

The Treasury

Submissions on a New Independent Infrastructure Body Information Release

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A New Independent Infrastructure Body Discussion Document

Submission Dr Judy Lawrence

1.0 Introduction

1.1 I make this submission based on my expertise, and roles I have had related to climate change adaptation. I am Senior Research Fellow at the NZ Climate Change Research Institute undertaking research on cascading climate change impacts and decision making tools and measure (Deep South Science Challenge), on resilience governance and on viable solutions to support communities living in highly vulnerable coastal settings. I was a co-author of the revised Ministry for the Environment Coastal Hazards and Climate Change Guidance for Local Government released in late 2017 and Co-Chair of the Climate Change Adaptation Technical Working Group (CCATWG) which reported its recommendations to government in May this year, 2018. I am also a Coordinating Lead Author for the IPCC Working Group 2 Sixth Assessment Review on impacts, adaptation and vulnerability to climate change for the Australasia Chapter. My PhD, awarded in 2015, was on the adequacy of our institutional arrangements for climate change adaptation decision making. This led to my undertaking work on the funding of adaptation – who pays, when, how, where and co-authoring a paper with Professor Jonathan Bostin in 2017 to start a conversation on funding of adaptation including infrastructure.

1.2 I congratulate the Government for highlighting New Zealand’s infrastructure deficit and seeking to quantify its scale. Seeking to manage this deficit and the investment in it, in a more coordinated manner to lift the quality of infrastructure investment, is applauded.

1.3 I note the definition of infrastructure means “fixed, long-lived structures that facilitate economic performance and well-being”. I note also that flood protection infrastructure is not included in the examples of infrastructure. A comprehensive approach to the life-cycle of infrastructure planning as proposed, is essential. In particular, its design performance and planning to changing circumstances over its lifecycle is of particular concern.

1.4 My submission is principally concerning the “fixed” and “long-lived” characteristics of infrastructure in relation to the dynamic changing climate risk that will impact infrastructure investments now and over their lifetime. There is a clear and present need to plan for such eventualities using state of the art tools to manage uncertainty and change. Such risks include, rising seas in coastal and low-lying areas including those with groundwater tables linked to the sea; increases in extreme rainfall events; increase in temperatures; soil water deficits affecting stormwater and sewer pipe integrity; increased flood risk and residual risk that affect stop banks and other infrastructure, such as pumps and flood gates, for example. These risk affect those communities located nearby. There are many areas where infrastructure is already showing signs of stress and reduced performance which will only get worse as the climate changes.

This highlights the importance of making strong links between infrastructure planning and delivery and the planning framework under the Resource Management Act 1991- in particular Part 2 of the Act sections 6 & 7 and the New Zealand Coastal Policy Statement. These provisions contain important safeguards for avoiding significant risks from natural hazards, taking account of the effects of climate change and the NZCPS Policies direct decisions under the Act regarding

infrastructure at the coast. With an objective of eliminating silos it is imperative that the new entity in building its vision and planning practices makes strong links with addressing changing climate risks.

2.0 Functions

Function 1 Assess the condition of NZ infrastructure

This is an essential first step, but there is a missing sub-step. To assess the ability to meet levels of service it is important that an assessment be undertaken of the changing climate risk profiles over the life-time of the assets (at least 100 years since most infrastructure lasts at least 100 years and which is the timeframe set out in the New Zealand Coastal Policy Statement (NZCPS).

Function 2

Function 1 is linked to Function 2 which suggests the use of scenarios and options for timeframes for infrastructure. There are tools that have been developed to do this and which Treasury and other agencies (e.g. Ministry for the Environment) have been briefed on for example, the use of Dynamic Adaptive Pathways Planning which is now embodied in the MfE Coastal Hazards and Climate Change Guidance for Local Government which is now being rolled out in coastal settings by several local councils to develop adaptive plans for activities affected by changing climate risk (Refer Appendix G of the MfE Coastal Hazards and Climate Change Guidance for Local Government).

