



# Briefing for Incoming Ministers – Environment, Climate Change and RMA Reform

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Ministry for the  
**Environment**  
*Manatū Mō Te Taiao*



**Te Kāwanatanga o Aotearoa**  
New Zealand Government

# Contents

1. Introduction	3
2. Context	3
3. Your role and how the Ministry supports you	4
3.1 Your responsibilities as Minister	4
3.2 The role of the Ministry	4
4. The environmental management system	5
4.1 Key actors in the system	5
4.2 The environmental knowledge system	6
4.3 Māori Crown relationship	7
5. Delivering in partnership	7
5.1 Working with local government	7
5.2 Working with Treaty partners	7
5.3 Working with the primary sector	8
5.4 Working with business	8
5.5 Working with community organisations	9
6. Key policy issues and choices	9
6.1 Science, data and evidence	9
6.2 Climate change mitigation	10
6.3 Climate change adaptation and resilience	11
6.4 Resource management	12
6.5 Built environment – urban and infrastructure outcomes	13
6.6 Land use, freshwater and marine	14
6.7 Waste, hazardous substances and new organisms	15
7. The Ministry for the Environment	16
7.1 Purpose and functions	16
7.2 Our people	17
7.3 Our budget and funding	18
7.4 Statutory boards and entities	19
Appendix 1: Summary of legislation	22
Appendix 2: Statutory delegations to the Secretary for the Environment	23
Appendix 3: Statutory bodies appointed by Ministers	25

# Briefing for Incoming Ministers – Environment, Climate Change and RMA Reform

## 1. Introduction

1. Tēnā koe and greetings Minister, congratulations on your appointment and welcome to your portfolio.
2. This briefing provides you, and your Associate Ministers, with an introduction to:
  - a. the Environment, Climate Change and RMA Reform portfolios, including key policy issues and choices
  - b. your Ministerial responsibilities
  - c. the environmental management system
  - d. the Ministry for the Environment (the Ministry).

## 2. Context

3. The Environment, Climate Change and RMA Reform portfolios span the built and natural environment and the land, freshwater, marine and air domains. These underpin New Zealand's economic and social wellbeing and are strongly connected to our culture and identity.
4. Decisions made in these portfolios have impacts on much of the work of government – including efforts to safeguard nature for future generations, address housing and infrastructure deficits, grow exports and trade, and build future resilience and prosperity. Natural resources are also foundational to many Treaty settlements.
5. The environment is a complex system that is under significant pressure. There are a number of long-standing issues facing the environment, from global problems including climate change and plastics pollution, to local challenges such as the degradation of our biodiversity, ecosystems and urban environments.
6. These challenges are interconnected. Cyclone Gabrielle illustrated the need for our infrastructure, agriculture sector and communities to be better equipped to deal with a changing climate.
7. Effort is needed across government, and with partners in local government, the community, and iwi Māori, to address issues systemically if the prosperity and wellbeing of New Zealanders is to be maintained.
8. While the challenges are significant, there are key opportunities to make progress. The Ministry is well placed to support you to maximise these and deliver on your policy priorities. We look forward to providing you with more in-depth briefings on the issues contained in this document.



## 3. Your role and how the Ministry supports you

### 3.1 Your responsibilities as Minister

#### Minister for the Environment

9. The Minister for the Environment sets the policy agenda and provides strategic direction for the management of New Zealand's natural and built environment. Due to the cross-cutting nature of your responsibilities, this will involve working across wider portfolio and legislative jurisdictions.
10. You have statutory responsibilities under several Acts, including the Resource Management Act 1991 and the Waste Minimisation Act 2008. These responsibilities range from specific decisions on consent applications to wide-scale monitoring of the environmental management system. We will provide you with more detailed information on your statutory responsibilities for each area of your portfolio in future briefings.

#### Minister of Climate Change

11. The Minister of Climate Change sets the policy agenda and provides strategic direction for climate policy, both mitigation (reducing emissions) and adaptation (improving resilience to a changing climate). You also play a key role on international climate matters, with New Zealand having made significant commitments within international agreements.
12. You have statutory responsibilities for managing New Zealand's emission budgets and preparing national adaptation plans. You are also the responsible Minister for the New Zealand Emissions Trading Scheme.

#### Minister responsible for RMA Reform

13. We are ready to advise you on all aspects of resource management reform as well as any statutory responsibilities that fall into this portfolio.

### 3.2 The role of the Ministry

14. The Ministry supports Ministers to exercise system leadership by:
  - a. providing timely advice on environmental and climate issues
  - b. implementing and maintaining policy and regulatory settings
  - c. monitoring and reporting on the state of the environment in New Zealand
  - d. leading the development and implementation of cross-government strategies, including emissions reduction and national adaptation plans
  - e. leading built environment and infrastructure inputs into the resource management system.

15. The Ministry also plays a key role in:
  - a. supporting the development and maintenance of New Zealand's environmental knowledge system
  - b. facilitating funding, investment and innovation related to environmental outcomes
  - c. facilitating collaboration across the public and private sector.
16. The Ministry is responsible for maintaining a range of regulatory systems, including resource management, climate change, waste, hazardous substances and new organisms, and environmental monitoring and reporting.
17. A list of legislation administered by the Ministry is provided in Appendix 1.

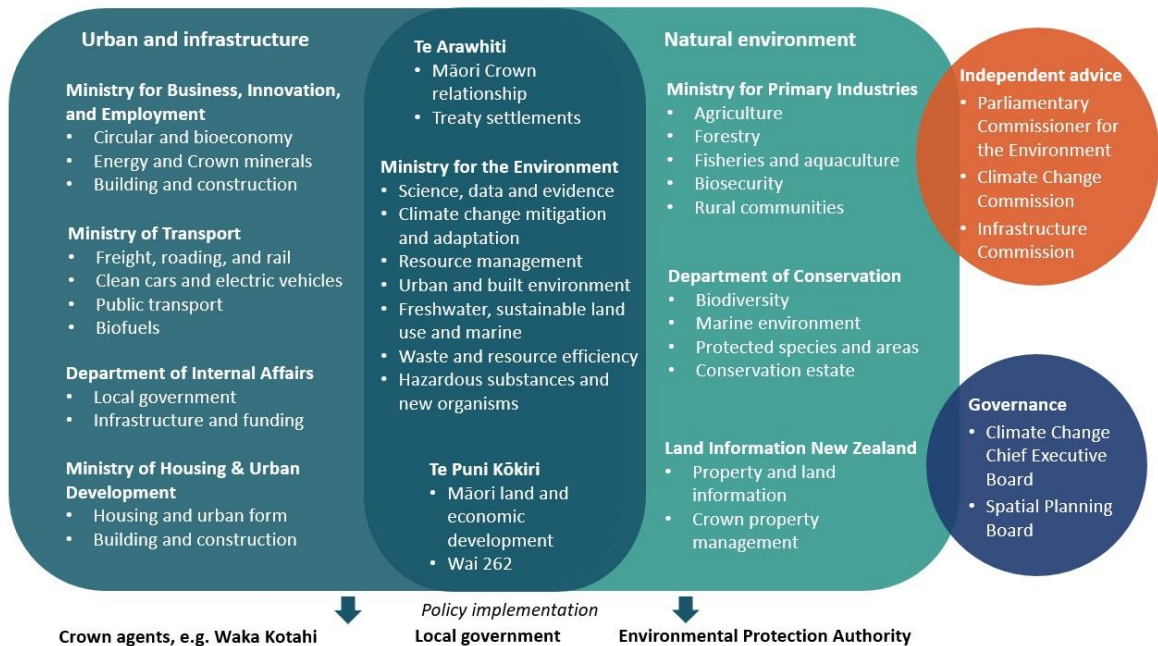
## 4. The environmental management system

