ICNZ Insurance Council of New Zealand

Insurance Council of New Zealand
P.O. Box 474 Wellington 6140
Level 2, 139 The Terrace
Tel 64 4 472 5230
email icnz@icnz.org.nz
Fax 64 4 473 3011
www.icnz.org.nz

5 March 2021

ICNZ's views on climate change and the role of local government

This paper sets out ICNZ's views on climate change and the role we consider local government should play.

By way of background, ICNZ's members are reinsurers, and general insurers insuring about 95% of the New Zealand general insurance market, including about a trillion dollars' worth of New Zealand property and liabilities. ICNZ insurer members provide insurance products ranging from those usually purchased by individuals (such as home and contents, travel and motor vehicle insurance) to those purchased by small businesses and larger organisations (such as product and public liability, business interruption, professional indemnity, commercial property and directors and officers insurance).

It is fair to say that ICNZ and its members have been seeing the impacts of climate change and how this affects people, businesses and communities for some time. We also have a keen interest given our knowledge and experience when it comes to identifying and engaging with climate change risks and risk management, the role insurance plays in this context, and our desire to ensure this remains available and affordable (including to support lending).

We advocate local governments take a long-term view and act in a proactive, coordinated and resilient manner when it comes to climate change, with regard to risk mitigation, adaptation, risk transfer options and setting appropriate risk signals. Particular attention should be had to avoiding developments in areas vulnerable to flooding, rising sea levels or coastal erosion.

After a high-level summary, in this document we provide a detailed overview of climate change, its impacts and the role ICNZ considers local government should have in this regard. Examples of some of the great work already being undertaken in this respect, a list of helpful resources and diagram highlighting key points from this document are included as appendices.

Summary

In our view local government must take a proactive, coordinated, and long-term view when it comes to managing the real and significant impacts of climate change putting their people, businesses and communities at the heart of any decision-making. This includes:

- Planned action and investments for adaptation and mitigation - reducing the extent of future climate change and its impacts.
- Grappling with the full impacts of climate change now head on despite the uncertainty, noting that the potential impacts stretch across generations, with the economic, social and environmental impacts being too significant to ignore and only increasing if no action is taken.
- Adopting a holistic and flexible approach when working through these matters, leveraging a risk management framework and an adaptive pathways approach.

Local government is well placed to respond to these issues because effective climate change responses are context specific and best addressed at the regional and local level. Additionally, local

government has legal duties to act, doing so ensures resources are efficiently used and bypasses avoidable harm. This also aligns with communities increasing expectations for climate change action and ensures that insurance and lending remains available and affordable.

In our view there are five practical ways local government can advance climate change issues in the near term. These include:

- **Avoiding developments in areas vulnerable to flooding, rising sea levels or coastal erosion**, noting this is fundament to bypassing costly and avoidable climate change which otherwise local governments (and ultimately ratepayers) will have to meet, and if not addressed, may lead to insurance and lending availability and affordability issues.
- **Embracing collaboration and coordination on climate change issues within regions**, with all elements of local government working together to establish a consistent understanding of climate change risks and what should be done to address them.
- **Identifying and filling gaps in regional knowledge about climate change**, championing public education and, from specific property information perspective, making good quality, transparent and consistent information about all-natural disaster available.
- **Prioritising climate change mitigation and adaptation in planning and investment decisions,** including incorporating emissions reduction targets into investment decisions, and having regard to managing or reducing natural disaster risk and protecting assets casting a broad net (e.g. both built and natural infrastructure).
- **Ensuring buildings are resilient to climate change impacts,** specifically making sure that any new building work approved contributes to reducing emissions and is more resilient to climate change impacts alongside other natural hazard risks.
- **Supporting vulnerable groups or areas particularly adversely impacted climate change**, including potentially subsidising resiliency improvements or managed retreat, noting that climate change has the potential to exacerbate existing inequalities.

Background

Climate change is here

Without question the full impacts of climate change is coming to bear around the globe and need to be taken extremely seriously. This includes:

- larger, longer and more extreme weather events occurring leading to increasingly frequent and extreme flooding and storm events (including hailstorms, tornadoes and cyclones)
- sea levels rising leading to issues with coastal flooding, storm surge and king tides, and
- associated increases in landslips and land erosion.

Climate change has also resulted in the increasing likelihood and severity of droughts, heat waves, water shortages and wildfire. Then there are the pest and health effects associated with higher temperatures.

Climate change responds to cumulative emissions, and unless these are close to zero increases over time, it is clear that the associated temperature increases will lead to the sea level rising and that this will continue for centuries to come.[1] The same applies to the impact of emissions on weather patterns and increasingly frequent and extreme weather events.

[1] Choices made now are critical for the future of our ocean and cryosphere (25 September 2019), https://www.ipcc.ch/2019/09/25/srocc-press-release/ and Preparing New Zealand for rising seas:
Certainty and Uncertainty (November 2015) https://www.pce.parliament.nz/media/1390/preparing-nz-for-rising-seas-web-small.pdf.

There is clear international scientific consensus about the cause of climate change and its impact. In their special report on global warming of 1.5 °C, the Intergovernmental Panel on Climate Change (IPCC) highlights that:[2]

- There is a certain level of climate change already locked into the global climate system due to emissions to date.
- Every extra bit of warming matters, with warming of 1.5°C or higher increasing the risk associated with long-lasting or irreversible changes, such as the loss of ecosystems. Conversely, limiting global warming gives people and ecosystems more room to adapt and remain below relevant risk thresholds.

This report highlights several climate change impacts that could be avoided by limiting global warming to 1.5°C compared to 2°C, or more (noting that damage is not linear, with a 2°C or more increase in temperature being significantly worse than 1.5°C). However, even limiting global warming to 1.5 °C would require:

- Global net human-caused emissions of carbon dioxide (CO_2) to fall by about 45% from 2010 levels by 2030, reaching 'net zero' around 2050, with the remaining emissions needing to be balanced by removing CO_2 from the air.
- "Rapid and far-reaching" transitions in land, energy, industry, buildings, transport, and cities.

The report records that even with 1.5°C of warming, there will be more frequent heatwaves and heavy rainfall events, more intense tropical cyclones, losses of some species, spread of diseases, and issues with water and food security.

New Zealand has committed to limit global warming to 1.5 °C and the 'net zero' emissions by 2050 target as a signatory of the Paris Agreement.[3] These obligations are, in turn, reflected in the Zero Carbon legislation domestically.[4] This legislation provides for a centralised adaptation framework with the newly formed Climate Change Commission responsible for preparing a national climate change risk assessment every six years.[5] In response to this assessment, the Government will prepare a national adaptation plan with progress reports being provided every two years.

