



BRF-591 – National Adaptation Plan: actions relevant to your climate change portfolio

Date Submitted:	2 December 2021	Tracking #: BRF-591	
Security Level:	In Confidence	MfE Priority:	Urgent

	Action sought:	Response by:
To Hon. James Shaw, Minister of Climate Change	Agree to the proposed work programme.	6 December 2021

Actions for Minister's Office Staff:	Return the signed report to MfE.
Number of appendices: # 2	<ol style="list-style-type: none">Appendix 1: Overview of the prioritised and sequenced actions led by the Minister of Climate Change in the first NAPAppendix 2: NCCRA risks the cross-cutting objective actions will contribute to addressing

Minister's comments

--

Ministry for the Environment contacts

Position	Name	Cell phone	1st contact
Principal Author	Amberley Gibson		
Responsible Manager	Emma Corbett	s 9(2)(a)	
Director	Katherine Wilson	s 9(2)(a)	✓

BRF-591 – National Adaptation Plan: actions relevant to your climate change portfolio

Key messages

1. This briefing seeks your agreement to the proposed National Adaptation Plan (NAP) actions that sit within your climate change portfolio.
2. As the Minister of Climate Change, you will be responsible for delivering a number of system-wide (cross-cutting) actions in the NAP. These actions consist of strategies and policies that are existing or are in development, and proposals that recognise that more work is needed. In combination with actions of other Ministerial portfolios, these actions primarily address the governance risks identified in the National Climate Change Risk Assessment (NCCRA).
3. The proposed prioritised and sequenced actions that we recommend build on the advice of the Climate Change Adaptation Technical Working Group (CCATWG), the NCCRA, the findings of the Productivity Commission on the review of local government funding and financing and the work of the Community Resilience programme.
4. The sequence of actions proposed has also been informed by the direction from Cabinet in March 2021 [CAB-21-MIN-0084] and the Climate Response Ministers Group (CRMG) in October 2021. The pace of delivering these actions is subject to future Budget decisions.
5. The proposed actions within your climate portfolio focus on:
 - a. **adaptation leadership** to oversee and co-ordinate government action to manage climate risk through the NAP, progress a national framework for managed retreat, and support mana whenua's holistic approach to both managing climate risks and reducing emissions
 - b. **enabling wider access to data** on what future climate impacts we can expect in Aotearoa New Zealand, and **information** to assess current and future risks and vulnerabilities and to develop adaptation policies and strategies
 - c. **tools, guidance and methodologies** to enable decision-makers to use the information available to manage known risks from climate change and plan for uncertainties of additional future risks.
6. These actions fit alongside actions under other Ministerial portfolios and will contribute to addressing the risks, particularly the governance risks, identified in the NCCRA.

Recommendations

We recommend that you:

- a. **note** that a number of system reforms to address key barriers to adaptation actions are already underway, and these link legislative reform with roles and responsibilities
- b. **agree** to combine the cross-cutting objectives of (i) clarifying roles and responsibilities for adaptation and (ii) ensuring legislation and institutions are fit for a changing climate

Yes/No

- c. **note** that many of the leadership actions for the NAP are connected to policy decisions for the Emissions Reduction Plan (ERP) and Cabinet approval will be sought through the ERP process for actions to:

- i. ensure climate objectives are considered in all central government departmental policies and strategies
- ii. explore the extension of climate-related financial disclosure requirements to central government
- iii. develop a Māori Climate Strategy and Action Plan.

- d. **agree** to the proposed work programme for your climate change portfolio for inclusion in the NAP as it relates to:


- i. adaptation leadership Yes/No
- ii. data and information Yes/No
- iii. tools and guidance Yes/No

- e. **note** the pace of progress to implement these actions will depend on the outcomes of future Budget decisions

- f. **agree** to proactively release this briefing, subject to appropriate redactions in accordance with the Official Information Act (1982), after the NAP has been published.

