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**ADAPTATION ISSUES IN NEW ZEALAND'S
CLIMATE CHANGE POLICY**

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Abstract

New Zealand is already experiencing the effects of a warming climate and needs to adapt its built, social and ecological systems to reduce vulnerability to climate impacts. Currently, there is no coordinated approach to climate change adaptation in New Zealand. There is no overarching policy or legislation provided by central government to guide adaptation action by other sectors. Amongst other issues, it is unclear how climate change adaptation will be funded. This paper evaluates some of the challenges present in New Zealand's current adaptation framework. It argues that adaptation requires policy response from central government. Mitigation of carbon emissions can no longer be the sole focus of climate change policy. This paper proposes that climate change adaptation be addressed in legislation by requiring central government to engage with the issue through a series of policy documents. These would include a national climate change risk assessment, a national adaptation plan, and an independent adaptation progress report. These documents will be updated every five years and will thus provide for a coordinated response to adaptation that allows progress to be monitored and evaluated.

Key words: climate change adaptation, adaptation policy, Zero Carbon Act.

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I Introduction

Human activity has resulted in greenhouse gases being emitted into the atmosphere. Sufficient emissions have already accumulated to change the global climate. Despite attempts to mitigate the rate of carbon emissions and stabilise global warming, climate change is already occurring and will continue to occur.¹ Regardless of whether successful reduction of greenhouse gas emissions occurs, the globe will experience global warming. Actions therefore need to be taken to adapt our current built, social and ecological systems to the projected impacts of climate change. Mitigation of carbon emissions can no longer be the only policy priority in regards to climate change. Climate change adaptation must also be addressed.

Climate change adaptation is:²

...an ongoing process of adjusting to the actual and expected changes in the environment resulting from greenhouse gas emissions already released into the atmosphere and those that may be released in the future.

The extent of our adaptation response will depend on the extent to which climate change mitigation is successful and the level of global warming that occurs due to emission of greenhouse gases. If mitigation of carbon emissions is successful, a lesser adaptation response will be required.

Climate change will mean that the intensity and frequency of extreme weather events will increase. New Zealand can expect to experience increased temperatures, rising sea-levels, more droughts and wildfires, changing weather patterns and more floods and severe storms.³ These impacts, however, will vary across spatial scales. Just as weather patterns

¹ Climate Change Adaptation Technical Working Group *Adapting to Climate Change in New Zealand: Stocktake Report* (Ministry for the Environment, December 2017) at 6.

² At 6.

³ At 6.

currently vary across regions, climate change impacts will not be uniform across the whole country. For example, it is expected that during winter, precipitation will increase in the west coasts of both the North and South Islands, but not in the east coasts.⁴

Due to the localised nature of climate change impacts, adaptation actions are more efficiently taken at the local government level rather than the central government. Decisions are made by the body closest to where the impacts of that decision will be experienced.⁵ New Zealand's climate change adaptation policy therefore needs to balance local and central governments' responsibilities. Whilst the primary responsibility for adaptation actions will lie within local government's jurisdiction, central government should remain responsible for coordinating the national adaptation policy direction and providing information to enable adaptation at the local scale. Central government will need to assist the funding of adaptation by other actors. Effective adaptation requires central government to coordinate adaptation planning and implementation, whilst providing the flexibility for a diverse range of processes and decisions at regional and local levels.⁶ New Zealand's adaptation response must be planned to ensure that alignment between stakeholders and sectors. Adaptation policy should aim to be flexible to deal with uncertainty and updated information as it emerges.⁷

⁴ Andy Reisinger and Roger L Kitching "Australasia" in Christopher B Field (eds) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, New York, 2014) 1371 at 1377.

⁵ Nobuo Mimura and Roger S Pulwarty "Adaptation Planning and Implementation" in Christopher B Field (eds) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, New York, 2014) 869 at 881.

⁶ At 881.

⁷ Climate Change Adaptation Technical Working Group, above n 1, at 43.

II New Zealand's Current Adaptation Progress

New Zealand's limited response to climate change has so far been focused on mitigation of carbon emissions rather than considering policy responses to adaptation to climate change.⁸ Mitigation has been prioritised over adaptation. Adaptation response has largely been reactive to individual climate-related events, rather than taking proactive and preventative action.⁹ Central government has previously been content to leave the issue of adaptation to local authorities without providing extensive assistance or guidance. New Zealand does not have an overarching policy scheme for climate change adaptation. Adaptation action has so far been relatively isolated with no coordination between adaptation actions across spatial scales or between actors. This risks insufficient adaptation action, as well as maladaptation and an inefficient use of resources.

Adaptation has not yet been the singular focus of regulatory or legislative action in New Zealand.¹⁰ There is no standalone adaptation legislation. Adaptation has been left to the pre-existing resource management legislative framework.¹¹ It is principally regulated by decisions made under the Resource Management Act 1991 (RMA), but is also given effect to by decisions under other legislation including the Local Government Act 2002 and the Building Act 2004.¹²

⁸ Geoffrey Palmer "New Zealand's Defective Law on Climate Change" (speech to Faculty of Law, Victoria University of Wellington, 16 February 2015).

⁹ Jonathan Boston and Judy Lawrence "Funding Climate Change Adaptation: the case for a new policy framework" (2018) 14(2) *Policy Quarterly* 40 at 42.

¹⁰ Ceri Warnock "Global Atmospheric Pollution: Climate Change and Ozone" in Peter Salmon and David Grinlinton (eds) *Environmental law in New Zealand* (Thomson Reuters, Wellington, 2015) 789 at 819.

¹¹ Judy Lawrence and others "Adapting to changing climate risk by local government in New Zealand: institutional practice barriers and enablers" (2015) 20 *Local Environment* 298 at 303.

¹² *Laws of New Zealand Climate Change: Adaptation to Climate Change in New Zealand* (online ed) at [125].