New Zealand is significantly impacted by climate change

As well as considering climate change as a general phenomenon and New Zealand's international commitment to emissions reductions, it is important to reflect on New Zealand's vulnerability to climate change impacts. As a nation with a very long coastline and a high proportion of urban development in coastal areas,[6] New Zealand is particularly susceptible to sea levels rising, inundation, coastal erosion and other climate change impacts. According to a Lloyd's of London study, New Zealand is the second most vulnerable country in the world to natural disaster (behind

[2] Global Warming of 1.5oC (January 2019), https://www.ipcc.ch/site/assets/uploads/2018/10/SR15_SPM_version_stand_alone_LR.pdf. More than 6,000 scientific references are cited in this report with thousands of experts and government reviewers worldwide contributing to it. The report has ninety-one authors and review editors from 40 countries.

[3] The Paris Agreement is the new global agreement on climate change. It was adopted by Parties under the United Nations Framework Convention on Climate Change (UNFCCC) on 12 December 2015. It commits all countries to act on climate change. In addition to the 2050 target, pursuant to this Agreement, New Zealand has also committed to reducing emissions by 30 per cent below 2005 levels, and 11 per cent below 1990 levels, by 2030.

[4] Climate Change Response (Zero Carbon) Amendment Act 2019.

[5] Details on the first risk assessment published 2 August 2020 are provided below.

[6] Coastal Hazards and Climate Change: A Guidance Manual for Local Government in New Zealand (July 2008), https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/coastal-hazards-guide-final.pdf

Bangladesh).[7] In addition to the risks associated with New Zealand being in a high seismic zone (e.g. earthquakes, tsunamis and volcanoes), this is a reflection of the risk of climate change and weather events (particularly flood).

Looking at sea levels rising, a Parliamentary Commissioner Report for the Environment refers to a projected rise of 30 cm between 2015 and 2065.[8] This report also indicates that:

- By 2065 it is expected that today's 1:100 year flood event will occur annually in Wellington and Christchurch, every two years in Dunedin and every four years in Auckland, if sea-levels rose by 30cm. A 40cm rise would see these events occur several times a year in Wellington and Christchurch. This is unlikely be much different for rural and provincial coastal areas.
- The estimated replacement value of buildings within 0.5m of the spring high tide mark is $3 billion (equating to 9,000 homes). Buildings within 1.5m of the spring high tide mark is estimated at $20 billion.[9]

New Zealand's first national climate change risk assessment records that an estimated 675,500 New Zealanders live in areas already prone to flooding, and that over 72,000 are potentially impacted due to sea levels rising in the future.[10] Also, nearly 50,000 buildings are currently exposed to coastal flooding, and at the highest range of warming scenarios, that could rise to nearly 120,000 this century. Preliminary research shows we could lose 125,600 buildings, at a replacement cost of $38 billion, if the sea level rose 1m.[11]

It is important to acknowledge that the above research does not provide a full picture of climate change impacts - focussing only on the consequences of sea levels rising. It also does not consider costs associated with local government owned infrastructure (of which up to $14 billion is estimated to be at risk from sea level rise),[12] ongoing development and growth,[13] broader economic and social impacts (including impacts to people, businesses and communities) and to the natural environment.

Consideration should also be given to the fact that New Zealand's current infrastructure is not well positioned to manage the impact of climate change. Specifically, for the most part, our aging storm and wastewater networks are only designed to cope with today's 1:10 year event. Much of this is also gravity dependent and vulnerable if running-off in low lying coastal areas. The quality of some of the older infrastructure is also somewhat unknown.

---

[7] A world at risk: Closing the insurance gap (2018), https://www.lloyds.com/~/media/files/news-and-insight/risk-insight/2018/underinsurance/lloyds_underinsurance-report_final.pdf

[8] Preparing New Zealand for rising seas: Certainty and Uncertainty (November 2015), https://www.pce.parliament.nz/media/1390/preparing-nz-for-rising-seas-web-small.pdf.

[9] We expect that this analysis may understate matters somewhat as it does not consider storm surge, king tides, and heavy rainfall, as well as things like the ability of infrastructure such as stormwater drainage systems to respond.

[10] National climate change risk assessment for New Zealand - Main report (2 August 2020), https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-main-report.pdf

[11] From the National Institute of Water and Atmospheric Research (NIWA). 125,000 buildings at risk from first metre of sea level rise (21 November 2018), https://www.newsroom.co.nz/125000-buildings-worth-38bn-at-risk-from-first-1m-sea-level-rise-draft-report

[12] $14 billion of council infrastructure at risk from sea level rise (31 January 20190), https://www.lgnz.co.nz/news-and-media/2019-media-releases/14-billion-of-council-infrastructure-at-risk-from-sea-level-rise/

[13] The Productivity Commission projects that over the next 30 years have 28 urban areas in New Zealand experiencing population growth of 20% or more and 61 experiencing depopulation, http://www.chapmantripp.com/publications/building-resilience-to-climate-change-local-government-the-front-line-in-the-climate-change-response

Consistent with this broad view of climate change impacts, New Zealand's first national climate change risk assessment refers to ten major threats in need of urgent action within the next six years under five categories: [14]

- **The natural environment**, including coastal ecosystems and indigenous ecosystems –described as having major consequences.
- **The human domain**, including social cohesion, displacement of communities and the entrenchment and further opening of inequalities - seen as risks with extreme consequences.
- **The economic domain**, including costs associated with disaster relief and long-term changes, and the risk of instability in the financial sector.
- **The built environment**, including infrastructure and buildings being vulnerable to sea level rise and more extreme weather conditions generally –described as being an extreme risk.
- **The governance domain**, in respect of which reference was made to 'maladaptation' (actions that may lead to increased risk of adverse climate-related outcomes), and the risk that climate change impacts across all domains are exacerbated because current institutional arrangements are not fit for adaptation.

  The report highlights the potential cascading nature of climate change impacts. For example, where an extreme weather event impacts a region's potable water supply that in turn negatively impacts the ability to earn income, quality of life and public health.[15]

The fact that New Zealand is in a high seismic zone also increases the impact that climate change will have. For example, analysis of pre- and post-earthquake data from the 2010 and 2011 Christchurch earthquakes revealed that seismic shaking, tectonic movements and/or liquefaction associated with earthquakes led to land surface and waterway deformation and substantial floodplain subsidence. [16] In turn, this greatly enhanced the risk posed by floods, storm surges and the sea-level rising. The likelihood and severity of impact of tsunamis also increases as the sea level rises.