Yes/No

Signature

Katherine Wilson Director – Climate Adaptation and Evidence Climate Directorate	
Date	2 December 2021
Hon. James Shaw Minister of Climate Change	
Date	

BRF-591 – National Adaptation Plan: actions relevant to your climate change portfolio

Purpose

1. This briefing seeks your agreement to the proposed National Adaptation Plan (NAP) actions that sit within your climate change portfolio.
2. In early 2022, Ministers will meet to discuss the draft outline NAP. This draft outline will consist of the NAP strategy map, the strategic narrative and the complete set of prioritised and sequenced NAP actions.
3. We are seeking your agreement now on the actions you are responsible for, so we can finalise the draft sequencing of actions for the draft outline NAP for circulation to Ministers prior to this meeting.

Context

4. In March 2021, Cabinet agreed in-principle to the strategic direction for the NAP [CAB-21-MIN-0084 refers], subject to further refinement following engagement and consultation. The strategic direction includes a vision, a set of ten principles, five outcome areas (led or co-led by various agencies) and the following five cross-cutting objectives led by the Ministry for the Environment (MfE):
 - 1) clarify roles and responsibilities for adaptation
 - 2) ensure legislation and institutions are fit for a changing climate
 - 3) provide tools and guidance to enable adaptation action
 - 4) ensure appropriate funding and financing is available to enable adaptation action
 - 5) enable access to climate data and information.
5. Cabinet also agreed in-principle to the 43 risks from the National Climate Change Risk Assessment (NCCRA) being in-scope for the development of the NAP, subject to further refinement in the action planning-phase and following public consultation. This has guided work across agencies to develop and sequence potential actions in the NAP.
6. In October 2021, the Climate Ministers Response Group (CRMG) met and directed officials to keep all 43 risks in scope, include an additional risk to telecommunications infrastructure, and ensure actions are prioritised and sequenced over the six-year time horizon of the NAP to support implementation. At that time, the CRMG also noted that priorities included preventing actions that would increase risks over time and strengthening the ability of the emergency management system to respond to changing climate risks.
7. As the Minister of Climate Change, you will be responsible for delivering some of the system-wide actions necessary to achieve the NAP's cross-cutting objectives. On 24 November 2021 we received your direction on the framing of papers to Ministers on how risks and costs are shared which will underpin content on funding and financing in the NAP. We have provided you with separate advice on this [BRF-835 refers].
8. Many of these system-wide actions relate to actions that the Climate Change Adaptation Technical Working Group (CCATWG) recommended in 2018.

9. CCATWG recommended a set of core actions, consisting of a regular system of National Adaptation Planning, National Climate Change Risk Assessments, and monitoring of the NAP's implementation. These recommendations were legislated through the Zero Carbon Amendments to the Climate Change Response Act 2002 (CCRA).
10. CCATWG also recommended supporting functions including:
 - a. strong leadership to direct New Zealand's adaptation action
 - b. robust and accessible information for decision-making on climate risks and how to adapt
 - c. building capacity and capability to adapt
 - d. funding mechanisms to support action.
11. The system-wide actions you are responsible for are focused on the first three of the supporting functions outlined above and primarily address the NCCRA governance risks.


Analysis and advice

National Adaptation Plan proposed foundational actions

12. In developing these actions, we have built on the advice of CCATWG, the NCCRA, the findings of the Productivity Commission on the review of local government funding and financing and the work of the Community Resilience programme. Our proposed sequence of actions has also been informed by the direction received by Cabinet in March 2021 and CRMG in October 2021.
13. In many instances, we have proposed a broad time period for delivery of these actions. This provides flexibility as the outcome of Budget 22 will not be known at the time the draft NAP is released for consultation. Future actions are also likely to be subject to future budget rounds. However, we have developed an indicative programme of work we consider provides the flexibility to respond to Government priorities over time, while setting a clear direction of travel for the work programme.