The RMA is New Zealand's central legislation for the regulation of activities with environmental effects and the management of natural and physical resources.¹³ It principally provides for resource management decisions to be made by local government, through resource consents and government planning processes. It is thus the principal machine under which adaptation can be effected in New Zealand. Since 2004, persons exercising functions under the RMA are required to have "particular regard to the effects of climate change" when exercising their powers.¹⁴ This legislative requirement however does not allow local government decision-makers to consider the impact on climate change from the discharge of greenhouse gases from an activity requiring consent. The Supreme Court has ruled that this is governed by a separate legislative scheme.¹⁵ Decision-makers must, however, consider the purpose of "sustainable management of natural and physical resources" when exercising their powers under the RMA.¹⁶ If these legislative requirements are considered, vulnerability to climate hazards and to the effects of climate change can be mitigated.

The RMA envisages a hierarchy of planning documents, with central government releasing national policy statements and environmental standards to influence regional and local plans and resource consents.¹⁷ These central documents have statutory force and create binding obligations on local government.¹⁸ Because the RMA contains environmental bottom lines, policy directions in national policy statements have strong force and must be given effect to by decision-makers.¹⁹ One such document is the New Zealand Coastal Policy Statement which requires coastal hazard risks to be identified over a timeframe of

¹³ Kathryn Edmonds "Regulatory and Instrumental Structure of Environmental Law" in Peter Salmon and David Grinlinton (eds) *Environmental law in New Zealand* (Thomson Reuters, Wellington, 2015) 433 at 445.

¹⁴ Resource Management Act 1991, s 7(i).

¹⁵ *West Coast ENT Inc v Buller Coal Ltd* [2013] NZSC 87, [2014] 1 NZLR 32, at [172].

¹⁶ Resource Management Act, s 5.

¹⁷ Sections 43–55.

¹⁸ *Environmental Defence Society Inc v New Zealand King Salmon* [2014] NZSC 38, 1 NZLR 593 at [125].

¹⁹ At [97].

100 years, before a decision-maker can exercise their power under the RMA.²⁰ Under the Coastal Policy Statement, the effects of climate change must be considered.²¹ These documents released by central government can therefore guide decision-making by local authorities.

Central government also provides non-statutory guidance documents to assist local government in exercising its functions under the RMA.²² New Zealand's central government has further invested in adaptation research projects improving the quality and quantity of information on projected climate impacts in New Zealand and advice on how to adapt to them.²³ This research has ensured that New Zealand has a relatively accurate understanding of the climate impacts that might occur. Research is still needed to understand the implications of these climate changes for our society.²⁴

III Is New Zealand's Current Adaptation Response Working?

Despite having legislative means to give effect to adaptation, a recent report found that climate change adaptation is not adequately taking place in New Zealand.²⁵ The current framework is not providing sufficient adaptation action and there is no overarching policy scheme to coordinate a response. Specific problems with New Zealand's framework are discussed below.

²⁰ Department of Conservation *New Zealand Coastal Policy Statement 2010* (November 2010) at 23.

²¹ At 23.

²² Judy Lawrence and others, above n 11, at 302; and *Laws of New Zealand*, above n 12, at [134]. See Ministry for the Environment *Climate change effects and impacts assessment: A Guidance Manual for Local Government in New Zealand 2nd edition* (May 2008); and Ministry for the Environment *Coastal Hazards and Climate Change: Guidance for Local Government* (December 2017).

²³ Climate Change Adaptation Technical Working Group, above n 1, at 47. These programmes include the Deep South National Science Challenge, the Resilience Science Challenge, the Sustainable Land Management and Climate Change programme and the Climate Change Impacts and Implications programme.

²⁴ At 47.

²⁵ At 52.

A Lack of Central Government Engagement

Central government engagement with climate change adaptation encourages other actors to also undertake adaptation actions. Central government's level of adaptation activity is a critical influence on the extent to which local governments address adaptation. No encompassing adaptation policy response has been provided by central government with few statutory guidance documents provided. This indicates a total lack of engagement with adaptation as a policy priority. Where central government has given effect to climate change in its policy responses, it has primarily been through giving effect to climate change mitigation actions. This has demonstrated a perceived lack of interest in adaptation by central government which has consequently hindered adaptation progress by local authorities in New Zealand.²⁶ The perceived disinterest by central government in adaptation hinders progress by demonstrating to local government that adaptation is not a sufficiently important problem to justify addressing.

Lack of central government action is also detrimental as New Zealand's resource management framework envisages guidance by central government. The RMA was created envisaging a hierarchy of plans and policies. Central government has policy levers allocated to them in legislation, allowing them to release national policy statements and environmental standards.²⁷ These documents enable it to guide local government and private sector decision-making as the national statements must be given effect to in local government resource consents and regional and district planning documents. However, central government has not used these powers given to them sufficiently. These powers are underutilised and not adequately influencing adaptation action by lower levels of governance.

The central government is required to always have a current coastal policy statement under the RMA.²⁸ The current New Zealand Coastal Policy Statement 2010 (NZCPS) mentions

²⁶ Lawrence and others, above n 11, at 308.

²⁷ Resource Management Act, ss 43–55.

²⁸ Section 57.

climate change as a factor to be considered but projections for sea-level rise have been grossly underestimated and only updated in 2018. There has also been no evidence to suggest that the NZCPS has in fact reduced vulnerability to climate change risks.²⁹ Further statutory guidance for addressing climate change has only been given effect to in one additional national policy statement, the Freshwater Management National Policy Statement. There are no statutory planning statements on how to deal with other impacts of climate change including increased flooding from heavy downpours, mitigating natural hazard risk or dealing with prolonged droughts. Guidance from central government is lacking, and even where it exists, it is isolated in nature. This poor engagement and direction by central government has slowed adaptation action across governance scales.³⁰

The central government has released other, non-statutory guidance materials aimed at assisting local government with its decision-making. The Ministry for the Environment has released guidance documents, however these documents are still too high-level with insufficient detail or clear guidance to give effect to successful and efficient adaptation actions.³¹ They do not delegate responsibilities to various actors nor provide measures to assist with funding adaptation measures or understanding scientific climate projections. The non-statutory guidance documents released by central government do not come together in a coordinated approach but instead act as a piece-meal approach to providing guidance. They are vague without providing viable solutions for real barriers faced by local governments and the private sector.