18. The environmental management system is the collective set of institutions, legislative and regulatory frameworks, tools, and responsibilities (eg, compliance functions, monitoring and reporting, funding models) that govern the management of natural and built resources in New Zealand.
19. The system is highly devolved, with local authorities and the Environmental Protection Authority (EPA) largely responsible for implementing most environmental legislation and regulation. Further information on the roles of local government and the EPA is provided in sections 5.3 and 7.4 respectively.

### 4.1 Key actors in the system

20. Many central government agencies are involved in setting and maintaining aspects of the policy and regulatory framework for the environmental management system. Some of these agencies also support policy implementation to varying degrees. An overview of key agencies, and their relevant policy areas, is provided in **Figure 1** below.

**Figure 1: Key agencies within the environmental management system**



21. Agencies not represented in **Figure 1** include the Treasury and the Ministry of Foreign Affairs and Trade, which leads international engagement on environmental issues, with support from the Ministry for the Environment and other relevant agencies.
22. The system also includes a range of wider actors such as Māori, businesses and non-governmental organisations.

## 4.2 The environmental knowledge system

23. Data and evidence, drawn from science, mātauranga (Māori knowledge) and practical experience, are crucial to ensuring quality policy design, implementation, and evaluation. This is particularly important for:
  - a. informing environmental outcomes, including the actions needed to deliver on those outcomes and the evaluation of their effectiveness and efficiency
  - b. empowering New Zealanders to make better environmental decisions and holding actors to account
  - c. reducing uncertainty, time and cost in decision-making.
24. Under the Environmental Reporting Act 2015, the Ministry is required to regularly produce and publish independent reports on the pressures, impacts and state of New Zealand’s natural environment in partnership with Statistics New Zealand. These reports are a trusted method for informing public understanding.
25. There are a wide range of organisations and individuals involved in building and using the environmental knowledge system. While our understanding of the state of the environment is improving, there are still fundamental gaps in the environmental knowledge system. Addressing these gaps is a key opportunity outlined further in Section 6.1 of this briefing.

### 4.3 Māori Crown relationship

26. The Crown has a range of obligations outlined in Treaty settlements and arrangements, that provide iwi and hapū with statutory rights relating to involvement in Resource Management processes, including environmental decision-making. This includes over 70 existing Treaty settlements, provisions under Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 and rights recognised in the coastal marine area. These settlements and arrangements place direct obligations on the Minister for the Environment and the Ministry.
27. The Crown's Treaty settlement commitments provide an opportunity to strengthen the Māori Crown relationship. They can lead to improved outcomes by providing for early input from iwi and hapū, opportunities for mutual benefit, and helping to avoid delays and litigation.

## 5. Delivering in partnership

28. As Minister, you will be engaging to inform policy development and implement policy and regulation on the ground. The Ministry can support you through existing leadership fora and the relationships that our staff hold with communities, business, local government and iwi Māori. There are opportunities to collaboratively trial, pilot and build evidence about how to deliver a simpler and more effective environmental system.

### 5.1 Working with local government

29. In many areas of your portfolio, such as resource management, you will be directing local government to implement laws and regulations. You may also wish to work with them on policy development. The Ministry works closely with councils both directly and through wider fora. Established groups that we can support you to engage with include:
  - a. the Local Government Steering Group, consisting of mayors and senior leaders that provide practical feedback on proposed changes to the resource management system
  - b. Freshwater professionals from regional councils and the Freshwater Iwi Leaders Group
  - c. the Aotearoa Climate Adaptation Network – a group of local government practitioners that can support the development and testing of adaptation policy and guidance
  - d. Sector networks that can deliver government funded environmental projects such as water quality, kerbside recycling and actions under the emissions reduction plan.

### 5.2 Working with Treaty partners

30. The National Iwi Chairs Forum (NICF) is made up of iwi leaders who meet quarterly to discuss and enable Māori aspirations across a range of shared priority areas. Iwi Chairs typically hold direct working relationships with Ministers. Te Arawhiti will provide you with further advice on NICF priorities and expectations.

31. As well as the NICF, the Ministry works with Post Settlement Governance Entities, and pan-Māori and pan-tribal organisations such as the New Zealand Māori Council, Federation of Māori Authorities (FOMA), Māori Women's Welfare League and the National Urban Māori Authority. While there is overlap, each organisation has a particular area of interest and expertise.

### **5.3 Working with the primary sector**

32. Under your direction, the Ministry works closely with the primary sector. Officials meet regularly with industry bodies, catchment groups and farmers as part of the policy development and implementation process. We work with the sector to provide guidance, support and tools for policy implementation and to support the delivery of government funding initiatives such as the recent Jobs for Nature programme.
33. The Ministry is an active member of the Food and Fibre Partnership Group, a collaborative forum made up of chairs and chief executives from across the primary sector, Māori agribusiness and central government. The group seeks to provide strategic direction to the sector and shares responsibility for implementing a joint work programme.

### **5.4 Working with business**

34. Ministers have a range of regulatory and non-regulatory levers to achieve climate and environmental outcomes. Based on your priorities, the Ministry can partner with businesses to develop and test new environmental policies and initiatives, as well as co-invest in projects that deliver impact on the ground.
35. Some examples of our work with business include:
  - a. The establishment of the Climate Business Advisory Group (CBAG). This is a partnership between business and government to provide for business input into climate policy for both mitigation and adaptation.
  - b. Supporting MBIE on a significant collaboration to accelerate the transition to sustainable aviation fuel and 'green shipping' corridors. This would allow coordination across key markets in New Zealand and Australia in partnership with businesses and exporters.
  - c. Administering waste funding and leveraging third-party funding. The Waste Minimisation Fund is forecast to divert over 100,000 tonnes of organic waste from landfill into compost. The Plastics Innovation Fund has scaled up promising technologies to minimise and repurpose waste and has unlocked third-party funding of over \$14 million.
  - d. Working with the Sustainable Business Council and Sustainable Business Network to accelerate and scale initiatives for businesses to reduce emissions, transition to more circular business models and incentivise investment in nature regeneration.



