

20 December 2021

Competition and Consumer Policy
Building, Resources and Markets
Ministry of Business, Innovation & Employment\PO Box 1473
WELLINGTON 6140

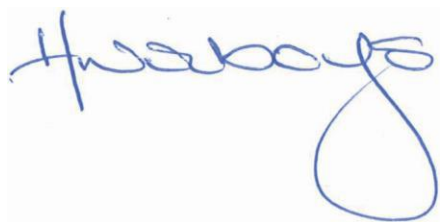
Re: Submission on Economic Regulation and Consumer Protection for Three Waters

On behalf of the Partner Councils of **Communities 4 Local Democracy - He hapori mō te Manapori**, we provide, as an attachment to this letter, a submission on the above matter prepared for Partner Councils by Castalia.

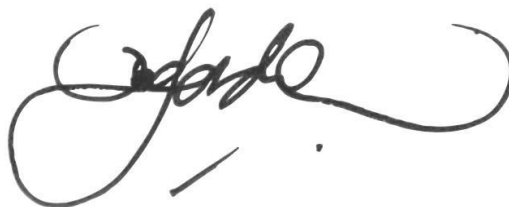
Communities 4 Local Democracy - He hapori mō te Manapori is a newly formed group of 24 councils (as at 20 December 2021) from around the country. The group was created in response to serious concerns about the nature of aspects of the Government's Three Waters reforms. Information about our group may be found at:
<https://www.communities4localdemocracy.co.nz>.

If you would like to discuss points arising from this submission, please contact in the first instance, Andreas Heuser at: andreas.heuser@castalia-advisors.com.

Yours faithfully



Mayor Helen Worboys
Chair
Communities 4 Local Democracy



Mayor Dan Gordon
Deputy Chair
Communities 4 Local Democracy



Improving Three Waters Regulatory Regime

Submission on behalf of the Partner Councils of

Communities **4** Local Democracy
He hapori mō te Manapori

DECEMBER 2021

Copyright Castalia Limited. All rights reserved. Castalia is not liable for any loss caused by reliance on this document.
Castalia is a part of the worldwide Castalia Advisory Group.

Table of contents

Executive summary	5
1 Introduction	9
2 Overall objectives of water reform and need for change	10
3 New Zealand's proposed WSE model is complex	11
3.1 Governance of the WSEs is highly complex, novel and untested	11
3.2 WSEs will have various socio-cultural objectives	14
3.3 WSE management will be centralised and operations will remain dispersed	15
3.4 Claimed cost efficiencies from administrative merger	16
4 Role of regulation and public ownership in water services	17
4.1 Economic regulation can improve water services under certain conditions	18
4.2 Public ownership and sound governance of natural monopoly utilities can also improve consumer welfare	20
5 Regulatory model will not achieve objectives	21
5.1 Regulator will face challenges improving availability of relevant information	21
5.2 Regulator will have issues incentivising management and governance to optimise costs and quality of service	22
5.2.1 Price-quality regulatory model will not incentivise management to be efficient	22
5.2.2 Regulatory model could risk tariffs remaining too low	22
5.2.3 Regulator can inadequately monitor over-spending or corruption	23
5.2.4 Uniform tariffs can hide inefficiencies	23
5.2.5 Regulator has no viable way to enforce breaches	24
5.3 Regulator cannot adequately address socio-cultural outcomes	24
5.4 Costs of regulation likely to materially exceed benefits	25
6 Public ownership and governance model must be improved to enable effective economic regulation	26
6.1 Other public ownership and governance options deliver direct accountability	26
6.2 Information disclosure and benchmarking would support public ownership model	27
6.3 Better governance can enable incentive-based regulation	28
6.3.1 Better governance and targeted regulation will align incentives with reasonable tariffs	29
6.3.2 Better governance can ensure incentives to improve efficiency and provide a service at a quality that reflects consumer demands	29
6.3.3 Ensure benefits of efficiency gains shared with consumers, including through lower prices	30
6.4 Better governance can reduce costs of regulation	30

Appendices

Appendix A : Analysis of economic regulation in selected jurisdictions	32
---	-----------

Appendix B : Maps of Water Service Entities and population centres 34

Tables

Table A.1: Analysis of economic regulation in selected jurisdictions	32
--	----

Figures

Figure 0.1: Proposed WSE entity governance and accountability structure	6
Figure 0.2: Cities and towns in Entity C with population densities	7
Figure 3.1: Proposed WSE governance and accountability model	12
Figure 4.1: Accountability for water services and issues in New Zealand	17
Figure 4.2: Factors in economic regulation and public ownership that determine reaching objectives	18
Figure 6.1: EDBs' profits compared with 8.77 percent WACC (2013–15)	28
Figure B.1: Cities and towns in Entity A with population densities	34
Figure B.2: Cities and towns in Entity C with population densities	34
Figure B.3: Cities and towns in Entity D with population densities	35

Definitions

WSE	Water Service Entity
CCO	Council Controlled Organisation
EDB	Electricity distribution businesses
ISP	Independent Selection Panel
LGFA	Local Government Funding Agency
LGNZ	Local Government New Zealand
MBIE	Ministry of Business, Innovation and Employment
NPS	National Policy Statement
RRG	Regional Representative Group
WSE	Water Service Entity

Executive summary

The government is reforming the drinking, waste and stormwater (Three Waters) sector. It intends to create four new large water service entities (WSEs) that will hold all Three Waters assets and provide the Three Waters services currently provided directly by local authorities or, in some cases, by council-controlled organisations. The WSE proposal will create four new statutory entities, and amalgamate the water services of 67 local authorities into them.

The Three Waters sector has had poor water quality regulation and enforcement, some local authorities have under-charged for services, and some have under-invested in assets and renewals. A new water quality regulatory regime is being established under Taumata Arowai. The government also intends to improve environmental outcomes by improving the regulatory regime.

An economic regulation regime is now proposed to complement these structural reforms. Policy makers expect that economic regulation will lift performance of water service providers and ensure that the customers of monopoly utilities receive services of a satisfactory quality for a reasonable price.

Communities 4 Local Democracy - He hapori mō te Manapori is making a constructive contribution to improve water sector outcomes for all affected communities

Communities 4 Local Democracy - He hapori mō te Manapori is group of councils (together referred to in this submission as “Partner Councils”) that includes local authorities of large cities, provincial and rural communities from across New Zealand. The Partner Councils have appointed Castalia to prepare an in-principle submission on the core design features of the economic regulation regime proposed in the Ministry of Business, Innovation and Employment’s (MBIE’s) Discussion Paper: Economic Regulation and Consumer Protection for Three Waters Services in New Zealand (the Discussion Paper). Castalia has also been appointed to advise Partner Councils whether the proposed regime will achieve the objectives sought.

Partner Councils want to make a constructive contribution to designing a modern, effective, and cost-efficient economic regulatory system for the Three Waters sector. Partner Councils support the provision of safe and environmentally sound, resilient, reliable, and customer responsive water services, at least cost. They recognise that economic regulation can play a key role in ensuring that the quality of service is optimal and tariff levels are reasonable so that consumers’ interests are served.

Local authorities like the Partner Councils are the best representatives of the interests of current and future water consumers, ratepayers and affected communities in this reform process. No other organisations represents the voice of the consumer in this important, but technical, reform process. Mayors and councillors have been elected by their communities to oversee the water services of the respective local authorities, and represent their interests in national reform processes such as this.

In light of this proposed major change to the way water services are delivered, it is critical that the proposed regulatory regime is tested to ensure it will deliver satisfactory quality services and reasonable prices for New Zealanders, as well as achieving the other outcomes sought from reform. This submission highlights some of the risks, and shows how changes to ownership and governance of water services, and changes to the economic regulation regime can improve outcomes for all affected communities.