B Misalignment of Policy and Various Legislation

Direction for adaptation is unclear and lacking. There is no clear statement by central government on its adaptation goals, priorities and desired outcomes, resulting in an inconsistent and mixed response to adaptation by central government agencies and local authorities. Central government does not have a planned response to adaptation. Significant work by central government is required to develop a coordinated strategy.³²

²⁹ Climate Change Adaptation Technical Working Group, above n 1, at 52.

³⁰ Lawrence and others, above n 11, at 304.

³¹ See Ministry for the Environment *Climate Change Projections for New Zealand* (June 2016).

³² Climate Change Adaptation Technical Working Group, above n 1, at 49-50.

Currently, actions which might give effect to adaptation are authorised by a range of statutes. However, due to the patchwork of legislation which currently regulates New Zealand's adaptation efforts, there is little agreement on adaptation goals or priorities.³³ There is "misalignment in how climate change adaptation and resilience objectives are incorporated into legislation and policy."³⁴ For example, there is an apparent inconsistency between the Housing Accords and Special Housing Areas Act 2013 and the RMA, where housing supply appears to be prioritised above natural hazard management.³⁵ Inconsistencies arise between the Building Act 2004, which requires a 50-year timeframe and the New Zealand Coastal Policy Statement which requires decision-makers to consider at least a 100-year scale.³⁶ These both govern decisions which affect the success of climate change adaptation, but the inconsistent approach means that adaptation might not be effectively considered. These contradictions result in inconsistent decision-making with some infrastructure being built exposed to climate change effects.

The misalignment between statutes has resulted in lack of coordination in response between several government agencies, including central government departments, district councils and territorial authorities. Poor leadership has resulted in little coordination within and between sectors involved with climate change adaptation. Specific roles and responsibilities within and across sectors and governance levels are also not identified.³⁷ This lack of clarity means that adaptation actions either are not occurring, or where they are, they are likely not being considered and implemented efficiently.

The legislative framework for adaptation primarily provides for decisions around built infrastructure and protecting it from climate-related hazards through the RMA. However, climate change adaptation is going to require responses to human health, changes to the natural ecosystem and consideration about human consumption habits. Climate change

³³ At 13.

³⁴ At 13.

³⁵ At 55.

³⁶ Boston and Lawrence, above n 9, at 42.

³⁷ Climate Change Adaptation Technical Working Group, above n 1, at 16.

adaptation is broader than ensuring our infrastructure is resilient against climate hazards, yet there is little legislative action or policy direction recognising the wider challenges posed by climate change.

The “vague and piecemeal approach to climate change adaptation” has been recognised by territorial authorities as a barrier to adaptation.³⁸ It does not provide sufficient direction from central government to enable and encourage authorities with the required authority and resources to undertake sufficient approaches to adaptation. According to Local Government New Zealand, the current legal framework is a “patchwork of laws from different eras and to some extent different philosophies and subject to different legislative purposes.”³⁹ Any policy guidance provided by central government remains very high-level, leaving power and judgement to the discretion of local authorities.

C Insufficiencies in Current Legislation

The current legislation that provides for climate change adaptation decisions is insufficient. Direct mentions of climate change are rare and the various Acts which govern adaptation are not effectively connected together. Local Government New Zealand recognises 18 Acts that set roles and responsibilities for local government.⁴⁰ Only one of these, the RMA, explicitly mentions climate change.⁴¹ Even so, the RMA does not explicitly mention climate change adaptation but implicitly provides for it through the various processes it enables. Furthermore, recent reforms to the RMA have not directly confronted the issue of

³⁸ At 60.

³⁹ Local Government New Zealand *Managing natural hazard risk in New Zealand – towards more resilient communities* (October 2014) at 21.

⁴⁰ Biosecurity Act 1993; Building Act 2004; Civil Defence Emergency Management Act 2002; Forest and Rural Fires Act 1977; Health Act 1956; Housing Accords and Special Housing Areas Act 2013; Land Drainage Act 1908; Land Transport Management Act 2003; Local Government Act 2002; Local Government (Auckland Council) Act 2009; Local Government (Rating) Act 2002; Maritime Transport Act 1994; Rating Valuations Act 1998; Resource Management Act 1991; River Boards Act 1908; Soil Conservation and Rivers Control Act 1941; Transport Act 1962; and Waste Minimisation Act 2008.

⁴¹ Local Government New Zealand *How climate change affects local government: a catalogue of roles and responsibilities* (July 2017) at 5.

climate change. The Resource Legislation Amendment Act 2017 makes no direct reference to climate change adaptation, despite the Acts which is amends being the essential means through which adaptation decisions are to be made.

Current legislation which should give effect to adaptation action is not efficiently doing so. Not all councils have considered climate change adaptation in their regional policy statements, with only a third incorporating it into their long-term plans.⁴² Despite councils being required to have “particular regard to the effects of climate change” when exercising these functions under the RMA, not all councils have in fact incorporated it into their policy statements and plans, indicating flaws in the current framework.⁴³ Furthermore, several local councils have recently approved new subdivisions which are likely to be exposed to future sea-level rise, due to pressure from property developers and public demand for housing.⁴⁴ This signals insufficiency in the current legislation. Legislation and regulations are being applied inconsistently across various local authorities.⁴⁵

A key adaptation function required by regional and local authorities is to provide for natural hazard risk management. Current adaptation actions have principally occurred in the context of natural hazard management response yet reaction to natural hazards does not require consideration of the projected climate change impacts of sea-level rise and temperature increase under the current legislative framework.⁴⁶ There also remains no direct link in the RMA between natural hazard risk management and adaptation.⁴⁷ Councils are expected to consider the effects of climate change when making decisions, but the legislative requirements go no further than this.⁴⁸ This lack of explicit connection inhibits action by councils. If such a link were made, it would facilitate integration of climate

⁴² Climate Change Adaptation Technical Working Group, above n 1, at 57.

⁴³ Resource Management Act, s 7(i).

⁴⁴ Boston and Lawrence, above n 9, at 42.

⁴⁵ At 42.

⁴⁶ Climate Change Adaptation Technical Working Group, above n 1, at 51.

