Working Paper 2022/07

Analysis of Climate Change

in Government Department Strategies as at 31 December 2021

MCGUINNESS INSTITUTE
TE HONONGA WAKA

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1.0 Introduction

1.1 Purpose

Government department strategies (GDSs) assist government departments in carrying out their roles by providing continuity despite ministerial and governmental change. Effective strategy helps government solve challenging problems, which is why GDSs are important instruments in managing the long-term interests of New Zealanders.

In order to add to the conversation on the optimal climate change strategy it is important to understand what strategy is currently being implemented. This enables readers to make an assessment on whether our current actions will be sufficient to deliver on our ambition, and if not, how we might change the current strategies and possibly strategic direction to achieve our goals.

The purpose of *Working Paper 2022/07 – Analysis of Climate Change in Government Department Strategies as at 31 December 2021* is to understand and report on the extent to which climate change is being discussed in the GDSs in operation as at 31 December 2021. The working paper includes two appendices:

- Appendix 1: GDSs in operation that explicitly mention climate change [41]
- Appendix 2: GDSs in operation that implicitly mention climate change [32]

This working paper supports the four major recommendations from the 2021 *GDS Index* found in the Handbook (repeated below):

1. The House of Representatives should consider how to better identify and communicate government priorities to both the public service and the wider public.
2. The Minister of Climate Change should require all 221 GDSs to be reassessed to take into account the impacts of climate change before 1 July 2023.
3. Te Kawa Mataaho Public Service Commission (PSC) should maintain a central register of GDSs, along with a consultation timeline for members of the public and guidance on ways government departments can improve the content of GDSs.
4. Government departments should align GDSs with government priorities and ensure the content is of a high standard; they should identify GDSs in operation in their statement of intent and annual report

1.2 Background

The 2021 *GDS Index* aims to illustrate how Aotearoa New Zealand might strengthen GDSs to be more effective, responsive, measurable, comparable and durable through public consultation, engagement and ownership. If government departments make the content of GDSs more useful, the users of these strategies will be better able to assess their quality and, where appropriate, to work with government to deliver better outcomes more cost-effectively. The Institute regularly updates the *GDS Index* so that information can be measured, analysed and tracked over time.

GDSs drive and guide public policy. These strategy documents provide citizens with a window into the workings of government and act as critical instruments for policymakers in bringing about change. GDSs help build trust in government activities through transparency, accountability and public engagement. The preparation of GDSs is a significant public investment, and although a great deal of thought and effort goes into their creation, they are often difficult to find within the machinery of government.

The analysis presented in this paper directly aligns with the content included in *Working Paper 2022/02 – Complete Lists of Government Department Strategies Between 1 July 1994 and 31 December 2021*. Working Paper 2022/02 essentially provides the 'evidence' behind the numbers presented in this paper.

Table 1: The 2021 GDS Index publications

Title in 2021 GDS series	Type of publication	Title of publication
2021 *GDS Index* Handbook	*GDS Index* Handbook	*2021 Government Department Strategies Index Handbook – He Puna Rautaki*
Methodology	Working Paper	*Working Paper 2022/01 – Methodology for the 2021 Government Department Strategies Index*
Lists of GDSs	Working Paper	*Working Paper 2022/02 – Complete Lists of Government Department Strategies Between 1 July 1994 and 31 December 2021*
Scoring	Working Paper	*Working Paper 2022/03 – Scoring Tables Collating and Ranking Government Department Strategies in Operation as at 31 December 2021*
Analysis	Working Paper	*Working Paper 2022/04 – Analysis of Government Department Strategies Between 1 July 1994 and 31 December 2021*
Best Practice	Working Paper	*Working Paper 2022/05 – Best Practice: Guidance for Policy Analysts Preparing Government Department Strategy Documents*
Strategy Maps	Working Paper	*Working Paper 2022/06 – Strategy Maps: Copies of All Strategy Maps found in Government Department Strategies in Operation as at 31 December 2021*
Analysis of Climate Change	Working Paper	*Working Paper 2022/07 – Analysis of Climate Change in Government Department Strategies as at 31 December 2021* (this document)
Analysis of Poverty	Working Paper	*Working Paper 2022/08 – Analysis of Poverty in Government Department Strategies as at 31 December 2021*
Slideshare	2021 Overview	*Presentation slides from the 2021 GDS Index launch*

2.0 Methodology

2.1 Method

The method includes the following four stages:

Stage 1: Using the advanced search tool in Adobe Acrobat and *Working Paper 2022/02 – Complete Lists of Government Department Strategies Between 1 July 1994 and 31 December 2021* as a reference, the Institute searched each GDS's PDF for the word 'climate'. This resulted in a total of 81 GDSs found containing the word 'climate'.

Stage 2: Each of the 81 GDSs were reviewed to check whether the mention of 'climate' was related to climate change or had another context (e.g. economic climate). This led to the removal of eight GDS, leaving 73 GDSs that mention climate change.

Stage 3: Text from the 73 GDSs that discussed climate was copied into an Excel document and then sorted by whether the GDS discussed climate explicitly or implicitly:

- Explicit – a detailed mention of climate change with discussion of possible impacts on the department's approach. There were 41 GDSs that explicitly mentioned climate change; see Appendix 1: GDSs in operation that explicitly mention climate change [41].
- Implicit – a minimal mention of climate change with little discussion of impact on the department's approach. There were 32 GDSs that implicitly mentioned climate change; see Appendix 2: Strategies that implicitly mention climate change.

Stage 4: The 41 GDSs that explicitly mentioned climate change were then analysed in terms of actions that were stated in each GDS. The Institute's summary of these action points is shown in the last column of Appendix 1: GDSs in operation that explicitly mention climate change [41].

- Action point – an action that can be sufficiently defined to be clearly identifiable and able to be ticked off when completed. It should ideally have a cost, the name of the responsible organisation, and an expected date of completion. Alternatively, instead of a date, it could describe what completion would look like (i.e. specifying when one or a number of goals have been achieved, e.g. zero by 2050). Given the general lack of clarity in the 41 GDSs that explicitly mentioned climate change, the Institute has taken a generous interpretation of action points this year. The aim is to illustrate the size of the systemic problem that we, as a country, face.

Stage 5: All strategies were then assessed and grouped in terms of (i) departments and (ii) government sectors. This led to the strategy wheels in Section 3.4.

2.2 Criteria

For the purposes of the 2021 *GDS Index*, 'government department strategy' (GDS) is defined in terms of the following criteria.

Criteria

A GDS must:

1. be a publicly available document accessible on a government department website,
2. be public-facing, therefore excluding a strategy only made public as the result of an OIA request,
3. be strategic, containing long-term thinking and setting out the means (the strategy) and the ends (the purpose),
4. be produced by a government department, therefore excluding situations where a strategy is written or published by another party,
5. be national rather than local in focus, therefore excluding regional strategies,
6. guide the department's thinking and operations over two years or more, and
7. not be a statement of intent or annual report.

2.3 Limitations and acknowledgements

1. Double counting

The figure of 221 GDSs double-counts those GDSs that are jointly owned by more than one department. This means, for example, a strategy that is owned and used by three different departments is counted three times in the total of 221.

2. Scope

The Institute acknowledges that GDSs are not the only instruments used by government to bring about change. Three that have been excluded from this research are discussed below.

- **Government priorities:** A general discussion on government priorities can be found in one of three places: the Speech from the Throne (every three years), the Budget Policy Statement (usually published in November or December) and the Budget Speech (usually in May or June). Of these, the Budget Policy Statement is the least well known and most obscure. The instruments highlight a set of priorities to help drive public expenditure and wider public policy. The government priorities fail to meet the second criterion that determines a GDS, in that they are not generated by a government department.

- **Carbon Neutral Government Programme:** Cabinet can issue strategy documents independent of government departments. An example of such an instrument is the Carbon Neutral Government Programme (CNGP).[1] The CNGP has been established to 'show leadership to reduce [the government's] own emissions in order to demonstrate what is possible to other sectors

in the New Zealand economy'. The CNGP has been excluded from this research as it is an 'all-of-government programme' prepared in detail by Cabinet (rather than by one or more government departments). These types of strategy documents are rare. They are often issued as a Cabinet Minute and are proactively released. Therefore, the CNGP fails to meet the first and second criteria that determine a GDS, in that it was not made publicly available once prepared and was not generated by a government department.

- **Labour Government's manifesto:** A few instruments guide goals and decision-making from outside of government. One prominent example is the Labour Government's 2020 election manifesto.[2] The manifesto fails to meet the second criterion that determines a GDS, in that it is not generated by a government department.

3. Transparency and accountability

The Institute believes that departments should aspire to a higher level of transparency over strategy development and implementation than Cabinet. This is because Cabinet will be voted out if it is not effective, but government officials have no direct cause-and-effect relationship with the public. Instead, departments are designated public funds (through the vote) to spend on effective public policy. If their public policy is not effective, there are currently very few checks and balances to ensure the approach and actions are measurable and progress is able to be reviewed. For these reasons, a higher level of transparency and accountability is required than at present. The *GDS Index* is the Institute's proposed solution to overcome this significant public policy failure.

4. Action points

It is important to acknowledge that not all strategy documents require action points. This is because it is possible to separate 'an approach' (the strategy) from 'a plan' (containing action points). However, given the climate emergency and Emissions Reduction Plan, the Institute considers action points should be included. In practice, this could simply be a statement that the department will develop a plan (or set of action points) to achieve the strategy within a certain time frame. From a public good perspective, clearly as much information as possible on how the strategy will be implemented is good practice, as it enables the public to understand, test, collaborate and review the intentions of the department and later its success in implementing the strategy. This also ensures an opportunity for future policy analysts, politicians and interested parties to learn the lessons of what has worked and what has not. For these reasons, the Institute assumes some form of high-level key action points should be included in a strategy document to illustrate the cause-and-effect relationship that is necessary to bring about change.

3.0 Analysis

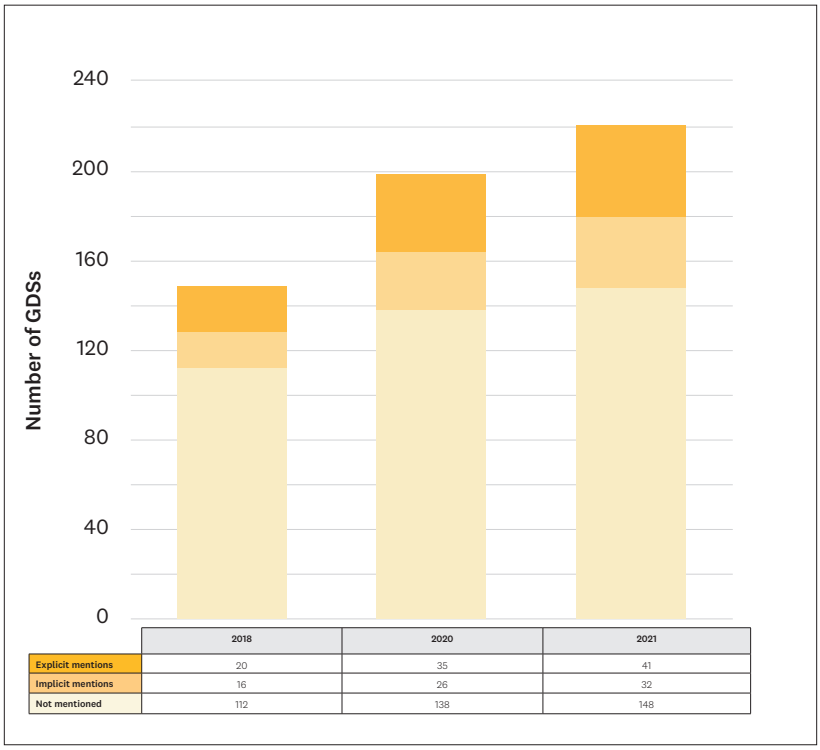
The information presented in this section can be found in Lists JJ and KK of *Working Paper 2022/02 – Complete Lists of Government Department Strategies Between 1 July 1994 and 31 December 2021.*

3.1 Differences by GDSs

This is an analysis of the 221 operational GDS documents as at 31 December 2021, and how many of these mention climate change.

There is an increasing trend of mentions of climate change, yet this is still much lower than expected given that the Institute has interpreted a light discussion on the impacts of climate change as an explicit mention and a minimal reference to climate change as an implicit mention. In 2021, 33% of operational GDSs (73 out of 221) mentioned climate change. The number of explicit mentions of climate change increased from 35 (out of 199) in 2020 to 41 (out of 221) in 2021 – an increase of 6 GDSs (approximately 3%). In 2018, 14% of operational GDSs (20 out of 148) explicitly mentioned climate change.

Figure 1: Mentions of climate change in GDSs, as at 2018, 2020 and 2021



	2018	2020	2021
Explicit mentions	20	35	41
Implicit mentions	16	26	32
Not mentioned	112	138	148

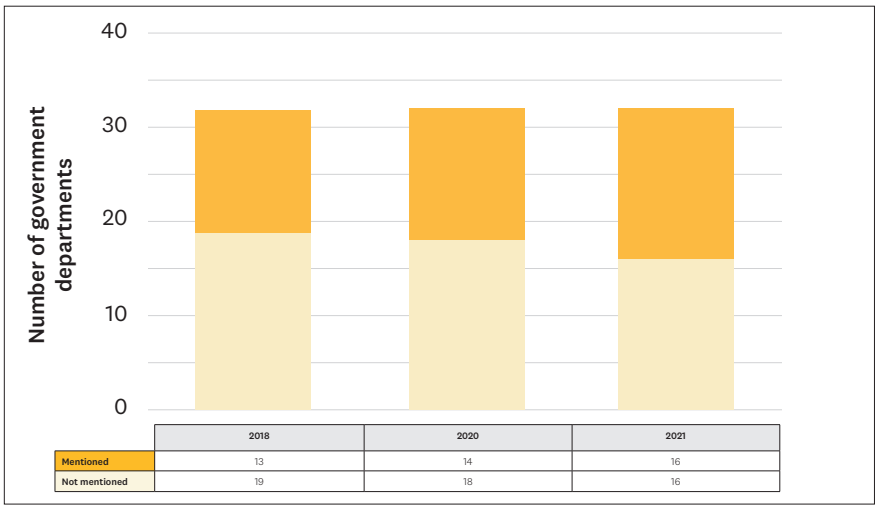
- 67% of GDSs did not mention climate change (69% in 2020, 76% in 2018)
- 19% of GDSs explicitly mentioned climate change (18% in 2020, 13% in 2018)
- 14% of GDSs implicitly mentioned climate change (13% in 2020, 11% in 2018)

3.2 Differences by government department

The 32 government departments were then analysed with a focus on the number of departments that mention climate change in their GDSs.

Note: Six departments did not have any GDSs in operation as at 31 December 2021 (compared with five in 2020 and four in 2018).

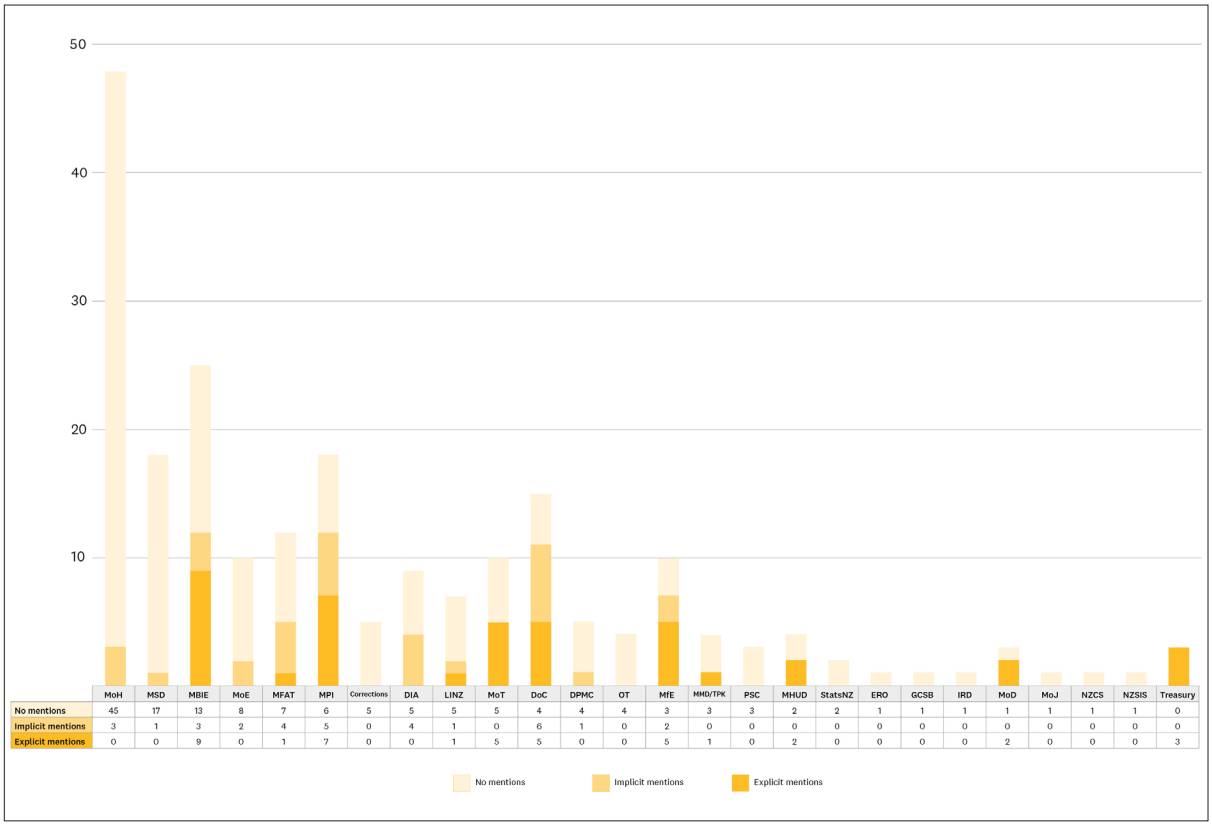
Figure 2: Number of government departments with GDSs that mention climate change, as at 2018, 2020 and 2021 [out of 32]



	2018	2020	2021
Mentioned	13	14	16
Not mentioned	19	18	16

- 16 government departments mention climate change in their respective GDSs (14 in 2020, 13 in 2018).
- The remaining 10 departments that publish GDSs did not mention climate change in their strategy documents. In 2020, 13 departments did not mention climate change. In 2018, 15 departments did not mention climate change.