## 5.5 Working with community organisations

36. Community organisations deliver non-regulatory services such as education, training and programme delivery at-place. Based on your priorities, the Ministry can administer funding, measure impacts and enable community groups to achieve shared outcomes. Recent examples include:
- a. The Jobs for Nature programme. The Ministry allocated funding to community groups, farmers and landowners to deliver actions such as riparian planting and stock exclusion to improve freshwater.
  - b. Environment Hubs Aotearoa - a nationwide network of 21 Environment Hubs dedicated to community-led regeneration and resilience. These deliver thousands of events each year and have become important community assets.
  - c. Supporting youth development, leadership and education organisations as well as programmes such as the Blake Foundation and Enviroschools.

## 6. Key policy issues and choices

37. This section outlines a number of key policy issues within the environmental management system and signals upcoming choices for you. We can provide you with further advice on each of these issues at your request.

### 6.1 Science, data and evidence

#### Context and issues

38. Science, data and evidence is necessary to target effective action and ensure responsive policy development. Access to high quality information enables business, communities and government to make better decisions, and generate new and innovative opportunities to get better outcomes.
39. While progress has been made in building environmental information over time, there are large gaps in New Zealand's environmental data and knowledge system. The Parliamentary Commissioner for the Environment (PCE) has highlighted the fundamental challenges that this poses to the design, implementation and evaluation of environmental policies. Greater alignment of effort, system oversight and prioritisation are required to improve the system.

#### Choices

40. Ministers will have decisions to make on:
- a. **Enduring environment outcomes** - driving accountability in central government investments by establishing key desired outcomes, and mechanisms to evaluate and track progress towards them.
  - b. **Environmental data** – how to build a robust information base, open to input from communities and resource users, and accessible by them to enable informed decision making.

- c. **Environmental reporting** - advancing draft amendments to the Environmental Reporting Act to address opportunities highlighted by the PCE.
- d. **Research, science and innovation system** – endorse a research strategy designed to direct investment into research that drives outcomes in high priority areas.
- e. **Digital solutions** – The potential to drive more efficient consenting and planning processes and enable sharing of information to drive more effective action.
- f. **Practical application** – How to partner and invest in trials for delivering multi-sectoral outcomes, including increasing productivity through new technologies such as artificial intelligence.

## 6.2 Climate change mitigation

### Context and issues

- 41. A well-managed transition to a low-carbon, resilient economy can reduce the impacts New Zealand feels from climate change and provides opportunities to secure competitive economic advantages for our country.
- 42. New Zealand is witnessing the impacts of climate change. Eight of the 10 warmest years on record have occurred in the last decade. This reflects trends across the world. Significantly greater global action will be needed to meet the Paris Agreement target to keep warming well below 2°C and aim to limit the increase to 1.5°C above pre-industrial levels.
- 43. The way and rate at which New Zealand meets its emissions budgets and targets, including the balance of gross emissions reduction and carbon removal, will be key decisions for Ministers. These will determine how New Zealand decarbonises the electricity grid, transport network and industrial processes, as well as how we work with farmers to reduce emissions and the approach to forestry.
- 44. There are different combinations of policy settings that could be applied to reduce emissions, including different ways to use markets, pricing, finance and regulation. Cost of living and equity issues can either be mitigated directly through the design of climate policies or through separate, accompanying mechanisms.

### Choices

- 45. Ministers will have decisions to make on:
  - a. **Agricultural emissions policy** – How to work with the agricultural sector to reduce emissions while supporting farmers and rural communities to prosper.
  - b. **Emissions reduction plan** – The second emissions reduction plan (due in 2024) is a major opportunity to shape climate policy. It will be critical for setting a consistent, long-term and credible pathway to meeting our emissions reduction targets. Choices include the pace of decarbonisation, the role of carbon removals (eg, sequestration from forestry), where costs fall across society and the broader outcomes you would like to achieve through decarbonisation.

- c. **Emissions pricing** – How to ensure stability and confidence in the New Zealand Emissions Trading Scheme (NZ ETS), including how to further progress professional management and oversight of the scheme and provide support for an effective carbon price which rises over time.
- d. **Meeting international climate commitments** – New Zealand’s international emissions reduction commitment for 2030 requires significantly greater emissions reduction than our domestic climate legislation requires. Decisions will be needed about how to meet the commitment, including whether to pursue scaled up domestic action and/or progress international negotiations to invest in mitigation in other countries.

## 6.3 Climate change adaptation and resilience

### Context and issues

- 46. Recent severe weather events have demonstrated a pressing need for New Zealand’s infrastructure, agriculture sector, businesses and communities to be equipped to deal with a changing climate. This includes through adaptation and efforts to build resilience to protect lives and the wider economy. Preparing New Zealand to meet the impacts of a changing climate will require a series of major decisions about risk and cost sharing, and the role of central and local government relative to private home, land and business owners.
- 47. Broadly, actions to manage climate impacts will be a mix of:
  - a. **Being reactive** – Responding to severe weather events such as flooding, droughts and wildfire, followed by rebuild and recovery.
  - b. **Being adaptive** – Enabling risk-based decisions on community-led and managed retreat or protecting what is feasible.
  - c. **Building resilience** – Building up a baseline level of protection through better information provision and enabling central and local government, businesses and communities to make sound, risk-based decisions around land use and protective infrastructure. For example, where to invest in natural capital to protect communities, where we build our towns and infrastructure, and how we maintain or increase productivity.

### Choices

- 48. Ministers will have decisions to make on:
  - a. **Recovery and pre-emptive risk management** – Where managing risk requires changes to our critical infrastructure, where people live and how we use land, whether to prioritise developing a broad framework for pre-emptive relocation when necessary, or to focus on a rapid, recovery-specific approach.
  - b. **How adaptation and recovery costs are shared** – To guide how costs arising from climate impacts and adapting to a changing climate will be met and shared, including the role of central and local government.
  - c. **Climate data and information** – Providing clear and accessible climate data and information to support New Zealand’s adaptation strategy and drive better risk-informed decision-making by all actors.