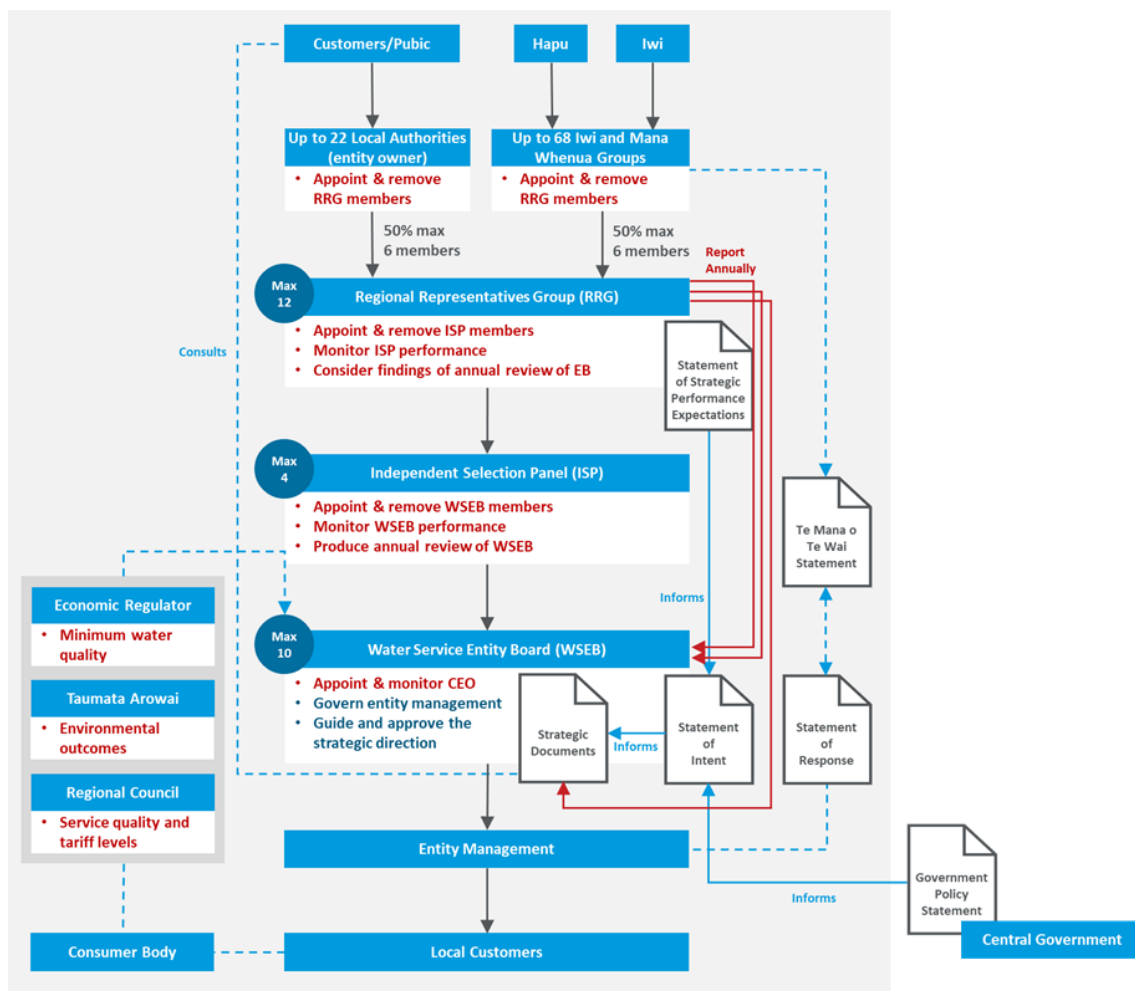
Economic regulation needs to be in balance with public ownership and governance

Economic regulation and public ownership are both used to overcome the problem of monopoly provision in the water sector. Economic regulation uses an independent party to monitor whether the cost of service is optimal for the price-quality combination consumers want, and that prices are reasonable. This outcome can also be achieved by the public owning the water utility and holding those overseeing it to account. Complex economic regulation is often unnecessary because public accountability through effective governance can ensure that acceptable services and reasonable prices are provided.

However, the chosen WSE model is highly complex, multi-layered and with competing accountability mechanisms

However, the public accountability mechanism under the proposed WSE design is highly complex. The WSEs have unusual governance, accountability, and incentive structures. The WSE management will be four steps removed from those who have direct accountability to the consumers served. Several accountability documents and statements then overlay this arrangement. Figure 0.1 shows the complexity and disconnect between customers, communities, mana whenua and the WSE management (which is tasked with improving the service).

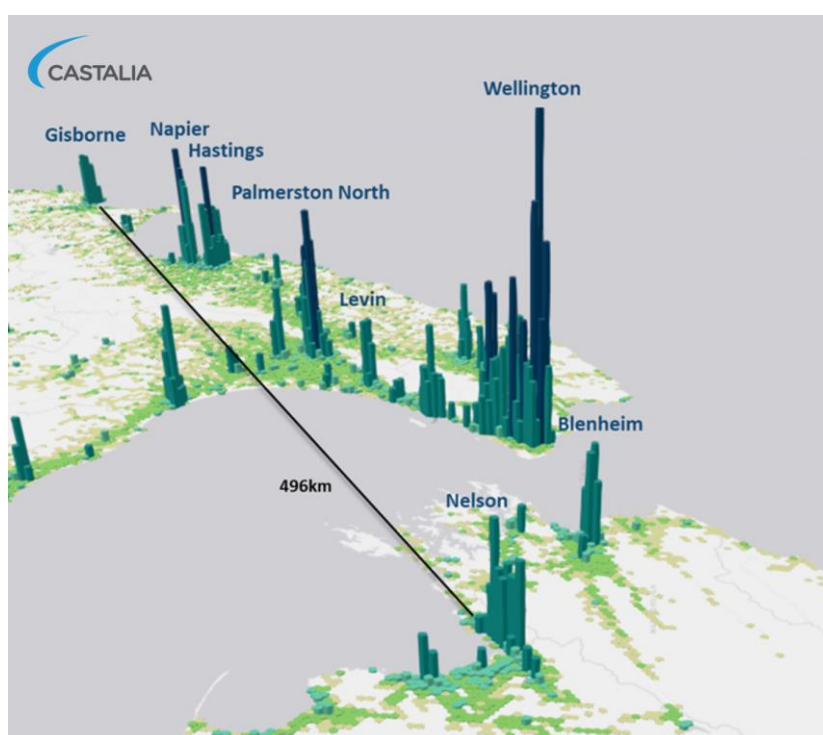
Figure 0.1: Proposed WSE entity governance and accountability structure



WSEs will have to serve a mix of diverse interests across dozens of idiosyncratic networks—all with a harmonised single water price

In addition, the WSEs will serve highly diverse populations ranging from large cities to rural settlements. The spatial distances are significant. Management is intended to be centralised into four locations. While administration will be merged, no meaningful physical joining of water networks will occur (as Figure 0.2 illustrates for Entity C). Dozens of discrete networks will have to be managed, each with highly idiosyncratic physical, engineering, topographical, environmental and climatic conditions. The government has also required that WSEs must charge uniform, harmonised tariffs.

Figure 0.2: Cities and towns in Entity C with population densities



Castalia adapting Statistics New Zealand visualisation

Economic regulation as designed will not achieve the water sector outcomes all parties seek

The net result of the regulatory regime proposed in the Discussion Paper will be a system that is unlikely to be net-benefit justified. Customers will receive fewer benefits for more costs compared to if the ownership and governance structure was better balanced with regulation.

Designing an effective economic regulation regime for the WSEs—as currently structured—will be an immensely difficult task. The regulatory regime will be globally unique. By overlaying the proposed regulatory framework over the complex WSE structure, New Zealand risks introducing a regulatory structure that will not overcome the underlying policy problems.