Stepping back, and taking the above into account, it should come as no surprise that the cost to New Zealand of climate change is significant and growing. Nationwide insured costs of extreme weather events are as follows (noting that this somewhat understates the issue given other climate change related events and uninsured costs are excluded):[17]

Year	2013	2014	2015	2016	2017	2018	2019	2020	Average
$million	175	153	115	52	242	226	176	213* estimate to-date	169

From 2003-2015 insured costs of floods alone averaged $75m. However, Water NZ estimates that this is about 40% of the total cost (i.e. $190 million per year).[18]

[14] National climate change risk assessment for New Zealand - Main report (2 August 2020), https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-main-report.pdf.

[15] National climate change risk assessment for New Zealand - Main report (2 August 2020), https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-main-report.pdf, Figure 10.

[16] The sinking city: Earthquakes increase flood hazard in Christchurch, New Zealand (April 2015), https://www.geosociety.org/gsatoday/archive/25/3/pdf/gt1503-04.pdf . See also Report of the Public Inquiry into EQC (March 2020), https://eqcinquiry.govt.nz/assets/Inquiry-Reports/Report-of-the-Public-Inquiry-into-EQC.pdf.

[17] Cost of natural disasters, https://www.icnz.org.nz/natural-disasters/cost-of-natural-disasters/

[18] Water NZ (October 2015), https://www.waternz.org.nz/Attachment?Action=Download&Attachment_id=235

The Ministry of the Environment have advised that, in the past 10 years, the cost of weather events to our transport network alone has risen from about $20 million per year to over $90 million per year. Additionally, they have advised that the 2012-2013 drought in the North Island cost the economy around $1.5 billion, with climate change only making droughts more likely.[19]

The role of local government with climate change

ICNZ considers that local government should take a proactive, coordinated and consistent approach to engage with the clear challenges posed with climate change highlighted above. This involves investigating, analysing and managing risk associated with climate change within your region, taking a long-term view.

In practical terms a key principle here is, while you cannot control the forces of nature associated with climate change, you can reduce their impact significantly through well thought out and planned action and investments for mitigation and adaptation. Expanding upon these concepts:

- **Mitigation** involves action to reduce emissions and modify conduct, with a view to reduce the likelihood of further climate change, which may have more severe, damaging and costly impacts.
- **Adaptation** involves action to reduce the risk and impact of climate change, including strengthening resilience and preparedness to minimise risk and disruption.

Both matters should have a balanced and equal focus. Failure to sufficiently focus on adaptation may lead to significant economic loss or disruption which in turn could undermine efforts to reduce emissions. Conversely, failure to sufficiently focus on mitigation, may necessitate more urgent and extreme adaptation measures. Local and central government need to work together here. While central government has the central role to play with mitigation, local government is well placed to contribute as both a provider of infrastructure and services and by virtue of its influence over activities and duty to connect with communities, preparing them for mitigation and adaptation measures through information and education and by supporting local social services.

One of the challenges of implementing adaptation in this context is the complexity of climate change, uncertainty about what its full impacts will be and when they will occur over a long-time frame. However, this uncertainty and long horizon is not something to shy away from or ignore. To the contrary, this is something that should be grappled with now head on, the sooner the process begins the better, noting that extreme events can and do happen now. Also, ongoing potential impacts will stretch across generations, with the economic, social and environmental impacts being too significant to ignore. These risks only increase if no action is taken and become more costly to address later.

In investigating climate change matters reliance should be placed on the best available science and scenario planning, to understand the widest possible range of what could happen, being explicit with others about what assumptions have been made and being prepared for debate and discussion. The position should also be regularly monitored and reviewed.

In our view it is also important to take a holistic position – having regard to how individuals, businesses and communities are likely to behave. With that in mind, it is critical that you bring people on the journey, sharing what is known about the impact of climate change in your region based on evidence and getting them to meaningfully contribute to the solution, putting all options on the table, noting

[19] Adapting to Climate Change in New Zealand (31 May 2017), https://www.mfe.govt.nz/sites/default/files/media/adapting-to-climate-change-stocktake-tag-report-final.pdf

that initiatives on the ground are the most effective when they are driven by motivated and engaged people who can see a way forward and do not consider that their interests are threatened.[20] Planning and investments should also involve consideration of what must be protected and what is a tolerable level of loss. Again, this requires community conversations (factoring in human, social, natural, physical, cultural and financial capital).

In considering climate change issues it is helpful to analyse and prioritise matters using a risk management framework.[21] This involves an assessment of the likelihood and consequence of each risk with reference to the following treatment options:

Avoid	Changing plans to circumvent the problem. This may involve developing an alternative strategy that is more likely to succeed but have a higher cost. This may require a judgement call weighing up the cost of avoidance against the cost of impact if not treated. In a climate change context, this could involve relocating or abandoning areas as retreat is virtually inevitable.
Control	Taking steps to reduce the impact and /or likelihood of impact. Elements of this option relate to mitigation or adaptation referred to above, noting whereas mitigation relates to reducing the likelihood of something occurring (i.e. by reducing emissions leading to further climate change), adaptation relates to reducing the inevitable impact of climate change. In a climate change context, this may involve better protecting assets or modifying them so they are more resilient to the impacts of climate change.
Accept	Assuming the chance of the negative impact and taking this into account.
Transfer	Outsourcing the risk (or a portion of it) to a third party to manage (e.g. via insurance). Simply put, this involves paying someone else (e.g. an insurer) to accept the risk. However, risks will not be transferable if they are not sufficiently managed. This is something outlined in more detail later on.

In planning for climate change, local governments should also consider adopting an adaptive pathways approach.[22] This involves testing a range of responses against possible future scenarios and then mapping pathways that will best manage, reduce or avoid risk. Under this approach a plan is subsequently developed with short-term actions and long-term options with pre-defined trigger points when decisions can be revisited. Ways forward can then be identified despite uncertainty, with flexibility provided should the agreed course of action need to change (e.g. because more scientific information or new technology becomes available). By foreshadowing future change at the outset, without committing to a particular course of action long-term, this approach helps avoid locking in investments early that may be later rendered obsolete or which make future adjustments difficult and/or costly.

Why it is important for local government to act on climate change

Drawing upon the call for action outlined above, it is important to reflect on the reasons why local government should act on climate change. The most obvious reason being effective responses to

[20] See How to Talk About Climate Change: A Toolkit for Encouraging Collective Action (31 July 2019), https://www.oxfam.org.nz/news-media/reports/talking-about-climate-change/ for more details in this regard.