Adaptation leadership – ensure legislation and institutions are fit for purpose and roles and responsibilities are clear

14. Adaptation is the process of adjustment to actual or expected climate change and its effects. In human systems, adaptation seeks to moderate or avoid harm, or to take opportunities². Adapting to the current and emerging impacts of climate change requires coordination across levels of government and with different sectors, as well as statutory and policy alignment. All actors have a role to play in building resilience across the system.
15. Existing systems and institutions, including legislative, regulatory and policy frameworks, are creating barriers to anticipatory adaptation as they:
 - a. do not encourage a long-term view to account for climate change impacts and evolving and dynamic risks, but instead, focus decision-making on the shorter term
 - b. focus on post-event recovery rather than pre-event risk reduction
 - c. do not provide sufficient clarity around roles and responsibilities for climate change adaptation across central government agencies, local government and wider society
 - d. do not provide or align support (including funding) with roles and responsibilities.

16. Extensive system reforms to address these barriers are already underway and will be included in the NAP as actions for which other Ministers are responsible. These include Resource Management (RM) reform, Three Waters reform, and the Future for Local Government Review and emergency management system reforms. These reforms will clarify roles and responsibilities for planning, especially for local government and communities, and require long-term planning that takes account of climate change impacts and evolving and dynamic risks and encourage pre-event risk reduction. The Future for Local Government inquiry will explore a sustainable funding and financing model for local government.
17. To better reflect the role of legislation in clarifying roles and responsibilities, we recommend that the first two cross-cutting objectives, which relate to roles and responsibilities and legislation and institutions, be combined. If you agree, we will reflect this in papers to be considered by CRMG in February 2022.
18. There is both a challenge and an opportunity from the passage of these reforms concurrently to ensure better coherence, integration and coordination across legislation.
19. We propose the following additional actions to sit under your portfolio to address this:
- a. central government oversight and coordination function
 - b. s 9(2)(g)(i)

 - a. exploring the extension of climate-related financial disclosure requirements to central government to support the resilience of investment and policy decisions
 - b. a Māori Climate Strategy and Action Plan to connect Māori to the oversight function, and support iwi/Māori to act and reduce risk.
20. The issue of managed retreat is one of complex technical and legal issues. The proposed Climate Adaptation Act is an existing action Cabinet has already agreed to progress. However, the timeframe for progressing this remains subject to Budget decisions [BRF-835 refers].

Connections between the NAP and the Emissions Reduction Plan (ERP)

21. The four actions identified in paragraph 19 are the adaptation focused aspect of the same actions under development to achieve mitigation goals through the ERP [BRF-874 refers]. These are due to be considered by Cabinet as part of the Government's response to the Climate Change Commission's recommendations in early 2022.
22. Establishing effective governance was also recommended by the CCATWG. A different approach may be needed to enable effective central government oversight and coordination of NAP implementation, compared to that for the ERP (which is still in development). For the NAP, there are many more agencies involved in delivering the actions, and fewer dependencies between the actions. We propose that CRMG consider accountability and oversight functions in February 2022.

Table 1: How the legislation and institutions, roles and responsibilities actions will address the barriers to adaptation action and build resilience

Action	How the action contributes to building resilience	How the action addresses barriers
A central government oversight and coordination function for NAP implementation (Years 1-6)	This action will ensure accountability for the NAP's implementation across government, improve coordination within central government and ensure cross-agency support for adaptation action. Regulations to specific reporting requirements will ensure quality and consistent information.	This action will help provide clarity around roles and responsibilities for different central government departments. It will encourage coherence, integration and coordination across legislation and institutions.
s 9(2)(g)(i)		
Exploring the extension of climate-related financial disclosure requirements to central government (Years 1-2)	The Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 requires approximately 200 of New Zealand's largest financial market participants to annually analyse and publicly disclose their climate-related risks and opportunities. Requiring public sector entities to do this would support the resilience of investment and policy decisions, while additionally providing greater transparency and accountability for taxpayers, ratepayers and the wider public.	This action will encourage public sector entities to take a long-term view to account for climate change impacts.
A Māori Climate Strategy and Action Plan (Years 1-6)	This action will support and enable iwi/Māori climate action, empower Māori to be part of climate decision-making and prioritise areas of investment to support Māori climate action through the Climate Action Planning toolbox.	This action will provide clarity around roles and responsibilities for iwi/Māori and enable integration across mitigation, adaptation, and broader economic transition issues of importance to iwi/Māori.
The development of a Climate Adaptation Act (CAA) (Years 1-6)	This action will address complex technical and legal issues associated with managed retreat as recommended by the RM Review Panel.	This action will provide clarity around roles and responsibilities, particularly for central and local government, decision-making frameworks and funding mechanisms for managed retreat. It will encourage a long-term view and re-event risk reduction by requiring consideration of managed retreat in certain situations.