Figure 3: Figure 3: GDSs in operation, ordered by number of 'no mentions' of climate change [221]



	MoH	MSD	MBIE	MoE	MFAT	MPI	Corrections	DIA	LINZ	MoT	DoC	DPMC	OT	MfE	MHD/TPK	PSC	MHUD	StatsNZ	ERO	GCSB	IRD	MoD	MoJ	NZCS	NZSIS	Treasury
No mentions	45	17	13	8	7	6	5	5	5	5	4	4	4	3	3	3	2	2	1	1	1	1	1	1	1	0
Implicit mentions	3	1	3	2	4	5	0	4	1	0	6	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Explicit mentions	0	0	9	0	1	7	0	0	1	5	5	0	0	5	1	0	2	0	0	0	0	2	0	0	0	3

Figure 3 (above) illustrates (i) the total number of GDSs produced by each government department; (ii) the number of GDSs that did not discuss climate change; (iii) the number of GDSs that did discuss climate change; and (iv) the type of discussion (implicit or explicit). This type of graph enables more context and understanding around the current state of climate change strategy within the public sector.

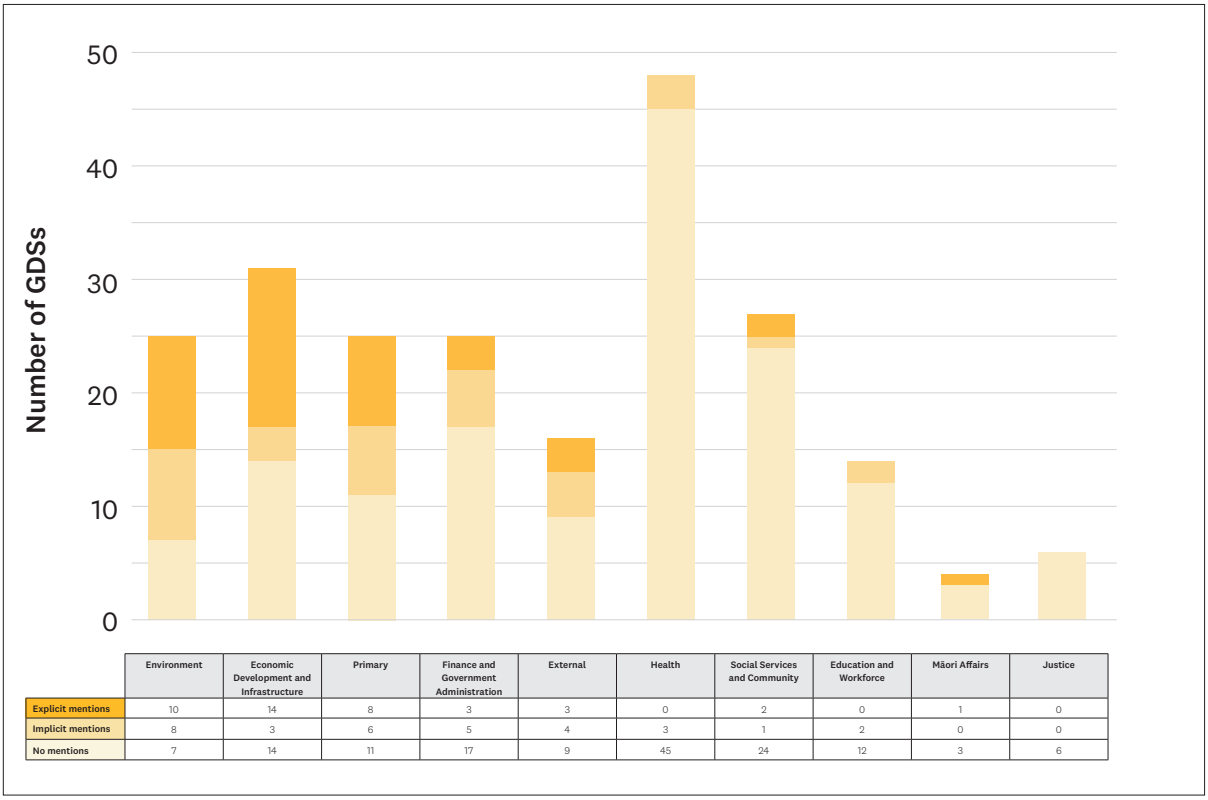
In viewing the situation overall, it becomes clear that not enough is being done across government. For example, Treasury is taking climate change into consideration in its GDSs, but the Ministry of Health and the Ministry of Social Development are yet to do so. However, the impacts of climate change will be felt by those that are challenged with health issues or financial constraints (e.g. difficulty in relocating or inability to purchase an electric car).

3.3 Differences by sector

An analysis of the 10 government sectors was undertaken, with a focus on the number of departments within each sector and how many of their respective GDS documents mention climate change.

Government sectors tie together the departments and their respective strategies. Looking at strategy documents and departments as derivatives of government sectors illustrates where there are high-level areas within government that need to consider addressing climate change within their strategic documents.

Figure 4: Government sectors with GDSs in operation as at 31 December 2021, ordered by mentions of climate change [out of 10]



	Environment	Economic Development and Infrastructure	Primary	Finance and Government Administration	External	Health	Social Services and Community	Education and Workforce	Māori Affairs	Justice
Explicit mentions	10	14	8	3	3	0	2	0	1	0
Implicit mentions	8	3	6	5	4	3	1	2	0	0
No mentions	7	14	11	17	9	45	24	12	3	6

Figure 5: Government sectors with GDSs that mention climate change, 2020 [out of 10]

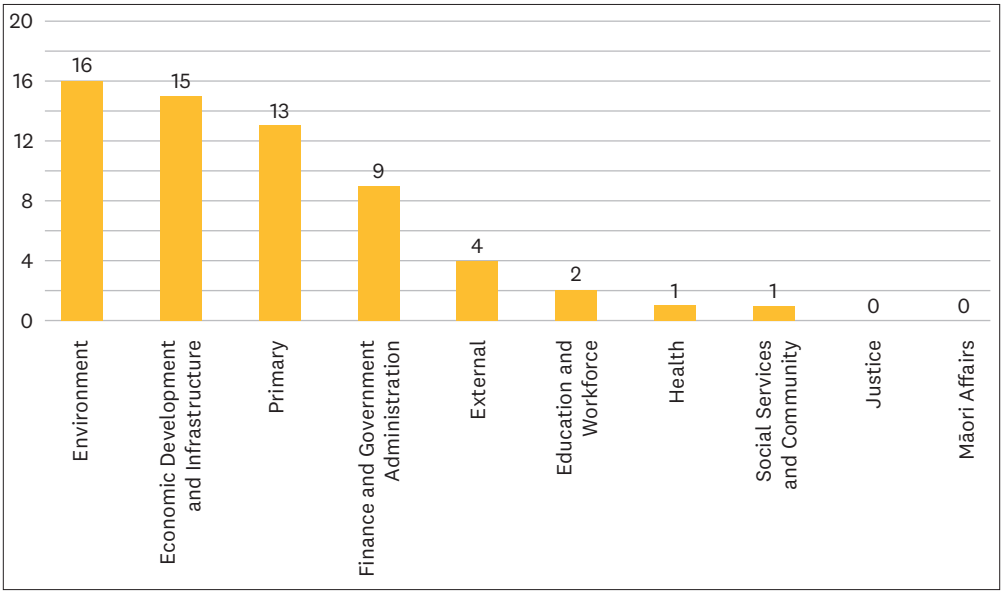
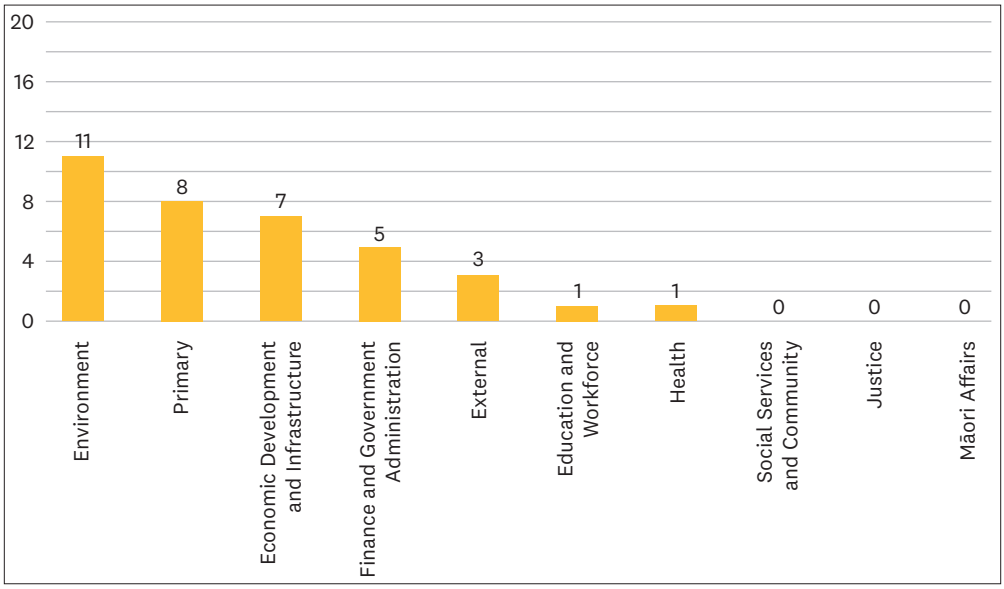


Figure 6: Government sectors with GDSs that mention climate change, 2018 [out of 10]



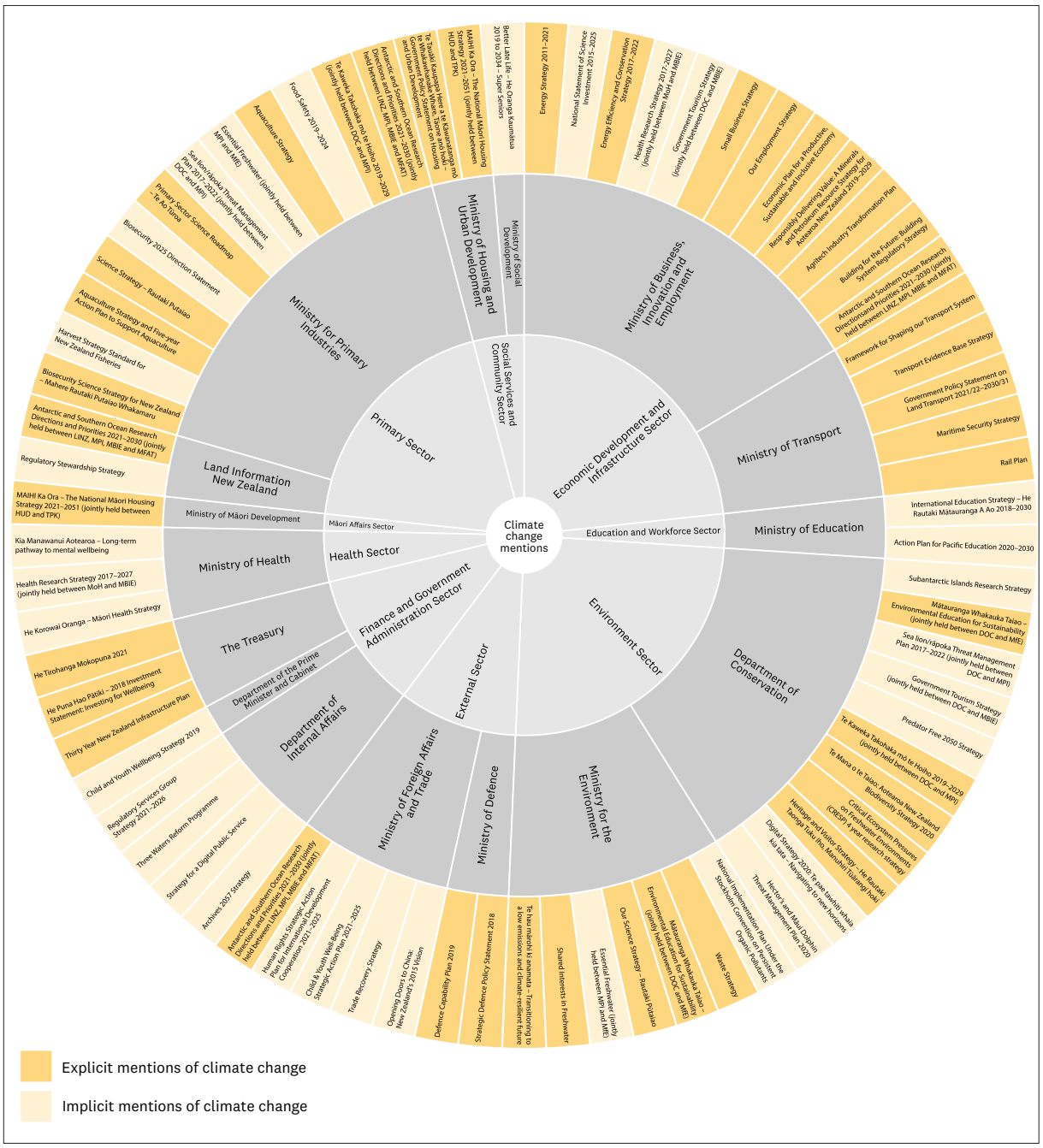
- Nine out of 10 sectors in 2021 included some level of climate change discussion in their respective departments' GDSs. In 2020, 8 out of the 10 sectors did. In 2018, 7 out of 10 sectors did.
- In 2021, the sectors with the most mentions of climate change in GDSs were the Environment Sector, Economic Development and Infrastructure Sector, and Primary Sector. This was also true in 2020 and 2018.
- In 2021, the sectors with the least mentions of climate change in GDSs were the Education and Workforce Sector and the Māori Affairs Sector (1 each).
- In 2021, the Justice Sector was the only sector to not have any GDSs that mention climate change.

3.4 Strategy wheels (2018, 2020 and 2021)

When looked at in totality, using strategy wheels as seen in Figures 7 and 8, the research results are easier to assess and understand. Although there has been an increase in the number of strategies that mention climate change (73 in 2021, 61 in 2020 and 36 in 2018), the total percentage that mention climate change is still much lower than expected (33% in 2021, 31% in 2020, 24% in 2018).

- In 2021, 73 GDSs mentioned climate change (either implicitly or explicitly). Of the 73, 69 [95%] were published after 2010.
- In 2020, 61 GDSs mentioned climate change either implicitly or explicitly. Of the 61, 56 [92%] were published after 2010.
- In 2018, 36 GDSs mentioned climate change (either implicitly or explicitly). Of the 36, 30 [83%] were published after 2010.