## 6.4 Resource management

### Context and issues

49. The resource management (RM) system is one of the primary vehicles for achieving better outcomes for the built environment, sustainable water and land use, and efficient resource use and management. However, the Resource Management Act 1991 (RMA) has struggled to manage cumulative effects on the environment or keep up with the pace of change in our fastest growing urban centres.
50. In August 2023, the Natural and Built Environment Act 2023 (NBA) and Spatial Planning Act 2023 (SPA) were enacted to address the shortcomings of the RMA. While repealing the NBA and related legislation can be done relatively quickly, the RMA (including national direction and any fast-track regime) will remain the basis for regulatory development activity until any future RM statutory framework is in place.
51. You have options for making targeted improvements to the RM system to help deliver your priorities and provide continuity until replacement legislation is in place, and options for the form of that replacement.
52. Spatial plans set out the strategic infrastructure, economic, and social objectives for an area, and how they will be sequenced, funded, and delivered. They can play a key role in aligning local, regional and national infrastructure investment. However, many parts of the country do not have a spatial plan, existing spatial plans have limitations as long-term planning tools, and central government partnership has been variable. We can provide further advice on how spatial planning can help to advance your objectives.
53. The capacity of the RM sector to effectively implement the resource management system remains a key risk. Local government, Māori and communities face constraints in fulfilling their roles in the system. Regardless of any future legislative arrangements, effective capability and capacity to turn policy into action will be critical to the success of the system.

### Choices

54. Ministers will have decisions to make on:
  - a. **Immediate legislative changes** – Confirming your preferred approach to recent legislation, fast-track consenting and other potential targeted amendments to the RM statutory framework.
  - b. **National direction** – Determining the priorities and processes for amending existing national direction and progressing a more integrated national direction work programme.
  - c. **Spatial planning** – Considering what role you would like spatial planning to play in progressing key infrastructure, economic and housing priorities.
  - d. **RMA implementation** – For example, your role in the planning and consents process, and supporting those implementing the system to deliver your desired outcomes.
  - e. **The future RM statutory framework** – Confirming your goals and preferred process for improving and replacing the RMA.

## 6.5 Built environment – urban and infrastructure outcomes

### Context and issues

55. Urban and infrastructure policy is critical to achieving a number of public policy objectives, including:
- addressing a deficit of infrastructure and housing
  - developing low-emissions, climate resilient cities and communities
  - Increasing renewable energy generation
  - sustainable land use
  - nature-based solutions, such as for managing urban water.
56. Work has been done to improve the way the resource management system supports the urban and built environment and provides for a growing population, including through the National Policy Statement on Urban Development (NPS-UD) and medium density residential standards (MDRS).
57. In the short-term, many urban councils are continuing to struggle to provide the infrastructure needed to support growth due to inadequate planning processes and funding.
58. You will need to determine priorities and timeframes for implementation given councils' current progress towards implementing NPS-UD and MDRS intensification plan changes.
59. Planning issues are compounded by risks from natural hazards and climate change-related events, that increase the cost of infrastructure and reduce the amount of land which can be safely developed.

### Choices

60. Ministers will have decisions to make on:
- a. **Housing targets and MDRS policy changes** – What changes are needed to better achieve outcomes for the built environment and housing growth.
  - b. **Delivery of infrastructure** – The type of planning rules needed to facilitate faster consents and better integrate infrastructure and land-uses.
  - c. **Renewable energy and hydrogen** – The type of planning and consenting processes needed to assist the delivery of electricity generation and transmission, as well as potential hydrogen production and distribution.
  - d. **Natural hazards** – Considering how to progress work to support natural hazard risk assessments and land-use decisions in hazard prone areas.
  - e. **Quality built environments** – Improving our urban areas through mixed uses, the Urban Design Protocol, green spaces and nature-based infrastructure solutions.



## 6.6 Land use, freshwater and marine

### Context and issues

61. There has been significant work and reform over the last decade to better manage water and land use, both in rural and urban areas. Much of the focus has been on improving freshwater through central government national direction and regulations. To assist local councils and communities to realise the benefits of this work, ongoing implementation support is provided by the Ministry.
62. Despite this, climate change and the effect of existing land use and management practices – both urban and rural – are placing severe pressure on our freshwater and coastal environments.
63. The impact of various environmental policies on biodiversity outcomes, including policies on climate change mitigation, offsetting and adaptation, have not always been considered in a strategic way. A more systemic approach is needed to ensure biodiversity goals and objectives, including those outlined in the Kunming-Montreal Global Biodiversity Framework and Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy, are achieved.
64. The Ministry has a significant role within the biodiversity system including regulatory and non-regulatory initiatives to support better coordination of biodiversity management, protection and restoration. For example, we are currently consulting on whether a biodiversity credit system could help to incentivise the protection and restoration of biodiversity.
65. We are also one of the primary delivery agencies for the Jobs for Nature programme, which is investing \$1.19 billion to support nature restoration and nature-based employment initiatives. The Jobs for Nature Secretariat, hosted by the Ministry, will provide Ministers with separate advice on the programme.
66. The marine environment faces new and increasing pressures from activities at sea, on land and from the impacts of climate change. At the same time, there are increasing development interests and opportunities. Māori rights and interests are also pertinent to the marine environment and will be important to consider for its future management.
67. To address challenges and opportunities, a cross-portfolio Oceans Secretariat has been established. The Secretariat supports improved agency alignment across the protection, restoration and sustainable development of marine resources, including strengthened management of the land-sea interface. A joint agency briefing will be provided to you with further information and advice.

### Choices

68. Ministers will have decisions to make on:
  - a. **Freshwater allocation** – To address increasingly urgent policy issues around the allocation of freshwater resources, including overallocation and managing within environmental limits, as well as Māori rights and interests in freshwater management.
  - b. **Freshwater farm plans** – The role of freshwater farm plans to achieve freshwater outcomes and to support farmers at the farm and catchment level, as well as the roll out to remaining regions.

- c. **How we use and manage land and freshwater** – There is an opportunity to simplify aspects of existing national direction to reduce the cumulative burden on the primary sector.
- d. **Protection and restoration of biodiversity** – To achieve the goals and targets in the recently adopted Kunming-Montreal Global Biodiversity Framework (with the Minister of Conservation), for both the land and marine environments.
- e. **Facilitating investment in natural capital** – To leverage the growing interest from the private and philanthropic sectors to invest in nature, driven by increasing awareness of nature-related risks, and growing expectations from consumers and international markets.

## 6.7 Waste, hazardous substances and new organisms

### Context and issues

- 69. New Zealand produces high levels of waste per capita and has low levels of recycling relative to other OECD countries. These issues are symptomatic of New Zealand's predominantly linear 'take-make-dispose' economy, which has led to the under-utilisation of valuable materials, missed opportunities for innovation and job creation, and contamination of the natural environment.
- 70. Addressing New Zealand's waste issues has multiple benefits for communities and the environment. These include avoiding pollution, protecting waterways and reducing a large source of our greenhouse gas emissions generated by the production, use and disposal of products and materials. Decomposition of organic waste contributes nine per cent of New Zealand's biogenic methane emissions and is a focus area within the emissions reduction plan.
- 71. Our current hazardous substances work programme is focused on responding to recommendations from the PCE about the fate of chemicals in our environment. The report highlights shortcomings in New Zealand's chemical management system and provides eight recommendations for the Ministry and the EPA.
- 72. While the Ministry has recently completed public consultation on a limited set of regulatory proposals for genetically modified organisms (GMOs), the Hazardous Substances and New Organisms Act's new organisms provisions are overdue for a more extensive review.

