

The Treasury

Treasury Advice Related to Modernising the EQC Act Information Release

December 2021

This document has been proactively released by the Treasury on the Treasury website at:

<https://www.treasury.govt.nz/publications/information-release/treasury-advice-related-modernising-egc-act-information-release>

Information Withheld

Some parts of this information release would not be appropriate to release and, if requested, would be withheld under the Official Information Act 1982 (the Act).

Where this is the case, the relevant sections of the Act that would apply have been identified.

Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Key to sections of the Act under which information has been withheld:

- [25] 9(2)(b)(ii) - to protect the commercial position of the person who supplied the information or who is the subject of the information
- [26] 9(2)(ba)(i) - to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information would be likely to prejudice the supply of similar information, or information from the same source, and it is in the public interest that such information should continue to be supplied
- [27] 9(2)(ba)(ii) - to protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information would be likely otherwise to damage the public interest
- [33] 9(2)(f)(iv) - to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials
- [34] 9(2)(g)(i) - to maintain the effective conduct of public affairs through the free and frank expression of opinions
- [35] 9(2)(g)(ii) - to maintain the effective conduct of public affairs through protecting ministers, members of government organisations, officers and employees from improper pressure or harassment
- [38] 9(2)(j) - to enable the Crown to negotiate without disadvantage or prejudice
- [39] 9(2)(k) - to prevent the disclosure of official information for improper gain or improper advantage

Where information has been withheld, a numbered reference to the applicable section of the Act has been made, as listed above. For example, a [25] appearing where information has been withheld in a release document refers to section 9(2)(b)(ii).

Copyright and Licensing

Cabinet material and advice to Ministers from the Treasury and other public service departments are © **Crown copyright** but are licensed for re-use under **Creative Commons Attribution 4.0 International (CC BY 4.0)** [<https://creativecommons.org/licenses/by/4.0/>].

For material created by other parties, copyright is held by them and they must be consulted on the licensing terms that they apply to their material.

Accessibility

The Treasury can provide an alternate HTML version of this material if requested. Please cite this document's title or PDF file name when you email a request to information@treasury.govt.nz.

Treasury Report: The Earthquake Commission Scheme and Hazards Exacerbated by Climate Change

Date:	24 November 2020	Report No:	T2020/3782
		File Number:	TY-2-1-17-2

Action sought

	Action sought	Deadline
Hon Dr David Clark Minister Responsible for the Earthquake Commission	<p>Agree not to extend EQC cover to include storm and flood damage to residential buildings, or damage from erosion or drought.</p> <p>Note the configuration and purpose of the EQC Scheme may need to be reassessed in future, as Government reaches a position on its objectives for climate change adaptation.</p>	N/A

Contact for telephone discussion (if required)

Name	Position	Telephone	1st Contact
Steve Cantwell	Principal Advisor, Earthquake Commission Policy Team ^[39]	N/A	✓
Helen McDonald	Manager, Earthquake Commission Policy Team	^[35]	

Minister's Office actions (if required)

Return the signed report to Treasury. **Refer** this report to the Minister of Climate Change for information.

Note any feedback on the quality of the report

Treasury Report: The Earthquake Commission Scheme and Hazards Exacerbated by Climate Change

Executive Summary

As part of Treasury's work to modernise the Earthquake Commission (EQC) Act, this report considers whether any changes are required to the EQC Scheme (the Scheme) in order to address the implications of climate change. It also provides advice on EQC's role in land-use planning processes, in response to a recommendation by the Public Inquiry into EQC.

This report recommends that the current review of the EQC Act not consider changing the Scheme in light of climate-related changes to natural hazards. Climate change is expected to have a limited effect on the financial viability of the Scheme as currently configured, and policy work on potential changes to the Scheme in response to risks exacerbated by climate change is premature. Any potential role for the Scheme can be better considered once initiatives underway across government on climate change adaptation funding, particularly the Ministry for the Environment's (MfE) work as part of the reform of the resource management system, have established a clearer strategic framework for climate change adaptation.

This report has three components:

- **implications of climate change for the current Scheme**
- **potential pressure points for further changes to the Scheme, and**
- **the future role of EQC regarding climate change and land-use planning.**

Implications of climate change for the current Scheme

While climate change is and will increasingly be a significant issue for EQC and insurers, we consider that climate change does not threaten the future financial viability of the Scheme as currently configured. The Scheme provides capped natural disaster insurance cover for insured residential buildings, and associated residential land, against earthquake, volcanic eruption, tsunami, landslip, hydrothermal activity, and fire caused by these named perils. Residential land, but not buildings, is insured against storm and flood damage.

Landslip and "storm and flood"; are likely to be materially exacerbated by climate change. These hazards are a small fraction (currently about 8 percent) of EQC's expected long-run claims costs. Climate change is expected to cause these costs to increase from current levels, but only modestly as a percentage of the expected cost of the Scheme.