Conventional regulation works by channelling private, profit-seeking incentives towards publicly beneficial ends. However, the WSEs for New Zealand will be not-for-profit and will have a range of socio-cultural objectives to meet that cannot be measured easily with typical financial and economic toolkits used by regulators. All of New Zealand's usual comparator

countries use economic regulation where water utilities have a profit motive, with a single exception. In New Zealand, our fully community-owned electricity distribution businesses (EDBs) are not subjected to price-quality regulation. This is because governance arrangements are considered adequate.

Fit-for-purpose regulation is more likely to succeed if changes to governance and the reform model are made

The Partner Councils have proposed reform options that will achieve the balance of public ownership and fit-for-purpose regulation. The two Partner Councils Options are:

- **Council-owned plus regulation:** Amending the current local authority-owned and operated model with targeted interventions to address financing, funding constraints and credible enforcement mechanisms from water quality, environmental and economic regulators
- **Council-owned organisation:** Local authorities would own shares in a regional organisation. The local authorities would remain democratically accountable to voters (and water customers), and would exercise appointment rights over the organisation board. The organisation would own and manage the three waters service for the area.

Adopting these reform models will deliver on the objectives sought, and also allow a well-designed regulatory framework to work effectively. Relevant global experience with water and energy networks, and with New Zealand EDBs, highlights that balancing public ownership and governance arrangements with regulation leads to good outcomes for consumers. Adopting the Partner Councils Options will focus regulation on information disclosure, benchmarking and incentive-based oversight, at lower cost than the complex and ineffectual regulatory system that will result if the government's flawed mega-WSE model is pursued.

1 Introduction

This submission is made on behalf of 24 local authorities (as of 20 December 2021) that represent diverse communities in Aotearoa/New Zealand called Communities 4 Local Democracy - He hapori mō te Manapori (the Partner Councils). Partner Councils reflect the full spectrum of New Zealand's local authorities, and the group includes large cities, provincial centres, and predominantly rural communities.

This submission is intended to assist policy-makers and MBIE with the difficult task of designing an appropriate regulatory regime. The complex governance and ownership model of the WSEs creates globally unique challenges for economic regulation. In this submission, Partner Councils provide constructive suggestions that will avoid the risks of this regime failing.

This paper makes the following points:

- The objective for reform should be water services that are safe and environmentally sound, resilient, reliable, and customer responsive, at least cost (section 2)
- However, the government intends to reform the water sector into the four WSEs with complex governance and accountability arrangements (section 3)
- Economic regulation and public ownership in water services need to be in balance to achieve the objectives (section 4)
- The proposed regulatory regime—as designed for the WSEs—will not achieve the objectives (section 5)
- Therefore, the public ownership structure and governance regime must be improved to enable a fit-for-purpose regulation to work (section 6).

2 Overall objectives of water reform and need for change

The ultimate objective for New Zealand's water services reform should be to achieve safe and environmentally sound, resilient, reliable, and customer responsive water services, at least cost. Partner Councils agree that there are deficiencies, and that regulation needs to be improved. Central and local government mostly agree about the root causes for the need for change, and that better water services should be achieved.

Safe water provision through ensuring minimum quality standards are met

Central and local government both agree that drinking water quality levels should meet minimum standards so that everyone in New Zealand has access to safe drinking water.¹ The Government has already undertaken significant steps to overhaul the Ministry of Health's failures in regulating water quality and has created Taumata Arowai via legislation in 2020.² Partner Councils support it becoming a responsive and proactive water quality regulator of the 67 local authorities, water CCOs and any future water service providers.

Improve environmental outcomes associated with Three Waters services

Central and local government representatives agree that the regulatory reform should also improve the environmental performance of water service delivery.³ However, this has received less attention, and the improvement of environmental outcomes related to wastewater treatment and discharge/disposal still requires policy attention.

Resilient and reliable services

Government and local authorities agree that the reform should improve the resilience of the Three Waters sector to both short-term and long-term shocks. This includes climate change and changes in population.^{4 5}

Customer responsive

Local government wants the reformed water service entities to be governed by community preferences.⁶ Central government, in contrast, has not made this a priority.

¹ LGNZ Three Waters 101: Available online at: <https://www.lgnz.co.nz/assets/Three-Waters-101-Infographic.pdf>; DIA report, page 2. Available online at: [https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/\\$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf](https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf)

² Taumata Arowai—the Water Services Regulator Act 2020

³ DIA report, page 2. Available online at: [https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/\\$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf](https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf); LGNZ Three Waters 101: Available online at: <https://www.lgnz.co.nz/assets/Three-Waters-101-Infographic.pdf>

⁴ DIA report, page 2. Available online at: [https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/\\$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf](https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf)

⁵ LGNZ Three Waters 101: Available online at: <https://www.lgnz.co.nz/assets/Three-Waters-101-Infographic.pdf>

⁶ LGNZ Three Waters 101: Available online at: <https://www.lgnz.co.nz/assets/Three-Waters-101-Infographic.pdf>

Least-cost services

Central government has stated that the reform should drive productive efficiency.⁷ However, this is subject to a functional economic regulation regime. All parties agree that cost-effective water services are desirable. All parties agree that the financial sustainability of water service providers should improve. This includes both access to financing and ensuring funding sources are adequate.^{8 9}

3 New Zealand's proposed WSE model is complex

In response to problems with the water sector, the government has proposed a reform model. The model deserves analysis in this paper because it is important to lay out how the designers of the model expect it to work to deliver on the policy objectives.

The government's proposal for reform into four mega water service entities (WSEs) is highly complex, novel and untested. The governance model also requires balancing various socio-cultural objectives.

3.1 Governance of the WSEs is highly complex, novel and untested

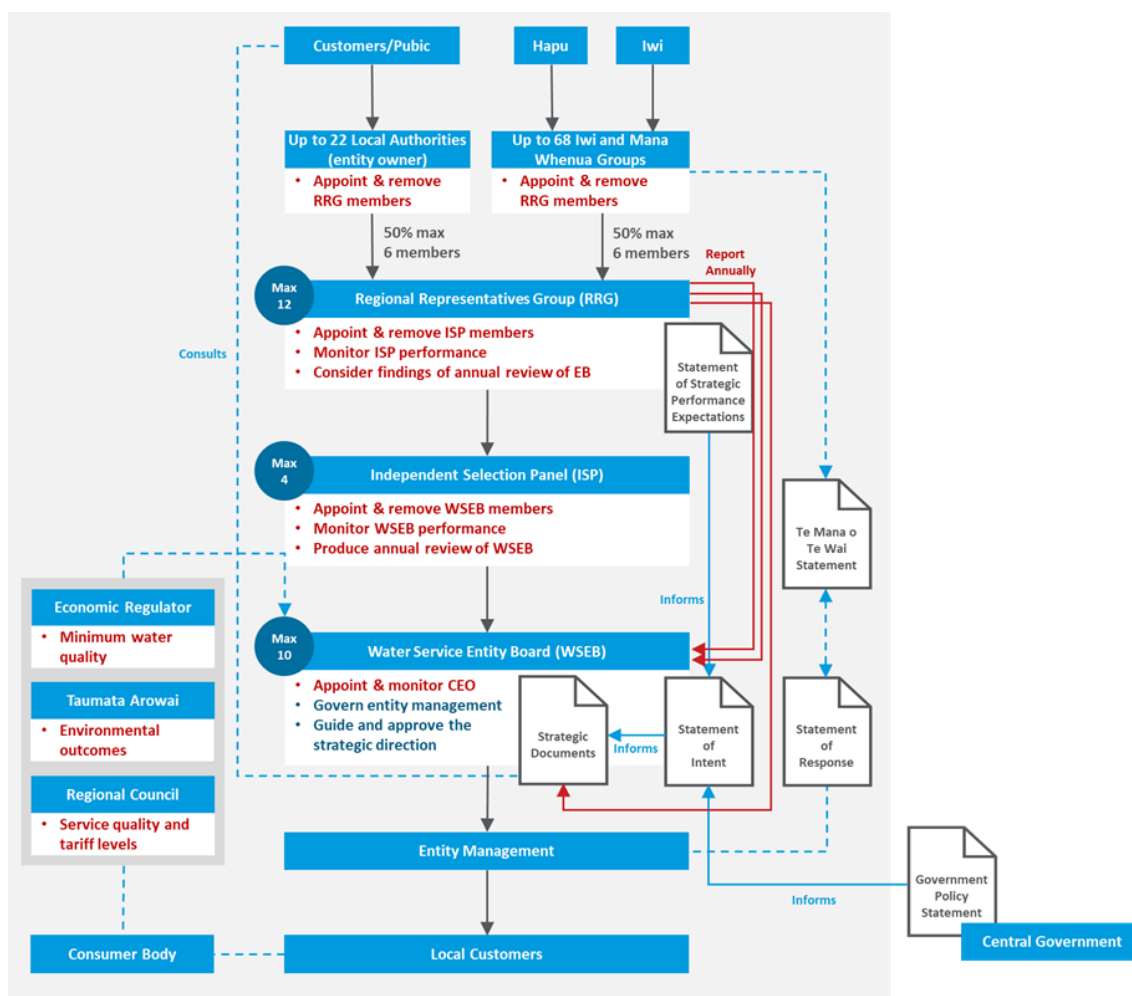
The proposed WSE will have unique and complex governance mechanisms. Those charged with governance of the WSEs will have diverse interests to serve. The management of the entity is four steps removed from local voters and Iwi members. There are also a variety of accountability documents issued by various parties. In addition, three regulators (water quality, environmental and economic regulators) will have to monitor compliance with their standards and rulings and attempt to enforce breaches.