### Choices

- 73. Ministers will have decisions to make on:
  - a. **Waste Action and Investment Plan (AIP)** – To set the scope and ambition of the AIP to deliver on the goals and priorities in the national waste strategy, as well as determining the waste actions in the next emissions reduction plan.
  - b. **Updating legislation** – The Waste Minimisation Act 2008 and Litter Act 1979 are no longer aligned with international best practice and if amended could enable more coordinated and strategic investment and data collection and fit for purpose tools for reducing waste.
  - c. **New organisms and genetic modification** – How to better enable innovation while ensuring that risks to human and environmental health are managed.

- d. **Management of hazardous substances** – How to progress the PCE’s recommendations on better managing hazardous substances, including monitoring the fate of chemicals in the environment.

## 7. The Ministry for the Environment

### 7.1 Purpose and functions

74. The Ministry was established under the Environment Act 1986. The purpose of the Act is to ensure that, in the management of natural and physical resources, full and balanced account is taken of:
  - a. the intrinsic values of ecosystems
  - b. all values which are placed by individuals and groups on the quality of the environment
  - c. the principles of the Treaty of Waitangi
  - d. the sustainability of natural and physical resources and
  - e. the needs of future generations.
75. The Act sets out the Ministry’s functions as the following:
  - Advising the Minister for the Environment on all aspects of environmental administration.
  - Gaining information to support advice to the Government on environmental policies.
  - Advising the Government and other public authorities on:
    - the application of the Acts the Ministry is responsible for, as well as a range of other Acts administered by other agencies that impact the environment
    - procedures for assessing and monitoring environmental impacts
    - pollution control and the co-ordination of the management of pollutants in the environment.
  - Identifying and reducing the effects of natural hazards.
  - Controlling hazardous substances.
  - Facilitating and encouraging the resolution of conflicts in relation to policies and proposals which may affect the environment.
  - Promoting and assisting effective public participation in environmental planning.
  - Carrying out other functions conferred on the Ministry by any other Acts.

## 7.2 Our people

### Te Pūrengi – Our senior leadership team



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s 9(2)(a)



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s 9(2)(a)

76. Our staff are located throughout the country, allowing us to know the communities we work in and be more effective partners. We work across a wide range of roles including science and evidence, policy, implementation and delivery, investment, compliance and monitoring, communications, partnerships and education. As of 31 October 2023, the Ministry has 1,052 full-time equivalent staff.
77. In May 2023, the Ministry initiated a review of its operating model to ensure that we are set up to deliver on the priorities of the government of the day within a tightening fiscal environment, while continuing to be an effective steward for the environmental management system. The review is being undertaken in stages.
78. Stage One of the review looked at our Tier 2 and 3 size, shape and capabilities. The decisions were announced on 26 October and will be implemented by 1 December 2023.

## 7.3 Our budget and funding

### Natural resources cluster

79. The Ministry is part of a pilot introduced in Budget 2022 where multiple agencies collaborate on a funding package, and work towards common objectives. As part of the natural resources cluster (which also includes the Ministry for Primary Industries and Department of Conservation), the Ministry received funding for a three-year period. While providing added certainty, currently this restricts the Ministry from bidding for more funding in the annual Budget process until Budget 2025 (apart from some discrete exceptions).

### Vote Environment

80. Vote Environment includes \$688m in total funding for 2023/24 (including contingencies and excluding non-cash ETS-related activity). Funding for the Vote is set to peak at \$802m in 2024/25 before declining to \$733m by 2027/28.

**Table 1: Vote Environment Appropriations<sup>[1]</sup>**

\$000	23/24	24/25	25/26	26/27	27/28
Departmental Output Appropriations <sup>[2]</sup>	278,533	239,815	221,309	210,968	206,122
Non-Departmental Appropriations (excl ETS) <sup>[2]</sup>	409,902	562,325	526,570	523,979	526,868
<b>Total Appropriations</b>	<b>688,435</b>	<b>802,140</b>	<b>747,879</b>	<b>734,947</b>	<b>732,989</b>

<sup>[1]</sup> Items excluded re ETS non-cash appropriations.

<sup>[2]</sup> The above amounts include October Baseline Update and tagged contingencies being drawn down over this period.

81. The main drivers for the Ministry's funding profile are as follows:
- Departmental funding** (including contingencies): falls from \$279m in 2023/24 to \$206m in 2027/28 – a reduction of \$73m (before any further savings are applied). The main drivers of this reduction relate to time-limited funding for: resource management reform and implementation, the Environmental Monitoring and Reporting System, administering Covid Response and Recovery Funding (CRRF) for Jobs for Nature and Waste Infrastructure Investments, and Climate Emergency Response Funding (CERF) for Reducing Emissions from Waste. The decline in departmental funding was a key driver for reviewing the Ministry's operating model.
  - Non-departmental funding** (including contingencies): rises from \$410m in 2023/24, peaks at \$562m in 2024/25, before declining to \$527m in 2027/28. This is mainly due to the expansion of third-party funding from the waste minimisation levy, for which half is a pass-through paid to territorial local authorities and the remainder is ring-fenced for waste minimisation projects. This growth is offset by a significant drop in funding for Freshwater initiatives (linked to the time-limited Jobs for Nature programme), and time-limited CERF and CRRF funding for Waste emissions reductions and infrastructure projects.



82. Funding can be broken out into Environment and Climate Change appropriations. Most of the fluctuation is in the Environment appropriations.

**Table 2: Environment Appropriations**

\$000	23/24	24/25	25/26	26/27	27/28
Departmental Output Appropriations <sup>[1]</sup>	219,879	175,280	155,128	144,737	144,933
Non-Departmental Appropriations (excl ETS) <sup>[1]</sup>	387,096	532,893	493,129	490,538	494,561
<b>Total Appropriations</b>	<b>606,975</b>	<b>708,173</b>	<b>648,256</b>	<b>635,274</b>	<b>639,493</b>

<sup>[1]</sup> The above amounts include October Baseline Update and tagged contingencies being drawn down over this period.

83. The Climate Change appropriations remain relatively stable over time.

**Table 3: Climate Change Appropriations <sup>[1]</sup>**

\$000	23/24	24/25	25/26	26/27	27/28
Departmental Output Appropriations <sup>[2]</sup>	58,654	64,535	66,182	66,232	61,189
Non-Departmental Appropriations (excl ETS) <sup>[2]</sup>	22,806	29,432	33,441	33,441	32,307
<b>Total Appropriations</b>	<b>81,460</b>	<b>93,967</b>	<b>99,623</b>	<b>99,673</b>	<b>93,496</b>

<sup>[1]</sup> Items excluded re ETS non-cash appropriations.