Potential pressure points for further changes to the Scheme

There may be future pressure to extend the Scheme's coverage of storm and flood damage to include residential buildings. A current feature of the New Zealand insurance market is that private flood insurance for buildings is readily available, well priced and offered as part of the standard "all risks" insurance offering. This is unusual compared to comparator countries (Australia, USA, UK) and might not last.

Although the timing and pace of a move to more granular pricing and availability of flood insurance will likely be driven primarily by better information, climate change will exacerbate any negative effects on insurance pricing and availability. A future Government may face pressure to respond by extending the Scheme's coverage of storm and flood damage to include residential buildings, and perhaps other building types, or residential contents.

At this point in time, we do not recommend extending EQC cover for storm and flood to residential buildings. While there may be shifts in the market that cause Government to reassess this position in future, there is currently no supply or affordability issue for private flood cover that would warrant extending EQC cover in this way.

Drought is another hazard not currently covered by the EQC. The previous Minister Responsible for the EQC received correspondence from two members of the public this year on extending EQC cover to drought, due to the inability to get coverage for building and land damage from private insurers where the owners believed the damage was caused by drought (i.e. due to the land shrinking as it dries out).

Relatedly, if sea level rise causes significant losses by slow erosion or coastal inundation rather than storm surge, there may be pressure to modify the current erosion exclusion. We do not recommend EQC cover extend to either slow erosion or drought. Both hazards are examples of gradual damage which is commonly excluded from insurance cover. Some reasons for this include the fact that the damage is not sudden or unexpected and property owners have a responsibility to take steps to mitigate against damage from occurring (including under the EQC Act). The often drawn out processes of drought and erosion also makes it difficult to define it as a singular 'event' that is eligible for EQC cover.^[34]

Additionally, we consulted several councils affected by recent droughts on whether they are seeing residential building damage due to drought in their communities. Those we spoke with were not aware of any issues locally. Our sense from speaking with councils, is that councils who are affected by risky types of soils for drought generally understand the risks (as drought events tend to occur seasonally) and ensure house design is appropriate to prevent damage.^[34]

The future role of EQC regarding climate change and land-use planning

EQC and climate change adaptation

Work is underway across government to establish a clear position and framework on climate change adaptation, including for managed retreat. The cross-agency Community Resilience Work Programme, coordinated by the Department of Internal Affairs (DIA) has been given a mandate from Cabinet to develop a managed retreat policy framework, and MfE is developing advice on the reform proposed to New Zealand's resource management system in the 2020 Randerson Review. That advice will consider new legislation to better support climate change adaptation, including whether a funding and financing framework should be established to support proactive adaptation measures (including managed retreat).

These are the appropriate processes to consider the broader issues around climate change adaptation funding raised in this paper. This includes the inherent trade-offs and political-economy judgements to be made in the future around the interaction between insurance affordability and availability for homes in high-risk areas, and risk pricing or other mechanisms that might incentivise risk mitigation and avoidance.

The configuration and purpose of the Scheme may need to be reassessed in future, as Government reaches a position on its objectives for climate change adaptation. Ministers' decisions on the scope and objectives of funding and/or financing for climate change adaptation will be particularly relevant. Lead policy agencies MfE, responsible for the National Adaptation Plan and the reform of the resource management system, and DIA, responsible for community resilience, recognise the importance of EQC's input to policy development on natural hazards and climate adaptation. EQC is already represented on the

key governance arrangements for the Community Resilience work programme. EQC sees this as an area where their specialist knowledge, research and resources should be used for greater impact across government.

Treasury will provide an insurance perspective in the relevant cross-government policy processes, including into the National Adaptation Plan and the reform of the resource management system. EQC will work to ensure their knowledge of natural hazard management and understanding of the EQC insurance Scheme informs these processes. This will support both the climate change adaptation work and manage the risk and contingent liability that EQC may face as a result of climate change. The Treasury will report back to Ministers on any further implications for EQC's role once decisions on the scope and objectives of funding and/or financing for climate change adaptation have been agreed by Cabinet. MfE is anticipating that advice on this will be presented to Ministers in the first half of 2021, though timing is still to be confirmed with the relevant Ministers.

We note the results of MfE's work may raise first principles questions about the Scheme which will be better addressed through a future work programme in response to these. The current focus of Treasury's work, and this report, is framed in the context of a 'modernising' rather than first principles review of the EQC Act (T2020/2370 refers).

EQC and land-use planning

Land-use planning systems will play a major part in any effective future climate change adaptation strategy. In addition to EQC's specific interest in climate change adaptation, EQC is currently developing an extensive work programme and action plans, aligned with its Resilience Strategy for Natural Hazard Risk Reduction, to support more resilient buildings and smarter land use. This will allow EQC to focus its relevant strengths and interests to contribute to decision-making in land-use planning and relevant cross-government policy processes.

Our forthcoming report on EQC institutional arrangements will propose changes to the purpose of the EQC Act to better reflect the understanding that EQC should continue to invest in and to contribute to whole-of-Government resilience initiatives.