⁴⁷ Judy Lawrence “Implications of Climate Change for New Zealand’s Natural Hazards Risk Management” (2016) 12(3) *Policy Quarterly* 30 at 34.

⁴⁸ Resource Management Act, s 7(i).

change considerations into natural hazard and disaster planning for councils, thus resulting in more sustainable adaptation decisions.⁴⁹

D Information and Expertise Gap in Local Government

Despite having several central government guidance documents, local governments are not sufficiently adapting to climate change. An investigation by the Parliamentary Commissioner for the Environment found that councils were experiencing “problems with science assessments, with the process of engaging with the community, and with the planning and management decisions that follow,” particularly when considering the issue of sea-level rise.⁵⁰ Adaptation to climate change requires an understanding of the climate impacts that may be faced. Climate projections can be difficult to understand without the requisite scientific training. They are riddled with uncertainty as climate change is a novel phenomenon. Moreover, the extent to which the earth’s temperature will rise depends on the success of carbon emission mitigation efforts. Without knowing how emission patterns will change, it is difficult to predict future climate scenarios. Local governments have therefore struggled with understanding current science and translating this into their decision-making. They have cited a desire for more and better-quality data and information on local climate projections and the regional implications. The high cost of funding this has been a barrier for local authority adaptation action as authorities cannot currently afford to invest in extensive climate modelling.⁵¹

Because central government has not provided an overall policy approach to adaptation, nor engaged in adaptation possibilities, local authorities are currently left to design their own responses to adaptation. Individual units of local government have been adapting in isolation, using different assessment and implementation approaches.⁵² These individual responses have been considered by council workers as an “inefficient use of their limited

⁴⁹ Lawrence, above n 47, at 34.

⁵⁰ Parliamentary Commissioner for the Environment *Preparing New Zealand for rising seas: Certainty and Uncertainty* (November 2015) at 73.

⁵¹ Climate Change Adaptation Technical Working Group, above n 1, at 55.

⁵² At 55.

resources” as there has been little facilitation of coordinating adaptation responses between local authorities.⁵³ Where there are similar impacts occurring across the country, such as sea-level rise and flooding, there is currently no efficient coordination or pooling of resources. Common goals and sharing of resources between councils could help guide effective adaptation.

E Decisions Resulting in Litigation

Currently there is no generally agreed practice amongst councils in their approach to adaptation. Some councils are implementing adaptation actions faster than others. Because there is little central government direction on adaptation through national policy statements or environmental standards, council decisions are open to costly litigation in the Environment Court.⁵⁴ Isolated responses to climate change by local authorities are susceptible to challenge through the court system. Susceptibility of being litigated against is a factor preventing local government adaptation. New Zealand’s devolved system of resource management envisages national policy statements and environmental standards from central government to guide local authority decision-making. However, such guidance which could justify and authorise local authority action is missing. Central guidance could provide local authorities with a clear mandate to act and would provide a defence against disputes challenging their decisions. The lack of such mandate has made authorities hesitant to take bold responses to climate change impacts.⁵⁵ Local governments do not have the statutory mandate required to authorise their decisions which are thus open to being challenged in the courts.

Further exposing local authorities to potential litigation is the lack of public awareness about adaptation.⁵⁶ Without the community understanding the seriousness of adaptation, local authorities face challenges when justifying their decisions to their constituents. When resource consents are denied on the basis that such a consent would expose the individual to climate change impacts, individuals are more likely to challenge the decision if they do

⁵³ Lawrence and others, above n 11, at 304.

⁵⁴ Climate Change Adaptation Technical Working Group, above n 1, at 13.

⁵⁵ Lawrence and others, above n 11, at 305.

⁵⁶ Climate Change Adaptation Technical Working Group, above n 1, at 56.

not have sufficient understanding of the dangers that climate change poses. More effort is needed to encourage awareness of the seriousness of climate change so that individuals understand why decisions must take climate projections into account. Costly litigation is inefficient and the funds used could instead go towards planning and implementing further adaptation action.

F Funding Constraints

Perhaps the biggest challenge facing successful adaptation in New Zealand is the financing of adaptation. Adaptation will require significant investment to reduce vulnerability to climate risks, change climate-dependent behaviours and implement post-disaster recovery. The majority of adaptation will be implemented by local government, however funding has been identified as a barrier to adaptation by almost 70 per cent of local government respondents in a 2017 survey.⁵⁷ Local government owns a significant amount of infrastructure vulnerable to the impacts of climate change, including all of the country's drinking water, waste water and storm water assets and 88 per cent of our roads. These assets total at least \$120 billion.⁵⁸ Local authorities will need to take measures to reduce the vulnerability of these assets to climate change and to repair them following climate impacts. However, there is a large gap between the resource capability of local authorities and the scale of the problem which they must fund. Revenue from rates is the primary means of financing local government, yet rates will likely not be able to be raised high enough to finance the extent of adaptation required. In particular, small territories are constrained by their small rate-payer population, yet still face the possibility of having to relocate their communities away from the coast and take other adaptation measures to reduce vulnerability. In small territories such as the West Coast of the South Island and South Dunedin, these challenges are mounting, yet local government has no way to finance such solutions. A consistent funding mechanism across the country would ensure that adaptation progress is taken by all regions reducing inconsistencies and inequalities between different communities.⁵⁹

⁵⁷ At 56.

⁵⁸ Boston and Lawrence, above n 9, at 43.

⁵⁹ At 43.

A further challenge in planning for the funding of adaptation is that it is difficult to accurately predict the cost of climate change adaptation. The total cost of adaptation varies depending on the factors considered, including the timeframe under consideration, future patterns of human development and settlement, the extent to which technological advancements can reduce costs, the future projection of greenhouse gas emissions and temperature rise and the success of climate change mitigation, and the projected climate impacts of global warming.⁶⁰ Due to the uncertainty surrounding the cost of climate change, it is difficult for local authorities to assess and budget for these costs.