⁷ DIA Regulatory Impact Assessment Decision on the reform of three waters service delivery arrangements. Page 115

⁸ DIA report, page 2. Available online at: [https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/\\$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf](https://www.dia.govt.nz/diawebsite.nsf/Files/three-waters-reform-programme-2021/$file/transforming-the-system-for-delivering-three-waters-services-the-case-for-change-and-summary-of-proposals-30-june-2021.pdf)

⁹ LGNZ Three Waters 101: Available online at: <https://www.lgnz.co.nz/assets/Three-Waters-101-Infographic.pdf>

Figure 3.1: Proposed WSE governance and accountability model



WSE will be unique entities under New Zealand law with no shareholders, and will not disburse surpluses to any owners

The WSEs will be creatures of statute and unique in New Zealand law and government practice.¹⁰ There will be no shareholders. The statute will deem that the local authorities within the WSE area will “own” the entity on behalf of their communities.¹¹ However, local authorities will not have typical rights of ownership such as rights of use, to gain a return, to dispose, control it or control its use. Surplus earnings must be retained by the WSE and can be reinvested in delivery of water services. That is, the WSEs will be not-for-profit.

WSEs will have independent balance sheets. Each WSE will own all three waters assets and associated debt.¹² This will increase the level of borrowing in the sector as it will remove water service providers from the financial restraints of debt limits imposed by LGFA and council

¹⁰ 14 June 2021, Cabinet Paper: Designing the New Water Service Delivery Entities: Paper Two, Office of the Minister Local Government, p. 7

¹¹ We are advised that this definition of “ownership” is subject to ongoing legal proceedings as the claimants do not consider that it complies with the common law definition.

¹² LGNZ website: Three Waters, available online at : <https://www.lgnz.co.nz/reforms/three-waters/#ownership>

balance sheets. WSEs will be able to independently raise finance from a variety of sources, including, but not limited to local and international retail and wholesale capital markets or the LGFA.¹³

This will, however, also transfer the risk of poor investment choices and costs not being recovered to the WSEs customers.

WSE governance regime is complex, novel and untested

The governance regime is detailed and has multiple people holding different roles.¹⁴ The WSE board will be made up of no more than 10 members, and the chair will hold a casting vote. The board appointment process requires multiple steps.

The requirements of the Companies Act 1993, including fiduciary duties and associated penalties, will not apply. It is unclear if the statute creating the WSEs will impose similar duties as typical Companies Act duties.

Appointments to the WSE board will be made by an Independent Selection Panel (ISP) made up of four members who are independent and appropriately qualified.¹⁵ ISP members are in turn appointed by the Regional Representative Group (RRG). The RRG will be required to conduct performance reviews of the ISP every three years. RRG members are appointed by local authorities and mana whenua in the WSE area via a complex nomination and voting process. Member local authorities and mana whenua must collectively vote at a meeting for the relevant entity for RRG appointees.¹⁶ The RRG will be made up of no more than 12 members, of which 50 percent are represented by local authority representatives and 50 percent by mana whenua representatives.

The RRG is then responsible for appointing a four-member ISP. The ISP appoints the board of the WSE. It is intended that the WSE Board will comprise professional directors. The ISP is supposed to conduct a performance review of the WSE board annually.

WSE accountability framework is also multi-faceted and complex

The government has proposed additional measures to try and hold the WSE board and RRG accountable to certain additional requirements. These requirements are imposed by central government as command and control mechanisms in which certain requirements are set out which the WSE board and RRG must report on. The net result is that WSEs are more accountable to central government, than the local authorities that are deemed to be “owners” in the proposed legislation.

The government may define certain outcomes it seeks in a National Policy Statement (NPS). WSEs may retain operational autonomy in how they will give effect to the NPS.¹⁷ The NPS is

¹³ 14 June 2021, Cabinet Paper: Designing the New Water Service Delivery Entities: Paper Two, Office of the Minister Local Government, p. 5

¹⁴ 14 June 2021, Cabinet Paper: Designing the New Water Service Delivery Entities: Paper Two, Office of the Minister Local Government, p. 15

¹⁵ 14 June 2021, Cabinet Paper: Designing the New Water Service Delivery Entities: Paper Two, Office of the Minister Local Government

¹⁶ 14 June 2021, Cabinet Paper: Designing the New Water Service Delivery Entities: Paper Two, Office of the Minister Local Government

¹⁷ DIA Three Waters Regulatory Impact Assessment – Strategic RIA – May 2021

intended to provide strategic direction to WSEs at a high level and communicate government expectations for WSEs to address inequalities and deliver in relation to Māori interests.

The RRG must prepare a Statement of Strategic Performance Expectations at least once every three years which is used to monitor the performance of the WSE against the Statement of Intent.

In response to the NPS and Statement of Strategic Performance Expectation, the WSE board will have to produce a Statement of Intent. WSEs must then report against the Statement of Strategic and Performance Expectations annually.

Each WSE will also produce an investment prioritisation methodology. This does not require approval by the RRG, although it could be influenced by the Strategic and Performance Expectations. In addition, the ISP will conduct an annual performance review of WSE boards.

The government has acknowledged that the command and control accountability mechanisms it has designed are not capable of completing the governance arrangements. Cabinet stated: “the level of independent governance proposed requires the addition of appropriate consumer protection and accountability mechanisms.”¹⁸

3.2 WSEs will have various socio-cultural objectives

Socio-cultural objectives in the delivery of utility services are common. Governments often have policy objectives that are realised through the provision of essential infrastructure services like drinking water, wastewater, electricity distribution and so on. This is often why governments choose to own essential infrastructure service providers.

However, it is unusual for water utilities to provide a range of potentially competing socio-cultural objectives, and for the entity to be subjected to price-quality economic regulation (that is, regulation aiming to broadly improve consumer welfare and service efficiency). The WSEs will be tasked with achieving a range of socio-cultural objectives from the outset. These include Iwi-Māori objectives and equity, affordability objectives and any others that the government may specify in a National Policy Statement.

Iwi-Māori objectives will be prioritised

The governance framework will promote Iwi-Māori influence on the WSEs’ objectives. First, since Iwi-Māori will have one half of the appointment rights to the RRG, it is expected that those appointees will represent the priorities and objectives of Iwi-Māori. The Government’s WSE design is intended to ensure that WSEs “engage meaningfully with iwi/Māori to inform understanding of Treaty rights and interests”.¹⁹ The WSEs will also be required to adhere to operating principles that relate to “partnering and engaging early and meaningfully with

¹⁸ 14 June 2021, Cabinet Paper: Designing the New Water Service Delivery Entities: Paper Two, Office of the Minister Local Government. Page 5

¹⁹ DIA (2021), Transforming the system for delivering three waters services: The case for change and summary of proposals report, p. 21.