Recommended Action

We recommend that you:

Implications of climate change for the current EQC Scheme

- a **note** that current modelling suggests that climate change does not threaten the future financial viability of the EQC Scheme as currently configured.

Potential pressure points for further changes to the EQC Scheme

- b **note** the Treasury is not aware of any supply or affordability issues around private insurance for storm and flood damage to residential buildings.
- c **agree** the EQC Scheme is not extended to include storm and flood damage for residential buildings.

Agree/disagree.

- d **note** that erosion and drought, which are expected to be exacerbated by climate change, are examples of gradual damage, which is commonly excluded from insurance cover, and not currently covered by the EQC Scheme.

- e **agree** the EQC Scheme should not be extended to include erosion and drought damage.

Agree/disagree.

- f **note** we expect climate change will create or exacerbate pressure to expand the current coverage of the EQC Scheme to cover additional hazards over time.

The future role of EQC

- g **note** work is underway across government to establish a clear position and framework on climate change adaptation, including for managed retreat.
- h **note** the configuration and purpose of the EQC Scheme may need to be reassessed in future, as Government reaches a position on its objectives for climate change adaptation, including for managed retreat.
- i **note** lead policy agencies MfE and DIA recognise the importance of EQC's input to policy development on climate adaptation and natural hazards respectively, with EQC already represented on the key governance arrangements for the cross-agency Community Resilience Work Programme.
- j **note** the Treasury will provide an insurance perspective into those policy processes.
- k **note** EQC will work to ensure their knowledge of natural hazard management and understanding of the EQC insurance Scheme informs these processes.
- l **note** Treasury and EQC's engagement in cross-government work on reducing risks from natural hazards and the effects of climate change will support both the adaptation work and mitigate the risk and contingent liability that EQC may face as a result of climate change.
- m **direct** the Treasury to report back to Ministers on any further implications for EQC's role once decisions on the scope and objectives of funding and/or financing for climate change adaptation have been agreed by Cabinet.

Agree/disagree.

- n **note** work is already underway within EQC to develop an extensive work programme and action plans to contribute to decision-making in the land-use planning and relevant cross-government policy processes.
- o **note** our forthcoming report on EQC institutional arrangements will propose changes to the purpose of the EQC Act to better reflect the understanding that EQC should continue to invest in and to contribute to whole-of-Government resilience initiatives.

p **refer** this report to the Minister of Climate Change for information.

Refer/not referred.

~~Helen McDonald~~
Manager, Earthquake Commission Policy Team



Hon Dr David Clark
Minister Responsible for the Earthquake Commission

Treasury Report: The EQC Scheme's Treatment of Hazards Exacerbated by Climate Change

Purpose of Report

1. The purpose of this report is to brief you on:
 - the current EQC Scheme's (the Scheme) treatment of hazards that will be exacerbated by climate change
 - how climate change may affect EQC's exposure to those hazards, and provide advice on whether the Scheme should be reconfigured in light of this
 - potential implications of cross-government work programmes on climate change adaptation for the future role of EQC
 - the role of EQC in land-use planning.

Current EQC Coverage of Climate-Change-Related Hazards

EQC Cover

2. The Earthquake Commission Act 1993 (the Act) establishes the Earthquake Commission (EQC) and defines the EQC insurance scheme in statute. The Scheme provides capped natural disaster insurance cover for insured residential buildings, and associated residential land, against earthquake, volcanic eruption, tsunami, landslip, hydrothermal activity, and fire caused by these named perils.
3. Residential land, but not buildings, is also insured against only storm and flood damage. This difference arose when land cover was introduced into the Scheme in 1984. The pre-existing insurance arrangements for residential buildings were retained. Private insurers already covered storm and flood damage to residential buildings, but not land. Therefore, the then-new EQC land cover was extended to storm and flood damage.
4. EQC cover for each natural disaster event is:
 - *building cover*: up to \$150,000 (plus GST), less claims excess, for each dwelling in the insured building
 - *land cover*: the value of the damaged insured land (up to the minimum lot size under the applicable district plan), or the cost of reinstating the land to its pre-event condition, whichever is lower, less claims excess.
5. Insurers are required to collect EQC premium on dwellings insured by private insurers against fire. EQC then covers these dwellings and associated residential land. EQC can also provide direct cover, on application, to owners of residential buildings.