There is a longstanding practice in New Zealand of cost sharing for natural disasters, with the government ‘bailing-out’ individuals after a disaster who either do not have insurance or cannot afford to repair their houses. This causes individuals to expect the central government to bail them out after a disaster, reducing the incentive to invest in pre-disaster protection measures.⁶¹ When the government acts as an insurer of last resort, individuals without insurance feel a sense of security and do not have incentive to protect themselves from climate change and reduce their vulnerability to climate risks. This is an inefficient approach to adaptation, as the costs of climate change burdened on central government would be higher than they would otherwise need to be, if risk-reduction measures were taken beforehand.

Furthermore, current post-disaster funding by central government is *ad hoc* and inconsistent. Following severe flooding in April 2017, residents in Edgecumbe, Bay of Plenty, received funding from the Earthquake Commission (EQC) to assist in cleaning up and repairing the 70 per cent of buildings in the town which were damaged. This EQC coverage was extended to individuals without insurance.⁶² However, residents in other situations, with perhaps not the same widespread damage across entire towns, have not

⁶⁰ At 41.

⁶¹ At 46.

⁶² Anne Tolley and Gerry Brownlee “EQC to lead Edgecumbe clean-up” (press release, 9 May 2017).

been as fortunate to receive extensive and complete central government assistance.⁶³ The EQC provides insurance for residential properties damaged by natural disasters and administers the Natural Disaster Fund.⁶⁴ Nevertheless, there is no clear policy on the circumstances under which such insurance will be granted. With the intensity and frequency of severe weather events expected to increase as climate change progresses, we can expect the burden and expectation on government to fund post-disaster recovery to surge. In order to ensure efficient expenditure of money, a clear and uniformed approach to government intervention is required. This will ensure that arbitrary inequity between damaged communities does not occur. A clear mandate about when central government will fund recovery will also ensure that adaptation and pre-disaster risk reduction is incentivised leading to a reduction in long-term costs and reinforce the sustainability of our infrastructure.

Finally, the costs of adaptation are not currently set up in such a way that they will be shared equitably. When emitted, greenhouse gases contribute to the cumulative pool of gases in the air, which results in global warming worldwide. The impacts of climate change occur in an arbitrary manner with little regard to the individual or region's actual contribution to climate change.⁶⁵ This means that a region may experience comparatively worse effects of climate change compared to the amount of emissions which it has released. The cost of adaptation therefore needs to be equitably spread across regions and should be linked to emissions of greenhouse gases. The current uncoordinated approach to adaptation means that local authorities are responsible for funding their own responses to climate change. The cost of adaptation must also be spread inter-generationally. Actions by past and current generations are going to effect the climate received by future generations. It is unfair for future generations to bear this cost when they are not at fault. The funding of climate change adaptation responses in the future should be taken into account now, so that current generations can contribute towards the cost of the climate-related damage to which they will have contributed.

⁶³ Boston and Lawrence, above n 9, at 43.

⁶⁴ Earthquake Commission Act 1993, s 5.

⁶⁵ Boston and Lawrence, above n 9 at 46.

IV What are the Options for Adaptation Policy in New Zealand?

A Option One: Adaptation Led by Local Government under Current Framework

One policy option for adaptation would be to continue central government's approach and leave the majority of adaptation action to be incorporated into local governments' processes through their resource consents and district planning documents under our current resource management legislative framework. Central government would continue to provide support under the current legislative framework through their national policy statements and environmental standards. The current policy levers possessed by central government could simply be used more to better guide and enable local government adaptation and give effect to the hierarchy of planning documents envisaged by the RMA.

Surveyed local government workers believe that a national policy statement on climate-related hazards that will be exacerbated by climate change, is required from central government.⁶⁶ This would provide statutory guidance from central government as to the approach to be taken for adapting to climate change-related hazards. This would enable streamlined responses to climate hazards from local authorities across the country. A statutory document would encourage authorities to engage in adaptation as it would be emphasised as a policy priority by central government. It would allow local authorities to justify their actions and thus reduce their susceptibility to litigation in the Environment Court. Such a policy statement would ensure that climate change is given effect to in the hierarchy of planning documents.

The Parliamentary Commissioner for the Environment has recommended that sea-level rise be included in this proposed policy statement.⁶⁷ Currently, direction on sea-level rise is contained in the Coastal Policy Statement. Although the Coastal Policy Statement has reference to climate change effects, it is a broad document that was principally created because "the natural character and beauty of the coast and access to the sea are greatly

⁶⁶ Lawrence and others, above n 11, at 308.

⁶⁷ Parliamentary Commissioner for the Environment, above n 50, at 73.

valued by New Zealanders and seen to be of national importance.”⁶⁸ Climate change is therefore not the driving force behind this policy. In order to give effect to successful adaptation, planning documents should be released with climate change as a principal purpose. A separate policy statement for natural climate hazards would enable the effects of climate change to be given the policy consideration that they require.

B Option Two: Reform of the Resource Management Act

A second option would continue to provide local governments with flexibility to approach adaptation with their own methods with high-level involvement from central government. Legislative changes could be made to the current resource management system that would break down some of the legislative barriers to adaptation and make it easier for local governments to justify their adaptation actions to their constituents. Action by central government would merely reform the decision-making processes under the RMA and other relevant legislation to better align resource consent and planning processes with climate change adaptation.

Numerous reforms of the RMA have taken place over the years, with each successive reform arguably taking away from the original central purpose of the RMA: the sustainable management of resources. Any further reform must be based on empirical research and evidence that identifies existing problems in the application of the Act, rather than on the anecdote, prejudice and interest which have driven previous amendments.⁶⁹ Although research is expensive, it is essential for identifying the flaws in the existing framework so that it can be accurately improved.⁷⁰

If further RMA reform is to occur, it should recognise that sustainable management underpins the Act and is its anchoring policy.⁷¹ Reform should give effect to this purpose.

⁶⁸ At 73.

⁶⁹ Geoffrey Palmer “The Resource Legislation Amendment Bill, the Productivity Commission Report and the Future of Planning for the Environment in New Zealand” (2016) 12(4) *Policy Quarterly* 71 at 74.

⁷⁰ At 74.

⁷¹ At 73.

