into milk powder. More than half of process heat demand is currently met by burning natural gas or coal. Rising emissions prices will be key to encourage low-emissions investment in industrial heat plants. But these plants have long lives and transitioning comes at a high capital cost. The Ministry for Business, Innovation and Employment (MBIE) and the Energy, Efficiency and Conservation Authority (EECA) are investigating regulatory and policy measures to address the barriers to reducing emissions in this sector and working with major energy users to improve energy efficiency.

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 14.1</b> The statutory functions of the Energy Efficiency and Conservation Authority should be changed to encourage, promote, and support the use of low-emissions energy sources and materials. Functions relating to energy efficiency and conservation should be retained.	Agree to Investigate	Ministry of Business, Innovation and Employment reporting to Minister of Energy and Resources	Late 2020	EECA's statutory purpose set out in the Energy, Efficiency and Conservation Act 2000 is to 'encourage, promote and support energy efficiency, conservation, and the use of renewable energy.' This is not limiting EECA's ability to provide guidance and advice that will result in the reduction of emissions from industrial heat users.  The New Zealand Energy Efficiency and Conservation Strategy 2017-2022 (NZECS), EECA's guiding document, also directs EECA to work towards reducing energy-related carbon emissions in relation to process heat and transport.



				<p>Examples of EECA's current programmes that promote emissions reductions include:</p> <ul style="list-style-type: none"> <li>the Low Emission Vehicles Contestable Fund and public information campaign to promote uptake of electric vehicles</li> <li>direct engagements with large energy-using businesses and public sector agencies</li> <li>regulating energy-using products to apply minimum energy performance standards through involvement under the trans-Tasman Equipment Energy Efficiency (E3) Programme.</li> </ul> <p>The Government is developing a policy package as part of a renewable energy strategy, which will ensure we have the regulatory and policy settings we need to transition to greater renewable energy</p> <p>In this context, there may be a case to review whether EECA's statutory functions remain fit for purpose. Such a review can also ensure that the statutory functions of EECA do not significantly overlap with those of the Climate Change Commission, which are set out in the Climate Change Response (Zero Carbon) Amendment Bill.</p> <p>The Government will decide whether a review of EECA's statutory functions is necessary, following enactment of the Climate Change Response (Zero Carbon) Amendment Bill and the Government has made decisions on the renewable energy policy package.</p>
<p><b>Recommendation 14.2</b></p> <p>MBIE and EECA should review targets relating to industrial emissions reductions to determine whether a reduction in excess of that already forecast would be more helpful in driving emissions reductions.</p>	Agree	Ministry of Business, Innovation and Employment reporting to Minister of Energy and Resources	Early to mid-2021	<p>Under NZECS there is a target to decrease industrial emissions intensity by at least one per cent per annum on average between 2017 and 2022.</p> <p>The Government agrees to review the targets relating to industrial emissions reductions. Such a review should take into consideration developments in emissions productivity and climate change targets. This is best done following the enactment of the Climate Change Response (Zero Carbon) Amendment Bill to ensure alignment with the approach to setting and then meeting emissions budgets.</p>
<p><b>Recommendation 14.3</b></p> <p>EECA and MBIE should review existing initiatives related to information about fuel switching, co-firing, demand reduction and efficiency improvements for process heat, to minimise any information-related barriers to mitigation opportunities.</p>	Agree	Ministry of Business, Innovation and Employment reporting to Minister of Energy and Resources	End of 2019	<p>The Government agrees with this recommendation. Reviewing information-related barriers and initiatives on fuel switching, co-firing, demand reduction and efficiency improvements are part of the work underway for developing a policy package as part of a renewable energy strategy.</p> <p>This package is expected to indicate initiatives relating to fuel switching and process heat. The Minister of Energy and Resources will seek Cabinet agreement to release a draft renewable energy policy package for public consultation later this year.</p>
<p><b>Recommendation 14.4</b></p> <p>EECA and MBIE should consider a wider roll-out of policy initiatives to support the supply and use of biomass.</p>	Agree to investigate	Ministry of Business, Innovation and Employment reporting to Minister of Energy and Resources	End of 2019	<p>As part of the work underway for developing a renewable energy policy package, policy options relating to biomass are being examined. The Minister will seek Cabinet agreement to release a draft package for public consultation later this year.</p>