Figure 7: Climate change strategy wheel, 2021 – mentions [73]

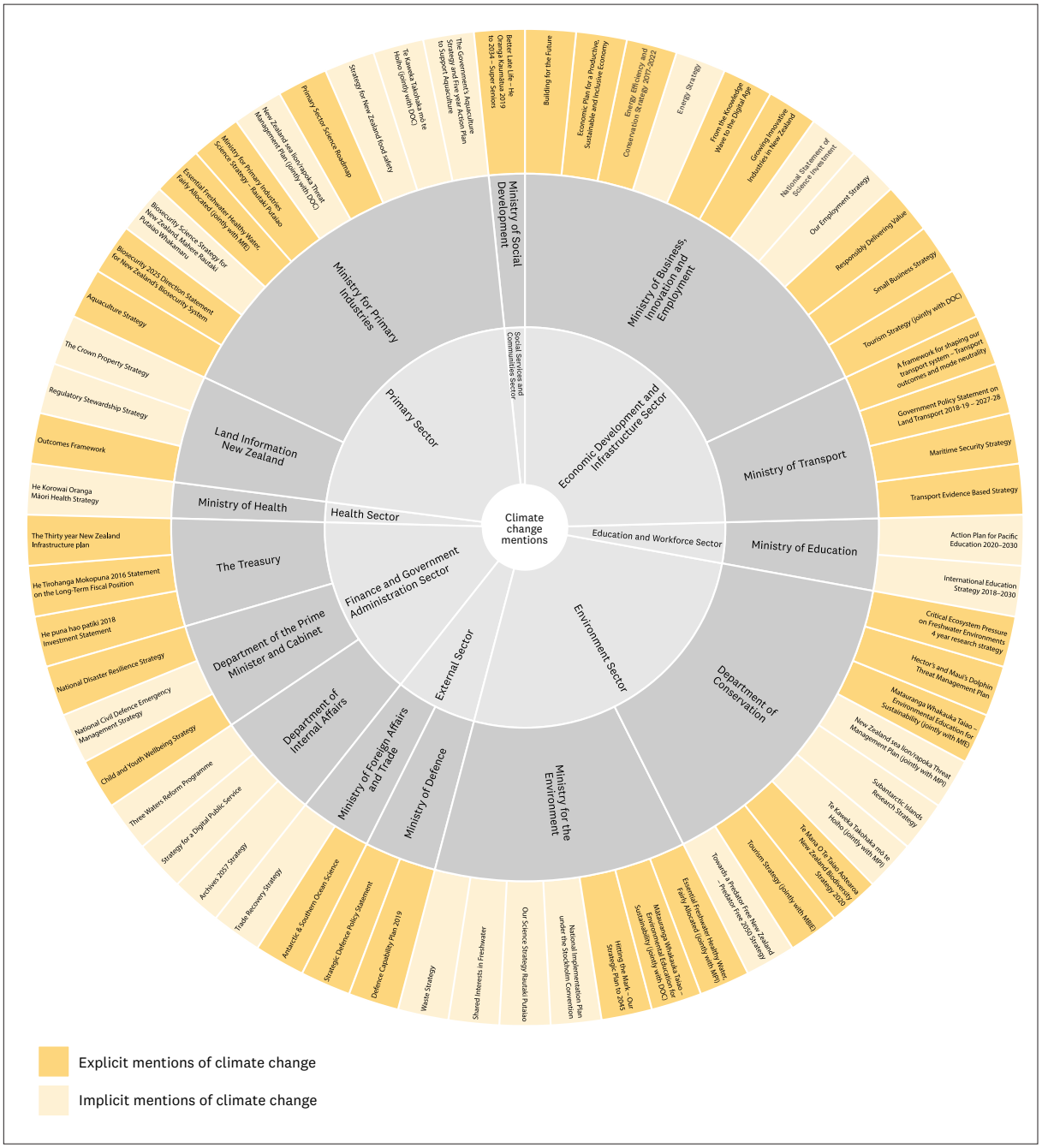


Sector	Department	GDS number	Title of strategy
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	GDS15–02	Energy Strategy 2011–2021
		GDS15–09	National Statement of Science Investment 2015–2025
		GDS15–10	Energy Efficiency and Conservation Strategy 2017–2022
		GDS15–11	Health Research Strategy 2017-2027 (jointly held between MoH and MBIE)
		GDS15–14	Government Tourism Strategy (jointly held between DOC and MBIE)
		GDS15–16	Small Business Strategy
		GDS15–17	Our Employment Strategy
		GDS15–18	Economic Plan for a Productive, Sustainable and Inclusive Economy
		GDS15–19	Responsibly Delivering Value: A Minerals and Petroleum Resource Strategy for Aotearoa New Zealand 2019–2029
		GDS15–21	Agritech Industry Transformation Plan
		GDS15–23	Building for the Future: Building System Regulatory Strategy
		GDS15–25	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
	Ministry of Transport	GDS24–03	Framework for Shaping our Transport System
		GDS24–07	Transport Evidence Base Strategy
		GDS24–08	Government Policy Statement on Land Transport 2021/22–2030/31
		GDS24–09	Maritime Security Strategy
		GDS24–10	Rail Plan
Education and Workforce Sector	Ministry of Education	GDS17–03	International Education Strategy – He Rautaki Mātauranga A Ao 2018–2030
		GDS17–06	Action Plan for Pacific Education 2020–2030

Sector	Department	GDS number	Title of strategy
Environment Sector	Department of Conservation	GDS02–01	Subantarctic Islands Research Strategy
		GDS02–03	Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		GDS02–04	New Zealand sea lion/rāpoka Threat Management Plan 2017–2022 (jointly held between DOC and MPI)
		GDS02–06	Government Tourism Strategy (jointly held between DOC and MBIE)
		GDS02–07	Predator Free 2050 Strategy
		GDS02–10	Te Kaweka Takohaka mō te Hoiho 2019–2029 (jointly held between DOC and MPI)
		GDS02–11	Te Mana o te Taiao: Aotearoa New Zealand Biodiversity Strategy 2020
		GDS02–12	Critical Ecosystem Pressures on Freshwater Environments (CRESP) 4 year research strategy
		GDS02–13	Heritage and Visitor Strategy – He Rautaki Taonga Tuku Iho, Manuhiri Tūārangi hoki
		GDS02–14	Digital Strategy 2020: Te pae tawhiti whaia kia tata – Navigating to new horizons
		GDS02–15	Hector's and Māui Dolphin Threat Management Plan 2020
	Ministry for the Environment	GDS13–02	National Implementation Plan Under the Stockholm Convention on Persistent Organic Pollutants
		GDS13–03	Waste Strategy
		GDS13–05	Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		GDS13–06	Our Science Strategy – Rautaki Pūtaiao
		GDS13–07	Essential Freshwater (jointly held between MPI and MfE)
		GDS13–08	Shared Interests in Freshwater
		GDS13–10	Te hau mārohi ki anamata – Transitioning to a low emissions and climate-resilient future
External Sector	Ministry of Defence	GDS16–02	Strategic Defence Policy Statement 2018
		GDS16–03	Defence Capability Plan 2019
	Ministry of Foreign Affairs and Trade	GDS18–01	Opening Doors to China: New Zealand's 2015 Vision
		GDS18–08	Trade Recovery Strategy
		GDS18–10	Child & Youth Well-Being Strategic Action Plan 2021–2025
		GDS18–11	Human Rights Strategic Action Plan for International Development Cooperation 2021–2025
		GDS18–12	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
Finance and Government Administration Sector	Department of Internal Affairs	GDS04–02	Archives 2057 Strategy
		GDS04–06	Strategy for a Digital Public Service
		GDS04–07	Three Waters Reform Programme
		GDS04–08	Regulatory Services Group Strategy 2021–2026
	Department of the Prime Minister and Cabinet	GDS05–03	Child and Youth Wellbeing Strategy 2019
	The Treasury	GDS32–01	Thirty Year New Zealand Infrastructure Plan
		GDS32–02	He Puna Hao Pātiki – 2018 Investment Statement: Investing for Wellbeing
		GDS32–03	He Tirohanga Mokopuna 2021

Sector	Department	GDS number	Title of strategy
Health Sector	Ministry of Health	GDS19–17	He Korowai Oranga – Māori Health Strategy
		GDS19–26	Health Research Strategy 2017–2027 (jointly held between MoH and MBIE)
		GDS19–44	Kia Manawanui Aotearoa – Long-term pathway to mental wellbeing
Māori Affairs Sector	Ministry of Māori Development—Te Puni Kōkiri	GDS22–03	MAIHI Ka Ora – The National Māori Housing Strategy 2021–2051 (jointly held between HUD and TPK)
Primary Sector	Land Information New Zealand	GDS09–06	Regulatory Stewardship Strategy
		GDS09–07	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
	Ministry for Primary Industries	GDS12–01	Biosecurity Science Strategy for New Zealand – Mahere Rautaki Putaiao Whakamaru
		GDS12–02	Harvest Strategy Standard for New Zealand Fisheries
		GDS12–04	Aquaculture Strategy and Five-year Action Plan to Support Aquaculture
		GDS12–07	Science Strategy – Rautaki Putaiao
		GDS12–08	Biosecurity 2025 Direction Statement
		GDS12–09	Primary Sector Science Roadmap – Te Ao Tūroa
		GDS12–10	New Zealand sea lion/rāpoka Threat Management Plan 2017–2022 (jointly held between DOC and MPI)
		GDS12–11	Essential Freshwater (jointly held between MPI and MfE)
		GDS12–13	Aquaculture Strategy
		GDS12–14	Food Safety 2019–2024
		GDS12–17	Te Kaweka Takohaka mō te Hoiho 2019–2029 (jointly held between DOC and MPI)
		GDS12–18	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
Social Services and Community Sector	Ministry of Housing and Urban Development	GDS20–03	Te Tauākī Kaupapa Here a te Kāwanatanga mō te Whakawhanake Whare, Tāone anō hoki – Government Policy Statement on Housing and Urban Development
		GDS20–04	MAIHI Ka Ora – The National Māori Housing Strategy 2021–2051 (jointly held between HUD and TPK)
	Ministry of Social Development	GDS23–08	Better Late Life – He Oranga Kaumātua 2019 to 2034 – Super Seniors

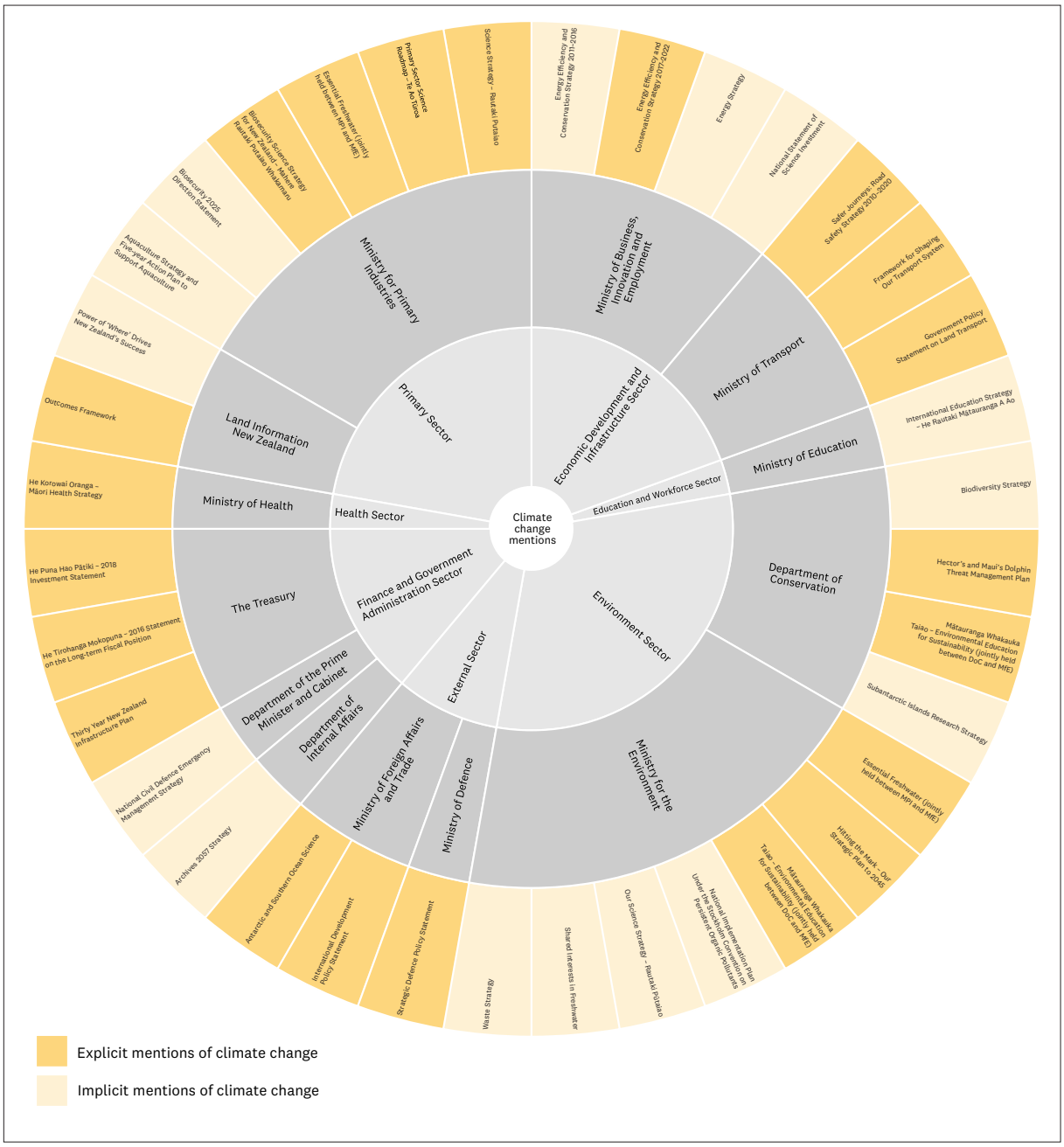
Figure 8: Climate change strategy wheel, 2020 – mentions [61]



Sector	Department	Title of strategy
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Building for the Future
		Economic Plan for a Productive, Sustainable and Inclusive Economy
		Energy Efficiency and Conservation Strategy 2017–2022
		Energy Strategy
		From the Knowledge Wave to the Digital Age
		Growing Innovative Industries in New Zealand
		National Statement of Science Investment
		Our Employment Strategy
		Reponsibly Delivering Value
		Small Business Strategy
		Tourism Strategy (jointly held between MBIE and DOC)
	Ministry of Transport	A framework for shaping our transport system – Transport outcomes and mode neutrality
		Government Policy Statement on Land Transport 2018-19 – 2027-28
		Maritime Security Strategy
		Transport Evidence Based Strategy
Education and Workforce Sector	Ministry of Education	Action Plan for Pacific Education 2020–2030
		International Education Strategy 2018–2030
Environment Sector	Department of Conservation	Critical Ecosystem Pressure on Freshwater Environments 4 year research strategy
		Hector's and Maui's Dolphin Threat Management Plan
		Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		New Zealand sea lion/rāpoka Threat Management Plan (jointly held between DOC and MPI)
		Subantarctic Islands Research Strategy
		Te Kaweka Takohaka mō te Hoiho (jointly held between DOC and MPI)
		Te Mana O Te Taiao Aotearoa New Zealand Biodiversity Strategy 2020
		Tourism Strategy (jointly hekd between DOC and MBIE)
		Towards a Predator Free New Zealand – Predator Free 2050 Strategy
	Ministry for the Environment	Essential Freshwater Healthy Water, Fairly Allocated (jointly held between MfE and MPI)
		Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between MfE and DOC)
		Hitting the Mark – Our Strategic Plan to 2045
		National Implementation Plan under the Stockholm Convention
		Our Science Strategy Rautaki Putaiao
		Shared Interests in Freshwater
		Waste Strategy
External Sector	Ministry of Defence	Defence Capability Plan 2019
		Strategic Defence Policy Statement
	Ministry of Foreign Affairs and Trade	Antarctic & Southern Ocean Science
		Trade Recovery Strategy

Sector	Department	Title of strategy
Finance and Government Administration Sector	Department of Internal Affairs	Archives 2057 Strategy
		Strategy for a Digital Public Service
		Three Waters Reform Programme
	Department of the Prime Minister and Cabinet	Child and Youth Wellbeing Strategy
		National Civil Defence Emergency Management Strategy
		National Disaster Resilience Strategy
	The Treasury	He puna hao patiki 2018 Investment Strategy
		He Tirohanga Mokopuna 2016 Statement on the Long-Term Fiscal Position
		The Thirty year New Zealand Infrastructure plan
Health Sector	Ministry of Health	He Korowai Oranga Māori Health Strategy
Primary Sector	Land Information New Zealand	Outcomes Framework
		Regulatory Stewardship Strategy
		The Crown Property Strategy
	Ministry for Primary Industries	Aquaculture Strategy
		Biosecurity 2025 Direction Statement for New Zealand's Biosecurity System
		Biosecurity Science Strategy for New Zealand, Mahere Rautaki Putaiao Whakamaru
		Essential Freshwater Healthy Water,Fairly Allocated (jointly held between MfE and MPI)
		Ministry for Primary Industries Science Strategy – Rautaki Putaiao
		New Zealand sea lion/rāpoka Threat Management Plan (jointly held between MPI and DOC)
		Primary Sector Science Roadmap
		Strategy for New Zealand food safetly
		Te Kaweka Takohaka mō te Hoiho (jointly held between MPI and DOC)
		The Government's Aquaculture Strategy and Five year Action Plan to Support Aquaculture
Social Development and Communities Sector	Ministry of Social Development	Better Late Life – He Oranga Kaumatua 2019 to 2034 – Super Seniors

Figure 9: Climate change strategy wheel, 2018[3] – mentions [36]



Sector	Department	Title of strategy
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Energy Efficiency and Conservation Strategy 2011–2016
		Energy Efficiency and Conservation Strategy 2017–2022
		Energy Strategy
		National Statement of Science Investment
	Ministry of Transport	Safer Journeys: Road Safety Strategy 2010–2020
		Framework for Shaping Our Transport System
		Government Policy Statement on Land Transport
Education and Workforce Sector	Ministry of Education	International Education Strategy– He Rautaki Mātauranga A Ao

Sector	Department	Title of strategy
Environment Sector	Department of Conservation	Biodiversity Strategy
		Hector's and Maui's Dolphin Threat Management Plan
		Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		Subantarctic Islands Research Strategy
	Ministry for the Environment	Essential Freshwater (jointly held between MPI and MfE)
		Hitting the Mark – Our Strategic Plan to 2045
		Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		National Implementation Plan Under the Stockholm Convention on Persistent Organic Pollutants
		Our Science Strategy – Rautaki Pūtaiao
		Shared Interests in Freshwater
		Waste Strategy
External Sector	Ministry of Defence	Strategic Defence Policy Statement
	Ministry of Foreign Affairs and Trade	International Development Policy Statement
		Antarctic and Southern Ocean Science
Finance and Government Administration Sector	Department of Internal Affairs	Archives 2057 Strategy
	Department of the Prime Minister and Cabinet	National Civil Defence Emergency Management Strategy
	The Treasury	Thirty Year New Zealand Infrastructure Plan
		He Tirohanga Mokopuna – 2016 Statement on the Long-term Fiscal Position
		He Puna Hao Pātiki – 2018 Investment Statement
Health Sector	Ministry of Health	He Korowai Oranga –Māori Health Strategy
Primary Sector	Land Information New Zealand	Outcomes Framework
		Power of 'Where' Drives New Zealand's Success
	Ministry for Primary Industries	Aquaculture Strategy and Five-year Action Plan to Support Aquaculture
		Biosecurity 2025 Direction Statement
		Biosecurity Science Strategy for New Zealand – Mahere Rautaki Putaiao Whakamaru
		Essential Freshwater (jointly held between MPI and MfE)
		Primary Sector Science Roadmap – Te Ao Tūroa
		Science Strategy – Rautaki Putaiao

4.0 Going deeper – Reviewing GDSs for action points on climate change

4.1 GDSs that contained action points in relation to climate change

Out of the 41 GDSs that explicitly mentioned climate change, the Institute then identified the number of GDSs containing at least one action point to minimise and/or prevent impacts arising from climate change. 25 out of 41 GDSs contained action points.