<sup>[2]</sup> The above amounts include October Baseline Update and tagged contingencies being drawn down over this period.

84. In light of the tighter economic and fiscal environment, the Ministry has put in place a range of measures to reduce our spending in 2023/24 and guide us towards becoming a smaller and more efficient organisation. We understand there may be requests for further savings. More detailed financial information will be provided at the first available opportunity.

## 7.4 Statutory boards and entities

### Interdepartmental Executive Boards

85. The Ministry services two Interdepartmental Executive Boards (IEBs) – the Spatial Planning Board and the Climate Change Chief Executives Board. These are public service governance entities established under the Public Service Act 2020.
86. The **Spatial Planning Board (SPB)** governs the implementation of the Spatial Planning Act 2023 (SPA) and has an ongoing stewardship, oversight and monitoring responsibility for the SPA. The SPB is accountable to the Minister responsible for administering the SPA and is chaired by the Secretary for the Environment. It is supported by the Spatial Planning Policy Office, housed at the Ministry as the servicing agency.

87. The **Climate Change Chief Executives Board** provides strategic, cross-agency advice on the Government's climate change programme in the context of the Climate Change portfolio's broader economic priorities, including the sufficiency and implications of actions to meet New Zealand's climate commitments. It coordinates the implementation of, and monitors and reports on progress towards, New Zealand's emissions reduction plan and national adaptation plan. The Board is chaired by the Secretary for the Environment and comprises eight chief executives from across central government.
88. Both the SPB and Climate Change Chief Executives Board will provide Ministers with separate advice.

### **Crown entity monitoring**

89. The Minister for the Environment and Minister of Climate Change are responsible for overseeing and managing the Crown's interests in, and relationship with, two Crown entities: the Environmental Protection Authority (EPA) and the Climate Change Commission (the Commission) respectively.
90. Ministers' responsibilities with respect to these entities include monitoring their performance, setting strategic direction and performance expectations, and recommending appointments to their respective boards. The Ministry is the monitoring agency for both Crown entities and supports your monitoring roles.

### **Environmental Protection Authority**

91. The EPA is a Crown agent established by the Environmental Protection Authority Act 2011. The EPA is New Zealand's national environmental regulator. It makes independent decisions about applications, and undertakes compliance, monitoring, and enforcement activity in line with certain environmental legislation. The EPA also supports New Zealand to meet international environmental obligations.
92. The EPA is governed by a Board of six to eight members appointed by the Minister for the Environment. There are five members with terms expiring in mid-2024. Officials will provide you with advice to support the appointment process nearer to this time.
93. Key functions of the EPA include:
- assessing fast-track consenting applications under the Resource Management Act
  - making decisions on applications under the Hazardous Substances and New Organisms Act 1996
  - administering the ETS and ETS Register
  - making decisions on marine consent applications under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ)
  - ensuring compliance with the rules in place for hazardous and ozone depleting substances, the ETS, marine consents and EEZ permitted activities, and RMA consents.
94. A key challenge for the EPA is its ongoing financial sustainability. An independent review of the EPA's baseline funding in 2022 found that funding increases have not kept pace with the increasing scope of the EPA's functions and inflationary pressures. In recognition of this, the EPA received approximately \$31m cost pressure funding over four years through Budget '23.
95. The EPA will provide Ministers with separate advice.

## **Climate Change Commission**

96. The Commission is an independent Crown entity, established in 2019 by amendments to the Climate Change Response Act 2002. The Commission provides independent, expert advice to the government on climate change mitigation and adaptation, and monitors and reviews the government's progress towards its emissions reduction and adaptation goals.
97. The Commission is governed by a Board of five to nine members who are appointed by the Governor-General upon recommendation by the Minister of Climate Change, who receives recommendations from a Nominating Committee. There are two members with terms expiring in December 2023, and one member (Chair) with a term expiring in December 2024. Officials will provide you with advice ahead of these terms expiring.
98. The Commission has a significant number of deliverables due in the next 12 months. A key risk for the Commission is capacity and capability. Budget '23 provided the Commission with additional funding for wage pressures (\$2.6m over four years) which will help to address these challenges, as well as \$3m per year to support a possible role in providing advice on pricing agricultural emissions.
99. The Commission will provide the Minister of Climate Change with separate advice.

# Appendix 1: Summary of legislation

## Acts administered by the Ministry for the Environment

Environment Act 1986

Climate Change Response Act 2002

COVID-19 Recovery (Fast-track Consenting) Act 2020 – Repealed on 7 July 2023, but remains in force for the purpose of completing fast-track applications still in progress.

Environmental Protection Authority Act 2011

Environmental Reporting Act 2015

Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012

Fiordland (Te Moana o Atawhenua) Marine Management Act 2005

Hazardous Substances and New Organisms Act 1996

Litter Act 1979

Natural and Built Environment Act 2023

Ozone Layer Protection Act 1996

Resource Management Act 1991

Soil Conservation and Rivers Control Act 1941

Spatial Planning Act 2023

Waste Minimisation Act 2008

## Acts administered by other departments, but where the Ministry administers secondary legislation

Imports and Exports (Restrictions) Act 1988

Severe Weather Emergency Recovery Legislation Act 2023

## Appendix 2: Statutory delegations to the Secretary for the Environment

Previous Ministers have delegated a number of statutory powers and functions to the Secretary for the Environment, as provided for under the Public Service Act. These delegations may be subject to certain conditions and include the power to sub-delegate. Delegations stay in place until revoked, and you may revisit them at any point.

Act	Delegation from	Summary of delegated powers
<b>COVID-19 Recovery (Fast-track Consenting) Act 2020</b>	Minister for the Environment	Invite written comment from relevant local authorities or any other person (excluding Ministers) on applications for referred projects, request further information about an application, and notify any parties invited to comment on decisions made.
<b>Climate Change Response Act 2002</b>	Minister of Climate Change	Require reporting organisations to provide information on activities relating to climate change adaptation.  Request further information for the purpose of allocating New Zealand units.  Sell New Zealand units at auction in accordance with prescribed limits, and appoint agents to conduct the sale.
<b>Hazardous Substances and New Organisms Act 1996</b>	Minister for the Environment	Make decisions on applications that do not have significant effects, including in areas in which the EPA lacks sufficient knowledge or experience.
<b>Public Finance Act 1989</b>	Minister for the Environment	Make funding decisions under the Environmental Legal Assistance Fund.  Power to enter into contracts and incur expenses in accordance with those non-departmental appropriations for Vote Environment that the Minister is responsible for. Excludes EPA-related appropriations.
<b>Public Finance Act 1989</b>	Minister of Climate Change	Power to enter into contracts and incur expenses in accordance with those non-departmental appropriations for Vote Environment that the Minister is responsible for.
<b>Resource Management Act 1991</b>	Minister for the Environment	Request information from various groups for the purpose of carrying out the National Monitoring System.  Seek further information from a local authority in support of assessing a request to use the streamlined planning process.  Amend a direction to use the streamlined planning process, if there is no more than a minor effect or is the correction of a technical error.