It should ensure that there are explicit links between climate change adaptation and risk management in the resource consent processes in the RMA. Policies and processes between different statutes, including the RMA, the Local Government Act and the Building Act must be aligned.⁷² The responsibilities of different governance levels for climate change adaptation could be outlined in any legislative reforms. Reform should allow flexibility to ensure the longevity of the Act and allow it to respond to the changing climate in the future.

C Option Three: An National Adaptation Policy Framework from Central Government to Guide Adaptation by other Actors

Central government's role in adaptation is generally envisaged as enabling effective adaptation actions by local government. To do this, the central government should set the broad policy scheme, provide information on climate data and ensure that the funding mechanisms are in place to facilitate adaptation. Currently, New Zealand does not have an overarching policy approach to adaptation. The division of responsibilities between central government, local government, and the private sector has not been established. Funding of adaptation is left to pre-existing resource management budgets, with no long-term funding plan in existence. There is no monitoring of adaptation success with little empirical research as to why adaptation measures do or do not work in New Zealand. Ultimately, we do not have a coordinated adaptation response. This could, and should, be changed by the central government creating a clear adaptation scheme with a series of documents outlining New Zealand's susceptibility to climate change impacts and creating a plan to reduce vulnerability to them.

New Zealand requires an overarching framework to guide the climate change adaptation response which would be based on the adaptation approach implemented in the United Kingdom.⁷³ This contains a series of national documents which are regularly revisited and updated.⁷⁴ This policy would include:

- a national climate change risk assessment;

⁷² Local Government New Zealand, above n 39, at 50.

⁷³ Climate Change Adaptation Technical Working Group *Adapting to Climate Change in New Zealand: Recommendations* (Ministry for the Environment, May 2018) at 16.

⁷⁴ See Climate Change Act 2008 (UK).

- a national adaptation plan; and
- a method by which adaptation progress is monitored and reviewed.

A national climate change risk assessment would evaluate New Zealand's susceptibilities to climate risks and prioritise these vulnerabilities. This assessment should provide projections on climate hazards and explain the anticipated regional variation in easy-to-understand language so that it can be used by local authorities, the private sector and even individuals in their decisions making. It should be produced by climate scientists and funded by central government as it is more efficient for one central body to fund such research rather than several smaller authorities funding a similar task. The risk assessment should be repeated every five years as new climate information is obtained and emission pathways change. Furthermore, the Intergovernmental Panel on Climate Change's global climate projections are released every five to six years and are based off the collation of international climate data. These can thus be incorporated into the risk assessment. A clear and centralised risk assessment would ensure that a single standard of climate science would be nationally available ensuring a uniform adaptation response across the country. This risk assessment could be given effect as a national environmental standard under the RMA to give it statutory force. It would then have to be considered by decision-makers under the RMA which would ensure that decisions are made with effect to climate change vulnerabilities. It would also reduce litigation as the standard of climate projections would be clearly identified in the environmental standard allowing local authorities to justify and authorise their decisions.⁷⁵

The second step in this adaptation framework would be to enact a national adaptation plan based on the vulnerabilities identified in the risk assessment. This would outline the central government's national strategy and policy for adapting to climate change and allocate responsibilities across all levels of government, the private sector and individuals. Clear responsibilities would better ensure effective adaptation as governance levels would be able to focus on their identified duties. The plan should also provide for the funding

⁷⁵ Palmer, above n 8, at 128.

mechanisms to support adaptation to remedy the current funding gap. Through a national plan, any legislative barriers to adaptation could be identified with the required amendments able to be enacted. The plan would be renewed every five years, following the risk assessment, and should be created in consultation with central government agencies, local government, the private sector, public individuals, scientists and iwi. Consultation will ensure that options identified in the plan are feasible and will hopefully garner support resulting in effective implementation of the various obligations.

In order to ensure the success of adaptation action, the central government should have a means of being kept regularly informed of adaptation progress, or indeed lack of progress. An independent advisory body should be tasked with the responsibility of providing adaptation progress reports to Parliament. These would outline progress that has been made and where progress has stilted across sectors, to monitor the success of adaptation actions provided for under the national adaptation plan. These reports would be important in assessing the success of policy decisions outlined in the national adaptation plan and form an effective way of reviewing decision-making. This role could be given to the Parliamentary Commissioner for the Environment who is entirely independent from the government of the day and is instead neutrally responsible to Parliament. The current functions of the Commissioner include “maintaining and improving the quality of the environment” and reviewing the “system of agencies and processes established by the Government”.⁷⁶ As the Commissioner already provides environmental reports to the House of Representatives, environmental reporting to Parliament would be streamlined into one body rather than in a separate entity. This would ensure that expertise were constituted in one body and could result in a more effective use of resources. The Commissioner has already presented climate change reports to Parliament thus this extension would not require a significant change in resourcing.⁷⁷

⁷⁶ Environment Act 1986, s 16.

⁷⁷ See Parliamentary Commissioner for the Environment *Preparing New Zealand for rising seas: Certainty and Uncertainty* (November 2015); Parliamentary Commissioner for the Environment *Stepping stones to Paris and beyond: Climate change, progress and predictability* (July 2017); and

Alternatively, the reporting power could be given to the Climate Change Commission which is expected to be created by the Zero Carbon Bill. The Climate Change Commission is proposed to have a role in monitoring the success of emission-reduction targets.⁷⁸ An Adaptation Commission could work alongside the Climate Change Commission to provide independent advice on New Zealand's adaptation progress. The benefit of this approach would be that resources were purely focused on climate change reporting with a narrower scope of powers than the Commissioner would have. Furthermore, as mitigation targets are hopefully achieved, resources would be able to be directed away from the Climate Change Commission towards the Adaptation Commission to coordinate adaptation success. As an independent body the Adaptation Commission could also act as a coordinating body between levels of government to facilitate use of resources in adapting to climate change.