Contains action points

Does not contain action points

Table 2: GDSs explicitly discussing climate change that contain action points, 2021 [41]

Sector	Department	GDS number	Title of strategy
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	GDS15–02	Energy Strategy 2011–2021
		GDS15–10	Energy Efficiency and Conservation Strategy 2017–2022
		GDS15–16	Small Business Strategy
		GDS15–17	Our Employment Strategy
		GDS15–18	Economic Plan for a Productive, Sustainable and Inclusive Economy
		GDS15–19	Responsibly Delivering Value: A Minerals and Petroleum Resource Strategy for Aotearoa New Zealand 2019–2029
		GDS15–21	Agritech Industry Transformation Plan
		GDS15–23	Building for the Future: Building System Regulatory Strategy
		GDS15–25	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
	Ministry of Transport	GDS24–03	Framework for Shaping our Transport System
		GDS24–07	Transport Evidence Base Strategy
		GDS24–08	Government Policy Statement on Land Transport 2021/22–2030/31
		GDS24–09	Maritime Security Strategy
		GDS24–10	Rail Plan
Environment Sector	Department of Conservation	GDS02–03	Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		GDS02–10	Te Kaweka Takohaka mō te Hoiho 2019–2029 (jointly held between DOC and MPI)
		GDS02–11	Te Mana o te Taiao: Aotearoa New Zealand Biodiversity Strategy 2020
		GDS02–12	Critical Ecosystem Pressures on Freshwater Environments (CRESP) 4 year research strategy
		GDS02–13	Heritage and Visitor Strategy – He Rautaki Taonga Tuku Iho, Manuhiri Tūārangi hoki
	Ministry for the Environment	GDS13–03	Waste Strategy
		GDS13–05	Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)
		GDS13–06	Our Science Strategy – Rautaki Pūtaiao
		GDS13–08	Shared Interests in Freshwater
		GDS13–10	Te hau mārohi ki anamata – Transitioning to a lowemissions and climate-resilient future

Sector	Department	GDS number	Title of strategy
External Sector	Ministry of Defence	GDS16–02	Strategic Defence Policy Statement 2018
		GDS16–03	Defence Capability Plan 2019
	Ministry of Foreign Affairs and Trade	GDS18–12	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
Finance and Government Administration Sector	The Treasury	GDS32–01	Thirty Year New Zealand Infrastructure Plan
		GDS32–02	He Puna Hao Pātiki – 2018 Investment Statement: Investing for Wellbeing
		GDS32–03	He Tirohanga Mokopuna 2021
Māori Affairs Sector	Ministry of Māori Development—Te Puni Kōkiri	GDS22–03	MAIHI Ka Ora – The National Māori Housing Strategy 2021–2051 (jointly held between HUD and TPK)
Primary Sector	Land Information New Zealand	GDS09–07	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
	Ministry for Primary Industries	GDS12–01	Biosecurity Science Strategy for New Zealand – Mahere Rautaki Putaiao Whakamaru
		GDS12–04	Aquaculture Strategy and Five-year Action Plan to Support Aquaculture
		GDS12–07	Science Strategy – Rautaki Putaiao
		GDS12–09	Primary Sector Science Roadmap – Te Ao Tūroa
		GDS12–13	Aquaculture Strategy
		GDS12–17	Te Kaweka Takohaka mō te Hoiho 2019–2029 (jointly held between DOC and MPI)
		GDS12–18	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)
Social Services and Community Sector	Ministry of Housing and Urban Development	GDS20–03	Te Tauākī Kaupapa Here a te Kāwanatanga mō te Whakawhanake Whare, Tāone anō hoki – Government Policy Statement on Housing and Urban Development
		GDS20–04	MAIHI Ka Ora – The National Māori Housing Strategy 2021–2051 (jointly held between HUD and TPK)

Figure 10: GDSs discussing climate change that contain action points, 2021 [41]

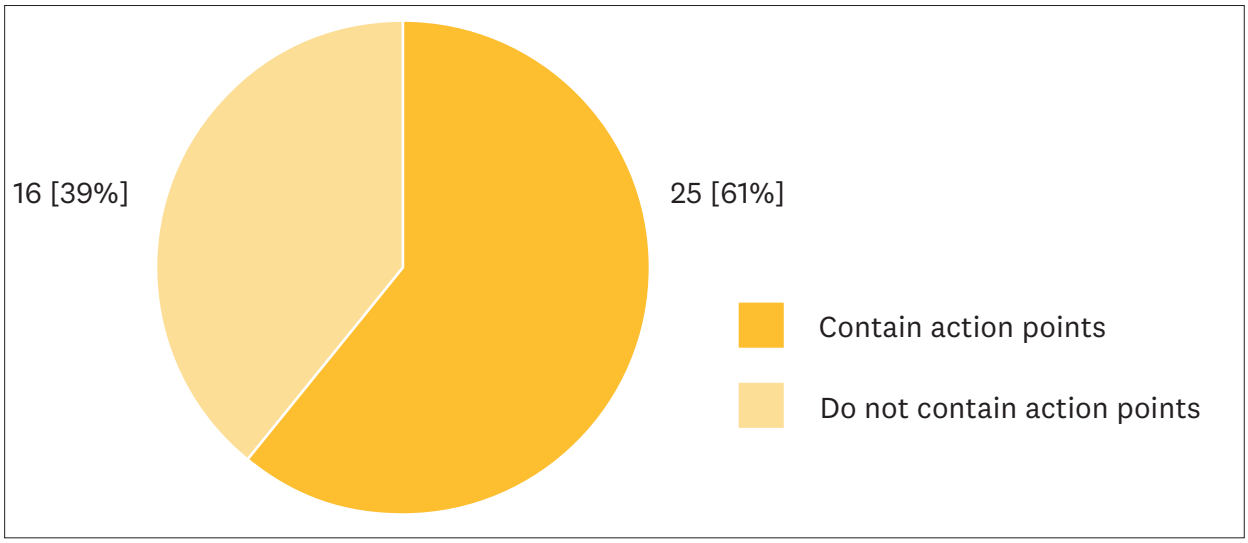


Figure 11: GDSs explicitly discussing climate change that contain action points, 2021, by publication date [25]

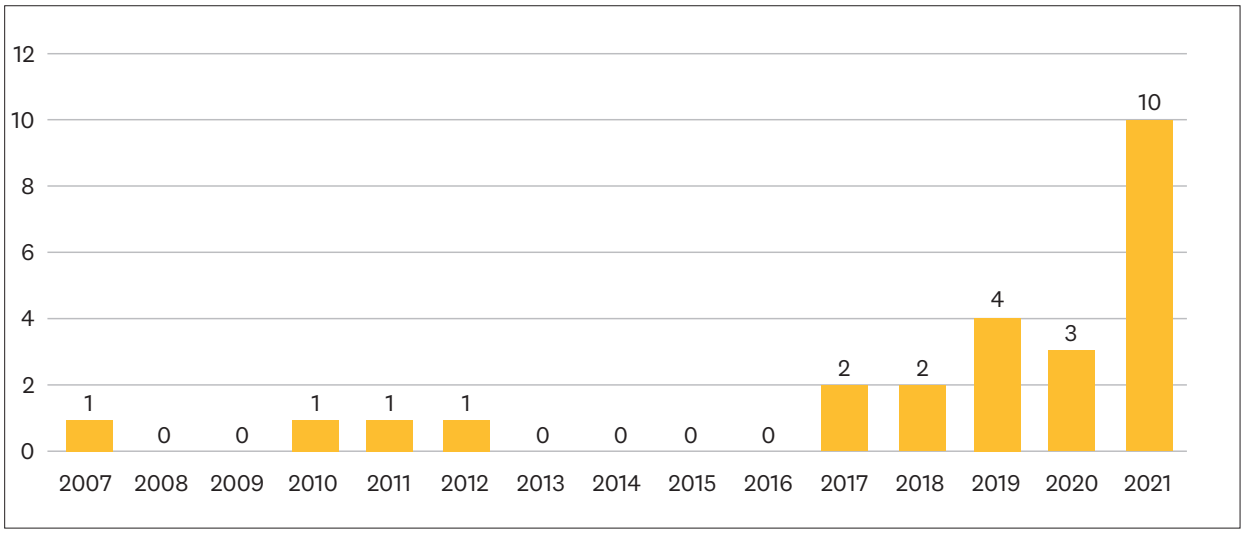


Figure 12: GDSs explicitly discussing climate change that contain action points, 2021, by Government [25]

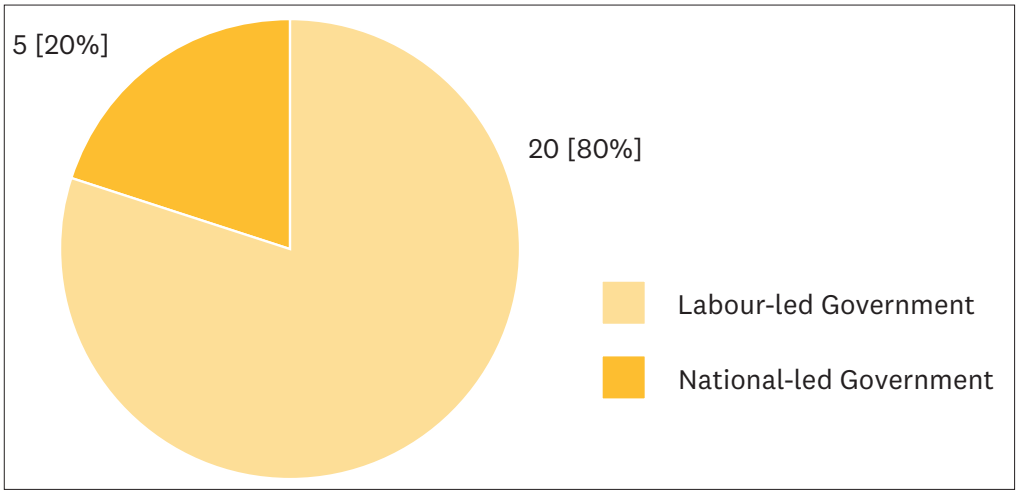
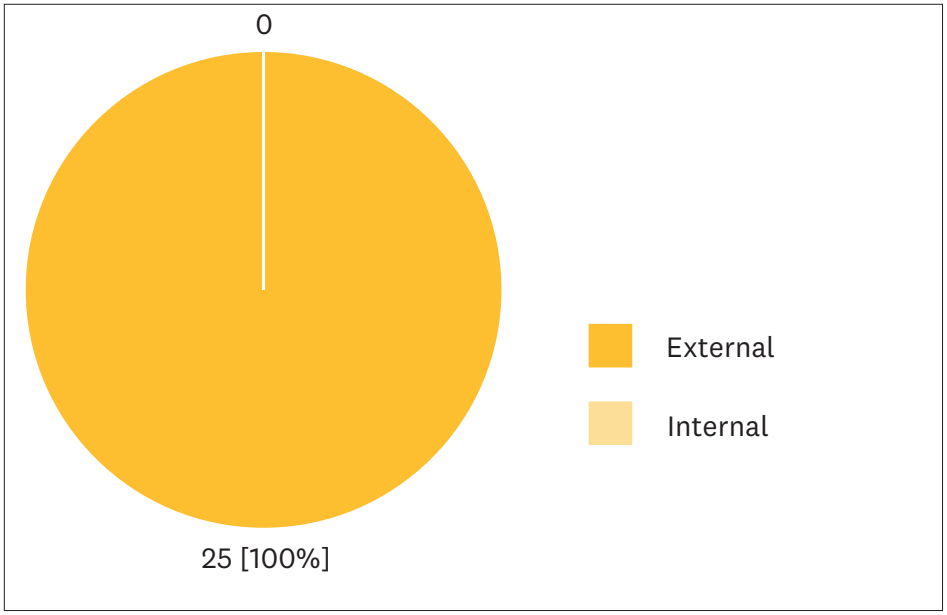


Figure 13: Scope of GDSs that contain action points, 2021 [25]



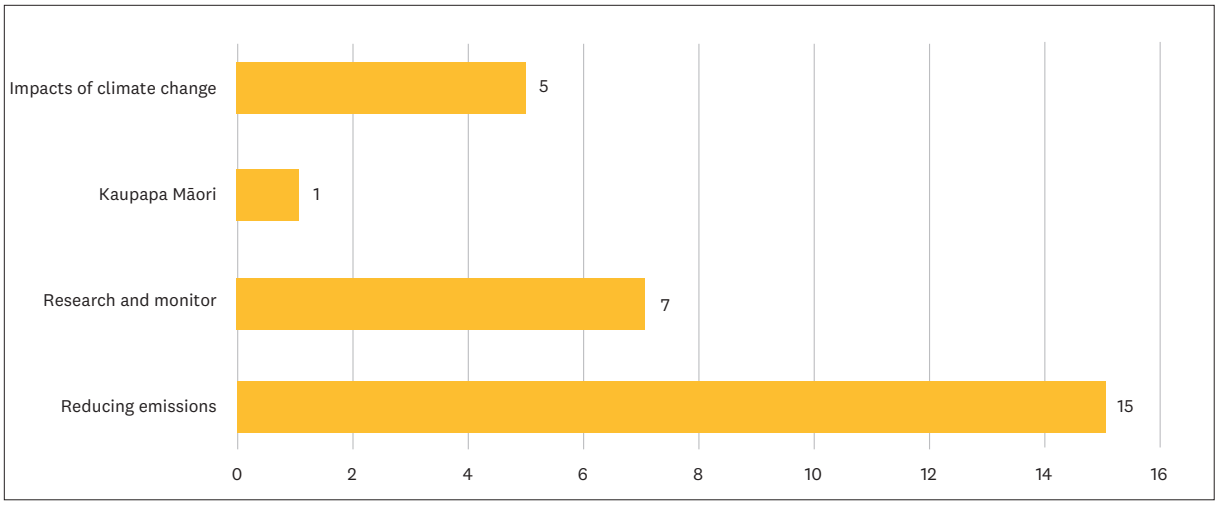
100% of GDSs that included action points are externally focused. This illustrates that the Government's climate action is attempting to target a wide audience (rather than focusing only within departments).

The Institute's definitions of 'internal' and 'external' are as follows:

- External: The GDS focuses on change outside of the department (e.g. environment, public health, poverty)
- Internal: The GDS focuses on change inside of the department (e.g. information management, staff diversity).

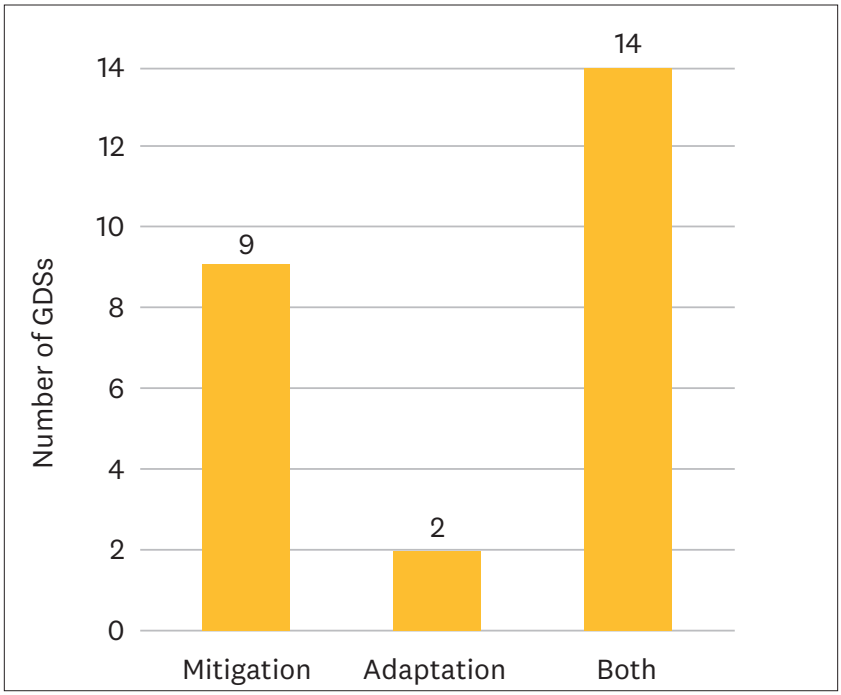
To gain a deeper understanding of what action points are aiming to achieve, and to identify the general direction of climate action, the Institute categorised action points into topics and then themes. Figure 14 (overleaf) shows the topics, and Figure 15 (overleaf) shows the themes.

Figure 14: GDSs that contain action points by topic, 2021 [25]



- Of the 25 GDSs that contain action points, five relate to the impacts of climate change; one to kaupapa Māori solutions to climate change; seven to researching or monitoring climate change; and 15 to reducing emissions. Note, the total of 28 is because some GDSs that contained action points had multiple topics.

Figure 15: GDSs that contain action points by theme, 2021 [25]



- 14 GDSs contain action points that relate to both mitigation and adaptation.
- Nine GDSs contain action points that relate to mitigation.
- Two GDSs contain action points that relate to adaptation.