[21] See for sample risk management framework produced by Massey University available here: https://www.massey.ac.nz/massey/fms/PolicyGuide/Documents/Risk%20Management/Risk%20Management%20Framework.pdf. Also see, by way of example, the Risk Management Framework, Policy and Guidelines put together by the Thames Coromandel District Council available here: https://docs.tcdc.govt.nz/store/default/2914590?fbclid=IwAR0cHOJtQK9I5bNZDTPkHr8AmLNwefAzPVx44SnnnwHowq_0F3bM-TqsHfA

[22] Preparing for coastal change: A summary of coastal hazards and climate change guidance for local government (December 2017), https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/coastal-hazards-summary.pdf. See also Supporting decision making through adaptive tools in a changing climate: Practice guidance on signals and triggers (2020), https://www.deepsouthchallenge.co.nz/sites/default/files/2020-03/Supporting%20decision%20making%20through%20adaptive%20tools%20in%20a%20changing%20climate%20Practice%20guidance%20on%20signals%20and%20triggers.pdf

climate change are context specific and accordingly best addressed at a regional level. Other reasons are outlined below.

Local government has a legal requirement to do so

Local government has statutory duties related to climate change. These include:

- Under the Local Government Act 2002:
  - Meeting the current and future needs of communities for 'good-quality' local infrastructure, public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.[23] 'Good quality' in this context means infrastructure, services and performance that is efficient, effective and appropriate to meet present and anticipated future circumstances.[24]
  - Avoiding or mitigating natural hazards, which include subsidence, sedimentation, wind, drought, fire and flooding.[25]
  - Considering the interests of future, as well as current communities, and community diversity in decision making.[26]
- Under the Resource Management Act:
  - Having regard to the maintenance and enhancement of the quality of the environment and the impacts of climate change.[27]
  - Controlling the effects of the use or development of land, including avoiding or mitigating natural hazards.[28]
  - Considering the effects of a changing climate on communities and incorporating climate change into existing frameworks, plans, projects and standard decision-making procedures, including activities such as flood management, water resources, planning, building regulations and transport.[29]

Additionally, under the New Zealand Coastal Policy Statement 2010, local government is required to ensure that coastal hazard risks are managed and identified for a period of at least 100 years, taking account of climate change, and applying a precautionary approach.[30]

The aforementioned Zero Carbon legislation also contains obligation for local government. Specifically, under this legislation the Minister or Commission have the power to require local government organisations, and 'lifeline utility providers' to provide information, including the organisations' assessments of the risks climate change poses to their functions, the organisations' proposals and policies for adapting to climate change, and their progress towards implementing these.

---

[23] Section 10(1).

[24] Section 10(2).

[25] Section 11A.

[26] Section 14.

[27] Section 7.

[28] Section 31.

[29] Climate change adaptation and local government, https://www.mfe.govt.nz/climate-change/climate-change-and-government/adapting-climate-change/adaptation-and-local-government. Also see section 30 and 62.

[30] New Zealand Coastal Policy Statement 2010, https://www.doc.govt.nz/about-us/science-publications/conservation-publications/marine-and-coastal/new-zealand-coastal-policy-statement/new-zealand-coastal-policy-statement-2010/. Specific requirements of note include policies 3 (precautionary approach), 7 (strategic planning), 24 (identification of coastal hazards), 25 (subdivision, use, and development in areas of coastal hazard risk), 26 (natural defences against coastal hazards) and 27 (strategies for protecting significant existing development from coastal hazard risk). This statement is to be applied as required by the Resource Management Act 1991 by persons exercising functions and powers under that legislation.

There has also been recent commentary about the responsibility of company directors, investment managers, professional trustees and other professionals with fiduciary obligations to consider climate change risk in their decision making and take appropriate action.[31] This includes officers, trustees or directors of council controlled organisations (**CCOs**).

Additionally, there is the proposed climate-related financial disclosure reporting requirements, which would oblige publicly listed companies and large insurers, banks and investment managers (including crown financial institutions with greater than $1 billion in total assets under management) to report on the climate-related impacts for their business and investments in a consistent way, with the aim of helping investors, shareholders and companies make informed decisions.[32] Consideration should be given to local government entities (including CCOs) complying with these requirements to raise greater awareness and focus attention on climate change impacts.

One of the challenges local governments need to work through for planning and investment purposes is the different and sometimes short timeframes set out in the applicable legislation.[33] As outlined above, the ICNZ's view is that a coordinated, consistent and holistic approach should be taken looking at climate change issues with a long-term perspective in mind. This includes land-use decisions, district plans, urban development, energy use, infrastructure, and waste and transport management.

Doing so ensures the efficient use of resources and reduces harm

Another key reason for action is that adapting to climate change is efficient and reduces avoidable harm. Numerous studies show that investing before disaster strikes is substantially more cost effective than responding afterwards. [34] It is estimated that every $1 invested in pre-event prevention saves $5 in post-event costs, also avoiding the wider social and economic disruption.[35] When a natural disaster strikes, it is also important to remember that in addition to costs associated with atrisk local government owned infrastructure and the emergency response, there is a significant wider economic, social and community impact that it is difficult to put a price on. Lives can be lost, homes destroyed, utility systems wrecked, business insolvency and jobs lost. Then there is the mental trauma and stress families suffer as they try to pull their lives back together and rebuild, and the impact on the natural environment. The more that can be done to avoid or control the risks associated with climate change upfront and reduce these economic and social impacts the better.

Fortunately, the long horizon of some climate change impacts means that in some cases, in conjunction with an adaptative pathways approach, an incremental investment strategy can be deployed with costs allocated over the timeframe of potential climate change impacts. As highlighted above, the earlier this planning occurs, the less costly it will be later on.

---

[31] Chapman Tripp's 2019 legal opinion to The Aotearoa Circle https://static1.squarespace.com/static/5bb6cb19c2ff61422a0d7b17/t/5db95b00780a6c1bc1af5743/1572428552373/SFF_Climate+Change+Risk+Legal+Opinion_301019.pdf. See also MinterEllisonRuddWatts Litigation Forecast for 2020 https://www.minterellison.co.nz/our-view/2020-litigation-forecast-climate-change-risks-for-companies-and-directors

[32] https://www.mfe.govt.nz/consultations/climate-related-financial-disclosures.

[33] For example, the Local Government Act 2002 refers to a Long-term Council Community Plan with an anticipated 10 year minimum timeframe. The Resource Management Act 1991 provides for Regional Policy Statement and Regional and District plans referring to 10 year timeframes. This contrasts with requirement under the Local Government Act 2002 to produce an Infrastructure Strategy identifying significant infrastructure issues (including ones related to flooding) over at least a 30 year period. Also, there is the former Building Act 1991, which was based on an assumed building life of 50 years. While the current Building Act 2004 does not include an assumed building life many structures are intended to, or do, last a century or more.

[34] For example see Building our nation's resilience to natural disasters (June 2013), https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/dttl_crs_humanitarian_australia_resilience.pdf. See also 34 below.

[35] Flood Resilience in Numbers: 1-5-13-87-88 The Zurich Flood Resilience Alliance as a mode presentation, Berlin (May 2017). In this presentation it is also commented that they see only 13% going into pre-event resilience & risk reduction, 87% go to post-event relief.