<p><b>Recommendation 14.5</b></p> <p>Government should take the lead in phasing out the use of coal and other fossil fuels for heating by limiting any future installation of fossil-fuel-powered heating systems in government buildings.</p>	Agree	Ministry of Business, Innovation and Employment reporting to Minister of Energy and Resources and the Minister for Economic Development	Ongoing	<p>The Government agrees that it is important to take the lead in phasing out the use of coal and other fossil fuels for heating, subject to consideration on cost and pace.</p> <p>Measures to reduce heat emissions from public buildings are being considered in current work, including work to leverage the Government's priority of transitioning to a low-emissions economy through government procurement. This work programme includes supporting agencies to transition away from coal powered boilers toward more sustainable heating options in Government buildings. It is also intended that there will be a new rule added to the 4th edition of the Government Rules of Sourcing that directs agencies to support the procurement of low-emissions goods, services and works in specific areas. The procurement of stationary heating is one of three specified areas.</p>
<p><b>Recommendation 14.6</b></p> <p>New legislation should be prepared to regulate carbon capture and storage activities (CCS). Regulation should address issues including the long-term regulatory supervision of CCS, including after an operation's closure, and procedures and assessment criteria for permits.</p>	Agree to investigate	Ministry for the Environment and the Ministry of Business, Innovation and Employment reporting to Minister of Climate Change and the Minister of Energy and Resources	Decisions on scope and timing in 2020	<p>The Government believes that further investigation of the regulatory barriers into the use of CCS is warranted, although notes that transitioning away from fossil fuels is a high priority in the transition. Work in 2019 is focussed on encouraging greater use of renewable sources of energy and embedding the new institutional frameworks. A decision will be made in 2020 on whether and how to assess the legislative framework for CCS activities and the timing of any further work.</p>
<p><b>Recommendation 14.7</b></p> <p>Once new CCS legislation is in place, the New Zealand Emissions Trading Scheme should be amended to make CCS a recognised removal activity, no matter the source of emissions being captured and stored.</p>	Agree to investigate	Ministry for the Environment reporting to Minister of Climate Change	After 2020	<p>The NZ ETS allows for entities with a surrender obligation to be credited for CCS activities. The likelihood of CCS being developed by entities without a corresponding surrender obligation under the NZ ETS is low. However, further work is required to understand gaps within existing legislation in regards to CCS and the NZ ETS. Work in this area would be part of any follow on work decided upon in response to recommendation 14.6.</p>



## Chapter 15. Waste

New Zealand has the highest waste emissions per person of all members in the OECD. These emissions (which are almost entirely methane) account for around 5% of our total greenhouse gas emissions, with 90% of these emissions created through the disposal to land of solid waste. These emissions are currently measured and reported through managed landfills, which are subject to a waste disposal levy and the New Zealand Emission Trading Scheme (NZ ETS). A core part of the waste work programme is the project to apply the waste disposal levy to more disposal facilities. This aims to raise revenue for promoting waste minimisation, and increase the cost of waste disposal to recognise that disposal imposes costs on the environment, society and the economy. The levy project will also improve the collection of waste data. This work may also reduce emissions from the waste sector. Overall, the current waste work programme aims to shift New Zealand away from a 'take-make-dispose' economy, towards a more 'circular' economic model, where products are designed to last longer, materials are kept in productive uses for as long as possible, and volumes of waste disposed are reduced. This transition has much in common with the low-emissions transition

Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 15.1</b> The Ministry for the Environment (MfE) should ensure that its project to collect better waste data allows for the direct measurement or estimation of emissions-related data. This is to reduce the very large uncertainty about waste emissions, and to identify opportunities to reduce emissions in the future	Agree	Ministry for the Environment reporting to Associate Minister for the Environment	During 2019 (as part of Levy Expansion project)	<p>The Government agrees with this recommendation. MfE's plan to collect better waste and recycling data is incorporated within the Levy Expansion Project (described in 15.2). The collection of this data will enable better estimates of emissions-related data by: improving estimates of overall waste disposed of to landfills; and gaining new information on the composition of waste (including organic waste) disposed of to landfills.</p> <p>The waste data work will also progress in combination with the NZ ETS landfill operator compliance programme administered by the Environmental Protection Authority (EPA).</p>