- In 2021, there has been an increase in action points related to climate change compared to 2020 and 2018. Out of the 41 operational GDSs as at 31 December 2021 that explicitly mentioned climate change, 61% (25) contained action points. While this number remains lower than expected it is somewhat encouraging that over half of GDSs that explicitly mentioned climate change included action points. In 2020, 33% (20 out of 61) GDSs that explicitly mentioned climate change contained action points. In 2018, this number was also 33% (12 out of 36).
- 40% (10 out of 25) of the GDSs that contained action points were published in 2021. This data (compared to 2020 and 2018) suggests that the quality and frequency of GDS discussion on climate change is improving – potentially to align with increasing domestic climate change efforts, initiatives and targets.
- When analysing GDSs that contained action points by topic, most had a focus on reducing emissions. But when analysing by theme, most GDSs had a focus on both mitigation and adaptation measures. This is encouraging as it shows that the government is not solely focusing on mitigation in its strategy documents.
- Interestingly, of the 25 GDSs that do contain action points, 80% (20 out of 25) have been published under a Labour-led Government.

5.0 Discussion

The following section compares GDSs in the 2021 *GDS Index* to those in the 2020 and 2018 *GDS Indexes*.

5.1 Observations

Mentions of climate change by GDS

his continues a trend of the number of GDSs increasing year to year. This increase is most likely due to funding changes to the Public Finance Act that require government departments to produce strategies.

- For the first time in the Institute's GDS analysis, a climate change strategy now exists within a single document (Ministry for the Environment's *Te hau mārohi ki anamata – Towards a productive, sustainable and inclusive economy: Aotearoa New Zealand's first emissions reduction plan*). While the publication of this GDS is an encouraging step forward, it is worth noting that this GDS has a primary focus on mitigation only. In the Institute's opinion, equal weight needs to be placed on adaptation as well as other strategic settings targeting wider climate-related characteristics.
- In 2021, 33% of operational GDSs (73 out of 221) mentioned climate change (either implicitly or explicitly). The number of GDSs that mention climate change increased from 61 (out of 199) in 2020 to 73 (out of 221) in 2021 – an increase of 12 (approximately 19%). In 2018, 24% of operational GDSs (36 out of 148) mentioned climate change (either implicitly or explicitly).
- In 2021, 19% of operational GDSs (41 out of 221) explicitly mentioned climate change. The number of GDSs that explicitly mention climate change increased from 35 (out of 199) in 2020 to 41 (out of 221) in 2021 – an increase of 6 (approximately 17%). In 2018, 14% of operational GDSs (20 out of 148) explicitly mentioned climate change. While there is an increase in the number of GDSs mentioning climate change, it is still much lower than expected considering the Government's declaration of a climate emergency, as well as the generous allowance of discussion that the Institute interpreted as 'explicit'.
- Of the 34 new GDSs published between 1 January 2021 and 31 December 2021, only 17 (50%) mention climate change (either implicitly or explicitly).

Mentions of climate change by department

- In 2021, 16 government departments mentioned climate change (either implicitly or explicitly) in at least one of their GDSs. This is an increase of two government departments compared with 2020. Those two departments were the Ministry of Housing and Urban Development and the Ministry of Māori Development—Te Puni Kōkiri.

Note: 10 government departments' GDSs did not mention climate change at all, and six government departments did not produce any GDSs.

Mentions of climate change by sector

- 9 out of 10 government sectors produced GDSs that mentioned climate change (either implicitly or explicitly).
- The sector with the most GDSs that mentioned climate change was the Environment Sector with 18 GDSs. This was followed by the Economic Development and Infrastructure Sector with 17 GDSs and the Primary Sector with 14. These were also the sectors whose GDSs were most likely to mention climate change in 2020 and 2018.
- The Justice Sector was the only sector that did not produce a single GDS that mentioned climate change.

Action points to combat climate change within GDSs

- There has been an increase in GDSs containing action points to prevent or mitigate the impacts of climate change (25 in 2021, 20 in 2020, 12 in 2018).
- Out of the total 221 operational GDSs as at 31 December 2021, only 25 (11%) have action points related to climate change (10% in 2020, 8% in 2018). Of these 25, 14 have action points that relate to both mitigation and adaptation, nine have action points that relate to mitigation and two GDSs have action points that relate to adaptation.

5.2 Obstacles

Given the release of the Emissions Reduction Plan, the (legally enshrined) domestic target of net zero by 2050, the announcement of a climate emergency, and the December 2020 pledge by the New Zealand government to be carbon-neutral by 2025, the current GDSs will not be sufficient to deliver on those targets and pledges. The Institute is concerned with the strategic capability across government departments. This analysis found low levels of climate change action articulated within existing strategies. There is very little discourse on intergenerational stewardship/equity or possible impacts on current or future New Zealanders, or indeed an understanding that the economy needs to pivot in order to reach the 2050 target.

The following section aims to identify the issues that reduce the ability of GDSs to successfully target complex issues, such as climate change. There are a number of obstacles that need to be overcome in order to gain traction toward realising meaningful solutions. Some of the main obstacles that have been identified during the 2021 *GDS Index* are as follows:

- Reshaping and repurposing existing tools is urgently required. Climate change is a complex, multifaceted and intergenerational issue, but we need to find collaborative ways to explore solutions and trade-offs in a safe and productive manner. The Institute considers GDSs are a useful tool for making this kind of discussion possible, chronicling complex goals and ideas, and determining how to make challenging decisions and positive change.
- Stewardship over government strategy is lacking. The public service needs to take stewardship over GDS documents. In reality the *GDS Index* is not the job of the Institute but that of the public service. Even the requirement to report on all operational GDSs in a department's annual report would be a step forward.
- There is not enough clarity over who is responsible for implementing the GDS. Being clear over who is going to complete an action point is good management practice. This is particularly necessary in the public service, where public funds are being used for the public good.
- There is a lack of clarity over who was consulted and who is the audience. If it is unclear who is going to read and act on the climate change action points, success is further reduced. In addition, being clear who was involved/consulted in the strategy is another way of building relationships with collaborators.
- There is no system for regularly reviewing progress. Reviews of strategies should be commonplace, otherwise lessons will not be learned, and strategies will not be updated in response to new information. This observation also extends to GDS monitoring and accountability. Not enough GDSs included action points. If a department does not specify an action point, such as who is accountable, for what, in what time frame etc., it is unlikely progress will be made. As 'means' to an end, action points are a critical component of any strategy.

5.2.1 Possible solutions

The Institute suggests that strategic capability and quality of discussion regarding climate change strategy could be improved in the following ways.

Using GDSs

- Amend and strengthen climate change legislation to enable the Minister of Climate Change to require all 221 GDSs to be reassessed to consider the impacts of climate change before 1 July 2023. Given that 15 government departments have no GDSs that explicitly mention climate change, the Institute suggests that the Minister urgently should require all 221 GDSs to be reassessed. This recommendation recognises the climate emergency and aligns with the focus on government strategies discussed on page 38 of the *Draft national adaptation plan: Embed climate resilience across government strategies and policies* (2022).
- To align domestic efforts with the Emissions Reduction Plan, the Institute suggests that government departments should be required to publish an emissions reduction GDS (or jointly held GDS) as allowed for under s 5ZG (3) (d) of the Climate Change Response (Zero Carbon) Amendment Act 2019. Although the CNGP (mentioned in Section 2.3.1 above) proposes changes to the internal footprint of a government department by 2025, there is no equivalent instruction that places the onus on government departments to drive improvements in their wider circle of influence (i.e. beyond the footprint). These documents would act as a bridge between policy and practice in the private sector. There are two options:

    a. Require all government departments to publish their own GDS on emissions (by, say, 1 January 2023).

    b. Require a select few government departments to publish their own GDS on emissions (by, say, 1 January 2023). This would mean identifying those government departments whose policies directly and materially impact carbon emissions.

Using other instruments

- Improve legislative requirements by amending the Climate Change Response (Zero Carbon) Amendment Act 2019 to embed strategic functions requiring the production of regular GDSs on climate change from government departments that align with domestic targets and commitments.
- Cabinet to agree on a new Cabinet Minute requiring each government department to actively pursue a policy directive 'beyond their footprint' (but along the lines of the CNGP [CAB-20-MIN-0491]) setting out how they will actively influence public policies through their work.
- The 'long-term insights briefings' is an instrument that forms part of the Public Service Act 2020.[4] Although the content must be 'independent' of ministers, it may be possible for MfE (and the Crown) to indicate an interest in each head of department commenting on climate change, given the declaration of an emergency and how the Chief Executive sees climate trends, risks and opportunities impacting New Zealand in the long term.
- Add accountability function in climate change legislation to enable the Minister of Climate Change to request the Climate Change Commission to annually produce a report detailing what each department has done in the last year regarding what has worked and what has not. This would create a central holding place of climate action across government departments, integrate and align the public service and ensure that lessons are learnt.

All of the above are tentative suggestions for what could be done. There will be other ideas that might also be worth considering. The list above is a starting point for further discussion and deliberation.

Appendix 1: GDSs in operation that explicitly mention climate change [41]

Contains action points

Does not contain action points

	Sector	Department	Title of document	GDS number	Publication date
1	Environment Sector	Department of Conservation	Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)	GDS02–03	July 2017
2	Environment Sector	Department of Conservation	Te Kaweka Takohaka mō te Hoiho 2019–2029 (jointly held between DOC and MPI)	GDS02–10	August 2020

Excerpt from GDS	Action points
The Strategy focuses on the key environmental challenges of climate change, water quality, biodiversity protection and waste. It recognises that informed and active communities are essential if we are to find lasting solutions. To reach a low greenhouse gas emissions future, each one of us needs to work on ways to cut our emissions. To retain our unique biodiversity, we need to engage nationwide in predator and pest control. To enhance water quality, we need both town and country to reduce pollutants getting into our waterways. To reduce waste, we need community commitment and innovative technologies. (p. 1) The first step will be to identify a targeted set of programmes where connections can be made with EEfS. Predator Free 2050, freshwater improvement initiatives, the National Science Challenges, Primary Growth Partnerships, climate change initiatives, threatened species programmes, and government environmental funds, such as Curious Minds and the Community Environment Fund, are all examples of programmes that can support education about the environment and actions to support sustainability. (p. 17)	N/A
Prey may be affected by impacts to the seafloor where hoiho forage, sedimentation and run-off from land, which can affect water visibility or smother habitats; or climate change. Fisheries, climate change and sedimentation also affect the wider ecosystem. Predation by sharks, sea lions and barracouta causes some natural mortality and injury to hoiho. (p. 20)	N/A

	Sector	Department	Title of document	GDS number	Publication date
3	Environment Sector	Department of Conservation	Te Mana o te Taiao: Aotearoa New Zealand Biodiversity Strategy 2020	GDS02–11	August 2020
4	Environment Sector	Department of Conservation	Critical Ecosystem Pressures on Freshwater Environments (CRESP) 4 year research strategy	GDS02–12	November 2020

Excerpt from GDS	Action points
Actions we take to respond to and mitigate the effects of climate change may also have impacts on biodiversity. Examples include the construction of infrastructure such as coastal defenses and accessing resources (minerals and metals) that are needed to transition to a low-emissions economy. (p. 19)	13.1.1 The potential for carbon storage from the restoration of indigenous ecosystems, including wetlands, forests, and coastal and marine ecosystems (blue carbon), to contribute to our net emissions targets is understood [2025] 13.1.2 Carbon storage from the restoration of indigenous ecosystems, including wetlands, forests, and coastal and marine ecosystems (blue carbon), contributes to our net emissions targets [2030] 13.1.3 Carbon storage from the restoration of indigenous ecosystems, including wetlands, forests, and coastal and marine ecosystems (blue carbon), is a key contributor to achieving net-zero emissions for Aotearoa New Zealand [2050] 13.2.1 The potential for indigenous nature-based solutions is understood and being incorporated into planning [2025] 13.2.2 The restoration of indigenous ecosystems is increasingly being used to improve our resilience to the effects of climate change, including coastal protection against rising sea levels [2030] 13.2.3 The restoration of indigenous ecosystems is mitigating the effects of climate change and natural hazards (e.g. flooding) [2050] 13.3.1 Potential impacts from climate change have been integrated into ecosystem and species management plans and strategies, and a research and rangahau strategy has been developed to increase knowledge and understanding of climate change effects [2025] 13.3.2 Risks to biodiversity from climate change, including cascading effects (e.g. increases in introduced invasive species, water abstraction, fire risk, sedimentation) have been identified and assessed, and indigenous ecosystems, habitats and species are being managed to build resilience where possible [2030] 13.3.3 Adaptive management is addressing the impact of climate change on biodiversity, including cascading effects, and is building resilience to future risks [2050] (p. 54)
Impacts of climate change on flows and water levels in freshwater ecosystems (p. 6) Ecological value of ephemeral freshwater ecosystems and their vulnerability to habitat disturbance and climate change (p. 7) Ecosystem resilience to changes in sediment, nutrients, dissolved oxygen and temperature, particularly in response to climate change (p. 7) Investigate ecosystem resilience to changes in sediment, nutrients, dissolved oxygen and temperature, particularly in response to climate change (p. 9)	N/A

	Sector	Department	Title of document	GDS number	Publication date
5	Environment Sector	Department of Conservation	Heritage and Visitor Strategy – He Rautaki Taonga Tuku Iho, Manuhiri Tūārangi hoki	GDS02–13	January 2021
6	Primary Sector	Land Information New Zealand	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)	GDS09–07	December 2021

Excerpt from GDS	Action points
Build a low emissions and resilient heritage and visitor system. DOC will adapt our approaches and practices to ensure our work to protect nature, culture and history is sustainable. Being sustainable means doing our part in giving effect to the government's commitments to a zero-carbon future for New Zealand. • DOC will move towards a low-emissions heritage and visitor system that is resilient to the risks of a changing climate by: • reducing greenhouse gas emissions across the organisation • influencing opportunities for reducing greenhouse gas emissions of activities on public conservation lands and waters that are outside of DOC's direct control • implementing DOC's Climate Change Adaptation Action Plan, which includes measures to integrate climate change risk and adaptation into DOC's heritage and visitor system planning and operations. (p. 11)	• DOC will move towards a low-emissions heritage and visitor system that is resilient to the risks of a changing climate by: • reducing greenhouse gas emissions across the organisation • influencing opportunities for reducing greenhouse gas emissions of activities on public conservation lands and waters that are outside of DOC's direct control • implementing DOC's Climate Change Adaptation Action Plan, which includes measures to integrate climate change risk and adaptation into DOC's heritage and visitor system planning and operations. (p. 11)
New Zealand will lead, support, and share research that increases understanding of the interaction between global systems and Antarctica, and advances New Zealand's climate change mitigation and adaptation policies and capability to respond to change. (p. 2) ... increase New Zealander's awareness of Antarctic issues and advancing climate change policies and capability to respond, and adapt, to change (p. 5)	.... research is required to: • better understand the linked cryosphere-ocean-atmosphere-lithosphere processes regulating the state and behaviour of Antarctic ice-sheets and ice shelves under past, present and future climate conditions • understand processes of ocean-cryosphere interaction and ocean circulation processes beneath ice shelves and connections to ice sheet/shelf behaviour and Southern Ocean processes • inform projections of Antarctica's contribution to regional, New Zealand and global sea level rise • identify thresholds of irreversible ice shelf and/or ice sheet collapse (pp. 9–10) ... research is required to: • enhance understanding of cryosphere-ocean–atmosphere interactions, in particular uptake of heat and carbon dioxide in the Southern Ocean and its implications for climate and ecosystems • better understand sea ice distribution and volume and the processes influencing sea-ice formation, drift and decay, to enhance projections of sea-ice changes and improve understanding of the implications of those changes • enhance understanding of the role of sea ice, polynyas and meltwater on controlling the flux of heat, carbon and salt between the ocean-atmosphere and implications for ice sheet stability • improve knowledge of ocean heat transport including how freshwater feedbacks influence melt rates under ice shelves and at grounding lines • better understand past, present and future ocean processes and conditions to provide context for a warming [+2°C] world, testing models and initialising models used to make future projections • improve understanding of atmospheric processes and the implications of changes in those processes for the Ross Sea region and for New Zealand • better understand the connections between ozone recovery, global atmospheric circulation change and Antarctic weather systems. (p. 11)

	Sector	Department	Title of document	GDS number	Publication date
7	Primary Sector	Ministry for Primary Industries	Biosecurity Science Strategy for New Zealand – Mahere Rautaki Putaiao Whakamaru	GDS12–01	October 2007
8	Primary Sector	Ministry for Primary Industries	Aquaculture Strategy and Five-year Action Plan to Support Aquaculture	GDS12–04	April 2012