Enable wider access to data and information - make climate data and information on climate risks and adaptation options available for decision-making

23. Given the unknown speed and scale of changes to our climate, adaptation decisions need to be made under conditions of uncertainty. Decisions that do not consider long-term timeframes or changing risk may lead to maladaptation across all sectors of society, which is an identified governance risk (G1) in the NCCRA.
24. CCATWG recommended the Government take a planned and proactive approach to decision-making by ensuring climate relevant data and information is kept up to date and is accessible to households, iwi/hapū, businesses, practitioners, local government and policy makers.
25. Raising awareness through information is important because the public needs to be clear about the full implications of the complex choices involved in adapting to climate change and the different impacts and options for adapting in different areas. Providing access to climate relevant data and information to support decision-making will increase understanding of climate risk and support New Zealanders in developing effective adaptation action across all sectors.
26. There is a significant amount of information already produced on how the climate is expected to change in New Zealand, and the consequences of those changes, but it is not always accessible. In particular:
 - a. it is not always straightforward to access this data and information and it can be fragmented and inconsistent
 - b. climate data can be expensive to collect and obtain, and often out of date
 - c. information needs differ significantly according to users, who need data and information on climate impacts translated and made usable for them
 - a. mātauranga Māori is not collected or visible for use.
27. The responsibility to generate and fund data and information sits in other portfolios and there are a range of actions underway that partially address these issues. The actions include: the Statistics New Zealand Data Investment Plan, the Land Information New Zealand key datasets for resilience and climate change, and MfE's Land, Air, and Water Aotearoa (LAWA) portal.
28. The Ministry of Business, Innovation and Employment's (MBIE) Future Pathways programme will address a range of deeper issues facing the research system, including how to reshape the funding system for Crown Research Institutes. However, we expect this could take 4-5 years to deliver and objectives for the programme are yet to be agreed by Ministers. This means any benefits are only likely to be felt in the second NAP.
29. To address specific barriers to enabling wider access to data and information listed above in the meantime, we propose the following actions to sit in the climate portfolio.

Near term access to data

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

s 9(2)(f)(iv)

31. We have commissioned a report (the 'delta' document) from NIWA (who is working in collaboration with several universities) outlining the policy relevant differences between the existing granular projections for New Zealand and the most recent global climate projections which IPCC Working Group I (WG1) released in August 2021. We expect to have the 'delta' document by April 2022, and it will be publicly available by the time the NAP is published. This will provide local government, and other entities seeking to assess their climate related risks, access to both granular and up to date information, during the process to downscale the latest projections.

Design and development of an Adaptation Information Portal

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

33. Subject to the outcome of Budget 22, initial scoping work will involve a stocktake of key datasets and information channels, and the identification of data gaps. Through user assessments, we would identify key tools that will be developed in parallel to the portal, such as interactive maps for spatial planning, training modules and scenario visualisation tools. The scoping will underpin decisions on data infrastructure and governance and assess the compatibility with other existing or planned portals such as the EQC risk and resilience portal.

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

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

36. The NAP will also include a climate research strategy, closely aligned with the Environment and Climate Research Strategy, to address the risks from the NCCRA for which further research was needed to determine the associated risk. MBIE is the lead agency directing science and technology investment. Aligning the NAP research strategy and the Environment and Climate Research Strategy will help to ensure that the most specific adaptation needs are prioritised for MBIE's investment decisions.