Māori, local government and communities”²⁰ and “supporting and enabling matauranga Māori and tikanga Māori and kaitiakitanga to be exercised.”²¹

The WSEs will attempt to give effect to Te Mana o te Wai.²² The government intends to achieve this through ensuring that the WSE boards have relevant competencies and through reflecting “Te Mana o te Wai Statements” prepared by mana whenua. The WSE will be required to prepare and publish a formal reasonable response to such statements with a prescribed timeframe.²³

The WSEs do not earn any profit (and “owners” do not receive dividends). Therefore, the WSE board and its appointing entities (RRP, ISP, local authorities and mana whenua) will have to measure performance in terms of the delivery of the outcomes for Iwi-Māori set out in these accountability documents.

Improved services in areas where affordability challenges exist

The government also intends that the new WSEs will ensure “affordable” services in areas where affordability is a challenge. It has said that the reform should address affordability challenges that currently exist in the sector and ensure all New Zealanders have access to affordable three waters services.²⁴ This includes ensuring an acceptable level of service can be delivered affordably in smaller, rural communities²⁵. The government recognises this will require cross-subsidisation—metropolitan areas where the average cost of service is typically lower will effectively support an improvement in water service delivery in more rural areas.²⁶ However, many provincial centres, smaller cities and more rural communities have well-functioning water services and may end up effectively cross-subsidising some metropolitan areas too.

Further socio-cultural aims are to address inequality and support housing and urban development.

3.3 WSE management will be centralised and operations will remain dispersed

The introduction of a new regulatory system in New Zealand will coincide with large-scale administrative mergers. The proposed WSEs will oversee geographically dispersed areas, from

²⁰ DIA (2021), Transforming the system for delivering three waters services: The case for change and summary of proposals report, p. 24.

²¹ DIA (2021), Transforming the system for delivering three waters services: The case for change and summary of proposals report, p. 24.

²² Te Mana o te Wai is defined by Taumata Arowai as follows: a universal concept for all Aotearoa New Zealanders. It refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and wellbeing of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the wai, the wider environment and the community

²³ Cabinet Paper “Protecting and Promoting Iwi/Māori Rights and Interests in the New Three Waters Service Delivery Model: Paper Three, CAB-21-MIN-0228

²⁴ DIA (2021), Transforming the system for delivering three waters services: The case for change and summary of proposals report, p. 2.

²⁵ DIA (2021), Transforming the system for delivering three waters services: The case for change and summary of proposals report, p. 15.

²⁶ DIA (2021), Departmental Regulatory Impact Assessment, Decision on the reform of three waters service delivery arrangements, p. 106

a centralised head office. Management and administration will be centralised to four main centres in each WSE area. The head offices are expected to be Auckland (Entity A), Hamilton (Entity B), Wellington (Entity C) and Christchurch (Entity D). It is expected that key management staff will be co-located.

This means that sophisticated management and reporting mechanisms will be needed to ensure that the multiple discrete networks report cost and quality information back to head office.

Policy-makers should understand the differences between water and other infrastructure: Unlike the national electricity networks, water networks are highly localised. The environmental conditions are very different between networks. For example, some regions draw drinking water from multiple bores from a large aquifer (like Christchurch), whereas other regions take surface water from purpose built dams (like Auckland) or from rivers. The drinking water reticulation network and waste water networks are highly localised because water has a low value to weight ratio. This is unlike electricity where the network covers the whole country.

Appendix B contains 3D maps of New Zealand communities and the population densities in each. The maps show the physical distances between towns and illustrate the challenge of managing dozens of physically separate drinking water, wastewater and stormwater networks and production facilities.

3.4 Claimed cost efficiencies from administrative merger

The reform, and the regulatory design, are premised on an assumption that cost efficiencies will emerge from an administrative merger, and that those cost efficiencies are only available at a particular size (800,000 connections is cited). Department of Internal Affairs and its consultants claim that 50 percent capex and up to 60 percent opex efficiencies will be achieved following the reform. That is, the government's advisors claim that the WSEs will pay half as much for capex as smaller entities might pay, for the same outcome and that operating costs will fall by over half (in spite of assurances that no jobs will be lost). MBIE has cited these claimed scale benefits uncritically.²⁷

There is, in fact, a body of academic literature and previous Castalia analysis²⁸ that shows that production cost savings are not available from administrative mergers of discrete networks. Therefore, the premise of mergers being required for cost savings should not be accepted as a necessary condition of the regulatory design.

²⁷ For example, at paras 4, 5, 7-9, 35, 55 of the Discussion Paper

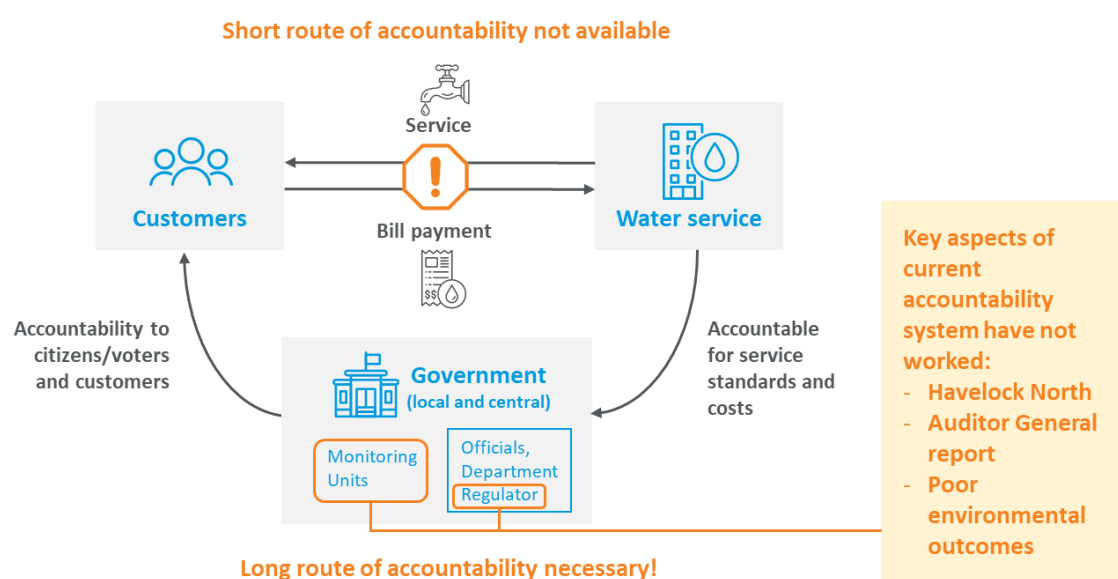
²⁸ Castalia's reports for Local Government New Zealand and the Joint Steering Committee, available at: <https://www.lgnz.co.nz/assets/LGNZ-release-of-Castalia-reports-context-and-response-v2.pdf>; Castalia's analysis for various local authorities, for example: <https://www.wdc.govt.nz/Whats-new/News-and-notice/Faulty-Assumptions-Three-Waters-20210903>

4 Role of regulation and public ownership in water services

It is useful to outline the role of regulation, and the role of public ownership in water services. Governments are involved in water services because drinking, waste and stormwater networks are natural monopolies and essential for community wellbeing. High fixed costs mean that it is more efficient for one service provider to take up the whole market.²⁹ So consumers cannot choose between competing suppliers. Water is also valuable to consumers and the costs of alternatives are often very high. Therefore consumers are willing to pay much above the cost of delivery for water services. This is a classic market failure. It means that the typical way that customers hold a service provider accountable (by choosing an alternative, reducing consumption or demanding better service) are not available.