Excerpt from GDS	Action points
	… research is required to: • better understand biogeographic structuring, processes, genetic biodiversity and biogeochemistry of terrestrial and marine ecosystems and the drivers of variability and change • enhance projections of ecosystem vulnerability and response to changing environmental conditions and direct human pressures • understand the resilience and adaptation of Antarctic species to changing environmental conditions • understand how Antarctic soil, substrates, inland waters, permafrost and the associated microbial communities will respond to changing environmental conditions and the implications of those changes, including for native biodiversity and ecosystems • improve understanding of the risks and implications across all environments of invasion and establishment of non-native species, as well as the risks and implications of human-mediated transfers of native biota • better understand environmental impacts on migratory species including those that breed in or around New Zealand. (pp. 13–14) … research is required to: • improve understanding of and reporting on the state of and pressures on Antarctic and Southern Ocean environments, ecosystems, species and values • improve understanding of terrestrial, including inland aquatic, and marine environments and biota at risk of non-native species introduction, climate change and human impacts including contamination and physical disturbance • identify practical solutions to mitigate risks to Antarctic and Southern Ocean environments, ecosystems, species and values and measure the effectiveness of response actions • support the establishment, research, monitoring and management of marine and terrestrial protection mechanisms including Marine Protected Areas and Antarctic Specially Protected Areas • implement research and monitoring programmes that support the delivery of environmental protection and conservation objectives of the Antarctic Treaty system • better understand the populations, dynamics and life habits of harvested marine species, the impacts of harvesting them (including impacts on non-target species) and food webs associated with harvested species • understand how changing oceanic conditions affect harvested species and the implications for managing marine resources in accordance with CCAMLR objectives. (p. 15)
We are also experiencing the impacts of a changing environment with new pressures, including climate change, providing additional challenges for biosecurity. (p. 3) Develop methods to better monitor and analyse potential changes in biosecurity risks resulting from climate change. (p. 25)	Develop methods to better monitor and analyse potential changes in biosecurity risks resulting from climate change. (p. 25)
Climate change implications considered across the aquaculture work programme. (p. 4) Investigate the impacts of climate change and measures to adapt and respond. (p. 4)	Investigate the impacts of climate change and measures to adapt and respond. (p. 4)

	Sector	Department	Title of document	GDS number	Publication date
9	Primary Sector	Ministry for Primary Industries	Science Strategy – Rautaki Putaiao	GDS12–07	October 2015
10	Primary Sector	Ministry for Primary Industries	Primary Sector Science Roadmap – Te Ao Tūroa	GDS12–09	June 2017
11	Primary Sector	Ministry for Primary Industries	Aquaculture Strategy	GDS12–13	September 2019
12	Primary Sector	Ministry for Primary Industries	Te Kaweka Takohaka mō te Hoiho 2019–2029 (jointly held between DOC and MPI)	GDS12–17	August 2020

Excerpt from GDS	Action points
Sustainable agriculture and climate change research – This includes research commissioned through different funds, alliances or centres that ranges from fundamental research into mitigating greenhouse gases to supporting applied research and extension projects. (p. 10)	N/A
...adapt to the impacts of climate change. (p. 6) With approximately 50 percent of our emissions coming from agriculture and with plantation forestry acting as an important carbon sink, it is clear that the primary sector will play a vital role in achieving our greenhouse gas mitigation goals. Beyond greenhouse gases, climate change may have profound impacts on the nature and distribution of our primary production. (p. 10)	Using mātauranga Māori and Kaupapa Māori approaches to address critical issues such as biosecurity and climate change, and co-develop innovative solutions. (p. 35) Using Kaupapa Māori approaches to develop kaitiakitanga-led responses to challenges such as climate change, ecosystem management, the need to optimise productivity, manage biosecurity threats, and support decisions on the optimal use of land or water. (p. 37)
Aquaculture is protected from biological harm and supported in adapting to climate change. (p. 6) • Support the industry to adapt to climate change. Forecast the effects of climate change on the aquatic environment. Plan and support actions for resilience and adaptation. • Support industry to transition to selective breeding and biome technology to improve value and resilience. • Support an industry-led spat strategy to safeguard from the impacts of climate change and provide for planned growth. (p. 14)	Forecast the effects of climate change on the aquatic environment. Plan and support actions for resilience and adaptation. Support an industry-led spat strategy to safeguard from the impacts of climate change and provide for planned growth. (p. 14)
Prey may be affected by impacts to the seafloor where hoiho forage, sedimentation and run-off from land, which can affect water visibility or smother habitats; or climate change. Fisheries, climate change and sedimentation also affect the wider ecosystem. Predation by sharks, sea lions and barracouta causes some natural mortality and injury to hoiho. (p. 20)	N/A

	Sector	Department	Title of document	GDS number	Publication date
13	Primary Sector	Ministry for Primary Industries	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)	GDS12–18	December 2021

Excerpt from GDS	Action points
New Zealand will lead, support, and share research that increases understanding of the interaction between global systems and Antarctica, and advances New Zealand's climate change mitigation and adaptation policies and capability to respond to change. (p. 2) ... increase New Zealander's awareness of Antarctic issues and advancing climate change policies and capability to respond, and adapt, to change. (p. 5)	.... research is required to: • better understand the linked cryosphere-ocean-atmosphere-lithosphere processes regulating the state and behaviour of Antarctic ice-sheets and ice shelves under past, present and future climate conditions • understand processes of ocean-cryosphere interaction and ocean circulation processes beneath ice shelves and connections to ice sheet/shelf behaviour and Southern Ocean processes • inform projections of Antarctica's contribution to regional, New Zealand and global sea level rise • identify thresholds of irreversible ice shelf and/or ice sheet collapse (pp. 9–10) ... research is required to: • enhance understanding of cryosphere-ocean–atmosphere interactions, in particular uptake of heat and carbon dioxide in the Southern Ocean and its implications for climate and ecosystems • better understand sea ice distribution and volume and the processes influencing sea-ice formation, drift and decay, to enhance projections of sea-ice changes and improve understanding of the implications of those changes • enhance understanding of the role of sea ice, polynyas and meltwater on controlling the flux of heat, carbon and salt between the ocean-atmosphere and implications for ice sheet stability • improve knowledge of ocean heat transport including how freshwater feedbacks influence melt rates under ice shelves and at grounding lines • better understand past, present and future ocean processes and conditions to provide context for a warming [+2°C] world, testing models and initialising models used to make future projections • improve understanding of atmospheric processes and the implications of changes in those processes for the Ross Sea region and for New Zealand • better understand the connections between ozone recovery, global atmospheric circulation change and Antarctic weather systems. (p. 11) ... research is required to: • better understand biogeographic structuring, processes, genetic biodiversity and biogeochemistry of terrestrial and marine ecosystems and the drivers of variability and change • enhance projections of ecosystem vulnerability and response to changing environmental conditions and direct human pressures • understand the resilience and adaptation of Antarctic species to changing environmental conditions • understand how Antarctic soil, substrates, inland waters, permafrost and the associated microbial communities will respond to changing environmental conditions and the implications of those changes, including for native biodiversity and ecosystems • improve understanding of the risks and implications across all environments of invasion and establishment of non-native species, as well as the risks and implications of human-mediated transfers of native biota • better understand environmental impacts on migratory species including those that breed in or around New Zealand. (pp. 13–14)

	Sector	Department	Title of document	GDS number	Publication date
13 cont.					
14	Environment Sector	Ministry for the Environment	Waste Strategy	GDS13–03	October 2010
15	Environment Sector	Ministry for the Environment	Mātauranga Whakauka Taiao – Environmental Education for Sustainability (jointly held between DOC and MfE)	GDS13–05	July 2017

Excerpt from GDS	Action points
	… research is required to: • improve understanding of and reporting on the state of and pressures on Antarctic and Southern Ocean environments, ecosystems, species and values • improve understanding of terrestrial, including inland aquatic, and marine environments and biota at risk of non-native species introduction, climate change and human impacts including contamination and physical disturbance • identify practical solutions to mitigate risks to Antarctic and Southern Ocean environments, ecosystems, species and identify practical solutions to mitigate risks to Antarctic and Southern Ocean environments, ecosystems, species and values and measure the effectiveness of response actions • support the establishment, research, monitoring and management of marine and terrestrial protection mechanisms including Marine Protected Areas and Antarctic Specially Protected Areas • implement research and monitoring programmes that support the delivery of environmental protection and conservation objectives of the Antarctic Treaty system • better understand the populations, dynamics and life habits of harvested marine species, the impacts of harvesting them (including impacts on non-target species) and food webs associated with harvested species • understand how changing oceanic conditions affect harvested species and the implications for managing marine resources in accordance with CCAMLR objectives. (p. 15)
The inclusion of waste disposal facilities in the emissions trading scheme will also encourage the climate change impacts of landfill gas emissions to be reflected in waste disposal charges. (p. 2)	• improving the ratio of outputs to inputs • reducing and reusing waste products • minimising what needs to be disposed of at the end of a product's life. • choosing products that are reusable, durable and able to be repaired rather than discarded • choosing products with less packaging • choosing recyclable products and packaging. (p. 6)
The Strategy focuses on the key environmental challenges of climate change, water quality, biodiversity protection and waste. It recognises that informed and active communities are essential if we are to find lasting solutions. To reach a low greenhouse gas emissions future, each one of us needs to work on ways to cut our emissions. To retain our unique biodiversity, we need to engage nationwide in predator and pest control. To enhance water quality, we need both town and country to reduce pollutants getting into our waterways. To reduce waste, we need community commitment and innovative technologies. (p. 1) The first step will be to identify a targeted set of programmes where connections can be made with EEfS. Predator Free 2050, freshwater improvement initiatives, the National Science Challenges, Primary Growth Partnerships, climate change initiatives, threatened species programmes, and government environmental funds, such as Curious Minds and the Community Environment Fund, are all examples of programmes that can support education about the environment and actions to support sustainability. (p. 17)	N/A

	Sector	Department	Title of document	GDS number	Publication date
16	Environment Sector	Ministry for the Environment	Our Science Strategy – Rautaki Pūtaiao	GDS13–06	May 2018
17	Environment Sector	Ministry for the Environment	Shared Interests in Freshwater	GDS13–08	October 2018

Excerpt from GDS	Action points
Science will be needed in the future to find new solutions, particularly as the climate changes, our population grows, and our expectations change. Science will provide new technologies, and help us to consider and understand their opportunities and risks. For example, science informs the Ministry's work on waste and alternatives to plastics. (p. 8)	N/A
Climate change and water-related research funds, including those targeted at reducing agricultural emissions, adaptation and new water management technologies. (pp. 47–48)	• Stopping further degradation and loss – taking a series of actions now to stop the state of our freshwater resources, waterways and ecosystems getting worse (ie, to stop adding to their degradation and loss), and to start making immediate improvements so water quality is materially improving within five years. • Reversing past damage – promoting restoration activity to bring our freshwater resources, waterways and ecosystems to a healthy state within a generation, including through a new National Policy Statement for Freshwater Management and other legal instruments. • Addressing water allocation issues – working to achieve efficient and fair allocation of freshwater and nutrient discharges, having regard to all interests including Māori, and existing and potential new users. (p. 5)

	Sector	Department	Title of document	GDS number	Publication date
18	Environment Sector	Ministry for the Environment	Te hau mārohi ki anamata – Transitioning to a low-emissions and climate-resilient future	GDS13–10	November 2021

Excerpt from GDS	Action points
New Zealand will lead, support, and share research that increases understanding of the interaction between global systems and Antarctica, and advances New Zealand's climate change mitigation and adaptation policies and capability to respond to change. (p. 2) increase New Zealander's awareness of Antarctic issues and advancing climate change policies and capability to respond, and adapt, to change. (p. 5)	• Make government institutions and processes fit to respond to climate change challenges, through stronger accountability and better public monitoring and reporting on progress. • Continue to strengthen the regulations, to align all policies, investments and strategic direction with a low-emissions future. • Provide funding and resources for climate action, and promote greater private sector investment in the transition. (p. 31) • Ensure adequate, durable and certain public funding for climate action. • Thoroughly consider climate change at every stage of decision-making for the use of public funds. • Support climate-positive private investment through co-funding, overcoming information barriers and regulating where necessary. (p. 33) • apply economy-wide emissions pricing through the NZ ETS and an appropriate pricing mechanism for agricultural emissions. • align pricing with the targets and ensure they work with non-pricing policies. The NZ ETS cap, auction price settings and any potential links to international carbon markets will need to be aligned with plans for achieving targets and the NDC. This will be informed by independent advice from the Climate Change Commission. • strengthen NZ ETS market governance to keep it fit for purpose and discourage market misconduct as the market evolves. • ensure NZ ETS settings are appropriately adjusted as necessary if offshore mitigation is needed to meet the NDC (eg, via the quantitative limit on the use of approved offshore mitigation). • develop procedures for approving the use of any offshore mitigation within the NZ ETS and ensure compatibility with Paris Agreement requirements. (p. 35) • integrate climate objectives into the reformed planning legislation with the necessary levers to drive down emissions. We will increase infrastructure funding for this. • partner with Māori so that planning reforms reflect the relationship of iwi and hapū to the environment, as well as their rights and interests. • support local government climate action and develop frameworks for funding and financing. • remove barriers and encourage low-emissions urban development; this includes reducing embodied and operational and enabled use emissions, and optimising infrastructure types and locations to reduce emissions. • develop tools and gather data and evidence so that urban centres can plan for growth and infrastructure. • drive behaviour change through better public education and increased awareness. • work with the private sector to remove barriers to reducing emissions. (p. 37) • a higher-intensity knowledge economy through strategic investments in research and science. • structural reform of the science system to deliver a more coordinated and connected research and innovation system that has clear priorities. This enables deeper integration of the RSI system with all sectors through a fluid exchange of knowledge, talent and solutions. This will enhance direct support for climate science and advanced technology. • mātauranga Māori both as a frame for understanding the challenges climate change presents and as a source of sustainable, innovative solutions for the future.

	Sector	Department	Title of document	GDS number	Publication date
18 cont.					

Excerpt from GDS	Action points

	• strategic international partnerships to deepen our connectedness to the global knowledge and innovation frontier associated with a prosperous low-emissions future. This includes encouraging global innovators to use Aotearoa as a testbed for pioneering low-emissions technologies and approaches, which will promote uptake of innovation by communities and firms.
	• the accelerated uptake of clean technology into sector. This includes strategic investment in advanced technologies with the potential to play an important role in our low-emissions future. (p. 41)
	• build on the actions underway in the waste sector, including through a new national waste strategy and updated legislation.
	• partner with Māori on a long-term, cross-sector strategy that supports this transition. This will yield benefits across the four wellbeings: social, economic, environmental and cultural. (p. 43)
	• reducing reliance on cars and supporting people to walk, cycle and use public transport.
	• rapidly adopting EVs (and low-emission fuels)
	• decarbonising heavy transport and freight. (p. 47)
	• accelerate renewable electricity and prepare the electricity system for future needs and technologies, including large-scale energy storage.
	• improve the uptake of energy efficiency and demand-side management measures.
	• help businesses and industry to decarbonise.
	• encourage development and use of low-emissions energy sources, such as bioenergy and hydrogen.
	• manage the phase-down of fossil fuels, including in electricity generation, manufacturing and industry, and in buildings. (p. 49
	• make buildings more energy efficient to run.
	• reduce whole-of-life carbon emissions from buildings.
	• produce resilient buildings, suitable for the changing climate where they are built.
	• reduce emissions in other parts of the economy, including energy and industry, waste and transport. (p. 51)
	• apply circular economy principles, refresh the waste strategy and update legislation
	• substantially improve our systems, enable behaviour change at many levels and increase investment in infrastructure through measures that:
	  • reduce the waste produced
	  • reduce the organic waste sent to landfill by diverting it to beneficial uses
	  • enhance the capture of landfill gas. (p. 53)
	• implementing regulated product stewardship for refrigerants
	• considering further import controls. (p. 54)
	• pricing agricultural emissions to encourage farmers to reduce emissions.
	• investing in research and development to accelerate the availability of new mitigation practices and technologies.
	• expanding extension and advisory services to help farmers gain the knowledge and resources they need to measure, manage and reduce their emissions.
	• enabling the transition to low-emissions land use. (p. 56)

	Sector	Department	Title of document	GDS number	Publication date
18 cont.					
19	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Energy Strategy 2011–2021	GDS15–02	August 2011

Excerpt from GDS	Action points
	• balance forest sequestration with emissions reductions from other sectors, for a cost-effective, equitable and timely transition. • provide overarching strategic direction and policies that ensure forests and forest products support a range of outcomes, including biodiversity and sequestration. • work in close partnership with Māori and key stakeholders, including territorial authorities and land owners, to develop and implement forestry policies. (p. 59) • meet each of the emissions budgets through a coherent strategic • package that comprises a mutually supportive and balanced combination of emissions pricing, well-targeted regulation, tailored sector policies and direct investment. • enable an equitable transition for Māori by upholding the principles of Te Tiriti, actively partnering with Māori on national strategies, and embedding Māori values and knowledge into our climate response. We will also support tangata whenua to decide on and implement their own actions. • continue to build strong partnerships with businesses, unions, workers, local government and civil society to take action on climate change. • help firms and households reduce their emissions footprint, promote new business and job opportunities, and support workers, households and communities through the transition. (p. 61)
Global challenges of energy supply and climate change will increasingly influence the availability and cost of energy. New Zealand's future competitiveness will, in many sectors of the economy, require innovative solutions in the sources and uses of energy – both renewable and non-renewable. (p. 3)	... the Government will continue to invest in: • A rail system that enables the efficient movement of freight and complements other modes of passenger and freight transport • Reliable and more cost effective public transport systems that offer benefits to attract a greater percentage of long-term users. • Improvements to infrastructure for walking and cycling funded through the National Land Transport Fund. To inform consumer choices around energy products and services, the Government is committed to: • Providing energy efficiency labelling and standards for products in association with Australia. • Reporting price margins for petrol and diesel. • Reporting quarterly domestic electricity prices. • Reporting bi-annual domestic gas prices. • Funding, upgrading and promoting www.powerswitch.co.nz to provide electricity consumers with price comparisons between retailers. • Providing information on a range of energy saving, renewable energy and energy efficiency options to households and businesses, such as through programmes run by the Energy Efficiency and Conservation Authority. (pp. 10–11)

	Sector	Department	Title of document	GDS number	Publication date
20	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Energy Efficiency and Conservation Strategy 2017–2022	GDS15–10	June 2017
21	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Small Business Strategy	GDS15–16	July 2019
22	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Our Employment Strategy	GDS15–17	August 2019
23	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Economic Plan for a Productive, Sustainable and Inclusive Economy	GDS15–18	September 2019