Communities are increasingly demanding action

Property owners and communities are already facing the impacts of climate change and it should come as no surprise that there is also strong and growing public support within New Zealand for action on climate change including action by local government. An insurance company's recent climate poll indicates that:[36]

- 79% of respondents consider that climate change is important to them personally (consistent with the 2019 result and up from 72% in 2018).
- 68% of respondents have become more concerned about climate change over the past few years (down slightly from 69% in 2018 but up from 60% in 2018).
- 68% of respondents consider that local councils are responsible for acting on climate change (consistent with the 2019 result but up from 48% in 2018).

This poll indicates that 79% of respondents believe that local councils should take a long-term view on climate change, with 80% indicating that local councils should provide information on the local impacts of climate change.

Doing so ensures insurances remains available and affordable

Another key reason for proactive action by local government on climate change is that this ensures the associated risks are well managed so they remain partly transferrable to insurers. In turn this will:

- Ensure that insurance remains available and affordable for people and businesses within your community.
- Avoid a situation where climate change related risks become too great to be transferred to insurers and must be self-insured instead. This would put considerable strain on people, businesses and/or local and central government, particularly when financial resources are already stretched. This may also involve situations when the burden of covering losses falls with local and central government (and in turn ratepayers and taxpayers generally), because the specific people and businesses impacted lack sufficient resources to cover these losses themselves.[37]

The importance of keeping insurance available and affordable is well demonstrated by research,[38] with well insured countries spending less on emergencies, freeing up capital for investment and growth.

To understand the connection between climate change and the availability and affordability of insurance in more detail, it is helpful to consider how an insurer looks at risk. In particular:

- Insurance only transfers risk, it does not manage or reduce it. An insurer business will not take on a risk that it is not sustainable for it to do so in the longer term. In so far as a risk is taken on by an insurer, the higher the risk the higher the premium charged. If over time risks are not addressed and allowed to get worse, to ensure risks taken on remain sustainable, higher premiums or excesses are applied. In extreme cases cover for some risks may be removed entirely, on the basis that it is not viable at all.

---

[36] Adapting to climate change July 2020, https://www.iag.co.nz/content/dam/iag-nz-main/corporate-documents/Climate%20Change%20Survey%20Detailed%20Results%202018-2020.pdf. This survey was of 1,000 people and ran between 18 and 24 June 2020. It has a margin of error of 3.1%.

[37] In this regard also see comments from the New Zealand Productivity Commission in their report Local government funding and financing (November 2019), https://www.productivity.govt.nz/assets/Documents/a40d80048d/Final-report_Local-government-funding-and-financing.pdf.

[38] Lloyd's Underinsurance Report 2018, prepared by the Centre For Business and Economic Research, https://www.lloyds.com/~/media/files/news-and-insight/risk-insight/2018/underinsurance/lloyds_underinsurance-report_final.pdf. This report reinforces the correlation between low insurance penetration and taxpayers required contribution post-disaster.

- While traditionally insurers assessed risk looking backwards (based on claims received), decision making today also increasingly involves forward looking predictive models leveraging technology and the latest scientific insights, including ones related to climate change (for example, flood and weather pattern modelling). Insurers are also increasingly using more sophisticated and granular data to form a much more precise picture of a particular risk and then underwrite it accordingly (either by imposed specific terms or conditions and/or via risk-based pricing).[39]
- From a first principles perspective, insurance follows the pooling principle 'the many paying for the unfortunate few'. While this works well for a diverse range of accidental (i.e. sudden, unintended and unforeseen) events, where the numbers suffering losses at any one time is small (e.g. a vehicle crash or house fire), this does not work well for wide scale and predictable climate change events. For example, coastal properties in a certain area known to be at risk of coastal erosion and/or tidal inundation. Additionally, losses connected with the sea level rising or coastal erosion are not sufficiently accidental because they are neither sudden or unforeseen. Insurers also generally exclude cover for land damage.[40]
- Lastly, whereas insurance responses to climate change operate on short annual renewal cycles, as outlined above, local government planning for climate change operates on very long timeframes, with potential impacts stretching across generations.

In light of the above, it should come as no surprise that in other countries where flooding has been an issue it has been removed from standard insurance offerings because doing so has not been sustainable, being removed entirely or offered instead as an optional extension for additional premium.[41] Consistent with this, property damage from coastal erosion and "actions by the sea" is excluded from the majority of home insurance policies in Australia.[42] Local government action to manage the impact of climate change risks is critical to ensuring the same thing does not happen in New Zealand.

Ensuring lending remains available

Another reason for action, connected with the availability of insurance, is property lending. Generally, banks and other lenders require insurance to be in place for property securing lending as this ensures there are funds available if something goes wrong. The banking sector alone lends over $280 billion in residential mortgage lending in total.[43] Substantial lending is also secured against commercial properties. If insurance and therefore lending is reduced in an area within your region due to climate change risks, this will restrict growth, deflate people and business' property values (and in turn rateable income).

Another issue is the asymmetry of the term of lending and insurance. Unlike mortgage lending, which is generally structured over several decades, as mentioned above insurance is generally renewed annually and can be withdrawn if risk gets too high. Accordingly, the risk that lenders are

[39] Risk-based pricing results in increased premiums for high-risks and promotes low risk behaviour. This contrasts with a community-based pricing approach where everyone pays the same rate regardless of the varying risk, with people in low risk areas effectively paying higher premiums to subsidise people in high risk areas who have no premium incentive to reduce their risk.

[40] Land is insured by EQC provided this is within the residential property boundary and either: (1) under the relevant home and outbuildings, (2) within 8ms of these buildings; or (3) under or supporting your main accessway up to 60ms from the home. https://www.eqc.govt.nz/what-we-do/land-cover.

[41] For example, until the 1960s US had all risks house polices as we have in New Zealand to https://www.rbnz.govt.nz/statistics/c31 day. However, frequent flooding events drove the predictable premium response until insurance became unaffordable.

[42] Beachfront homeowners at risk of losing millions as properties uninsurable against the sea (28 July 2020), https://www.news.com.au/finance/business/beachfront-homeowners-at-risk-of-losing-millions-as-properties-uninsurable-against-the-sea/news-story/2d9d3f73f7a03f248448f62731800a12.

[43] New and existing residential mortgage lending by payment type - C32 (24 July 2020), https://www.rbnz.govt.nz/statistics/c32?fbclid=IwAR2lu_C8v_i3h94bdudJo2RMDQahFI07N9QbAjTDToShI_I8I42MjD0yE5Y.

left with an uninsured secured asset in the future due to evolving climate change risks is likely to flow through to higher deposit requirements and lending rates and shorter loan terms, restricting growth, deflating property values and rateable income.[44]

Action is required to manage local government liability exposures

Another important reason for action is local government's potential liability exposures related to climate change. For example, the risk of an allegation being made that a local authority failed to have sufficient regard to known climate change issues in decision making or planning and this led to a third party suffering property damage or financial loss. This could lead to substantial defences costs being incurred, and liability payments being made, from ratepayer funds.