As a consequence, governments own water services, regulate them, or both. In any case, a long route of accountability to customers is needed. Government (local and/or central) needs to play a role. Figure 4.1 illustrates the short and long routes to accountability.

Figure 4.1: Accountability for water services and issues in New Zealand

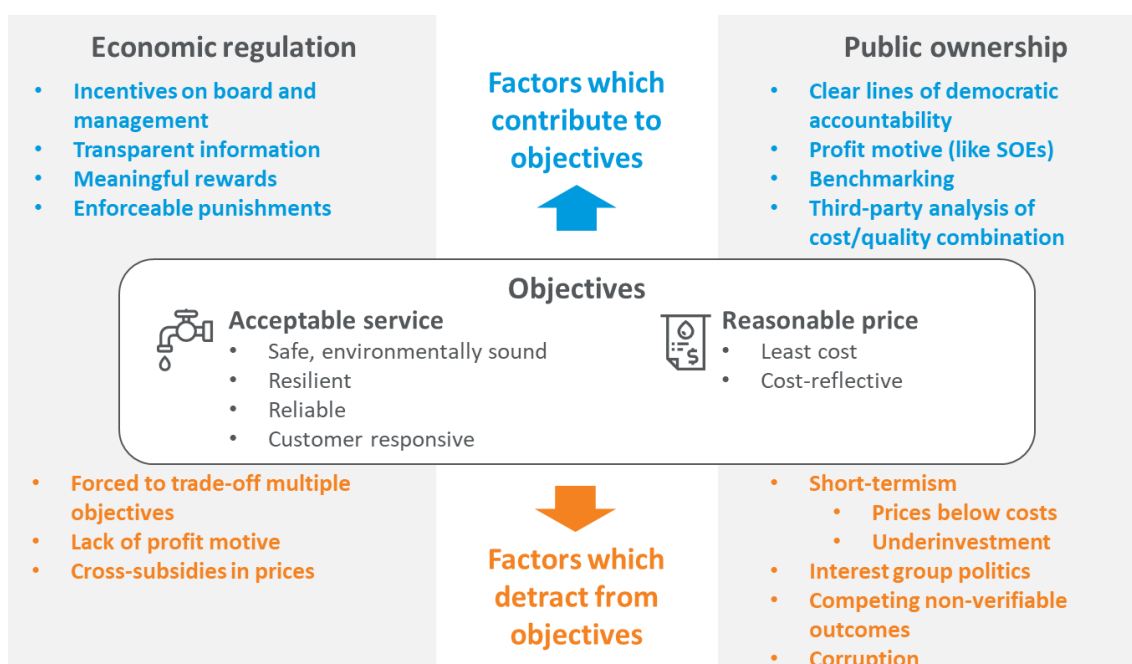


Castalia, adapted from Water Sector Board, Improving Governance and Fighting Corruption in the Water Supply and Sanitation Sector

The role of regulation and public ownership in providing accountability to customers for water services must be balanced. There are factors that can positively impact economic regulation, and factors that detract from it. Public ownership also has factors that positively contribute to objectives, or detract from achieving those objectives. Figure 4.2 illustrates these factors.

²⁹ Discussion Paper, para 17

Figure 4.2: Factors in economic regulation and public ownership that determine reaching objectives



In the following, we discuss how economic regulation of water services can improve water services. We then discuss how government ownership can improve water services.

4.1 Economic regulation can improve water services under certain conditions

Economic regulation of water services has been proposed to support the reform objectives. As the Discussion Paper notes, well-designed economic regulation should have the primary objective of promoting the interests of consumers. A secondary objective is economic efficiency.

It is important for policy-makers to understand the core function of economic regulation, and how using price-quality regulation for not-for-profit, government-owned water utilities is rare. Evidence suggests that the performance of economic regulation for public-owned water utilities is poor, with few exceptions. Therefore, when considering how to use economic regulation for publicly-owned water utilities, MBIE, and other government policy-makers should take care.

Regulation can protect consumers from lower quality and higher-priced services due to monopolistic behaviour arising from market power

Economic regulation aims to protect consumers from the exercise of monopoly power by a utility. We agree with MBIE's core definition of the reason for regulating water utilities.³⁰

³⁰ Discussion Paper, pp. 14 and 15

*The voices of consumers and communities should be incorporated throughout the design of the three waters regulatory system, to ensure it is responsive and accountable. For example, consumers should be able to expect a certain level of service when they contact a water supplier with a query or complaint. Consumers should also expect clear communication about planned or unplanned network outages, and transparency from their supplier about how water services are billed.*³¹

Regulation exists to achieve consumer welfare outcomes in the water sector that exist regardless of country. There are also New Zealand-specific outcomes that regulation can support.

The monopoly problem in water services is much more obvious when a water utility is a profit-seeking private firm. The firm can overcharge and/or deliver poorer quality service at the expense of consumers unless there is regulatory intervention. Economic regulation can be an effective tool to address this problem. MBIE is correct to note:³²

Overseas experience regulating water services, as well as domestic experience regulating other utilities, suggest that price-quality regulation is a highly effective tool in attaining the sorts of outcomes the Three Waters Reform aims to achieve, i.e. incentivising suppliers to provide affordable, high-quality water services. In particular, price-quality regulation often plays a crucial role in driving economic efficiency within regulated suppliers to ensure that water services are as affordable as possible for consumers.

Price-quality economic regulation for not-for-profit, government-owned utilities is rare

While MBIE is correct to note that price-quality regulation is generally effective, it is almost exclusively successful where the regulated water utilities have:

- Profit motive
- Clarity of purpose focussed on price and quality of service.

We reviewed the regulatory regimes in many jurisdictions that have been examined by New Zealand policy-makers in the reform process. In Tasmania, New South Wales, Victoria, England and Wales, Florida, large publicly-owned water companies have a profit motive that supports achieving the desired regulatory outcomes. Price-quality regulation is only applied to not-for-profit utilities in a minority of cases. The analysis is contained in Appendix A.

Research into the question of how economic price-quality regulation works for publicly-owned, not-for-profit water utilities is rare. This is because there are few examples. However, a 2010 study examining five countries, found that price-quality regulation has done little to boost the performance of government-owned utilities, and those systems typically fail.³³

³¹ MBIE (2021), Economic regulation and consumer protection for three waters services in New Zealand, Summary Document

³² Discussion Paper, para 72.

³³ Ehrhardt, D, Janson, N (2010), Can Regulation Improve the Performance of Government-Controlled Water Utilities, Water Policy 12 Supplement 1 (2010) 23–40

4.2 Public ownership and sound governance of natural monopoly utilities can also improve consumer welfare

Public ownership is the obvious alternative to overcoming the monopoly problem in water services. Newbery (1999) points out that regulation and public ownership are alternative (not complementary) approaches:

*The conventional analysis of network industries starts from...market failure, which justifies regulation **or public ownership** to restrain prices...*³⁴

The success of the public ownership model in meeting the public interest (and achieving the commonly accepted objectives we outline above) depends on how the entity is governed, and the incentives inherent in the governance design. Success requires that the management is accountable to the body charged with governance, and therefore that management has suitable incentives to perform well. In New Zealand, elected councillors currently hold the council CEO and senior management to account for water services.

Success of the public ownership model also requires that the body charged with governance is also appropriately incentivised to meet the objectives. This should occur via elections, where elected members respond to the interests of voters (customers) and implement their wishes.

However, the accountability mechanism of public ownership often does not work adequately. There are four systematic conceptual reasons for this:

- Selective representation of customer needs: governments may represent the interests of some constituencies more than others. Poor or marginalised communities that do not have electoral representation can be overlooked
- Short-term political aims: Higher water tariffs are usually politically unpopular in the short-term, while longer-term deterioration in service quality due to longer-term decline in viability of the water provider is less noticeable. Short-term political motives can drive government owners to hold water tariffs below cost
- Capture of the utility for personal ends: The governance and management can inflate their own salaries or transfer resources to personal or party-political ends. Staff can engage in corrupt practices for personal enrichment
- Provider capture: The entity is co-opted to serve the commercial, ideological, or political interests of a particular constituency. This can include the service providers to utilities, or a particular profession.