Table 2: How the data and information actions outlined above will build resilience across the system and address adaptation barriers

Action	How the action contributes to building resilience	How the action addresses barriers
Near term access to data (Years 1-2)	This action will provide decision-makers with relevant data on	s 9(2)(f)(iv)

	climate impacts so they can make risk informed decisions.	s 9(2)(f)(iv)
Design and develop an Adaptation Information Portal (Years 1-6)	This action will increase understanding of climate risk and support New Zealanders in taking effective adaptation action across all sectors.	A portal will provide access to all climate data and information needs in one place. It will standardise and maintain key datasets so they can be updated. It will provide accessible information and tools for use. Mātauranga Māori will be collated and shared where appropriate.

Tools, guidance and methodologies - provide tools, guidance and methodologies so all actors across society can take action and innovate to improve their resilience to climate change

37. Climate change adaptation poses unique challenges, given the time horizons over which climate change occurs. Risks from climate change need to be assessed based on these timeframes and planned for accordingly, while recognising greater uncertainty associated with longer-term projections of the future climate.
38. There is a need for tools, guidance and methodologies that enable decision-makers to use the information available to them to manage the risks from climate change, while still being flexible enough to allow for the uncertainty associated with future climate risk in planning for adaptation.
39. To address these barriers, strengthen resilience and adaptation capacity and enable New Zealanders to take action, we propose several actions:
- updating existing climate change adaptation guidance and methodologies for central and local government
 - a rolling programme of new guidance for adaptation planning tailored to a wide range of audiences
 - the design and development of an adaptation professional development programme for key practitioners (such as engineers, lawyers, planners and developers).
40. Our proposed approach to rolling out this guidance is modular and designed to enable the regular flow of additional tools to support adaptive planning. We have also prioritised those that are likely to be needed by local government, given their responsibilities for planning for the impacts of climate change and managing risks from natural hazards. Some of these could also form the basis of regulatory requirements in the National Planning Framework, in the later years of the NAP.
41. This approach to developing non-statutory methodologies and guidance first enables approaches to be well tested before being given regulatory weighting.

Table 3: Guidance to support risk management and planning that accounts for climate change impacts

Action	How the action contributes to building resilience	How the action addresses barriers
Adaptation guidance for central government policy-makers (Year 1)	This guidance will support central government agencies to integrating climate adaptation principles into both the development of policy and delivery of services.	This guidance provides a methodology for central government to ensure they have considered climate change adaptation in the development of new policy. This is important for ensuring that new policies will not increase exposure or vulnerability to the impacts of climate change and will not limit our options for adapting to climate change in the future.
Adaptation guidance for local government (Climate Change Projections for New Zealand; Coastal Hazards and Climate Change; and Tools for Estimating the Effects of Climate Change on Flood Flow) (sequenced)	This regularly updated suite of guidance supports local government to consider climate change adaptation in planning and decision-making.	This guidance provides important information to local government, in the form of projections of future climate change and sea level rise, as well as specific guidance on how to consider climate change when planning in coastal areas, and when assessing flood risk. It is important to regularly update this guidance so that the latest information and hazard risk assessment methodologies can be used by local government in adaptation planning.
Guide to local climate change risk assessments (Year 5)	This framework supports local government to conduct their own regional risk assessments, by providing them with a standard approach to use.	This guidance supports local government to assess and understand the risks their regions face from climate change. Understanding the risks is a necessary first step to carrying out adaptation planning.
Guidance for conducting dynamic adaptive pathways planning (DAPP) (Years 1 and 2)	This action will assist central and local government to make decisions and to carry out adaptation planning under conditions of uncertainty.	The dynamic adaptive pathways planning approach aims to support the development of an adaptive plan that is able to deal with the uncertainty associated with projections of future climate change. This approach is flexible and can be adapted as the level of risk increases or as new information becomes available.
Guidance on developing and using different socio-economic scenarios for adaptation planning	This action will enable central government, local government and businesses to consider future socio-economic scenarios when assessing the risks they face from climate change and planning for how to manage them.	In addition to uncertainty surrounding the future risks from climate change, there is also uncertainty around future socio-economic changes. This guidance will make it possible to consider different socio-economic futures in conjunction with different scenarios of future climate.
Guidance on integrating mātauranga Māori into adaptive planning and working with mana whenua	This action will enable central and local government to effectively engage with iwi/Māori.	Effective engagement with iwi/Māori is an essential component of adaptive planning and decision-makers need to be able to integrate Māori worldviews and mātauranga Māori into adaptation plans.
Guidance for preparing adaptation plans	This action will enable different audiences, sectors and levels of government to	This action will help to ensure that adaptation plans are being developed in a consistent way across New Zealand, using