EQC Coverage of Hazards Exacerbated by Climate Change

6. EQC covers six hazards - earthquake, volcanic eruption, tsunami, landslip, hydrothermal activity, and storm and flood. Only one of these – volcanic eruption – has no obvious mechanism by which climate change might affect it. Hazards will be affected by climate change in two key ways:

- some events will be more severe or frequent due to the effects of climate change (such as flooding)
 - the effects of other events will be exacerbated by pre-existing conditions. For example, tsunami hazards may grow in consequence, but not frequency, as a given future tsunami event will strike from a higher average sea level than today. Earthquake hazards might also grow in consequence, but not frequency, as ground moisture levels influence some earthquake damage, particularly earthquake-initiated landslips and liquefaction.
7. To our knowledge, the effects of climate change on earthquake and hydrothermal hazards have not been modelled. However, projections suggest that climate change will cause regional precipitation variations but have very modest impacts on average precipitation nationally¹. Therefore, we have no information on what impact climate change may have, if any, on earthquake and hydrothermal hazards.
 8. As a result, we expect that the largest impacts for EQC may be on landslip and storm and flood claims, as these hazards will be exacerbated by more extreme wind and rain events, and sea level rise. Landslips are often triggered by water, by either adding weight and lubrication to unstable soil or rock, or flooded rivers or high seas actively undermining banks or cliffs. Consequently, the remainder of this report focusses on the landslip, and storm and flood hazards.

Hazard damage mechanisms

9. For landslips, the damage mechanisms to insured buildings are either damage caused by collapse or deformation of the land on which the building stands, or the impact of landslip-borne materials with the building.
10. For both landslip, and storm and flood, the damage mechanisms to insured land are either:
 - loss, scouring or collapse of insured land or supporting structures, or
 - debris deposited on insured land.

EQC may pay out for “imminent loss” before losses occur

11. Unlike private insurers, which only pay out following a loss, EQC also provides cover against imminent loss due to any of the covered hazards. If EQC considers a loss is imminent (which EQC’s operational practice characterises as a loss that is almost certain within the next 12 months), then EQC will pay out ahead of the loss. This can help reduce total losses by providing resources to take corrective action before a loss has incurred.
12. At present, the majority of EQC imminent loss payments are for landslip, e.g. where a slow-moving slip is expected to shortly threaten an insured building or land. Therefore imminent loss claims may also grow as a result of climate change.
13. ^[25]

¹ New Zealand government (2018). *Climate Change Projections for New Zealand Atmospheric projections based on simulations undertaken for the IPCC 5th Assessment 2nd edition*. Table 1.

Erosion is excluded from EQC cover

14. The Scheme specifically excludes erosion from the definition of landslip. The EQC Act defines erosion as “erosion by the normal action of the wind or sea or of a lake, river, or other body of water”. The inclusion of “normal action” helps distinguish erosion from landslips caused during storms and floods. In everyday use, erosion includes the concept of gradual loss “erosion is the gradual destruction and removal of rock and soil in a particular area by rivers, the sea, or the weather.”² As a result, while the Scheme covers episodic coastal landslip events caused by storms, including landslips exacerbated by storms in combination with sea level rise, it does not cover more gradual erosion processes, including those exacerbated by sea level rise.

There is a relationship between EQC Cover and insurer pricing, availability and retreat

15. EQC cover attaches to private fire insurance policies on residential property. If a property is uninsured, either because a homeowner chooses to not insure (e.g. due to high premiums in higher risk locations), or no insurer will agree to insure the property, then the property typically will have no EQC cover.
16. EQC does offer direct cover, where homeowners can buy EQC cover directly from EQC without having a private fire policy. Conditions apply and current take-up is very low (EQC has 11 policies in force as at 30 June 2020). The EQC Act does not prescribe any requirements that customers must meet for EQC to issue direct cover, other than cover be issued “upon or subject to such conditions as the Commission thinks fit”. It is currently EQC administrative practice to require applicants seeking direct EQC cover to demonstrate that they are unable to obtain private insurance.
17. Climate change is likely to increase future demand for EQC direct cover from homeowners facing reduced insurer availability (retreat) or premium price rises due climate change-exacerbated risks. The magnitude of any increase in demand for direct cover will largely depend on how insurance price and availability responds to these changes in risk.
18. Whether any changes are needed to the way the Scheme provides direct cover in future is an issue best revisited once Government develops its position on climate change adaptation issues like managed retreat. If Government wanted to direct EQC to apply a certain policy approach to how it manages its direct cover function, this could be achieved via issuing a Ministerial direction to EQC under the Crown Entities Act 2004.

EQC can decline cover for properties that have Section 74 notices under the Building Act 2004

19. When a building consent is requested on a property, the local authority is required to consider if the work will accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property.³ If there is risk from a natural hazard (like flooding), a conditional consent can be issued if adequate provision has or will be made to protect land from natural hazard damage, but a Section 74 notification (or ‘entry’) related to the relevant natural hazard must be added to the Certificate of Title by the Registrar-General of Land.
20. If a property has a Section 74 notification on its land title and the homeowner put in a claim for damage that is caused by the type of natural hazard (or hazards) that caused the entry to be made, EQC has the discretion (under Schedule 3, clause 3(d) of the EQC Act) to meet the claim in full, partly meet the claim, or decline the claim. However, if the claim is related to damage from a natural disaster of a different type from that

² Collins Online Dictionary

³ See s.71 of the Building Act 2004.

which caused the entry to be made, EQC's normal processes apply and EQC may meet the claim in full.