Act	Delegation from	Summary of delegated powers
		<p>Consider and determine a time extension of up to 60 working days to a direction under the streamlined planning process.</p> <p>Revoke a direction following a local authority publicly notifying the withdrawal of a planning instrument subject to a streamlined planning process.</p>
<b>Waste Minimisation Act 2008</b>	Minister for the Environment	<p>Seek further information from the manager of a product stewardship scheme, or any other person likely to be significantly affected by the scheme, before making a decision on accreditation.</p> <p>Make decisions on funding applications to the Waste Minimisation Fund up to and including \$1,000,000.</p>

## Appendix 3: Statutory bodies appointed by Ministers

Title	Purpose	Members
<b>Crown entities</b>		
Climate Change Commission Board	<p>The Board is the governing body of the Commission, with responsibility for performing the advice, monitoring and review functions set out in the Climate Change Response Act 2002.</p> <p>The Board consists of five to nine members appointed by the Governor-General on recommendation by the Minister of Climate Change.</p> <p>There are two members with terms expiring in December 2023, and one member (Chair) with a term expiring in December 2024.</p>	Dr Rod Carr – Chair
		Lisa Tumahai – Deputy Chair
		Dr Judy Lawrence
		Catherine Leining
		Prof James Renwick
		Dr Tanira Kingi
		Dr Andy Reisinger
		Prof Steven Ratuva
Environmental Protection Authority (EPA) Board	<p>The Board is the governing body of the EPA and is directly accountable to the Minister for the Environment for its performance. It directs and oversees the EPA’s Chief Executive and leadership team which runs the day-to-day operations.</p> <p>The Minister for the Environment is required to appoint between six and eight members to the Board. There are five members with terms expiring in mid-2024.</p>	Colin Dawson – Chair
		Steven (Tipene) Wilson – Deputy Chair
		Dr Andrea Byrom
		Paul Connell
		Mary-Anne Macleod
		Dr Greg Ryder (resigned Nov 23)
		Heather Simpson
<b>Other statutory bodies</b>		
Board of Inquiry for the Transitional National Planning Framework	<p>The Natural and Built Environment Act 2023 requires the Transitional National Planning Framework to be notified for public submissions by April 2024.</p> <p>A board of inquiry to hear submissions has been appointed.</p>	Judge Laurie Newhook – Chair
		David Brash
		Sally Gepp
		David Hill
		Dr Alison Lane
		Megen McKay
		Dr Robert Anthony Petch
		Penny Pirrit

		Rachel Reese
		Anaru Vercoe
Fiordland Marine Guardians	<p>The Guardians provide the Minister for the Environment and natural resource cluster agencies with advice on fisheries management, biosecurity, sustainable management, and marine preservation and protection in the Fiordland (Te Moana o Atawhenua) Marine Area.</p> <p>The Minister must appoint five to eight members to the Guardians. The terms of five Fiordland Marine Guardians are due to end in June 2025.</p>	Dr Rebecca McLeod – Chair
		Stewart Bull
		Ali Ballantine Timms
		Peter Young
		John Cushen
		Gavin Tayles
		Mark Peychers
		Dr Simon Childerhouse
Nominating Committee for Climate Change Commission	<p>The Nominating Committee is appointed by the Minister of Climate Change and is responsible for nominating members to be appointed to the Climate Change Commission.</p> <p>Two members’ terms expire in mid-2024. The Chair of the Committee’s term expires in December 2024.</p>	Dr Rod Carr – Chair
		Prof Juliet Gerrard
		Brendon Green
		Russell Sprat
		Gary Taylor
		Dame Therese Walsh
Waikato River Authority Board	<p>The Authority is a Crown/iwi organisation responsible for overseeing the vision and strategy for the improved health and wellbeing of the Waikato and Waipa rivers. The Waikato River Authority consists of 10 members.</p> <p>The Minister for the Environment is required to appoint five members to the Waikato River Authority under the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010. Two of the five Crown appointees’ terms expire in May 2025.</p>	Tipa Mahuta – Co-Chair
		Stu Kneebone – Co-Chair <i>(Crown appointee)</i>
		Danny Loughlin
		Susan O’Regan <i>(Crown appointee)</i>
		Erina Watene-Rawiri <i>(Crown appointee)</i>
		Roger Pikia

Title	Purpose	Members
<b>Statutory bodies not yet appointed</b>		
National Māori Entity	The Natural and Built Environment Act 2023 provides for the establishment of the National Māori Entity. The purpose of the Entity is to independently monitor whether decisions made by those undertaking functions, duties, and powers in the resource management system are giving effect to the principles of Te Tiriti o Waitangi.	<p>Under the Act, the Entity would be established on 1 March 2024. Providing that the Act is not repealed, members are to be appointed by the Minister for the Environment after this date.</p> <p>Members must be put forward by a Nominating Committee. To meet the current timeframe under the Act, appointments to the Nominating Committee will need to be made in early 2024.</p>
Freshwater Working Group	<p>The Natural and Built Environment Act 2023 provides for the establishment of a Freshwater Working Group.</p> <p>The Group must produce a report by 31 October 2024 on freshwater allocation matters and the process for engagement between the Crown and iwi and hapū at the local level.</p>	<p>Under the Act, the members of the Working Group are to be appointed by the Crown and iwi and hapū through a process to be set out in Terms of Reference. There is no date when the Group is required to be established by.</p> <p>A draft Terms of Reference has been developed through engagement with iwi/Māori groups and a candidate identification process has occurred.</p> <p>Stu Muir <i>(Crown appointee)</i></p> <p>Shadrach Rolleston <i>(Crown appointee)</i></p> <p>Nachelle Griffiths</p> <p>Wikitōria Tāne</p>
Waste Advisory Board	<p>The Board provides the Minister for the Environment with independent advice in relation to the exercise of powers under the Waste Minimisation Act 2008, and broader waste minimisation matters.</p> <p>The Minister is required to appoint four to eight members to the Board. The terms of three members have expired, and the terms of two further members (including the Board Chair) are due to expire in April 2024. Members will remain in office until successors are appointed, or notice is given that they will not be reappointed.</p>	<p>Darren Patterson – Chair</p> <p>Jacqui Forbes</p> <p>Denise Roche</p> <p>Don Chittock</p> <p>Sue Coutts</p> <p>Gael Ogilvie</p> <p>Teina Boasa-Dean</p> <p>David Howie</p> <p>Keria Ponga <i>(Crown appointee)</i></p>





**Martin Workman**

Chief of Staff

s 9(2)(a)