Action	How the action contributes to building resilience	How the action addresses barriers
	produce their own adaptation plans using a standard approach.	an approach to managing risks that is flexible and allows for uncertainty in projections of future climate.
Guidance and tools for monitoring and evaluating the impact of adaptation initiatives (Year 3)	This action will help decision-makers to ensure that the adaptation actions they are taking are effective.	Being able to monitor whether or not adaptation actions are continuing to have the intended effects is an essential component of the DAPP process, because when an action is no longer effective that triggers a switch to a new action or pathway. This action will provide DAPP users with a process for identifying those signals and triggers.
Tools and guidance specific to mātauranga Māori and mātauranga indicators (Years 3 and 4)	This action will enable iwi/Māori to carry out adaptation actions in their communities.	It will provide guidance on planning under conditions of uncertainty in a way that is specifically targeted to the needs of iwi/Māori.

A climate change adaptation professional development programme

42. An action to design and develop a climate change adaptation professional development programme for key practitioners was recommended by CCATWG. They recommended that the programme be developed by experts and made available to organisations such as Engineering New Zealand, the New Zealand Law Society, Te Hunga Rōia Māori o Aotearoa (Māori Law Society), New Zealand Planning Institute, Papa Pounamu (Māori technical interest group within the New Zealand Planning Institute), the Resource Management Law Association, New Zealand Society of Local Government Managers, Real Estate Institute of New Zealand, as well as developers, accountants, actuaries, auditors and human resource managers.
43. We recommend including this action in the NAP and increasing the scope of this action over time so that similar training can also be delivered to professionals and practitioners in central and local government. It is targeted at building capability and will help to diffuse new tools and guidance for achieving effective adaptation.
44. We propose this action commences in Year 4 to align with the release of the new guidance proposed, and to support RM reform implementation.

Next steps

45. Following your feedback, we will finalise these actions for inclusion in the NAP. The overall sequence of actions for the NAP is due to be discussed by Ministers in February 2022.
46. Agencies are in the process of briefing their Ministers on the actions relevant to their portfolios. We are also developing a strategic narrative for the NAP that links together these various action plans and aim to provide this to you in December 2021 for your visibility of how the NAP as a whole is coming together.

Appendix 2: NCCRA risks the cross-cutting objective actions will contribute to addressing