The Ministry for the Environment is currently working on a Zero Carbon Bill to create framework for New Zealand's response to climate change. This adaptation framework could be incorporated into the Bill. The government would be required by legislation to produce national risk assessments and national adaptation plans every five years. The independent reporting power would be conferred by legislation on either the Parliamentary Commissioner for the Environment or the Adaptation Commission. By incorporating this policy approach to adaptation in legislation, it ensures that there is a long-term monitoring of climate change adaptation progress provided for in legislation. The nature of climate change is that it is a long-term issue that will require responses for several decades. Whatever action that is to be taken must be future-proof. If this adaptation approach is contained in legislation, it will ensure that risk assessments are certain to be continued over time, which stabilises adaptation policy and allows progress to be monitored. New governments must still create national adaptation plans and continue to have adaptation as a policy priority. This decreases the risk of new government initiatives increasing exposure

Parliamentary Commissioner for the Environment *Consultation on the Zero Carbon Bill* (June 2018).

⁷⁸ Ministry for the Environment *Our Climate Your Say: Consultation on the Zero Carbon Bill* (June 2018) at 40.

to climate change.⁷⁹ Furthermore, if adaptation guidance is contained in legislation, it is difficult for a new government to not continue such progress. Although a new government could repeal the legislation, it would likely not be a popular decision in the face of current climate science. This will provide for the longevity of adaptation progress.

A single statute such as the Zero Carbon Bill containing both mitigation and adaptation direction would be beneficial to coordinate the country's climate change response. Whilst mitigation and adaptation require different emphases and actions by different actors, they are not totally separate. The success of mitigation of carbon emissions will determine the extent to which adaptation is necessary. Furthermore, adaptation measures can be designed to incorporate mitigation goals. Including the two priorities in one single Act would ensure that all climate change policy and law is streamlined and incorporated. It would make the law clearer by providing one statute for all climate change action and policy direction reducing the need to look to several documents to find various responsibilities.

Furthermore, the current climate change priority is to mitigate carbon emissions to attempt to reduce the extent to which global warming will occur. However, as mitigation is successful over the coming decades, the policy focus and resources will need to be guided towards adaptation to reduce vulnerability to the climate effects which are to occur. The singular piece of climate change legislation should provide levers to allow a transition into providing more resources to adaptation in the future.

If adaptation action is included in the Zero Carbon Bill, I propose that the name of the Bill should be changed to the Climate Change Bill. Adaptation is already subverted to mitigation, and the label 'Zero Carbon' directly refers to reducing carbon emissions. The Bill needs to clearly emphasise the dual importance of both mitigation and adaptation. This needs to be reflected in not only the content, but also the title of the Bill. This may improve public awareness as to the importance of adapting to climate change and not merely mitigating it.

⁷⁹ Climate Change Adaptation Technical Working Group, above n 73, at 22.

V Which Option is Preferable?

A Analysis of Option One

The benefit of Option One is that it leaves adaptation to local government, where the effects of climate change are most likely to be felt. Local governments are still given the flexibility required to provide for the projected climate effects for their particular locality. Central government will not be overriding local planning processes and local circumstances will not risk being subverted by central decisions.

The current RMA framework envisages a strictly devolved governance model through which regional and territorial authorities are guided by central government documents. Unfortunately, fewer national policy statements and environmental standards have been released than the framework envisages.⁸⁰ Local governments have been encouraging statutory levers, through legislation or national policy statements which cannot be ignored or overruled.⁸¹ The current government has indicated plans to strengthen the National Policy Statement for Freshwater Management.⁸² If more statements and guidance are released by central government, it will give effect to our envisaged resource management system and will go some way to providing greater direction to local governments to incorporate adaptation into their decision-making.

However, with no overarching policy the risk remains that adaptation action occurs in a disjointed and insufficient manner. Despite having sea-level rise guidance in the statutory Coastal Policy Statement, vulnerability to sea-level rise and coastal erosion remains high. The current legislative framework has been insufficient to curb coastal development and prevent settlement in flood plains which will be vulnerable to damage. Sixty-five per cent of New Zealand's population and much of our critical infrastructure is situated within 5km

⁸⁰ Lawrence and others, above n 11, at 305.

⁸¹ Climate Change Adaptation Technical Working Group, above n 1, at 56.

⁸² David Parker, Minister for the Environment "Economic Growth within Environmental Limits" (speech to the Resource Management Law Association Seminar, Wellington, 28 March 2018).

of the coastline.⁸³ The vulnerability of these developments will only increase as the impacts of climate change are experienced. The current framework has not prevented this build-up of coastal community, despite the statutory guidance in the Coastal Policy Statement. Mere reliance on our current framework being used more effectively is insufficient. This option also ignores the financing troubles surrounding adaptation. Individual documents will not resolve the adaptation damages, as demonstrated by the insufficiency of the Coastal Policy Statement. The RMA was drafted before climate change was recognised as a large problem so New Zealand's resource management system was not formulated with the intent to cope with such a large-scale issue. The intended hierarchy of planning documents is no longer sufficient to prepare for the climate change impacts to come and more drastic reform needs to occur.

B Analysis of Option Two

The benefit of Option Two, is that an informed and researched reform of the RMA can streamline decision-making processes and give effect to climate change adaptation in decision-making. A researched analysis of the current workings of the RMA will identify its flaws. Amendments can then be tailored to the identified problems in the current framework. This would ensure that resource management and planning processes are effectively improved and give effect to climate change adaptation requirements.

However, merely amending the RMA still ignores funding issues and climate change effects outside of the resource management sphere. Responsibilities for adaptation between actors would not be allocated. Although resource management decision-making might be better able to give effect to adaptation, the lack of overarching policy would mean that other sectors, such as health and agriculture, would still not be required or enabled to facilitate adaptation. Without a centralised funding mechanism, certain regions may continue to lack resources to give effect to adaptation, resulting in unequal progress across the country. Effective resource management processes are essential but are themselves insufficient to address the cross-sector nature of climate change risks.

⁸³ Lawrence and others, above n 11, at 305.

C Analysis of Option Three

Option Three creates a framework to enable adaptation policy to be responsive to current science information on climate risks. Adaptation policy can be tailored to the most urgent identified risks and responsibilities allocated in the national adaptation plan. Progress in adaptation can also be monitored and responded to through the adaptation progress reporting power from either the Parliamentary Commissioner for the Environment, or the Adaptation Commission. If this framework of documents were included in legislation, it would ensure the longevity of climate change adaptation action and provide for effective, evidence-based decision making.