**James Palmer**

Chief Executive

s 9(2)(a)



**Martin Workman**

(Acting)

Māori Strategy and  
Performance

**Vacant**

GM - Māori Strategy and  
Performance



**Natasha Lewis**

Deputy Secretary,  
Strategy Stewardship and  
Performance

s 9(2)(a)

**Megan Hurnard**

GM – Evidence, Data and  
Insights

**Kathleen Mackie**

GM – Planning and  
Performance

**Clare Barton**

GM – Science and Data  
Systems

**Vacant**

GM - Strategy



**Nadeine Domuisse**

Deputy Secretary,  
Environmental Management  
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**Jo Gascoigne**

GM – Resource Management  
System

**Liz Moncrieff**

GM – Urban and Infrastructure  
Policy

**Hayden Johnston**

GM – Natural Environment  
Policy

**Katherine Wilson**

GM - Adaptation

**Clare Maihi**

GM – Te Tiriti and Te Ao Māori



**Sam Buckle**

Deputy Secretary,  
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and Resource Efficiency

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**Melody Guy**

GM - Markets

**Shaun Lewis**

GM – Waste Systems

**Hemi Smiler**

GM – Climate Change  
Mitigation

**Glenn Wigley**

GM – Waste and HSNO Policy



**Anne Haira**

Deputy Secretary,  
Partnerships Enablement and  
Investments

s 9(2)(a)

**Eugene Berryman-Kamp**

GM – Māori Partnerships and  
Regional Relationships

**Chloe Groser**

GM – Communications and  
Engagement

**Sara Clarke**

GM – System Enablement

**Lorena Stephen**

GM – Partnerships and  
Investments



**Laura Dixon**

Deputy Secretary,  
Business Transformation and  
Services

s 9(2)(a)

**Adelyn Wischnowsky**

(Acting)  
GM – People and Capability

**Mike Porter**

GM – Information Technology

**Kirsty Millard**

GM – Legal and Risk

**Arun Patel**

GM – Finance and  
Procurement

**Pepi Batsos**

GM – Transformation &  
Operations



## Climate change

### Our emissions are not decreasing fast enough

**19%** ↑ the increase in our gross emissions between 1990 and 2021. Our emissions peaked in 2006.

**6%** ↓ the decrease in our gross emissions since 2006.

We are not on track to meet NZ's target of reducing net emissions to 50% below 2005 levels by 2030

### Our air temperature will continue to rise

Between 1909 and 2020

**+1.26°C** the increase in our annual average air temperature

#### Temperature rise causes:

- more frequent and severe extreme weather events
- glacial retreat
- sea-level rise
- large die-off of plants and animals

### Socio-economic impacts escalate with every increment of warming

Agricultural drought frequency increased at

**15** out of **30** sites across NZ

Costs estimated at

**\$4.8 billion**

from the two major drought events of 2007-08 and 2012-13

## Coastal and marine

### Sea-level rise is accelerating

Between 1961 and 2020, the mean sea level rise rate

**doubled**

at 3 out of 4 monitoring sites, compared to the period from 1901 to 1960

**+20cm**

the average sea level rise around NZ compared to a century ago

### Adapting to sea-level rise

At risk from coastal flooding in 2022:

**72K** People    **49.7K** Buildings    **191** Marae

A 20 to 30 cm sea-level rise above present-day levels is expected in the next 30 years, exposing billions of dollars worth of infrastructure to flooding and damage

### Our ocean is warming to record levels and becoming more acidic

Between 1981 and 2018, the sea surface temperature increased between

**+0.1** and **+0.2°C**

per decade across our four oceanic regions

Between 1998 and 2020 ocean acidity increased

**8.6%**

on average in NZ's subantarctic surface waters

Ocean warming and acidification can impact:

- marine habitats like kelp forests
- calcification rates of corals and molluscs
- species migration and/or survival

With consequences for:

- our biodiversity
- our marine economy

## Land and freshwater

### Highly productive land is scarce and decreasing

**15%**

of NZ's total land area (~3,830,000ha) is highly productive, mostly on city fringes

Between 2002 and 2019 over

**37,000 ha**

of highly productive land was repurposed for housing, with significant impacts for our horticulture

### Intensive land management has increased

Between 1991 and 2019, the estimates of nitrogen applied to land in fertiliser increased by

**629%**

(from 62,000 to 452,000 tonnes)

Between 2002 and 2019, the area of irrigated agricultural land

**doubled**

with the majority in Canterbury

Risks include soil degradation: between 2014 and 2018

**80%** of measured sites failed to meet the targets for at least 1 of the 7 soil quality indicators

### Food is a vital but vulnerable sector of NZ's export economy

The food and fibre sector accounted for:

**\$57.4 billion**

in export revenue expected for the year to June 2023

**10.7%**

GDP in the year to March 2021

**78.9%**

of the total \$72.8 billion in export goods to June 2023

**\$700M to \$1.1B**

the expected cost of the food and fibre sector's recovery from Cyclone Gabrielle

### Our freshwater is degraded

Between 2016 and 2020

**62%**

of 101 monitored lakes across NZ showed poor or very poor health

Between 2016 and 2020

**84%**

of monitored river water quality sites had median concentrations for at least one form of nitrogen which suggested a risk of environmental impairment

Between 2016 and 2020

**25%**

of monitored river water quality sites had severe organic pollution or nutrient enrichment, while only 6% showed pristine conditions or almost no organic pollution

### With consequences for how we use it

Between 2016 and 2020

**66%** of monitored river water quality sites were not suitable for activities like swimming

Between 2014 and 2018

**68%** of monitoring groundwater sites failed to meet *E. coli* drinking water standards on at least one occasion

In 2016, the drinking water supply in Havelock North became contaminated

**43-57%**

of the town's population were sick

**\$21M**

in total economic costs

### Our natural infrastructure is an asset

Our natural infrastructure helps to:

- regulate our climate
- prevent erosion and landslides
- protect our coastal environment from storm surges
- improve water quality and regulate flooding

While:

- supporting cultural values, health and wellbeing
- improving biodiversity
- providing economic opportunities and resilience

### But it's under pressure

**10%**

of wetlands remained in 2010 compared to pre-human existence

As of 2018, indigenous forests covered

**~7 million ha**

(for 27% of total land area). The overall indigenous forest land area increased since 2008, but continue to be located in upland areas

More than

**3,200**

of our known indigenous species are threatened or at risk of extinction partly due to loss of habitat

## Pollution and waste

### Air quality is improving but below recent WHO health guidelines

Between 2017 and 2020:

**18** out of **19** sites (mostly residential) were above the 2021 WHO 24-hour average PM<sub>2.5</sub> guideline

In 2016, PM<sub>2.5</sub> and NO<sub>2</sub> from human-made air pollution was associated with:

**3,317** premature deaths    **13,155** hospitalisations