Therefore, when designing the governance and regulatory framework for publicly-owned water utilities, it is important that the regime addresses these issues. In the remainder of this submission, we outline how the regulatory model cannot achieve the agreed objectives, given the chosen ownership and governance structure, and then how better options would enable a fit-for-purpose regulatory regime to work.

³⁴ Newbery, D. M., "Privatization, Restructuring, and Regulation of Network Industries". Cambridge, MA: MIT Press, 1999. p.2.

5 Regulatory model will not achieve objectives

The regulatory model anticipated in the Discussion Paper is incapable of achieving the outcomes sought for water services. Furthermore, it cannot be adapted due to the fundamental problems with the design and accountability framework of WSEs. The regime is unlikely to improve consumer welfare or lift economic efficiency. We explain why in the following.

5.1 Regulator will face challenges improving availability of relevant information

Information is required for a regulator to determine the efficient costs of the WSE. The information asymmetry between managers of monopoly utilities is compounded by idiosyncratic water sector regulation issues, and a current lack of accurate information in New Zealand.

The New Zealand regulator will have to gather information from highly complex WSEs, that themselves will attempt to hold and record information about a vast array of networks and local conditions. This will be a challenge for the proposed economic regulator.

Information asymmetry in water services

The typical economic regulation challenge is the information asymmetry between managers of the utility and the regulator. The managers have the best information about the utility, and know its costs and factors that influence prices. This challenge would apply to the WSEs here in New Zealand.

Idiosyncratic challenges in water sector

Water services are highly idiosyncratic. Regulating water services is a different challenge from the experience that New Zealand policy-makers are familiar with in electricity, gas and telecommunications. Water networks are designed around natural features—access to water sources for drinking water, and access to suitable locations to treat wastewater and dispose of it. This is why networks are local, and do not extend over long distances, unless serving a contiguous urban area.

Exposing information for regulatory purposes from water service providers, therefore, has unique challenges. The regulator will need to independently judge whether the WSEs costs are fairly attributable to the different typographies, geographies, water sources and so on that will apply differently in across its jurisdiction. This is different to other utility regulation, like electricity, which has fewer idiosyncrasies.

New Zealand-specific challenges compound challenges to obtain information

However, there are additional challenges in New Zealand. There is a lack of relevant and accurate information on the current value and state of water assets and networks. There is also limited information on the volumes of water consumed (or lost as non-revenue water). A large number of water networks in New Zealand remain unmetered.

The management of proposed WSEs will have very poor information for the first few years of the regulatory regime. Managers will struggle as they have to integrate information from multiple legacy local authority water services.

New Zealand water services have also not accurately calculated the cost of service. In some cases, the financing related to water assets is not clearly linked. Local authorities have raised finance for general purposes. Opex can be shared across different local government functions. Given the existing information, there is less scope for a regulator to drive efficiencies than in, for example, the electricity sector.

5.2 Regulator will have issues incentivising management and governance to optimise costs and quality of service

Regulation should mimic the pressures that competition provides in other markets. Regulation should make providers offer services that customers want at reasonable prices. Reasonable prices are prices that cover the reasonable cost of service, including a reasonable return on capital used, but no more. To get a corporation (even a publicly owned one) to behave as if it were in a competitive market requires incentives on the people working in the organisation—principally, management.

5.2.1 Price-quality regulatory model will not incentivise management to be efficient

Typically, price-quality regulation incentivises management to improve efficiency by setting the prices that water utilities can charge at a level that reflects reasonable costs. Under the discussed price-quality model, the regulator would set a price or revenue cap at the level of the water utility's expected reasonable costs, based on the cost of capital, plus depreciation and operating expenses, and allow the utility to retain any outperformance against the allowances. Therefore, in profit-seeking entities, the management has an incentive to reduce costs because cost savings translate into higher profits.

However, the WSEs do not have a profit motive. There will be no commercial incentive to reduce costs (or increase revenues). Managers will receive no rewards for innovating, finding ways to save resources, or the myriad of other efficiencies that profit-maximising managers might identify. In fact, managers might even be incentivised to increase some costs, which we discuss below.

5.2.2 Regulatory model could risk tariffs remaining too low

In profit-maximising water utilities, the dominant incentive is to increase tariffs to increase profits. Without a profit motive for WSEs, there is no basic incentive to increase tariffs. This is a problem for the proposed New Zealand WSEs because, in some cases, local authorities failed to charge tariffs that cover the cost of service. This is one of the government's justifications for sector reform.

Therefore, the regulator will need to actively monitor tariff-setting to ensure that tariffs are set at a level that covers cost. This is an unusual position for a New Zealand regulator, yet it is not acknowledged in the Discussion Paper as a possible outcome, nor are any options discussed for addressing this issue. We are happy to discuss international examples of this problem with MBIE to ensure policymakers are receiving the full range of global evidence.

Those tasked with governance of the WSEs, at any level of the four layers between voters and WSE management, could have incentives to keep tariffs low. This is a particular risk given the significant cross-subsidies that will exist. Voters in metropolitan areas that experience tariff rises due to the need to cross-subsidise costlier rural water services may put pressure on elected MPs or Ministers (who can influence the National Policy Statement content), or on local councillors for lower tariffs. Unless the regulator itself initiates tariff increases, even in the absence of WSEs proposing such increases, typical price or revenue cap regulation may prove ineffective.

5.2.3 Regulator can inadequately monitor over-spending or corruption

The WSEs will control substantial resources, and will access significant new capital for the claimed new investment (up to \$180 billion over 30 years is claimed). The not-for-profit WSEs have no in-built incentive to focus management attention on lowering costs and identifying innovative processes. Without such a profit-motive, and because the WSEs will be large with myriad reporting mechanisms and accountabilities, the incentive and opportunity will arise for individuals to overspend or even engage in corrupt practices. While rare, blatant corruption can occur in New Zealand.³⁵ Much larger budgets and more complex accountability mechanisms is likely to increase opportunities for corrupt practices.

New Zealand's economic regulators are unaccustomed to monitoring such conduct.

5.2.4 Uniform tariffs can hide inefficiencies

The government promotes tariff harmonisation as a feature of the proposed WSEs. It claims it is desirable that tariffs will be the same between low cost and high cost of service areas. This makes the task of effective economic regulation difficult for a regulator.

The regulator will be required to understand the differences between idiosyncratic networks to be able to judge whether costs are justified. However, the regulator will be unable to analyse price differences between localised networks because tariff harmonisation is a feature of the WSEs. The large-scale tariff harmonisation of the sort proposed will create opportunities for inefficiencies and improper conduct to be concealed because both the governance bodies and regulator will be unable to monitor it.

There are significant differences in the cost of service between different local authorities. The highly idiosyncratic nature of water networks means costs can vary greatly between different parts of New Zealand. There are different costs associated with the features of natural water sources. For example, Christchurch has 150 water bores around the city that feed the network whereas Auckland takes water from two large dams and the Waikato river. Topography influences costs as pumping requires a lot of energy—hillier areas have higher energy costs. Typically, more rural areas have a higher average cost of service due to dispersion of population.

In infrastructure regulation, zonal pricing recognises that the location of consumers, particularly relative to production facilities, can affect the cost of service. Zonal pricing can

³⁵ For example, the Murray Noone and Stephen Borlase case where a local authority manager colluded with a supplier on roading contracts and received undisclosed payments and gratuities. See: [https://www.rnz.co.nz/news/national/325076/pair-jailed-over-\\$1m-bribery-case](https://www.rnz.co.nz/news/national/325076/pair-jailed-over-$1m-bribery-case)

enhance the efficiency of the utility. However, the government has specifically ruled out WSEs being able to charge zonal prices.