Actions	How the action will help build NZ's resilience to the impacts of climate change	Risk the action will contribute to addressing								Other risks
		G1	G2	G3	G4	G5	G6	G7	G8	
A central government oversight and coordination function for NAP implementation	This action will ensure accountability for the NAP's implementation across government, improve coordination within central government and ensure cross-agency support for adaptation action. Regulations to specific reporting requirements will ensure quality and consistent information.		✓	✓				✓		E1 - costs to governments
s 9(2)(g)(i)										
Exploring the extension of climate-related financial disclosure requirements to central government	The Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 requires approximately 200 of New Zealand's largest financial market participants to annually analyse and publicly disclose their climate-related risks and opportunities. Requiring public sector entities to do this would support the resilience of investment and policy decisions, while additionally providing greater transparency and accountability for taxpayers, ratepayers and the wider public.		✓	✓					✓	
A Māori Climate Strategy and Action Plan	This action will support and enable iwi/Māori climate action, empower Māori to be part of climate decision-making and prioritise areas of investment to support Māori climate action through the Climate Action Planning toolbox.				✓					
The development of a Climate Adaptation Act (CAA)	This action will address complex technical and legal issues associated with managed retreat as recommended by the RM Review Panel.	✓	✓						✓	E1 - costs to governments E6 - insurability
Near term access to data	This action will provide decision-makers with relevant data on climate impacts so they can make risk informed decisions	✓		✓			✓			
Design and develop an Adaptation Information Portal	This action will increase understanding of climate risk and support New Zealanders in developing effective adaptation action across all sectors	✓	✓	✓	✓	✓	✓			All other risks
s 9(2)(f)(iv)										
Adaptation guidance for central government policy-makers	This guidance will support central government agencies to integrating climate adaptation principles into both the development of policy and delivery of services.	✓		✓						
Adaptation guidance for local government (Climate Change Projections for New Zealand; Coastal Hazards and Climate Change; and Tools for Estimating the Effects of Climate Change on Flood Flow)	This regularly updated suite of guidance supports local government to consider climate change adaptation in planning and decision-making.	✓		✓					✓	
Guide to local climate change risk assessments	This framework supports local government to conduct their own regional risk assessments, by providing them with a standard approach to use.			✓						
Guidance for conducting dynamic adaptive pathways planning (DAPP)	This action will assist central and local government to make decisions and to carry out adaptation planning under conditions of uncertainty.	✓	✓	✓						
Guidance on developing and using different socio-economic scenarios for adaptation planning	This action will enable central government, local government and businesses to consider future socio-economic scenarios when assessing the risks they face from climate change and planning for how to manage them.	✓		✓						

Actions			How the action will help build NZ's resilience to the impacts of climate change		Risk the action will contribute to addressing								
					G1	G2	G3	G4	G5	G6	G7	G8	Other risks
Guidance on integrating mātauranga Māori into adaptive planning and working with mana whenua			This action will enable central and local government to effectively engage with iwi/Māori.					✓					
Guidance for preparing adaptation plans			This action will enable different audiences, sectors and levels of government to produce their own adaptation plans using a standard approach.		✓	✓	✓						
Guidance and tools for monitoring and evaluating the impact of adaptation initiatives			This action will help decision-makers to ensure that the adaptation actions they are taking are effective.		✓		✓				✓		
Tools and guidance specific to mātauranga Māori and mātauranga indicators			This action will enable iwi/Māori to carry out adaptation actions in their communities.		✓			✓					
Climate change adaptation professional development programme for key practitioners			This programme, targeted at building capability, will help to diffuse new tools and frameworks for achieving effective adaptation		✓		✓						
Key	G1	Risk of maladaptation across all domains due to the application of practices, processes and tools that do not account for uncertainty and change over long timeframes											
	G2	Risk that climate change impacts across all domains will be exacerbated because current institutional arrangements are not fit for climate change adaptation . Institutional arrangements include legislative and decision-making frameworks, coordination within and across levels of government and funding mechanisms											
	G3	Risks to governments and businesses from climate change-related litigation , due to inadequate or mistimed climate change adaptation											
	G4	Risk of a breach of Treaty obligations from a failure to engage adequately with and protect current and future generations of Māori from the impacts of climate change											
	G5	Risk of delayed adaptation and maladaptation due to knowledge gaps resulting from under-investment in climate adaptation research and capacity building											
	G6	Risks to the ability of the emergency management system to respond to an increasing frequency and scale of compounding and cascading climate change impacts in New Zealand and the Pacific region.											
	G7	Risk that effective climate change adaptation policy will not be implemented and sustained due to a failure to secure sufficient parliamentary agreement											
	G8	Risk to the ability of democratic institutions to follow due democratic decision-making processes under pressure from an increasing frequency and scale of compounding and cascading climate change impacts											