Effective adaptation requires access to accurate scientific data on climate projections and an understanding of risks associated with climate effects. This enables climate vulnerabilities to be prioritised and policy responses to reflect the scientific findings. Currently, a lack of a national assessment of climate risks prevents the development of a planned response to climate change impacts. A climate change risk assessment would enable priorities to be identified, leading to a coordinated approach to adaptation and a more effective use of resources when adapting.⁸⁴

A national climate change risk assessment would also ensure that local authorities are provided with a single, uniform source of climate data. The risk assessment will perform an important translation function between complex Intergovernmental Panel on Climate Change and NIWA climate reports and the local authorities and private individuals who need access to projected local climate impacts to guide decisions. This will enable decisions to give effect to climate projections, without requiring decision-makers to understand complex climate science. Furthermore, all local governments would use the same climate projections when exercising their functions under the RMA, ensuring a coordinated approach across the country. This may also reduce local government's susceptibility to litigation of decisions, as they will have clear guidelines for the scientific standard to which they are authorised to give effect.

⁸⁴ Climate Change Adaptation Technical Working Group, above n 1, at 16.

Currently, although isolated adaptation measures by individual councils are occurring, these are not connected in any meaningful manner.⁸⁵ New Zealand's adaptation framework is scattered through a variety of Acts which are sometimes contradictory and disjointed. A national adaptation plan would go some way to solving this, by providing a clear statement of roles and responsibilities to particular levels of governance, and by setting clear national direction as to the policy directives for adaptation across all councils in New Zealand. The creation of a national plan will therefore commence a coordinated and planned response to adaptation. There is extreme urgency required regarding mitigation of carbon emissions, however responses to climate change adaptation can afford to be well-considered.⁸⁶ Our policy response to adaptation should be coordinated, prepared and well-planned. It should not be rushed, though planning and development of our response needs to begin immediately. National adaptation plans should be based on scientific evidence and be well-considered. By requiring the national adaptation plan to be renewed every five years, the government can ensure that adaptation policy is working effectively and respond to any issues or any new climate risks.

Creation of an overarching framework and a national adaptation plan will signal that the central government considers climate change adaptation to be a policy priority. Reduction of natural hazard risk has often assumed a low priority within local government functions, despite it being a mandatory, legislative function in the RMA. There is currently a lack of understanding of the importance of natural hazard management, thus it is insufficiently engaged with in local government.⁸⁷ A national adaptation plan could change this as by emphasising it as a policy priority, it may encourage and incentivise local government to incorporate adaptation into decision-making even where not explicitly required by legislation.

⁸⁵ At 58. For example, the Bay of Plenty Regional Council has initiated a River Scheme Sustainability Project to manage its waterways under different climate change scenarios projected over the next 100 years. See Bay of Plenty Regional Council *Climate Effects Consolidated Report for River Scheme Sustainability Project* (May 2015).

⁸⁶ Parliamentary Commissioner for the Environment, above n 50, at 71

⁸⁷ Local Government New Zealand, above n 39, at 34.

A national adaptation plan allows central government to set national policy directives, whilst still providing the majority of decision-making powers to local government, where the impacts of climate change will be most acutely experienced. It is important that adaptation policy is nationally led and supported, but not imposed on local government. Local governments need to have the freedom to take actions suited to their locality and specific climate impacts. Previous strict, centrally-determined outcomes have resulted in a reduction of flexibility and dependence on central government, rather than supporting local government.⁸⁸ The balance between central guidance on funding and climate science whilst still allowing local government the flexibility to determine their local adaptation response based on local conditions, must be given effect to in the national adaptation plan. Consultation between local and central government will improve success of adaptation if various barriers are identified and solved.

The independent adaptation progress report is an essential element to the adaptation policy framework which ensures that the government is held accountable for its adaptation progress. It also ensures that if a solution is not working or if adaptation progress is halted, this can be discovered and then remedied. There is currently little monitoring of adaptation progress or effectiveness of implemented policies.⁸⁹ New Zealand's regulatory statutes are not properly tested before being implemented.⁹⁰ By having a review system legislated in statute, this will ensure that our adaptation approach is flexible and responsive to actions that do or do not work. This agility is essential as new climate data becomes available and as mitigation of climate emissions takes effect, changing the climate risks to which we must adapt.

The involvement of either the Adaptation Commission or the Parliamentary Commissioner for the Environment is important to provide independent advice to central government. It will also be able to support local authorities and other actors through their adaptation

⁸⁸ Lawrence and others, above n 11, at 304.

⁸⁹ Climate Change Adaptation Technical Working Group, above n 1, at 52.

⁹⁰ Palmer, above n 69, at 72.

actions by acting as a coordinating body between central government and other actors. As a repository of climate change expertise, the body will be able to provide guidance as to successful adaptation action.

VI Conclusion

This paper has identified and evaluated three options for climate change adaptation policy in New Zealand. Option Three should be adopted as it ensures that New Zealand's adaptation is effective, planned and periodically monitored. Much of the current framework for adaptation was first drafted in a time when climate change adaptation was not recognised as a challenge faced by New Zealand. It is therefore insufficient to address the scale of the projected problem. Climate change adaptation is a novel issue not previously experienced and thus requires a dynamic, innovative yet planned response. This should be done by creating a new framework and a clear, overarching policy directive, rather than amending each individual statute in a disjointed and uncoordinated manner. A synchronised response to adaptation can be provided for in a new statute, the Zero Carbon Bill, which would require a national risk assessment and a national adaptation plan to both be updated at regular intervals. Adaptation actions will then be in response to climate vulnerabilities and can give effect to the most pressing climate concerns. Furthermore, an independent reporting body should be established to monitor adaptation progress, ensuring that governments are held accountable and that adaptation is successfully achieved. This coordinated general scheme from central government is required to facilitate effective adaptation across sectors and regions. By implementing this policy, adaptation will begin to be given the priority required to face the mounting challenge of climate change.

Word count

The text of this paper (excluding abstract, table of contents, non-substantive footnotes and bibliography) comprises approximately 7,994 words.

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