<b>Recommendation 15.2</b> The Government should, under the Waste Minimisation Act 2008, apply the waste disposal levy to all known, consented waste disposal facilities. The rate of the levy should be steadily increased over time, and a differentiated levy rate introduced where active waste is charged at a higher rate than inert waste.	Agree to investigate	Ministry for the Environment reporting to Associate Minister for the Environment	During 2019 (as part of Levy Expansion project)	<p>MfE has begun work on options to expand the waste disposal levy to additional disposal facilities (Levy Expansion Project). This is in response to the 2017 review of the levy, which included recommendations to apply the levy to more landfills than it currently applies to, assess the rate at which the levy is set, and analyse whether a differential rate could better incentivise waste minimisation and recognise the economic, environmental and social costs of disposal.</p>
<b>Recommendation 15.3</b> Local government should be better supported, as needed, to develop effective bylaws or consenting requirements for farm dumps and other, unknown, waste disposal sites, through an overarching regulatory framework for wastes such as agricultural waste. MfE should investigate whether a national environmental standard about waste is an appropriate mechanism to deliver this framework.	Agree to investigate	Ministry for the Environment reporting to Associate Minister for the Environment	From 2020	<p>The Government agrees to investigate an overarching regulatory framework for wastes such as agricultural waste. This would include investigation of a national environmental standard as a possible mechanism to deliver this framework. This investigation is not part of the agreed work programme for 2019, so is expected to be considered from 2020 onwards.</p> <p>Further work in this area should consider the work programme already underway in rural waste:</p> <ul style="list-style-type: none"> <li>- Voluntary product stewardship schemes are in place for agrichemicals and their containers; and silage wrap. Work is also underway with agricultural suppliers to develop voluntary product stewardship schemes for a wider range of agricultural products (e.g., fertiliser and seed bags).</li> <li>- In the future, MfE plans to develop a mandatory product stewardship scheme for agrichemicals and their containers.</li> <li>- Rural waste project. MfE is supporting work to provide farmers with better solutions for rural waste, through a rural waste project (contributing \$380,000 toward the project from the Waste Minimisation Fund). This project aims to establish a 'one-stop shop' for farmers to safely dispose of a wide range of rural wastes. Local government has been involved with pilot projects already undertaken, and will continue to be involved in subsequent work.</li> <li>- The "National Resource Recovery" project is considering infrastructure and services that could strengthen recycling and recovery activities in New Zealand's regions. The project may make recommendations about the management of waste streams affecting agricultural waste, and so should also be considered in future investigations into a possible regulatory framework.</li> </ul>
<b>Recommendation 15.4</b> All managed solid waste sites subject to the NZ ETS should be included in an emissions pricing scheme that recognises the nature of biogenic CH <sub>4</sub> as a short-lived gas.	Agree to investigate	Ministry for the Environment reporting to Minister for Climate Change	Being considered by Climate Change officials in 2019	<p>The Government agrees to investigate this. The Government has agreed to an Emissions Reduction Target with a biogenic methane component in recognition of its impact as a short-lived gas. The Minister for Climate Change will prepare and publish a plan for achieving emissions budgets, including the sector-specific policies required. This will include looking at how to address emissions from the agriculture and waste sectors, which are the two sectors that emit biogenic methane</p> <p>This recommendation is linked to several recommendations in chapter 9, 'Short-lived and long-lived gases' and the treatment of biogenic methane for agriculture in chapter 11, 'Land Use'</p>
<b>Recommendation 15.5</b> When determining the rate of the waste disposal levy, the Government should consider whether a partial levy offset is required to avoid unnecessary overlap with the emissions price. This work should consider the role of default and unique emissions factors in properly incentivising emissions reductions.	Agree	Ministry for the Environment reporting to Associate Minister for the Environment	During 2019 (as part of Levy Expansion project)	<p>The Government agrees to consider this as part of the Levy Expansion project (described in 15.2). However, we note that the waste disposal levy and the NZ ETS have different policy objectives.</p>