To this end, a recent presentation by a Queens Counsel to a local government audience records that:[45]

- In additional to issues associated with breaching statutory duties as outlined above, common law is changing, and the Judiciary appear to have an increasing appetite to entertain arguments about climate change in common law.[46]
- While current local government litigation mostly relates to decisions to limit development (short-term judicial review), in the future it seems likely to extend to the consequences of allowing development and failing to implement adaptation measures (e.g. from homeowners suffering physical and economic consequences of climate change in the longer term).
- While there have not been any large damages claims in relation to failure to implement adaptation measures in New Zealand to date, this may be only a matter of time.

Insurance may also have a role to play here and to that extent the same principles as outlined in the insurance section above apply equally here. Specifically, if local government's liability exposures associated with climate change are not sufficiently managed this may lead to liability insurance becoming unaffordable or unavailable. Liability insurance also commonly excludes reckless or intentional conduct, which may be an issue if the climate change impacts are known but ignored.

If the relevant liability insurance is not in place and a large climate change related event occur, this could put extreme pressure on local governments already strained resources – diverting ratepayer funds to fight litigation that otherwise could be used to repair infrastructure and fund the emergency response.

Specific areas for local government action

Reflecting on the above, we consider there are five practical ways local government can advance climate change issues in the near term, focusing on matters directly in their control. In some regions these matters may be already well advanced, while others may be just at the start of their climate change journey.

Embracing collaboration and coordination

[44] Also in this regard see comments from the New Zealand Productivity Commission in their report Local government funding and financing (November 2019), https://www.productivity.govt.nz/assets/Documents/a40d80048d/Final-report_Local-government-funding-and-financing.pdf.

[45] "Climate Change Adaptation" session of the Local Government New Zealand Rural and Provincial Sector Meeting, Wellington (7 March 2019) https://www.lgnz.co.nz/assets/Uploads/f488365773/Climate-change-litigation-Whos-afraid-of-creative-judges.pdf.

[46] See also the paper 'Climate Change and the Law' produced by three justices of the Supreme Court available here: https://www.courtsofnz.govt.nz/assets/speechpapers/ccw.pdf.

One key area of action by local government in our view is leading and embracing collaboration and coordination on climate change within the region. While local government has a great deal of autonomy in deciding what to do regarding climate change, unfortunately this means there is a lack of consistency across the country in terms of approaches. Things may be further complicated by different bodies (i.e. regional/unitary, district or city councils) having different but overlapping roles and responsibilities.[47] However, climate change and its impacts do not respect local government boundaries.

To combat this, all elements of local government within a region must collectively work together – having regard to their specific functions/roles whilst leveraging their combined leadership, resources, knowledge and expertise. This should include:

- Establishing a consistent understanding of how to identify climate change risks, undertake risk modelling, planning and the appropriate terminology and methodologies to use, drawing upon approaches set out by Local Government New Zealand, other local and central government (including the Ministry for the Environment and the Climate Change Commission).
- Developing a shared understanding of overarching climate changes issues in the region and what should be done to address them, with coordinated roles and accountabilities, noting that all of local government is charged with meeting the current and future needs of communities.[48]

It is important that mitigation and adaptation measures are considered together in a coordinated fashion that involves all relevant stakeholders, noting that while mitigation on climate change (reducing emissions) is principally being progressed at a national and central government level much of the decision making and implementation around adaptation occurs at the local government level. Working together enables a full picture of climate change to be formed and a balanced approach to be taken when prioritising responses and allocating responsibilities and accountabilities.

For efficiency and economies of scale, local government should look for opportunities to partner up or draw upon insights from other regions grappling with similar issues or who have done so in the past.

Lastly, if good collaboration and coordination is already occurring within your region , now is a good opportunity to 'take this to the next level' by formalising these arrangements.

Building knowledge about climate change and sharing it

Local government also needs to focus on identifying and filling gaps in regional knowledge about climate change,[49] investing in specialist personnel, training and additional research (leveraging the latest scientific insights and technology), to gain a better understanding. Improving the information available will enhance the efficacy of the actions local government can take. In undertaking this work,

[47] For example, while regional councils focus on decisions that relate to resource use and hazard management, district or city councils focus may focus on core services that can impact on resources including land, water and coastal areas.

[48] Local Government Act 2002, section 10(1)(b).

[49] This issue is compounded by the fact that there is currently no national public database of natural hazard risks. While this work has recently stalled due to a lack of government funding, ICNZ has been advocating for work to be undertaken in this regard through the ReZealiance project. The intention of this project is to use publicly funded research undertaken by GNS, NIWA and LINZ to produce a natural risk database that many stakeholders including homeowners, businesses and central and local government can use. Another challenge is that there is no consistent hazard information for assessing the exposure of the built environment at a national scale, https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-new-zealand-snapshot.pdf.

again regard should be had to successful approaches others have adopted so as to coordinate and ensure consistency and efficiency as much as possible.[50]

Local government should also champion public education on climate change within their regions. This involves actively looking for opportunities to share what it knows about climate change risks within the region to individuals, businesses and communities in a form they can easily engage with – bringing them on the climate change journey and giving them better information to make decisions and take personal action. While there has been growing awareness of climate change issues, many still do not fully understand the specific risks climate change poses to them.[51] Simply put, people cannot be expected to manage and reduce their climate change risks if they do not know what they are.

From specific property information perspective, all current and potential property owners should have easy access to good quality, transparent and consistent information about all-natural disaster risks a particular property faces including the climate change related ones.

While we acknowledge providing more information about property related natural disaster risks may cause challenges, in our view, local governments should not shy away from doing so. Providing this information enables individuals and businesses to make more informed decisions and the market (including insurers[52] and lenders) to price for this risk signal. Just like other natural hazard risks, climate change impacts are likely to have an impact at some future point, if they have not done so already. The alternative is that the added costs associated with the property due to climate change risk remain hidden and ignored, with local government and ratepayers ultimately subsidising arrangements (via future infrastructure costs, protection measures, emergency response costs etc). Providing this information incentivises people to act in a more resilient manner (e.g. to undertake the appropriate protection measures or factoring these before making decisions).

In the property information context, how things are framed can be very important. For example, a '1:100-year event' may mislead people into thinking it will not happen in their lifetime when it could happen tomorrow. Consider framing things as 'a 1 in 4 chance of an event over the term of a 25 year mortgage' or 'if there are 100 locations that face 1:100 year events in New Zealand, then one will most likely happen in the next 12 months'. Another obvious consideration is that, due to climate change, these low probability events are becoming increasingly common and the associated probability may need to be re-assessed.