21. In 2018 EQC declined 27 claims under clause 3(d) of Schedule 3. Most of those were in the Nelson/Tasman area which was hit by two cyclones that year. The Nelson/Tasman area saw flooding earlier in the decade which led to the territorial authority issuing more hazard notices where the affected properties required a building consent to repair the previous natural disaster damage.
22. It is possible that the effects of climate change (and better understanding of natural hazards) will lead to more councils issuing hazard notices (for new buildings and renovations), which could in turn mean EQC will only partially meet or decline claims for certain hazards at an increasing number of properties. This is another area where the Government and Scheme may come under increased public pressure as these effects may become more widespread.
23. We are currently considering whether there is any scope to ensure the public is aware of the potential insurance implications of natural hazard notices and are consulting with Local Government New Zealand on this matter. As the potential mechanisms for achieving this are outside the EQC Act (for example, information on insurance implications could be added Land Information Memorandums or property titles), any work to progress this issue will be separate to our work programme to modernise the EQC legislation. We will report back to you on our progress on this work at a later date.

Current Estimated Long-run Average Annual EQC Claims costs

24. Damage from earthquake, volcano and tsunami events dominate EQC's expected future claims costs, both on average over time, and as the source of rare major claims events. EQC modelling estimates over 90 percent of EQC's long-run costs are attributable to these hazards, with about 8 percent of EQC's long-run costs attributable to landslip, hydrothermal and storm and flood claims.

Table 1: Expected Cost of EQC Claims by Hazard, at \$150,000 EQC Building Cap

Hazard	Annual Expected Cost	
	Million \$	Percent
Earthquake	\$167m	45%
Volcano	\$101m	27%
Tsunami	\$72m	19%
Landslip, Storm, Flood, Hydrothermal	\$31m	8%
Total	\$372m	100%

Notes: These estimates are provided by EQC's brokers and subject to a range of modelling assumptions and caveats. EQC combines landslip, storm, flood and hydrothermal claims in its records so these cannot be separated by hazard. EQC does not model how these claims vary with the EQC cap, so only the \$150,000 cap is shown.

25. A recent Motu paper,⁴ estimates that climate change will increase landslip and storm and flood EQC claims (including coastal storm surge and coastal inundation) by about 7-8 percent by 2040, and 9-25 percent by 2080-2100, depending on future greenhouse gas concentrations.
26. The Motu paper notes that these results are subject to a range of caveats, which overall will make these cost estimates conservative. Importantly, the paper does not

⁴ Motu (2020). *Projecting the effect of climate change-induced increases in extreme rainfall on residential property damages: A case study from New Zealand*. Funded by the Deep South Science Challenge.

model any sea level rise. Nonetheless, a 25 percent increase in the 8 percent of EQC claims costs attributable to these hazards would increase EQC's total long-run claims by about 2 percent.

27. Another recent paper by the New Zealand Institute of Economic Research, which includes projections for future fiscal cost to the Crown from natural disasters, shows storm and flood as a fairly consistent contributor in percentage terms to the Crown's broad risk profile over time,⁵ as shown in Table 2 below.

Table 2: Hazards as a proportion of fiscal cost to the Crown from natural disasters

Hazard	Annual Expected Cost 2020		Annual expected cost 2050	
	Million \$	Percent		
Earthquake	\$240m	33.95%	\$1,121m	33.84%
Storms and floods	\$35m	4.95%	\$165m	4.98%
Unclassifiable hazard spending (other)	\$432m	61.10%	\$2,027m	61.18%
Total	\$707m	100%	\$3,313	100%

28. The NZIER figures in Table 2 do not capture EQC costs directly as they only include costs funded by appropriation. While the modelling is only indicative, it supports our conclusions regarding the fiscal sustainability of the Scheme.
29. Regarding sea level rise, The Intergovernmental Panel on Climate Change (IPCC) estimates global sea level rises to date of about 1.7mm per annum since the beginning of the 20th century until 2010.⁶ New Zealand sea levels have tracked global sea levels fairly closely and are expected to continue doing so. Sea levels are expected to rise by about 30cm by 2065.⁷ For parts of New Zealand, sea level rise will also be exacerbated or offset by changes in local land height due to coastal erosion/accretion and tectonic activity.
30. The National Institute of Water and Atmospheric Research (NIWA) estimate that about \$12.4b of buildings (both residential and non-residential) are currently exposed to a 1 in 100 year coastal flood, and each 10cm of sea level rise will increase the building exposure by about \$2.5b.⁸ A proper analysis of the implications of this for EQC claims has not been done. For a 30cm sea level rise, NIWA estimates exposed replacement value for a 1 in 100-year flood at \$18.5b versus present day \$12.5b, which is a 50% increase.
31. Although coastal flooding is not separately recorded in EQC data, EQC advise that coastal flooding claims are a very small fraction of all storm, flood and landslip claims, which collectively represent only about 8 percent of EQC's expected long-run claims costs. This is partly because EQC does not cover building damage from storm and flood. Therefore, the impact in absolute percentage terms on EQC's long-run exposures under the current Scheme design would likely be modest.
32. The above results and estimates collectively suggest to us that the Scheme as currently configured can sustainably meet the challenges posed for the Scheme by

⁵ NZIER (2020). *Investment in natural hazards mitigation: Forecasts and findings about mitigation investment*. Report to Department of Internal Affairs.