Function 3

Priorities will be affected by changing climate risks where there is imminent threat of impact by rising seas and extreme weather events. However, unless the infrastructure prioritisation is stress-tested against a range of climate impact scenarios (covering diverse impacts affecting underground three waters infrastructure, coastal roads, bridges, electricity networks, critical facilities in flood plains, for example), there is a risk of investments today becoming stranded assets within their life-time. This is as much an economic efficiency issue as a climate change risk issue for New Zealand as we adjust to those risks that are already built into the system from past carbon emissions.

Function 4

The main barriers to delivering good infrastructure outcomes risk are 1) Scattered statutory mandates for delivery and consequent lack of coordination and 2) Politicisation of investment within the three yearly electoral cycle which does not reflect the priorities for all communities which leads to social inequities

Setting up an independent body to provide leadership across electoral cycles would enable such barriers to be overcome. However, there will be 'horses for courses' depending on community needs and physical conditions. This means that standardised procurement (while generally desirable) should not form new barriers to innovations in infrastructure design e.g. to enable flexible and adaptable infrastructure investments that can be adjusted as the climate conditions change and intensify.

Comments on the questions

Q2. The agency should be arms-length from the government and the private sector to avoid political capture and potential social inequities.

Q3. The possible functions are all necessary, with the addition of the one in Q4. All rated 5.

Q4. As noted above there should be an additional function to assess the changing climate risks that infrastructure assets will experience over their life-time. This is essential and will enable the priorities to be better assessed and inform the design and location of key existing and future infrastructure. Rated 5.

Q5. Addressed in comments above.

Q6. Regional and District councils have infrastructure delivery functions, some of which are mandatory, while others have discretions as to levels of service. Note the recent legal advice to Local Government New Zealand on the discretions for providing services.¹

From the perspective of identifying climate risks affecting infrastructure, the CCATWG recommended to the Government that a national risk assessment be carried out immediately. This risk assessment could inform the assessment of infrastructure risk going forward which could feed into the additional risk assessment suggested here and link with the local government asset registers and their Long Term Plans.

The other option is for all infrastructure planning, prioritising and delivery to be undertaken by the new infrastructure agency. This could streamline procurement and delivery of services, informed by economies of scale around expertise and capacity. However, local government has in the larger centres, arrangements for delivery of some water services that achieve some of these objectives. They are not comprehensive of the three waters (stormwater is delivered by district councils) and flood management is delivered by regional councils and funded across whole regions (in some cases) rather than just by beneficiaries. Coordination of lifelines delivery is also a clear benefit across regions. There is therefore an argument for consolidation of service delivery. It would be a big step forward to have at least the strategic, risk assessment, standards, guidance and procurement benefits of a new agency, while greater economies of scale in delivery at the local level was encouraged. The infrastructure deficit that will be exacerbated by climate change within the lifetime of existing new infrastructure, gives some urgency for efficiencies to be found through national standards for infrastructure.

Regarding encouragement of private sector investment in infrastructure, there has been great strides made recently by a number of industry groups, including the Investor Group on Climate

¹ Laing, D. (2018, February 13). *Ability to stop or limit the provision of services infrastructure and potential liability consequences*. Legal advice prepared for Local Government New Zealand. Wellington: Simpson Grierson Barristers and Solicitors. Retrieved from <http://www.lgnz.co.nz/assets/Uploads/Legal-opinion-2-Ability-to-stop-or-limit-the-provision-of-services-infrastructure-and-potential-liability-consequences2.pdf>

Change based in Sydney Australia, and CPD Worldwide, a leading environmental reporting platform that provides transparent reporting which could be utilised to monitor green investment including adaptation for infrastructure. Whatever the role of the private sector in infrastructure, the planning of the services it brings must be undertaken alongside land use planning and community engagement in the context of changing climate risks. This will enable risk assessment of infrastructure investment to inform priorities.

I have no objection to any information in this submission being released under the OIA.

Dr Judy Lawrence
Senior Research Fellow
NZ Climate Change Research Institute
Victoria University of Wellington
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