Avoid development in areas vulnerable to flooding, rising sea levels or coastal erosion

Wherever possible local governments should avoid development in areas vulnerable to flooding, rising sea levels or erosion. This should be a fundamental element of a local government's adaptation framework, to bypass costly and avoidable climate change risk which otherwise local governments

[50] As outlined by the Productivity Commission, specific consideration could be given to developing regional spatial plans which will assist with efficient use of resources and aid in coordinating efforts across councils and with central government. These plans can also draw upon insights from the Climate Change Commission's national climate change risk assessments so that responses to climate change occur in a coordinated fashion, https://www.productivity.govt.nz/assets/Documents/a40d80048d/Final-report_Local-government-funding-and-financing.pdf.

[51] For example, IAG's climate poll 2020 records that only 34% of individuals indicated they had all the information they needed to make decisions to reduce the impact of climate change on themselves.

[52] Property owners are generally required to disclose to their insurer if their property has been identified as being at risk from any natural hazard by their local Council, through information being placed on the properties LIM or by way of a notice on the property title under section 74 of the Building Act 2004. This notice alerts prospective purchasers and others with an interest in the property (such as lenders and insurers) that the land is subject to a natural hazard and specifies what the natural hazard (or hazards) are. Failing to disclose this information may lead to a claim being declined.

(and ultimately ratepayers) will have to meet. There is growing public awareness and recognition of this issue.[53]

The alternative (allowing development in such areas to proceed) will result in, at best, costly and potentially uneconomic protection measures needing to be put in place or, at worst, interruption, emergency responses costs and an eventual managed retreat and/or claims for compensation by property owners which local governments (and ultimately rate payers) have to meet. There may also be insurance and lending availability and affordability issues to consider amongst other things. If developments in areas vulnerable to flooding, rising sea levels or coastal erosion are considered, the full cost implications of doing so must be evaluated and appropriate protection measure requirements imposed (such as lifting floor-levels, raising land or inundation or erosion protection measures).

Local government should also consider undertaking managed retreats of existing developments in areas vulnerable to flooding or rising sea levels where either the avoidable risk of loss is calculated as being too high and/or it is uneconomic to protect them (with reference to the cost of future interruptions, emergency response costs, protection measures and potential property damage etc). Again, the future availability and affordability of insurance and lending should be considered in decision making here. Consideration should be given to adopting an adaptive pathway in this context, noting that under it, the specific process to retreat may vary. In some cases, this may involve less disruptive and expensive interim measures being put in place before a decision is ultimately made to retreat or move onto some other pathway once more is known.

Climate change should be prioritised in planning and investment decisions

Climate change risks should be prioritised in local government's planning and investment decisions about infrastructure,[54] including incorporating emissions reduction targets into investment decisions on transport, fleet procurement and waste management.

Planning and investment decisions should have specific regard to managing or reducing natural disaster risk and protecting assets casting a broad net covering both built infrastructure (such as stormwater drains, culverts, stock banks, seawalls and transport and waste management), natural infrastructure (such as dunes, wetlands, rain gardens, swales) and potential changes to land use, and with regard to potential:

- **direct costs**, such as the cost of remediating public infrastructure, privately owned assets, emergency response costs and damage to regional ecosystems, fora and fauna
- **broader economic, social and natural environment impacts**, such as business interruption, prevention of access and loss of supply chains, depopulation, displacement, entrenchment, the further opening up of inequalities or loss of habitats
- **downstream impacts**, such as contamination to potable water supply that in turn negatively impacts the ability to earn income, quality of life and public heath, and
- **impacts to resiliency**, such as the impact of an essential road, public facility or utilities being cut off or out of operation, for a number of months or years.

[53] For example, the aforementioned IAG's climate poll 2020 records that 72% of respondents considered that local councils should zone land specifically to reduce the impacts of climate change, while 65% considered that local councils should only consent development that reduces or avoids the impact of climate change. See also Just how safe from the rising sea level are our beach houses? (12 July 2020), https://www.stuff.co.nz/life-style/homed/latest/300050107/just-how-safe-from-the-rising-sea-level-are-our-beach-houses and Climate change may soon render beach houses uninsurable (15 July 2020), https://www.insurancebusinessmag.com/nz/news/breaking-news/climate-change-may-soon-render-beach-houses-uninsurable-227816.aspx.

[54] This is reinforced by insights from the IAG's climate poll 2020 where 72% of respondents indicated that local councils should use funds to help build infrastructure that reduces the impact of climate change.

In considering these issues, a consistent and coordinated approach must be taken looking at the total pool of infrastructure assets in the region, potential climate change impacts and avoidable losses over the long-term. This will invariably involve liaising with central government, other public agencies and private utility companies (e.g. electricity, gas and telecommunications network operators and suppliers). Regard should be had to making decisions that maximize co-benefits.

In evaluating these matters, local government should also consider adopting an adaptative pathways approach. Rather than committing to substantial investments upfront (which may be subsequently rendered obsolete or make further adjustments difficult or costly), focussing on short-term actions and long-term options providing flexibility to make the right decision later once more is known.

Ensuring buildings are resilient to climate change impacts

In conjunction with the above, it is also important that any new building work approved (including design, construction and materials used) contributes to reducing emissions (in both its construction and operation),[55] and is more resilient to climate change impacts alongside other natural hazard risks (e.g. earthquakes) with a view to bolstering longevity and avoiding inefficient redundancy or obsolescence.[56]

Again, this is all about bypassing avoidable climate change risk. This approach also reflects that ensuring building resiliency at the outset is much more cost efficient than waiting until a climate change related event occurs and addressing it at that point. Consideration could also be given to subsidising resiliency improvements for homes or managed retreat in low income areas with a high risk to climate change impacts, or providing additional support to particularly vulnerable groups,[57] noting that climate change has the potential to exacerbate existing inequalities.[58]

If owners are rebuilding following a climate change related event, local government should encourage them to make changes to improve resiliency in their rebuild, rather than simply reinstating things as they were (as if nothing had happened). If these risks are not appropriately addressed, future avoidable property damage and interruption is likely inevitable. Failing to adequately address these issues is likely to impact insurance availability and affordability too.[59]

Conclusion

Thank you again for the opportunity to provide our views on the issues climate change raises and the role we see local government having in this regard. If you have any questions, please contact our Regulatory Affairs Manager, Nick Whalley on (04) 914 2224 or by emailing nickw@icnz.org.nz.