⁶ Intergovernmental Panel on Climate Change (IPCC) (2014). *Climate change 2014: Synthesis report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Retrieved from www.ipcc.ch.

⁷ Parliamentary Commissioner for the Environment (2015). *Preparing New Zealand for rising seas: Certainty and Uncertainty*. pp. 28. We note there is some uncertainty about the rate at which sea level rise will occur, with some scenarios suggesting that 30cm sea level rise could occur earlier than 2065.

⁸ NIWA (2019). *Coastal Flooding Exposure Under Future Sea-level Rise for New Zealand*.

hazards exacerbated by climate change. We conclude that climate change does not threaten the future financial viability of the Scheme as currently configured.

33. We note that, even if climate change does not materially impact the overall EQC average annual loss, it could increase the median or typical annual loss, as this is much more dominated by landslip/storm/flood losses, versus earthquake/volcanic eruption which have relatively low median losses but high long-term means. However, we expect any increased costs under the current funding model would result in matching levy increases which would offset the effects of this.
34. More generally, any estimate of the increases in damage due to hazards exacerbated by climate change are subject to large uncertainties and modelling and data limitations. One large uncertainty is the climate change trajectory itself, which will be strongly shaped by currently unknown future global climate policies.
35. If the current practice of pricing EQC premiums to meet expected costs continues, increases in EQC's expected costs arising from climate change will feed through to higher EQC premiums.
36. Although outside this analysis, EQC premium and claims costs will also rise organically over time as its insured stock of residential buildings grows.

Implications for Future EQC Scheme Design and Policy

37. We see climate change having three broad implications for the Scheme, two shaping how the current Scheme might evolve without necessarily changing its current form, and one posing first-principles questions regarding the future role of the Scheme:
 - **implications of climate change for the current Scheme:** climate change exacerbating the future consequences of known technical issues with the Scheme
 - **potential pressure points for further changes to the Scheme:** climate change exacerbating future pressures to materially extend the Scheme, most likely by extending EQC storm and flood cover to include residential buildings, as well as land, and
 - **the future role of EQC:** Climate change poses strategic questions about the future role of EQC in the policy mix for responding to homeowner climate-change-related losses and adjustment costs, and the interactions between the objectives of the Scheme and Government's broader position on the role of central government in climate change adaptation. The Public Inquiry into EQC has also raised questions about EQC's role in land-use planning more broadly.

Implications of climate change for the current Scheme

38. The Deep South Science Challenge report on the extent of EQC liability for damage from sea-level rise raises a number of technical issues that could usefully be examined irrespective of the effects of climate change, but that will take on more significance when the effects of climate change is considered.⁹ Issues include:
 - EQC land cover, including the calculation and pricing of damage and its interaction with EQC and private insurer building cover

⁹ James, Iorns & Watts (2019). *The extent of EQC liability for damage from sea-level rise*. Deep South National Science Challenge. Retrieved from: <https://www.deepsouthchallenge.co.nz/projects/sea-level-rise-housing-and-insurance-liability-and-compensation>

- the current obligation on homeowners to “...at all times take reasonable precautions for the safety of the insured property”¹⁰
 - the current option for EQC to respond to claims by relocating buildings, and
 - the existing “imminent loss” provisions.
39. We are considering these and other similar issues as part of the current work to modernise the EQC Act. Our initial assessment is that, apart from the land cover issue, the status quo settings on these topics are expected to remain unchanged.

Potential pressure points for further changes to the Scheme

Flooding and coastal erosion

40. A feature of the New Zealand insurance market is that private flood insurance is readily available, well priced and offered as part of the standard “all risks” insurance offering.
41. The Insurance Council New Zealand (ICNZ) has advised the Treasury that ICNZ is not aware of any areas in the country where a blanket flood exclusion is applied. However, based on flood mapping tools, previous claims history, local insights (e.g. local authority details in Land Information Memorandums), on an individual property basis, insurers may:
- ensure that appropriate flood mitigation measures are in place before flood cover is provided
 - apply a higher excess for floods or premium loading for flood, and/or
 - in an extreme situation, exclude or decline to offer flood cover.
42. This is consistent with insurers standard approach for managing properties which pose a high natural disaster risk.
43. This might not last. Frame et al estimate that major-flood insured costs attributable to anthropogenic (i.e., human-generated) influence on climate are currently somewhere in the vicinity of at least \$140M in New Zealand for this decade. This is what anthropogenic climate change cost the insurance sector in these events.¹¹
44. Globally, the costliest natural disasters are weather events, not earthquakes. Over the last decade Australia has held a string of government inquiries on the poor availability and high price of insurance in flood-prone areas of northern Australia. The USA established the National Flood Insurance Program (NFIP) in 1968, and the UK established Flood Re¹² in 2016, in part in response to insurance price and availability difficulties in higher-flood-risk areas.
45. The contrast with Australia is particularly striking, as the two largest general insurance companies operating in New Zealand both have Australian parent companies. Insurers tell us this difference is mainly due to Australia having better flood maps than New Zealand. Therefore, as flood modelling improves, insurer price and availability for flood cover may become much more differentiated, as has happened for earthquake risk.¹³