<b>Recommendation 15.6</b> In principle, wastewater treatment plants (WWTPs) should be incentivised to reduce emissions. To enable the case to be assessed for including WWTPs into emissions pricing schemes, MfE and Local Government New Zealand should begin a project to improve measurement methodologies for	Disagree	Ministry for the Environment reporting to the Minister for Climate Change	N/A	<p>The Government disagrees with this recommendation.</p> <p>Estimates of emissions from WWTPs already occur to a sufficient level of accuracy, and estimates from WWTPs will be further refined annually as part of the continual improvement of NZ's GHG Inventory. In addition, an emissions price on its own is unlikely to create sufficient financial incentive to reduce</p>



WWTPs. Any inclusion of WWTPs into emissions pricing schemes should occur after relevant recommendations from the Department of Internal Affairs' three waters review have been enacted.				emissions due to the already low emissions from most WWTPs, and the high capital costs and long life of the infrastructure. Wastewater accounts for just 10% of waste sector emissions, and work to reduce emissions from solid waste (comprising 90% of emissions) is being prioritised over work to reduce emissions from WWTPs
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<b>Chapter 16. Built Environment</b> <i>The decisions we make now on our built environment will influence our future ability to transition to a net zero economy. Many of the ways climate change outcomes interact with the built environment are indirect and will require long-term planning and investment to avoid locking in high emission infrastructure and transport systems as well as urban form and building design. There are a number of current Government work programmes which could support a shift in our built environment to align with climate change objectives.</i>				
Report Recommendation	Position	Responsible Agency and Minister	Timeframes	Government Response
<b>Recommendation 16.1</b> The Energy Efficiency and Conservation Authority should, where cost-effective, develop programmes to support the use of low-emissions building materials in a way that lowers the overall emissions of a building across its full life-cycle, including the operational phase and end-of-life.	Agree to investigate	The Ministry for Business, Innovation & Employment, and the Energy, Efficiency and Conservation Authority reporting to the Minister of Energy and Resources	Late 2020	As the Government intends to introduce a new 2050 emissions target and emissions budgets, there may be a case to review whether EECA's statutory functions remain fit for purpose. Such a review can also ensure that the statutory functions of EECA do not significantly overlap with those of the Climate Change Commission, which is set out in the Climate Change Response (Zero Carbon) Amendment Bill.  The Government will decide whether a review of EECA's statutory functions is necessary following the enactment of the Climate Change Response (Zero Carbon) Amendment Bill.
<b>Recommendation 16.2</b> Future reviews of the New Zealand Building Code should examine whether the Code is sufficiently flexible to enable practitioners to adopt building materials and techniques with low embodied emissions, including the re-use of buildings and materials.	Agree to investigate	The Ministry for Business, Innovation and Employment reporting to the Minister for Building and Construction	Decisions on scope of work by end of 2019	The report states that establishing limits on the emissions embodied in buildings through changes to the New Zealand Building Code (Building Code) would be impractical, and finds that there is not a good case to mandate specific low-emissions materials or building techniques in the Building Code. The report does find, however, that "it is important that the Building Code does not present barriers to building technologies and materials with lower embodied emissions", and recommends that "future reviews of the New Zealand Building Code should examine whether the Code is sufficiently flexible to enable practitioners to adopt building materials and techniques with low embodied emissions, including the re-use of buildings and materials".  MBIE agrees that the building regulatory system should not present barriers to innovative (including low-emissions) building products, methods and designs. MBIE notes that the Building Code is performance-based. It states how a building must perform in its intended use rather than describing how the building must be designed and constructed. Where barriers to innovation are identified, MBIE will seek to address them. As part of its Building System Legislative Reform Programme, MBIE has identified some options to address drivers of risk-aversion in the consenting process, which can inhibit innovation. Cabinet decisions on the Programme are expected in 2019.