The issues posed by climate change are confronting. However, local governments are well placed in many respects to address these issues. Good progress can be made by acting proactively and in a

[55] To this end, the Government recently announced a Building for Climate change programme focussing on finding ways to reduce emissions from buildings during their construction and operation, while also preparing buildings to withstand changes in the climate, https://www.building.govt.nz/about-building-performance/news-and-updates/all-news-and-updates/building-for-climate-change-programme-gets-underway/ .

[56] The Building Research Association of New Zealand (BRANZ) have some useful resources in this regard, https://www.branz.co.nz/

[57] Including the elderly, the disabled, those with mental health issues or financial hardship.

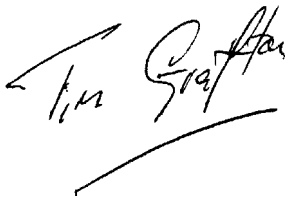
[58] National climate change risk assessment for New Zealand - Main report (2 August 2020), https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-main-report.pdf

[59] In general terms insurers may be able to work their customers to factor in adjustments in the rebuild to better protect it from future losses in the future as doing so is to their mutual benefit. However, the particular claim response will depend on the specific insurance policy in force and circumstances, sum insured and betterment limitations may apply and generally insurers do not contribute to additional costs to comply with changes required by the Government or a local authority unless the relevant building complied with all relevant legislation and regulations at the time it was built or altered.

consistent and coordinated manner, taking a long-term view that focusses on both climate change mitigation and adaptation.

It is truly positive that some local councils have already made great strides to engage with and progress climate change issues - some of this work is outlined in Appendix 1. There are also some helpful resources local governments can leverage in this regard - as outlined in Appendix 2.

Yours sincerely,



Tim Grafton
Chief Executive

Nick Whalley
Regulatory Affairs Manager

APPENDIX 1:
EXAMPLES OF LOCAL GOVERNMENT PROGRESS ON CLIMATE CHANGE

- Whangarei District Council's draft Natural Hazard Plan Change for their District Plan (which includes a review of flooding and coastal hazards). More information is available here.

- Waikato District Council's Stage 2 of the Waikato District Plan Review (which focusses on Natural hazards and the effects of climate change). More information on this available here. *Waikato Regional Council also recently secured $23.8 million from the Government for 10 flood protection and catchment projects (4 August 2020). More information on this is available here.*

- The Bay of Plenty's Rangitāiki River Scheme Review – April 2017 Flood Event (18 September 2017). More information on this is available here.

- Whakatane District Council's Awatarariki Managed Retreat Programme. More information of this is available here.

- The Hawkes Bay's Coastal Hazard Committee's[60] Clifton to Tangoio Coastal Hazard Management Strategy 2120 (August 2016). More information of this is available here.

- Work done by Wellington City Council and the Greater Christchurch Partnership as two of the 100 cities that have joined the Rockefeller Foundation's Resilient Cities network, which helps cities survive, adapt and grow no matter what kind of stresses and shocks they experience. More information about this is available here and here.

- Tasman District Council's community centric coastal management work. More information on this is available here.

- Christchurch City Council's flood intervention policy (including investigation and mitigation of the Flockton area). More information on this is available here.

- Queenstown Lakes District Council's flood management work (including a joint flood mitigation strategy). More information on this is available here.

- Nelson City Council's Online Coastal Inundation Map which includes modelling for 0.5m, 1m, 1.5m and 2.m seal level rise scenarios. More information on this i available here.

[60] This is a joint committee, bringing together elected representatives from Hastings District Council, Napier City Council and Hawke's Bay Regional Council.

APPENDIX 2:
HELPFUL RESOURCES FOR LOCAL GOVERNMENT ON CLIMATE CHANGE

Author	Title and hyperlinks for access	Date
Ministry for the Environment	Coastal Hazards and Climate Change: A Guidance Manual for Local Government in New Zealand available here	July 2008
Department of Conservation	New Zealand Coastal Policy Statement 2010 available here	2010
Judy Lawrence, Frances Sullivan, Alison Lash, Gavin Ide, Chris Cameron & Lisa McGlinchey	Adapting to changing climate risk by local government in New Zealand: institutional practice barriers and enablers available here	2015
Parliamentary Commissioner for the Environment	Preparing New Zealand for rising seas: Certainty and Uncertainty available here	November 2015
Tonkin+Taylor	Risk based approach to natural hazards under the RMA available here	September 2016
Climate Change Adaptation Technical Working Group	Adapting to Climate Change in New Zealand available here	31 May 2017
Ministry for the Environment	Preparing for coastal change: A summary of coastal hazards and climate change guidance for local government available here.	December 2017
Jack Hodder QC	Climate Change Adaptation: session of the Local Government New Zealand Rural and Provincial Sector Meeting, Wellington available here	7 March 2019
Oxfam NZ	How to Talk About Climate Change: A Toolkit for Encouraging Collective Action available here	31 July 2019
Deep South Challenge: Changing our climate	Supporting decision making through adaptive tools in a changing climate: Practice guidance on signals and triggers available here	2020
Local Government New Zealand	Various resources for local governments on climate change available on their Climate Change Project page here and case studies regarding community engagement on climate change adaptation here	Various
Ministry for the Environment	Climate change adaptation and local government available here	
Massey University	Sample risk management framework produced by available here. *Also see, by way of example, the Risk Management Framework, Policy and Guidelines put together by the Thames Coromandel District Council available here*	

APPENDIX 3:

ICNZ's view of the role of local government on climate change

What (the problem: climate change is here)

- Larger and more extreme weather events
- Sea levels rising, coastal erosion and flooding
- Droughts, water shortages and wildfire
- **Flow on impacts to**:
  - Natural and built environments
  - human, economic and governance

The potential impacts stretch across generations, with the economic, social and environmental impacts being too significant to ignore and only increasing if no action is taken

Why (local government need to act)

- The best responses are context specific (addressing matters at a local level)
- There is a legal duty to do so
- Ensuring resources are efficiently used
- Bypassing avoidable harm
- Communities are increasingly demanding action
- Ensuring insurance and therefore lending remains available and affordable

How (local government can act)

- Grapple with the full impacts of climate change (taking your community on the journey, leveraging the best available science and regional capability)
- Thorough planned action and investments for adaptation and mitigation (reducing the extent of future climate change and its impacts)
- Take a holistic, long term and flexible approach (using a risk management framework to prioritise and an adaptive pathways approach)

Practical actions includes:

- ✓ collaboration and co-ordination
- ✓ building and sharing knowledge
- ✓ embedding mitigation and adaptation in investment and planning decisions
- ✓ declining development in areas vulnerable to flooding or rising sea levels
- ✓ ensuring buildings are resilient

A pro-active, co-ordinated, and long-term view should be taken to managing the real and significant impacts of climate change, putting people, businesses and communities at the heart of decision-making