¹⁰ Earthquake Commission Act, Schedule 3 clause 12.

¹¹ Frame et al (2019) *Climate change attribution and the economic costs of extreme weather events: a study on damages from extreme rainfall and drought*. This figure of \$140M is understated, as it does not include the attributable costs of more minor floods, and these costs will very likely increase over time. The figure does not include uninsured damages and losses.

¹² Flood Re is a joint initiative between the UK Government and insurers. Its aim is to make the flood cover part of household insurance policies more affordable.

¹³ RMS, a leading provider of loss models to insurers and reinsurers, has indicated they will be releasing an updated New Zealand flood model in the first quarter of 2021.

46. The Treasury has been briefed by Deep South National Science Challenge Principal Investigator Belinda Storey on forthcoming research related to expected insurance retreat in coastal areas over the next 20 years.¹⁴ The research focuses on houses within 1km of the coastline in Wellington, Auckland, Christchurch, and Dunedin and found that all houses within current 1 in 100 year coastal flood zones are expected to be subject to at least partial insurance retreat by 2030, due to their modelled storm surge risk exceeding insurers' risk appetite to provide cover. However, the research team noted that this was a conservative estimate, and partial or full insurance retreat may occur earlier, in particular if insurers risk appetite is jolted by a significant natural hazard event, e.g. a significant storm.
47. Although the timing and pace of this change in pricing and availability of flood insurance will likely be driven primarily by better information, climate change will exacerbate any negative effects on insurance pricing and availability. A future government may face pressure to respond by extending the Scheme's coverage to include storm and flood damage to residential buildings, and perhaps other building types, or residential contents. Relatedly, if sea level rise causes significant losses by slow erosion or coastal inundation rather than storm surge, there may be pressure to modify the current erosion exclusion.
48. At this point in time, we do not recommend extending EQC cover for storm and flood to residential buildings. While there may be shifts in the market that cause Government to reassess this position in future, there is currently no supply or affordability issue for private flood cover that warrants extending EQC cover in this way.

Drought and erosion

49. Drought is another potentially costly hazard expected to be exacerbated by climate change. Drought is not covered by the EQC Act. The previous Minister Responsible for the EQC received correspondence from two members of the public this year on extending EQC cover to drought. One correspondent stated that their house had been damaged, with cracking to walls and windowsills, as a result of land shrinkage caused by drought. The other correspondent stated their retaining walls around their pool had shifted. Both noted the damage was not covered by private insurers or EQC.
50. Both erosion and drought are examples of gradual damage which is commonly excluded from insurance cover. Some reasons for this include the fact that the damage is not sudden or unexpected and property owners have a responsibility to take steps to mitigate against damage from occurring (including under the EQC Act). The often drawn out process of drought and erosion also makes it difficult to define a singular 'event' that is eligible for insurance cover (and for reinsurance purposes). A landslide resulting from erosion would be an event.^[34]

Even though EQC does not cover erosion, research by Manaaki Whenua suggests that erosion may already be increasing the costs of EQC's payouts in high-incidence areas for landslips.¹⁵

51. We consulted^[26] Waipa District Council, and Hawke's Bay Regional Council, all of which have been affected by severe drought in the past year, on whether they have heard of drought damage to houses in their community. Those we spoke with were not aware of any issues locally. Waipa District Council advised that councils who are affected by risky types of soils for drought generally understand the risks and ensure house design is appropriate to prevent damage.^[34]

¹⁴ The research is to be publicly released on 2 December 2020.

¹⁵ See Landslides, erosion, and insurance claims published July 2020 by Manaaki Whenua: <https://www.landcareresearch.co.nz/discover-our-research/land/erosion-and-sediment/smarter-targeting-of-erosion-control/stec-news/landslides-erosion-and-insurance-claims/>