Excerpt from GDS	Action points
Raising energy productivity and reducing energy emissions will help us achieve our economic growth and climate change goals. To meet our economic growth and climate change goals, we need to raise energy productivity and make greater efforts to reduce our energy-related emissions ... (p. 3) Secondly, as climate change issues become more important, our export markets may start to focus more on the embodied carbon in imported goods, and perhaps even services. (p. 4)	1. Renewable and efficient use of process heat. The target for this priority area is a decrease in industrial emissions intensity of at least one per cent per annum on average between 2017 and 2022. An example of an action to achieve the target for this priority area is developing a process heat action plan. The plan will include policies and programmes to increase the amount of renewable energy used by businesses and public sector agencies, and improve the efficiency of energy intensive processes. 2. Efficient and low-emissions transport. The target for this priority area is that electric vehicles make up two per cent of the vehicle fleet by the end of 2021. Examples of actions to achieve the target include implementing the Electric Vehicles Programme and refocusing EECA's business programme towards emissions and productivity opportunities in transport. These will help increase the number of electric vehicles and will improve the fuel economy of vehicles. 3. Innovative and efficient use of electricity. The target for this priority area is 90 per cent of electricity will be generated from renewable sources by 2025 (in an average hydrological year), providing security of supply is maintained. Significant progress towards this target has been made over the last few years due in part to increasing uptake of energy efficient technologies and additional renewable generating capacity. (p. 9)
... climate change including carbon accounting, adaptation, innovative low carbon solutions and business models. (p. 22)	N/A
... reducing our greenhouse gas emissions through the $100 million New Zealand Green Investment Finance Ltd. This is a part of the Government's commitment to address climate change and support New Zealand's transition towards a net-zero-emissions economy by 2050. (p. 12)	• continuing to roll out the One Billion Trees programme to create sustainable jobs and address climate change. (p. 8) • reducing our greenhouse gas emissions through the $100 million New Zealand Green Investment Finance Ltd. This is a part of the Government's commitment to address climate change and support New Zealand's transition towards a net-zero-emissions economy by 2050. (p. 12)
• Investing in new technology and being at the forefront of digital innovation including to drive mitigation and adaptation to climate change. (p. 6) • Meeting NZ's climate change targets by driving emissions reductions. (p. 7)	• Investing in new technology and being at the forefront of digital innovation including to drive mitigation and adaptation to climate change. (p. 6) • Renewable Energy Strategy – outlining actions to achieve an affordable, secure and sustainable energy system. • Electricity pricing – responding to the Electricity Price Review • Transport electrification and low emissions policies. • National New Energy Development Centre – supporting the development, demonstration, uptake and use of new energy technologies. (p. 21) [Land and resource use delivers greater value and improves environmental outcomes] • Shifting land use to higher value use while maintaining and improving our environment. • Redesigning our activities to minimise waste. • Transitioning to a low emissions economy. (p. 7)

	Sector	Department	Title of document	GDS number	Publication date
24	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Responsibly Delivering Value: A Minerals and Petroleum Resource Strategy for Aotearoa New Zealand 2019–2029	GDS15–19	November 2019
25	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Agritech Industry Transformation Plan	GDS15–21	July 2020
26	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Building for the Future: Building System Regulatory Strategy	GDS15–23	December 2020

Excerpt from GDS	Action points
We are in a moment in history where the New Zealand economy must transition in response to climate change. Resource demands will also change as we transition to a more productive, sustainable and inclusive economy, and in response to climate change. There may be opportunities for New Zealand to meet this domestic and global demand for clean-tech minerals ... and lead the way in climate smart mining techniques which focus on sustainable and environmentally responsible mining operations. (p. 5)	1. Modernising the Crown Minerals Act. 2. Securing affordable resources to meet our mineral and energy needs 3. Improving Treaty Partnerships. 4. Improving stakeholder and community engagement 5. Improving industry compliance. 6. Research and investment in better mining and resource use. (p. 9) Future actions • Improve understanding of future demand and supply for aggregate • Develop a list of critical minerals for New Zealand. (p. 33)
The global market for agritech is driven by increasing food demand resulting from population growth and increasing environmental challenges, linked to climate change impacts. In order to meet the nutritional needs of up to ten billion people by 2050, food production will need to increase drastically. Clearly, New Zealand cannot feed the world on its own. However, New Zealand has the ability to develop production-improving technology that could conceivably have a global impact. (p. 13) As agricultural emissions make up nearly half of our greenhouse gas emissions, agritech also represents one of our most powerful tools for reducing emissions and combatting climate change. (p. 13) How the food and fibre sector interacts with the environment is a major driver for change. The changing climate is already resulting in more frequent and severe extreme weather events, as well as rising sea levels and more destructive storm surge events. Over the medium to long term, changing rainfall, temperature and drought patterns are changing growing characteristics in some regions. These changes also increase the risk of biosecurity incursions and have flow-on effects onto biodiversity outcomes. All of this requires an agritech-driven adaptive response to increase the resilience of our farming and processing systems. (p. 15)	N/A
• Effectiveness of system response to climate change. (p. 2) • The building system works with other systems to respond to climate change by minimising greenhouse gas emissions. • Buildings are resilient to a range of natural hazards and adaptable in the face of climate change. (p. 7) • Implement a climate change plan to increase energy efficiency, minimise embodied carbon buildings from building materials, and make buildings more resistent to future climate conditions. (p. 16)	MBIE will help the building industry and consumers protect and support the environment and encourage environmentally sustainable behaviours by all system participants. This includes regulatory measures and incentives to move towards a low emissions built environment and make buildings resilient in a changing climate: • Implement a climate change plan to increase energy efficiency, minimise embodied carbon from building materials, and make buildings more resistant to future climate conditions. • Research and implement policy changes to ensure that buildings have a long lifetime, to reduce environmental impacts and support the effcient use of resources. • Help advance the shift to a circular economy based on energy conservation and reuse of materials. • Develop a sustainable whole-of-life approach to buildings and building products. • Review and provide advice on how buildings should change to support sustainable behaviour and use by occupants and users. (p. 16)

	Sector	Department	Title of document	GDS number	Publication date
27	Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)	GDS15–25	December 2021

Excerpt from GDS	Action points
New Zealand will lead, support, and share research that increases understanding of the interaction between global systems and Antarctica, and advances New Zealand's climate change mitigation and adaptation policies and capability to respond to change. (p. 2) ... increase New Zealander's awareness of Antarctic issues and advancing climate change policies and capability to respond, and adapt, to change. (p. 5)	.... research is required to: • better understand the linked cryosphere-ocean-atmosphere-lithosphere processes regulating the state and behaviour of Antarctic ice-sheets and ice shelves under past, present and future climate conditions • understand processes of ocean-cryosphere interaction and ocean circulation processes beneath ice shelves and connections to ice sheet/shelf behaviour and Southern Ocean processes • inform projections of Antarctica's contribution to regional, New Zealand and global sea level rise • identify thresholds of irreversible ice shelf and/or ice sheet collapse (pp. 9–10) ... research is required to: • enhance understanding of cryosphere-ocean–atmosphere interactions, in particular uptake of heat and carbon dioxide in the Southern Ocean and its implications for climate and ecosystems • better understand sea ice distribution and volume and the processes influencing sea-ice formation, drift and decay, to enhance projections of sea-ice changes and improve understanding of the implications of those changes • enhance understanding of the role of sea ice, polynyas and meltwater on controlling the flux of heat, carbon and salt between the ocean-atmosphere and implications for ice sheet stability • improve knowledge of ocean heat transport including how freshwater feedbacks influence melt rates under ice shelves and at grounding lines • better understand past, present and future ocean processes and conditions to provide context for a warming [+2°C] world, testing models and initialising models used to make future projections • improve understanding of atmospheric processes and the implications of changes in those processes for the Ross Sea region and for New Zealand • better understand the connections between ozone recovery, global atmospheric circulation change and Antarctic weather systems. (p. 11) ... research is required to: • better understand biogeographic structuring, processes, genetic biodiversity and biogeochemistry of terrestrial and marine ecosystems and the drivers of variability and change • enhance projections of ecosystem vulnerability and response to changing environmental conditions and direct human pressures • understand the resilience and adaptation of Antarctic species to changing environmental conditions • understand how Antarctic soil, substrates, inland waters, permafrost and the associated microbial communities will respond to changing environmental conditions and the implications of those changes, including for native biodiversity and ecosystems • improve understanding of the risks and implications across all environments of invasion and establishment of non-native species, as well as the risks and implications of human-mediated transfers of native biota • better understand environmental impacts on migratory species including those that breed in or around New Zealand. (pp. 13–14)

	Sector	Department	Title of document	GDS number	Publication date
27 cont.					
28	External Sector	Ministry of Defence	Strategic Defence Policy Statement 2018	GDS16-02	July 2018
29	External Sector	Ministry of Defence	Defence Capability Plan 2019	GDS16-03	June 2019

Excerpt from GDS	Action points
	… research is required to: • improve understanding of and reporting on the state of and pressures on Antarctic and Southern Ocean environments, ecosystems, species and values • improve understanding of terrestrial, including inland aquatic, and marine environments and biota at risk of non-native species introduction, climate change and human impacts including contamination and physical disturbance • identify practical solutions to mitigate risks to Antarctic and Southern Ocean environments, ecosystems, species and values and measure the effectiveness of response actions • support the establishment, research, monitoring and management of marine and terrestrial protection mechanisms including Marine Protected Areas and Antarctic Specially Protected Areas • implement research and monitoring programmes that support the delivery of environmental protection and conservation objectives of the Antarctic Treaty system • better understand the populations, dynamics and life habits of harvested marine species, the impacts of harvesting them (including impacts on non-target species) and food webs associated with harvested species • understand how changing oceanic conditions affect harvested species and the implications for managing marine resources in accordance with CCAMLR objectives. (p. 15)
Climate change is increasing the frequency and intensity of weather extremes such as cyclones, rainfall events, droughts, and flooding from sea level rise. New Zealand is already experiencing the erosion of coastlines and impacts on coastal developments and infrastructure. In the Pacific, climate change is also exacerbating marine water pollution and salinisation of water supplies, agricultural lands and fresh water ecosystems. Rising temperature and acidification of the ocean is beginning to impact on marine and coastal ecosystems important for economic wellbeing and subsistence.	N/A
The dramatic climate effects the Pacific region is facing, stemming from rising temperatures, include continued sea level rise, increased frequency and intensity of extreme weather events such as storm surges, increased intensity of tropical cyclones, and more variable rainfall patterns and prolonged droughts. The implications of these effects include a range of environmental impacts, all of which have flow-on economic, cultural and social consequences. Key implications for New Zealand Defence as a result of climate change will include: An increase in the number of humanitarian assistance and disaster relief operations; An increased likelihood of stability operations; and A larger number of search and rescue missions occurring across a broader geographical area. (p. 16)	N/A

	Sector	Department	Title of document	GDS number	Publication date
30	External Sector	Ministry of Foreign Affairs and Trade	Antarctic and Southern Ocean Research Directions and Priorities 2021–2030 (jointly held between LINZ, MPI, MBIE and MFAT)	GDS18–12	December 2021

Excerpt from GDS	Action points
New Zealand will lead, support, and share research that increases understanding of the interaction between global systems and Antarctica, and advances New Zealand's climate change mitigation and adaptation policies and capability to respond to change. (p. 2) ... increase New Zealander's awareness of Antarctic issues and advancing climate change policies and capability to respond, and adapt, to change. (p. 5)	.... research is required to: • better understand the linked cryosphere-ocean-atmosphere-lithosphere processes regulating the state and behaviour of Antarctic ice-sheets and ice shelves under past, present and future climate conditions • understand processes of ocean-cryosphere interaction and ocean circulation processes beneath ice shelves and connections to ice sheet/shelf behaviour and Southern Ocean processes • inform projections of Antarctica's contribution to regional, New Zealand and global sea level rise • identify thresholds of irreversible ice shelf and/or ice sheet collapse (pp. 9–10) ... research is required to: • enhance understanding of cryosphere-ocean–atmosphere interactions, in particular uptake of heat and carbon dioxide in the Southern Ocean and its implications for climate and ecosystems • better understand sea ice distribution and volume and the processes influencing sea-ice formation, drift and decay, to enhance projections of sea-ice changes and improve understanding of the implications of those changes • enhance understanding of the role of sea ice, polynyas and meltwater on controlling the flux of heat, carbon and salt between the ocean-atmosphere and implications for ice sheet stability • improve knowledge of ocean heat transport including how freshwater feedbacks influence melt rates under ice shelves and at grounding lines • better understand past, present and future ocean processes and conditions to provide context for a warming [+2°C] world, testing models and initialising models used to make future projections • improve understanding of atmospheric processes and the implications of changes in those processes for the Ross Sea region and for New Zealand • better understand the connections between ozone recovery, global atmospheric circulation change and Antarctic weather systems. (p. 11) ... research is required to: • better understand biogeographic structuring, processes, genetic biodiversity and biogeochemistry of terrestrial and marine ecosystems and the drivers of variability and change • enhance projections of ecosystem vulnerability and response to changing environmental conditions and direct human pressures • understand the resilience and adaptation of Antarctic species to changing environmental conditions • understand how Antarctic soil, substrates, inland waters, permafrost and the associated microbial communities will respond to changing environmental conditions and the implications of those changes, including for native biodiversity and ecosystems • improve understanding of the risks and implications across all environments of invasion and establishment of non-native species, as well as the risks and implications of human-mediated transfers of native biota • better understand environmental impacts on migratory species including those that breed in or around New Zealand. (pp. 13–14)

	Sector	Department	Title of document	GDS number	Publication date
30 cont.					

Excerpt from GDS	Action points
	… research is required to: • improve understanding of and reporting on the state of and pressures on Antarctic and Southern Ocean environments, ecosystems, species and values • improve understanding of terrestrial, including inland aquatic, and marine environments and biota at risk of non-native species introduction, climate change and human impacts including contamination and physical disturbance • identify practical solutions to mitigate risks to Antarctic and Southern Ocean environments, ecosystems, species and values and measure the effectiveness of response actions • support the establishment, research, monitoring and management of marine and terrestrial protection mechanisms including Marine Protected Areas and Antarctic Specially Protected Areas • implement research and monitoring programmes that support the delivery of environmental protection and conservation objectives of the Antarctic Treaty system • better understand the populations, dynamics and life habits of harvested marine species, the impacts of harvesting them (including impacts on non-target species) and food webs associated with harvested species • understand how changing oceanic conditions affect harvested species and the implications for managing marine resources in accordance with CCAMLR objectives. (p. 15)

	Sector	Department	Title of document	GDS number	Publication date
31	Social Services and Community Sector	Ministry of Housing and Urban Development	Te Tauākī Kaupapa Here a te Kāwanatanga mō te Whakawhanake Whare, Tāone anō hoki – Government Policy Statement on Housing and Urban Development	GDS20–03	September 2021
32	Social Services and Community Sector	Ministry of Housing and Urban Development	MAIHI Ka Ora – The National Māori Housing Strategy 2021–2051 (jointly held between HUD and TPK)	GDS20–04	September 2021

Excerpt from GDS	Action points

Changing the way we plan and build homes, towns and cities is critical to meeting our emissions reduction targets and to helping us build resilience and adapt to the impacts of a changing climate. (p. 9)
 	
Climate change will have an impact on us all, but it will affect each place and community differently. Some communities are more vulnerable to sea-level rise and coastal inundation than others, and some places have more scope to rapidly reduce their transport emissions than others. (p. 14)
 	
Ensure changes to the resource management system support emissions reductions and climate adaptation, for example, by:
– promoting efficient land use in areas well supported by active and public transport, and away from areas likely to be at risk
– enabling spatial planning partnerships that consider the climate change impacts of decisions about urban development and infrastructure. (p. 38)
	• Communities are planning, prepared for and adapting to the effects of climate change
	• Urban design supports reduced emissions (including building material, construction practices and whole of life) and resilience to natural hazards. (p. 22)
	
	Ensure buildings are resilient and resource efficient
	• Continue work that seeks to reduce emissions from buildings (for example, through the Building for Climate Change programme), including through adaptive re-use where appropriate. (p. 29)
	
	Ensure infrastructure investment and planning support growth and change
	• Integrate government investment at a local level, and support more local government investment in infrastructure that enables urban growth and change that builds climate resilience, reduces emissions, and restores water and air quality.
	