<b>Recommendation 16.3</b> Forthcoming reviews of New Zealand's Building Code should assess whether there is scope to materially reduce peak demand for electricity through the introduction of more stringent energy efficiency standards.	Agree	The Ministry for Business, Innovation and Employment reporting to the Minister for Building and Construction	End of 2019	MBIE agrees that assessment is required to determine whether there is scope to materially reduce peak demand for electricity. Careful assessment will be required to determine the likely effectiveness, costs and benefits of any interventions to reduce peak demand for electricity. Consideration should be given to both the co-benefits and potential unintended consequences of any interventions. The Building Code is one of many possible interventions, both regulatory and non-regulatory, that may contribute to reducing peak demand for electricity.  MBIE has a work programme underway to examine currently available evidence and advise the Minister for Building and Construction in late 2019 on possible actions the building regulatory system could take to support the government's climate change objectives. Reducing peak demand for electricity will be considered within the context of the building regulatory system's broader objectives for climate change mitigation and adaptation, and the Building Code is one mechanism that will be considered alongside other possible actions.  EECA is currently carrying out research on electric vehicle (EV) charging technologies and systems that will help manage or improve the peak demand profile of households to support uptake of EVs. This research is expected to be completed by mid-late 2019.
<b>Recommendation 16.4</b> The Ministry of Business, Innovation and Employment should review the costs and benefits of additional programmes (including those aligning New Zealand's lighting standards with Australia) to deliver energy savings in existing housing and buildings.	Agree	The Ministry for Business, Innovation & Employment and the Energy, Efficiency Conservation Authority reporting to the Minister for Energy and Resources	Ongoing	EECA officials are already working with their Australian counterparts under the Equipment Energy Efficiency (E3) programme. This trans-Tasman programme delivers energy savings within homes and buildings by setting minimum energy performance standards and labelling requirements on energy-using products used within homes and buildings. A prioritised list of products to review is periodically agreed through the E3 programme and the Government will consider these as they arise. More information about the E3 programme can be viewed here: <a href="http://www.energyrating.gov.au/about">http://www.energyrating.gov.au/about</a>  The Government is currently investigating/applying minimum energy performance standards and labelling requirements for LED lamps and air conditioners/heat pumps



<p><b>Recommendation 16.5</b></p> <p>Councils should review and if justified remove, barriers to higher-density development, particularly in inner suburbs and in areas close to public transport routes. Councils should also ensure that infrastructure charges reflect the full costs of dispersed development.</p>	<p><b>Agree</b></p>	<p>The Ministry for the Environment reporting to the Minister for the Environment</p>	<p>Planned public consultation on proposals from July 2019</p>	<p>The Government recognises that our current urban planning system is characterised by a reliance on land use regulation. The Government also acknowledges that effective local government provision of local infrastructure is hindered by financial constraints.</p> <p>The Government has committed to change. The Urban Growth Agenda is an ambitious programme with an aim to remove barriers to the supply of infrastructure and to make room for cities to grow up and out. The Government has stated that assisting emission reductions is an objective of this programme. A key part of this programme, the Urban Planning Pillar, is intended to address planning regulation, methods and practice that act as roadblocks to the delivery of both brownfield and greenfield housing and quality urban development. The Government is proposing a new National Policy Statement on Urban Development to do this, which will amend, strengthen and replace the existing National Policy Statement on Urban Development Capacity. The intent is to publically consult on proposals from July 2019.</p> <p>The Government will also aim to improve the way we understand and measure costs and benefits of urban development and infrastructure to better inform investment and growth location decisions.</p> <p>Another key part of this programme, the Infrastructure Funding and Financing pillar, includes work to address constraints to recovering the cost of infrastructure for new development as well as work on alternative financing mechanisms.</p>
<p><b>Recommendation 16.6</b></p> <p>The proposed Climate Change Commission should work with the Treasury to develop guidelines on how to apply shadow prices for GHG emissions to decisions about government infrastructure investment. Shadow pricing should be used as a transitional measure until recommended changes to the NZ ETS come into effect and the emissions price has responded to these changes.</p>	<p><b>Agree</b></p>	<p>Treasury reporting to the Minister of Finance</p>	<p>End of 2019</p>	<p>The Government agrees with the recommendation that shadow pricing has an important role to play in infrastructure planning and investment. Treasury's Cost Benefit Analysis guidance provides for the inclusion of externalities in cost benefit analysis for infrastructure, as well as other government investments or interventions, including emissions externalities.</p> <p>Treasury and the Ministry for the Environment are working together to ensure there is a clear methodology to incorporate the current and future cost of emissions into investment and intervention decisions consistently across government. This work is planned for completion in 2019.</p>