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Department of Prime Minister and Cabinet
Parliament Buildings
Wellington
Via email InfrastructureResilience@dpmc.govt.nz

Tēnā koutou katoa

Strengthening The Resilience of Aotearoa New Zealand's Critical Infrastructure Phase 1 Consultation

Water New Zealand (Water NZ) welcomes the opportunity to help identify the issues with New Zealand's current approach to infrastructure resilience and potential mechanisms to enhance critical infrastructure resilience.

Water NZ is a national not-for-profit organisation which promotes the sustainable management and development of New Zealand's three waters (drinking water, wastewater and stormwater). Water NZ is the country's largest water industry body, providing leadership and support in the water sector through advocacy, collaboration and professional development. Its ~3,000 members are drawn from all areas of the water management industry including regional councils and territorial authorities, consultants, suppliers, government agencies, academia and scientists.

Noting our members' interests, our submission focuses on water infrastructure and services. We respond to areas and questions raised in DPMC's discussion document, along with general comments and feedback to inform the scoping of the resilience programme.

Water NZ notes this focused engagement is intended to inform further policy development as part of the Infrastructure Resilience programme. Given the importance of the matters that this work seeks to address, we ask the Government seeks cross-party support for the resilience programmes.

Summary comments

Water NZ's high-level comments are:

- While access to safe water, sanitation and hygiene is the most basic human need for health and well-being, the water sector often appears to be an after-thought or not addressed, relative to electricity or telecommunications sectors. For example, the terms

of reference for the Government Inquiry into the response to the 2023 North Island severe weather events is silent on all three water services.

- Policies affecting the water sector are spread over many Ministries or agencies (see appendix). Consideration of a Minister for Water is suggested, as this would increase coordination across government, consistent policy making and information sharing.
- The recognition of the water sector as a Critical Infrastructure, and Water Service Entities as Critical Infrastructure Entities, in the Emergency Management Bill definition, and the roles and discipline this ensues, is welcomed.
- The water sector in Aotearoa New Zealand is under stress and there are significant vulnerabilities across drinking water, wastewater and stormwater.
 - New Zealand has a significant water infrastructure deficit. Analysis provided by the Water Industry Commission for Scotland (WICS) has identified that between \$120-\$185b of investment is required over the next 30 years to improve the New Zealand water system to meet existing standards.
 - The historic under investment in the assets manifests as vulnerabilities; no back-up plans in the event of failure or compromise, need to build redundancy into the networks, or lack of flexibility to meet changes in supply or demand.
 - The 2019 National Climate Change Risk Assessment (NCCRA) identified potable water supplies as the number one of the top 10 priority risks (risk to potable water supplies (availability and quality) due to changes in rainfall, temperature, drought, extreme weather events and ongoing sea-level rise). The risk to wastewater and stormwater systems (and levels of service) due to extreme weather events and ongoing sea-level rise was also within the NCCRA top 10 priorities.
 - Without significant investment, the situation will worsen due to neglect, aging assets, increasing growth, public expectations of higher levels of service, and the challenges of climate change adaptation and mitigation and a carbon-neutral future.
- Retaining the status quo with water services provided by 67 councils or CCOs is not sustainable. Balance sheet separation required to raise finance is essential to efficiently address the infrastructure deficit that has been decades in the making.

- Without significant funding support water services delivery and environmental outcomes will continue to decline, and nationally the cost-of-services paid by ratepayers will increase further.
- The water reforms underway are seeking to deliver safe, reliable and affordable water services to New Zealanders. Delivering on these goals by providing services in a new way, will lift the resilience of the water sector in Aotearoa.
- The provision of water services, as we saw during Cyclone Gabrielle, has dependencies and interdependencies within and between other critical infrastructure providers ability to operate. This reinforces the need for a common appreciation of the overall resilience objective. Recognising that across these fields there will be public and private providers.
- Water in the current context of lifeline utilities includes drinking water, wastewater and stormwater. However, as the 2023 rain events and Cyclone Gabrielle emphasised regional council's flood protection schemes are vital to protect economic, environmental and social wellbeing. There is a need to expand the definition of critical water infrastructure to include river control and flood protection schemes, including their flow and rain gauge monitoring network.
- Currently there are significant gaps in river and stormwater flood risk information and how it is developed, variations between [regional and local] councils' levels of service, design standards and policies related to flooding and protection. A consistent national approach to flood hazard modelling, definitions and terms, and strengthening the accountabilities between land use planning controls and design standards is needed. We **recommend** moving to a proactive, joined up, catchment-based approach to managing water.
- Central to managing risks, hazards and resilience is the criticality of assets. Critical assets are those that are likely to result in more significant financial, environmental and social cost in terms of impact on organisational objectives and agreed level of service, but not necessarily a high probability of failure. The more critical – or significant – an asset, the better management it requires.
- Reaching a common understanding of what is meant by resilience is sensible. Indeed, adopting the United Nations Office for Disaster Risk Reduction (UNDRR)¹ version would be pragmatic:

¹ <https://www.undrr.org/terminology/resilience>

Resilience; The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

- The UNDRR definition for infrastructure resilience is also relevant:

Infrastructure resilience is the timely and efficient prevention, absorption, recovery, adaptation and transformation of national infrastructure's essential structures and functions, which have been exposed to current and potential future hazards².

- The future water services entities, and the current Council providers operate within a multi-faceted regulatory framework. This includes Taumata Arowai as the water services regulator, the forthcoming economic regulator (Commerce Commission) and the regional councils. To lift resilience in the water sector each of these regulators and the entities will need to have a common framework.
- Operationalising resilience will be key.
 - The scale of resilience takes many forms; the knowledge, asset, process, individual, organisational, and community level. Currently, the water sector does not have consistent measures of resilience, e.g. redundancy, flexibility and diversification.
 - Centrally determined minimum resilience standards which provide for local variation is likely to be necessary.
 - The discussion paper seeks feedback about whether there is need for a responsible agency or regulator to support lifting resilience. Given the number of regulators providing oversight of infrastructure establishing another regulator risks confusion, duplication and a lack of coordination.
 - There is a real need for information sharing and transparency. A responsible agency or Minister of Water would likely facilitate this.
- The document considers the four megatrends that pose a risk to critical infrastructure are climate change, national security risks, fragmented global economy, and rapid technological change. Water NZ acknowledges these pose risks, a missing trend is

² <https://www.undrr.org/media/87213/download?startDownload=true>

capability and capacity of the workforce to deliver - it has been recognised the water sector needs 5,849 to 9,260 staff -an ~80% increase in the size of the water workforce over 30 years across multiple disciplines³.

- Ensure cohesion and alignment between any future critical infrastructure resilience policy and regulation, including the National Resilience Strategy with (but not limited to) water, and resource management reforms, emergency management, and climate change adaptation.
- As a drafting note, on page 11, paragraph 12, the third water referred to here should be amended to read **drinking**- not ~~freshwater~~. Freshwater, whilst taonga, is not a critical infrastructure.

Conclusion

Water NZ thank the Department for the opportunity to provide comments on the discussion document.

We look forward to continuing to work with the Government to refine and contribute to critical infrastructure resilience policy, regulation and delivery.

If you have any queries in relation to this submission please contact Nicci.Wood@waternz.org.nz

Ngā mihi nui



Gillian Blythe
Chief Executive

³ [https://www.dia.govt.nz/diawebsite.nsf/Files/Three-waters-reform-programme/\\$file/deloitte-report-summary-final-economic-impact-&-affected-Industries-A3.pdf](https://www.dia.govt.nz/diawebsite.nsf/Files/Three-waters-reform-programme/$file/deloitte-report-summary-final-economic-impact-&-affected-Industries-A3.pdf)

Appendix 1: The Ministries and Agencies with interests in water services.

Roles & responsibilities across “wai”

	Freshwater	Drinking	Wastewater	Stormwater	Economic regulation	Consumer Protection
REGULATOR	REGIONAL COUNCILS	TAUMATA AROWAI	REGIONAL COUNCILS	REGIONAL COUNCILS	COMMERCE COMMISSION	COMMERCE COMMISSION
OVERSIGHT	MINISTRY OF ENVIRONMENT	DEP. OF INTERNAL AFFAIRS	TAUMATA AROWAI	TAUMATA AROWAI	MINISTRY OF BUSINESS INNOVATION & EMPLOYMENT	MINISTRY OF BUSINESS INNOVATION & EMPLOYMENT
POLICY	MINISTRY OF ENVIRONMENT	MINISTRY OF HEALTH	MINISTRY OF ENVIRONMENT	MINISTRY OF ENVIRONMENT	MINISTRY OF BUSINESS INNOVATION & EMPLOYMENT	MINISTRY OF BUSINESS INNOVATION & EMPLOYMENT