	Reduce emissions and support communities to adapt to the effects of climate change
	• Ensure changes to the resource management system support emissions reductions and climate adaptation, for example, by:
	  • promoting efficient land use in areas well supported by active and public transport, and away from areas likely to be at risk
	  • enabling spatial planning partnerships that consider the climate change impacts of decisions about urban development and infrastructure
	  • providing for urban design and development that reduces flood pressure and the impacts of increased heat in urban areas
	  • providing a framework that enables us to manage retreat from hazardous areas.
	  • Ensure infrastructure investment supports us to reduce emissions and build resilient homes and places.
	  • Ensure that building and construction practices result in energy efficient buildings constructed from products with low levels of embodied carbon and with low levels of waste. This includes considering the adaptive reuse of buildings where it is a viable option.
	  • Continue to incentivise the minimisation of construction and demolition waste for example, through the re-design of materials and services to enable reuse/recovery, as well as investment into resource recovery services and infrastructure.
	  • Improve data and evidence, for example, to better assess the emissions impact of urban development decisions and use this to make informed decisions, to better understand future risk, and to better understand how to adapt to the impacts of climate change. (p. 38)

Ensure that all new Māori housing solutions include energy efficient technologies, are self-sustaining where possible and have minimal impact on the environment. Ensure that housing solutions respond effectively to the current and future impacts of climate change. (p. 36)	Growing Sustainable housing: • Ensure that all new Māori housing solutions include energy efficient technologies, are self-sustaining where possible and have minimal impact on the environment. • Ensure that housing solutions respond effectively to the current and future impacts of climate change. (p. 36)

	Sector	Department	Title of document	GDS number	Publication date
33	Māori Affairs Sector	Ministry of Māori Development—Te Puni Kōkiri	MAIHI Ka Ora – The National Māori Housing Strategy 2021–2051 (jointly held between HUD and TPK)	GDS22–03	September 2021
34	Economic Development and Infrastructure Sector	Ministry of Transport	Framework for Shaping our Transport System	GDS24–03	June 2018
35	Economic Development and Infrastructure Sector	Ministry of Transport	Transport Evidence Base Strategy	GDS24–07	December 2019
36	Economic Development and Infrastructure Sector	Ministry of Transport	Government Policy Statement on Land Transport 2021/22–2030/31	GDS24–08	September 2020

Excerpt from GDS	Action points
Ensure that all new Māori housing solutions include energy efficient technologies, are self-sustaining where possible and have minimal impact on the environment. Ensure that housing solutions respond effectively to the current and future impacts of climate change. (p. 36)	Growing Sustainable housing: • Ensure that all new Māori housing solutions include energy efficient technologies, are self-sustaining where possible and have minimal impact on the environment. • Ensure that housing solutions respond effectively to the current and future impacts of climate change. (p. 36)
We know that some risks will increase in the future. In particular, the transport system needs to be prepared for the impacts of climate change. These impacts include increasing threats from sea level rise and storm surges to ports, airports, and low-lying coastal networks; more frequent and severe flooding and rainfall-induced landslips; increased heat buckling of the rail network due to higher temperatures; and stronger winds affecting some roads and ports. (p. 6)	Public transport and active travel modes to improve inclusive access, support healthy and safe people, reduce carbon emissions, and to make urban environments more liveable overall. Public transport and active travel can also support economic prosperity by helping to manage road congestion, increasing foot traffic around local shops, and by encouraging development around transport hubs. Rail and coastal shipping to improve road safety, increase resilience, and to reduce greenhouse gas emissions. These travel modes can also support economic prosperity by improving connectivity, and by helping to manage road congestion. (p. 7)
Transport infrastructure is critical to the operation of the transport system. This topic is about understanding the value of capital stock, nature and extent of New Zealand's transport infrastructure across all modes, what the return on this investment is, and how to safeguard transport infrastructure from the impacts of climate change. Such information will assist policy and planning to support optimum ongoing investment in transport. (p. 48)	N/A
Like our economy, our transport system is facing long-term challenges caused by rapid growth in our major cities and climate change. (p. 4) Vehicles that run on fuel are the fastest growing source of harmful climate pollution – almost 70% of our total transport emissions. (p. 13) Addressing climate change is a particular challenge that this Government is working to tackle. This GPS reflects the importance of making investment decisions in the transport sector that will help New Zealand towards that goal. (p. 14)	Investment decisions will support the rapid transition to a low carbon transport system, and contribute to a resilient transport sector that reduces harmful emissions, giving effect to the emissions reduction target the Climate Change Commission recommended to Cabinet until emissions budgets are released in 2021. Inclusive access: • Mode shift in urban areas from private vehicles to public transport, walking, and cycling will support efforts to reduce emissions. Higher density, mixed use and transit oriented development where people live in closer proximity to where they work, learn and play, will help reduce emissions by making public and active transport more feasible. (p. 22) • Waka Kotahi will implement its Sustainability Strategy and Action Plan. • Investment decision-making that supports national commitments on emissions reduction. • Waka Kotahi will undertake relevant actions identified in the National Adaptation Plan. • Shape land use, urban form and street design in a way that reduces car dependency, and makes walking, wheeling, cycling and micro-mobility safe and attractive travel choices to reduce greenhouse gas emissions. This will also contribute to the strategic priorities of Safety and Better Travel Options. (p. 23)

	Sector	Department	Title of document	GDS number	Publication date
37	Economic Development and Infrastructure Sector	Ministry of Transport	Maritime Security Strategy	GDS24–09	December 2020
38	Economic Development and Infrastructure Sector	Ministry of Transport	Rail Plan	GDS24–10	April 2021
39	Finance and Government Administration Sector	The Treasury	Thirty Year New Zealand Infrastructure Plan	GDS32–01	August 2015
40	Finance and Government Administration Sector	The Treasury	He Puna Hao Pātiki – 2018 Investment Statement: Investing for Wellbeing	GDS32–02	March 2018
41	Finance and Government Administration Sector	The Treasury	He Tirohanga Mokopuna 2021	GDS32–03	September 2021

Excerpt from GDS	Action points
Climate change and in particular, sea-level rise is presenting challenges to the stability of maritime zones, based on UNCLOS rules. As sea levels rise there is a risk that basepoints and features from which maritime zones (e.g. the EEZ) are measured will shift or be inundated. Under current UNCLOS rules, this could mean coastal states' (particularly low-lying island states) maritime zones will shrink or shift. Climate change will also complicate the physical operating environment, for example, creating more challenging ice conditions in parts of the Southern Ocean, and more variable sea states and levels in the littoral zone. Climate change is increasing the demand for New Zealand support to humanitarian assistance and disaster response as the number and severity of extreme weather events increases. Climate migration in the Pacific region has begun on a small scale, mostly internal, but is forecast to increase. These complex disrupters will place added operational pressures on maritime safety and security capabilities. (p. 10)	N/A
... further investments to respond to the climate emergency and decarbonise the transport sector, including further electrification of the NIMT and associated rolling stock ... (p. 28)	... further investments to respond to the climate emergency and decarbonise the transport sector, including further electrification of the NIMT and associated rolling stock ... (p. 28)
Our climate is changing, and our natural resources are under pressure. Rainfall patterns are changing, and sea levels are expected to rise by 30 centimetres by 2050. Flooding is our most frequent natural disaster with an average annual cost of approximately $51 million. As a country we have a wealth of natural resources, but we are beginning to deplete some of our important natural resources and are reaching limits on some of the crucial inputs such as land and fresh water. These issues raise questions around how we develop and manage our infrastructure – it needs to be resilient to changes over time, and use resources efficiently. (p. 7)	N/A
The climate is changing, with the potential for sea level rise, changes in average weather patterns, and more extreme weather events. Technology constantly changes, potentially rendering some assets obsolete and creating opportunities to deploy quite different assets in the delivery of public services. A strong and resilient balance sheet allows adaptation to these substantial challenges, underscoring the need for ongoing prudent balance sheet management. (p. 4)	N/A
Climate change will impact the fiscal position through both the physical impacts of a changing climate, such as more frequent and severe weather events, and the transition to a net zero emissions economy by 2050. Climate change has started to impact New Zealand today, but the long-run effect is highly uncertain at this stage. More frequent and severe extreme weather events and the gradual increase in temperature and sea levels will have economic and fiscal impacts in the future, which adaptation policy today could reduce. Governments will also face trade-offs when choosing the pace of emissions reduction and the policy levers to achieve it. (p. 5)	N/A

Appendix 2: GDSs in operation that implicitly mention climate change [32]

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
Environment Sector	Department of Conservation	Subantarctic Islands Research Strategy	GDS02–01	May 2005	However, since the declaration of these islands as a World Heritage Area, and given the increasing concern about the effect of exotic species in conjunction with climate change and increasing pressure from tourism, further restrictions on access may be warranted … (p. 10)
Environment Sector	Department of Conservation	New Zealand sea lion/ rāpoka Threat Management Plan 2017–2022 (jointly held between DOC and MPI)	GDS02–04	July 2017	Success across the New Zealand sea lion range The effects of climate change and fisheries on sea lion nutritional status are better understood. (p. 13)
Environment Sector	Department of Conservation	Government Tourism Strategy (jointly held between DOC and MBIE)	GDS02–06	May 2019	Deepen understanding of the implications for the tourism industry of climate change and the move towards a low-emissions economy (MBIE). (p. 13)
Environment Sector	Department of Conservation	Predator Free 2050 Strategy	GDS02–07	February 2020	Ecosystems more resilient to climate change. (p. 19)
Environment Sector	Department of Conservation	Digital Strategy 2020: Te pae tawhiti whaia kia tata – Navigating to new horizons	GDS02–14	March 2021	Both the public and private sectors are now racing to respond to the significant challenges posed to our societies by climate change and most recently the global COVID-19 pandemic. (p. 8)

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
Environment Sector	Department of Conservation	Hector's and Māui Dolphin Threat Management Plan 2020	GDS02–15	December 2021	Other human-induced threats to these dolphins include: • climate change (p. 3)
Finance and Government Administration Sector	Department of Internal Affairs	Archives 2057 Strategy	GDS04–02	May 2017	As we move towards 2057, there will be global conflicts; climate change impacts; changing migration patterns and challenges for the New Zealand economy to maintain living standards with an aged population. (p. 9)
Finance and Government Administration Sector	Department of Internal Affairs	Strategy for a Digital Public Service	GDS04–06	March 2020	Challenges such as climate change, mental health, poverty and family violence are more interconnected and often outside the mandate of any one agency to fix. (p. 12)
Finance and Government Administration Sector	Department of Internal Affairs	Three Waters Reform Programme	GDS04–07	July 2020	Increasing resilience of three waters service provision to both short and long-term risks and events, particularly climate change and natural hazards. (p. 1)
Finance and Government Administration Sector	Department of Internal Affairs	Regulatory Services Group Strategy 2021–2026	GDS04–08	July 2021	Examples such as cyber threats, artificial intelligence, climate change and extreme societal injustices present new types of challenge. (p. 2)

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
Finance and Government Administration Sector	Department of the Prime Minister and Cabinet	Child and Youth Wellbeing Strategy 2019	GDS05–03	August 2019	Youth voices and action have recently placed a spotlight on the importance of addressing climate change and environmental issues. (p. 56)
Primary Sector	Land Information New Zealand	Regulatory Stewardship Strategy	GDS09–06	August 2018	The effects of climate change and other environmental issues are becoming more apparent, and are driving how some consumers exercise their purchasing power. (p. 6)
Primary Sector	Ministry for Primary Industries	Harvest Strategy Standard for New Zealand Fisheries	GDS12–02	October 2008	Fixed exploitation rate strategies for coping with effects of climate change. [Journal article title]
Primary Sector	Ministry for Primary Industries	Biosecurity 2025 Direction Statement	GDS12–08	November 2016	[Climate change] alters risks posed to New Zealand by pests and diseases, and risks coming from our trading partners. (p. 4)
Primary Sector	Ministry for Primary Industries	New Zealand sea lion/ rāpoka Threat Management Plan 2017–2022 (jointly held between DOC and MPI)	GDS12–10	July 2017	Success across the New Zealand sea lion range The effects of climate change and fisheries on sea lion nutritional status are better understood. (p. 13)
Primary Sector	Ministry for Primary Industries	Essential Freshwater (jointly held between MPI and MfE)	GDS12–11	October 2018	Provide for flexibility and adaptability so that as knowledge and technology evolve and the climate changes, policy settings and rules can adapt. (p. 20)

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
Primary Sector	Ministry for Primary Industries	Food Safety 2019–2024	GDS12–14	November 2019	Global considerations such as climate change, food security and sustainability are resulting in new challenges for regulatory systems. (p. 5)
Environment Sector	Ministry for the Environment	National Implementation Plan Under the Stockholm Convention on Persistent Organic Pollutants	GDS13–02	December, 2006	The GEF's current funding mandate covers ozone depletion, climate change, international waters and biodiversity, land degradation and, most recently, POPs. (p. 33)
Environment Sector	Ministry for the Environment	Essential Freshwater (jointly held between MPI and MfE)	GDS13–07	October 2018	Provide for flexibility and adaptability so that as knowledge and technology evolve and the climate changes, policy settings and rules can adapt. (p. 20)
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	National Statement of Science Investment 2015–2025	GDS15–09	October 2015	Our current livelihoods are also particularly vulnerable to environmental shocks (eg biosecurity breaches, geological events, changes in climate), as well as economic shocks. (p. 4)
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Government Tourism Strategy (jointly held between DOC and MBIE)	GDS15–14	May 2019	Deepen understanding of the implications for the tourism industry of climate change and the move towards a low-emissions economy (MBIE). (p. 13)

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
Economic Development and Infrastructure Sector	Ministry of Business, Innovation and Employment	Health Research Strategy 2017-2027 (jointly held between MoH and MBIE)	GDS15–11	June 2017	New, emerging and increasing threats to human health, such as climate change, infectious diseases, antimicrobial resistance and mental health, are demanding more from health research. (p. 35)
Education and Workforce Sector	Ministry of Education	International Education Strategy – He Rautaki Mātauranga A Ao 2018–2030	GDS17–03	August 2018	We need to be global citizens so that we can tackle global issues of the 21st century, such as sustainability, globalisation and climate change. (p. 22)
Education and Workforce Sector	Ministry of Education	Action Plan for Pacific Education 2020–2030	GDS17–06	July 2020	Celebrate and value Pacific success in learning environments, including community contributions that are relevant such as Pacific youth fighting climate change. (p. 32)
External Sector	Ministry of Foreign Affairs and Trade	Opening Doors to China: New Zealand's 2015 Vision	GDS18–01	February 2012	China is increasingly active in international rule-setting and practices in areas as diverse as international trade and finance, climate change, fisheries, aid and the future regional architecture of Asia. (p. 17)

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
External Sector	Ministry of Foreign Affairs and Trade	Trade Recovery Strategy	GDS18–08	June 2020	New Zealand will continue to pursue new 'plurilateral' negotiations to retain as much of the rules-based system as possible. The Digital Economy Partnership Agreement (DEPA) and the Agreement on Climate Change, Trade and Sustainability (ACCTS) are examples of this. (p. 4)
External Sector	Ministry of Foreign Affairs and Trade	Child & Youth Well-Being Strategic Action Plan 2021–2025	GDS18–10	May 2021	Priority policy areas are: • Climate change and adaptation (p. 2)
External Sector	Ministry of Foreign Affairs and Trade	Human Rights Strategic Action Plan for International Development Cooperation 2021–2025	GDS18–11	October 2021	In times of crises: COVID-19, climate change, conflict, and other humanitarian emergencies, have a disproportionate impact on the human rights of those already most at risk of being left behind. (p. 1)
Health Sector	Ministry of Health	He Korowai Oranga – Māori Health Strategy	GDS19–17	June 2014	Dealing with the impact of climate change on health is also a focus for the future. (p. 6)
Health Sector	Ministry of Health	Health Research Strategy 2017–2027 (jointly held between MoH and MBIE)	GDS19–26	June 2017	New, emerging and increasing threats to human health, such as climate change, infectious diseases, antimicrobial resistance and mental health, are demanding more from health research. (p. 35)

Sector	Department	Title of document	GDS number	Publication date	Excerpt from GDS
Health Sector	Ministry of Health	Kia Manawanui Aotearoa – Long-term pathway to mental wellbeing	GDS19–44	August 2021	Dealing with the impact of climate change on mental wellbeing is also a focus for wai ora. (p. 22)
Social Services and Community Sector	Ministry of Social Development	Better Late Life – He Oranga Kaumātua 2019 to 2034 – Super Seniors	GDS23–08	November 2019	The impacts of climate change and natural disasters such as earthquakes may affect older people in a number of ways. Some older people living in coastal communities could be at risk from rising sea levels and coastal erosion, as well as increased flooding in some areas. (p. 9)

Endnotes

1 For example, see Cabinet Office. (1 March 2021). *Leading the Way Establishing a Carbon Neutral Government Programme* [Cabinet paper]. Ministry for the Environment. Retrieved 11 August 2022 from https://environment.govt.nz/assets/publications/Cabinet-papers-briefings-and-minutes/Redacted-cab-min-and-paper-establishing-a-carbon-neutral-govt.pdf

2 For example: 'Labour will [phase] out fossil fuels in process heat by preventing installation of new low and medium temperature coal-fired boilers.' Further, they will decarbonise the public transport bus fleet by 2035, and support agricultural climate change research programmes. See New Zealand Labour Party. (2020). *Our Manifesto To Keep New Zealand Moving*, pp. 17, 28. Retrieved 23 August 2021 from www.labour.org.nz/policy

3 Please note this wheel was updated from the original found on page 43 of *Working Paper 2019/04 – Analysis of Government Department Strategies between 1 July 1994 and 31 December 2018*. In 2020, *He Korowai Oranga – Māori Health Strategy* (Ministry of Health) was changed from explicitly mentioning climate change to implicitly mentioning it; this change is reflected in the above wheel. To find the original 2018 strategy wheel, see: McGuinness Institute. (6 June 2019). *Working Paper 2019/04 – Analysis of Government Department Strategies between 1 July 1994 and 31 December 2018*. Retrieved 17 September 2022 from mcguinnessinstitute.org/publications/working-papers

4 Please note this wheel was updated from the original found on page 43 of *Working Paper 2019/04 – Analysis of Government Department Strategies between 1 July 1994 and 31 December 2018*. In 2020, *He Korowai Oranga – Māori Health Strategy* (Ministry of Health) was changed from explicitly mentioning climate change to implicitly mentioning it; this change is reflected in the above wheel. To find the original 2018 strategy wheel, see: McGuinness Institute. (6 June 2019). *Working Paper 2019/04 – Analysis of Government Department Strategies between 1 July 1994 and 31 December 2018*. Retrieved 17 September 2022 frommcguinnessinstitute.org/publications/working-papers

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