52. For these reasons, we recommend the EQC Scheme should not be extended to include erosion and drought damage.

The future role of EQC regarding climate change and land-use planning

EQC and climate change adaptation

53. Work is underway across government to establish a clear position and framework on climate change adaptation, including for managed retreat. DIA has been given a mandate from Cabinet to develop a managed retreat policy framework. MfE is developing advice on the reform proposed to New Zealand's resource management system in the 2020 Randerson Review. That advice will consider new legislation to better support climate change adaptation, including whether a funding and financing framework should be established to support proactive adaptation measures (including managed retreat).
54. MfE is also working on a National Adaptation Plan (NAP), which is due to be completed by August 2022, though we note the exact scope of the NAP is yet to be agreed by Ministers. The purpose of the NAP is to respond to the most significant risks to New Zealand identified in the National Climate Change Risk Assessment published in August 2020. Two of the most relevant risks the Plan will seek to address include:
- risks to governments from economic costs associated with lost productivity, disaster relief expenditure and unfunded contingent liabilities due to extreme events and ongoing gradual changes
 - risks to the financial system from instability due to extreme weather events and ongoing, gradual change.
55. The National Climate Change Risk Assessment also specifically identified risks to the insurability of assets, noting that changes to insurance offerings could result in additional hardship following extreme events and have significant flow-on effects for New Zealand society including loss of peace of mind, displacement of communities, changes in business investment and household consumption, fiscal risks to the Government, and financial system instability.¹⁶
56. Climate change raises policy issues regarding the appropriate role of central government in providing compensation or adaptation funding to affected individuals and communities, e.g. contributing funding for coastal protection or retreat. It also raises questions about potential moral hazard effects created by blanket provision of EQC cover across New Zealand, regardless of the risk profiles of certain areas.
57. Considering the role of the EQC Scheme in climate change adaptation prior to the completion of relevant policy work across government to establish a position on climate change adaptation (including funding and managed retreat) risks conflating two different questions. The first question is the role of government in funding climate change losses and adaptation costs. The second is the role of EQC in delivering whatever government policy is decided.
58. ^[34]

¹⁶ See risk E6 of the National Climate Change Risk Assessment: Risks to the insurability of assets due to ongoing sea-level rise and extreme weather events: <https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-technical-report.pdf>

59. Therefore, it will be difficult in the short-term to frame advice on potential future EQC roles in climate change adaptation in isolation from broader policy work. Key questions regarding how increasingly certain risks (such as losses arising from sea level rise) should be shared between homeowners, the government, and other sectors, will shape policymaker and community expectations regarding the appropriate level and form of future government assistance. The Scheme in its current state will need to be reassessed as Government reaches a position on its objectives for climate change adaptation.

EQC and land-use planning

60. Fit-for-purpose and climate-change-risk-informed land-use planning systems will play a major part in any effective future climate change adaptation strategy. The Public Inquiry into the Earthquake Commission (EQC) recommended that Government clarify expectations with EQC about its responsibility in land-use planning before, and for the coordination of land remediation after, a natural disaster (recommendation 1.1.2).
61. EQC's role in coordinating land remediation will be considered following decisions on EQC's involvement in managed repair, as the two functions are closely related – with land remediation a prerequisite to managed repair in many instances. The National Emergency Management Agency is working through government roles and responsibilities in the housing recovery space as part of work to update the National Civil Defence Emergency Management Plan 2015.
62. The Inquiry also recommended that Government consider granting EQC standing to appear in formal land-use planning hearings (recommendation 6.4.2).
63. In addition to EQC's specific interest in climate change adaptation, EQC is currently developing an extensive work programme and action plans, aligned with its Resilience Strategy for Natural Hazard Risk Reduction, to support more resilient buildings and smarter land use. This will allow EQC to influence decision-making in land-use planning and relevant cross-government policy processes.
64. EQC is already able to exercise advocacy and leadership in land-use planning within its existing legislative mandate. This includes the ability to appear in formal land-use planning hearings if it chooses to, through the submission process of RMA Schedule 1 (for plan-making), and for notified resource consent applications where a hearing is held.
65. Our forthcoming report on EQC institutional arrangements will propose changes to the purpose of the EQC Act to better reflect the understanding that EQC should continue to invest in and to contribute to whole-of-Government resilience initiatives.

Consultation

66. We consulted EQC, DIA, MfE, MBIE, Land Information New Zealand, the Department of Prime Minister and Cabinet, the National Emergency Management Agency, and the Reserve Bank of New Zealand on this report. Agencies' feedback has been reflected in this report.
67. We consulted ^[26] , Waipa District Council, and Hawke's Bay Regional Council, all of which have been affected by severe drought in the past year, on whether they have heard of drought damage to houses in their community.

Next Steps

68. When you met with officials on 24 November 2020, you requested a timeline of the various relevant workstreams in the climate change space and how these interact. We will work with MfE and DIA to develop this.
69. Treasury and EQC will work to feed into the relevant cross-government policy processes led by MfE and DIA regarding climate change adaptation.
70. The Treasury will report back to Ministers on implications for the Scheme once decisions on the scope and objectives of funding and/or financing for climate change adaptation have been agreed by Cabinet. MfE is anticipating that advice on this will be presented to Ministers in the first half of 2021, though timing is still to be confirmed with the relevant Ministers.
71. We recommend referring this report to the Minister of Climate Change for information.