Typically, a regulator can add value by monitoring that zonal prices reflect costs, and that different parts of the utility are not cross-subsidising others. Since the regulator cannot perform this function, it makes little sense to pay the regulatory costs.

5.2.5 Regulator has no viable way to enforce breaches

As the Discussion Paper notes, “[e]ffective compliance and enforcement is essential for any regulatory regime to achieve its purpose and objectives.”³⁶ Effective regulation requires the ability to reward good performance and punish poor performance. The purpose of the warnings, reprimands, injunctions, orders, financial penalties and criminal penalties listed in paras 136-139 of the Discussion Paper is to incentivise management and governance to provide the services at least cost for a fair price.

As the Discussion Paper notes, conventional civil penalties are likely to be ineffective in addressing WSE misconduct due to a lack of profit motive. Indeed, the costs of any sanctions will ultimately be borne by customers. If the regulator punishes a WSE for inefficient performance by refusing a tariff increase, the WSE will have to cover the deficit through retained funds, or cut back on service. In either case, the consumer suffers. While, in theory, this might result in the WSE board changing management, or the RRG influencing the ISP which may then replace board members, in reality it is likely that repeated breaches would be needed to prompt any action.

5.3 Regulator cannot adequately address socio-cultural outcomes

The economic regulator will be required to monitor the socio-cultural outcomes sought from these reforms. It is an inevitable consequence that the regulator will have to judge the trade-offs between different values. An economic regulator is ill-suited to the role of determining whether investments and tariffs are appropriate in light of socio-cultural objectives.

In MBIE’s view, it *“is an open question as to whether the economic regulator should have regard to a broader range of objectives, including things such as Te Mana o te Wai (the vital importance of water) and climate change.”* However, in economic theory, and in practical reality, the economic regulator will be unable to escape having to evaluate the WSEs’ choices between different socio-cultural objectives.

Improving the performance of water utilities is generally cost-benefit justified, but not Pareto efficient. In other words, there are winners as well as losers. The regulator is tasked with defining the level of productive efficiency—best service for least cost. The regulator therefore has to understand how to value the socio-cultural matters that will be traded off.

The WSE will have to evaluate its investment decisions *ex-ante* (before investing). This will involve weighing up complex socio-cultural matters against customers’ diverse demands and interests (and groups of customers). For example, a wastewater treatment scheme discharge may require design features to realise Te Mana o te Wai outcomes. There will inevitably be

³⁶ Discussion Paper, para 136.

choices about different designs to address the problem, with different costs and different benefits. Each WSE will have to carry out an ex-ante evaluation and justify its decisions to the regulator.

This will be complex. The WSEs will be required to make investment decisions that reflect the different needs of over 60 Iwi (for Entity B), and many more hapu groups. As the Government itself acknowledges, to realise the objective of improved kaikiakitanga, the WSE will have to connect governance with delivery on the ground at a hapū/whānau level.³⁷

There are risks the regime reflects interest group politics

We have established that regulators will face challenges determining whether the WSE's decisions are cost-benefit justified. This, in turn, gives rise to risks that political incentives may emerge for the WSE's management to suggest investments for board approval that serve particular interest groups.

For example, the WSEs are required to prioritise investment in rural communities. This creates an incentive to expand or upgrade networks in some places, whether or not that is justified on a cost-benefit basis or under the direction received under the accountability mechanisms. This can be at the expense of other investments that meet objectives for lower cost. Incentives to secure political support will follow.

5.4 Costs of regulation likely to materially exceed benefits

New Zealand regulatory law and practice requires that regulation is only imposed where the benefits of regulation materially exceed the costs.³⁸ The highly complex, unworkable, nature of the proposed WSE governance structure and how it interacts with the economic regulator will impose additional costs than would be necessary if a different governance regime were chosen. The regime also materially reduces the scope for creating benefits through regulation.

The net result of the regulatory regime proposed in the Discussion Paper will be a system that is unlikely to be net-benefit justified. Customers will receive fewer benefits for more costs compared to if the ownership and governance structure was better balanced with regulation. The deficiencies will require extensive adjustments and additional investment in the economic regulatory regime. However, the regime cannot be improved to adequately regulate the sector. If it proceeds, future attempted changes will become necessary, which impose additional costs.

³⁷ DIA (2021), Departmental Regulatory Impact Assessment, Decision on the reform of three waters service delivery arrangements, p. 296

³⁸ For example, Section 52G Commerce Act 1986

6 Public ownership and governance model must be improved to enable effective economic regulation

The proposed ownership and governance of the WSEs will prevent economic regulation from being effective. Instead, the governance structure needs to be improved to a more direct relationship between customers, voters and those tasked with governance and management of the WSEs.

We outline how Castalia is working with Partner Councils on developing options that provide a better governance regime. This will then enable fit-for-purpose regulation to work.

6.1 Other public ownership and governance options deliver direct accountability

In parallel to this submission, Castalia has prepared an analysis of options to structure the New Zealand water reforms. In that analysis, improved public ownership and governance models are identified that provide more direct accountability between consumers. The Castalia analysis highlights how two options can address local and central government's shared objectives for safe, environmentally sound, resilient, customer-responsive water services at least cost. The detailed analysis will be available shortly.

In summary, two options would provide customer accountability, and drive appropriate incentives of governance and management. These are the "Partner Council Options":

- **Council-owned plus regulation:** Amending the current local authority-owned and operated model with targeted interventions to address financing, funding constraints and credible enforcement mechanisms from water quality, environmental and economic regulators
- **Council-owned organisation:** Local authorities would own shares in a regional organisation. The local authorities would remain democratically accountable to voters (and water customers), and would exercise appointment rights over the organisation board. The organisation would own and manage the three waters service for the area.

In both Partner Council Options, the improved models remove the multi-layered governance and appointment systems, as well as the competing priorities in performance accountability instruments. This is all replaced with simple democratic accountability of elected councillors. This would be supported by the regulatory regime which sets and enforces minimum quality standards, environmental outcomes, and economic performance benchmarks.

In the remainder of this section, we explain how an improved economic regulation regime would work with the Partner Council Options.

6.2 Information disclosure and benchmarking would support public ownership model

If one of the proposed Partner Council Options is pursued, then an information disclosure regulatory regime would be appropriate. It would already be a significant improvement on the status quo.

Information disclosure should include relevant, timely and understandable cost, revenue and quality metrics which is standard between water entities

This would require water service providers (whether local government or regional corporation-owned) to disclose the costs of service, revenues, and other performance metrics. Such information would provide all levels of management, governance and the ultimate owners (the public) with information about how the utility is performing:

- Utility management can assess performance of different functions within the organisation
- Those tasked with governance (councillors or the board) would have information to understand how the utility and its management is performing
- Ultimate owners and customers (the public) would be able to evaluate the performance of their elected representatives.

However, it is important that the information disclosed is relevant, timely and understandable. Therefore, imposing regulatory standards for the information to be disclosed is important. Standardised disclosures of asset values, investment plans, financing and other opex provides basic information about costs. Water quality monitoring results, environmental performance, customer complaint records, outages and similar information provides basic information about service quality.

Benchmarking is a critical tool to lifting performance

Benchmarking involves the economic regulator publishing the information gathered and presenting it in a way that enables comparison between utilities. Benchmarking should enable voters, customers and elected officials to understand the performance of utilities, and also insights into what is possible in the way of service and efficiency. OFWAT benchmarks the water and sewage companies and water-only companies in England and Wales, enabling comparison. As MBIE notes, the New Zealand Commerce Commission benchmarks EDBs in terms of quality of service and costs.³⁹

Information disclosure has performed very well in New Zealand for customer-owned EDBs

Information disclosure already performs very well in New Zealand. An empirical analysis published in the globally respected *Energy Economics* journal in 2020 found:⁴⁰

[E]mpirical analysis of New Zealand EDBs suggests customer ownership is associated with lower prices, and also with higher quality, efficiency and welfare. These empirical findings are comparable with those of Kwoka (2005a), who found public ownership – rather than

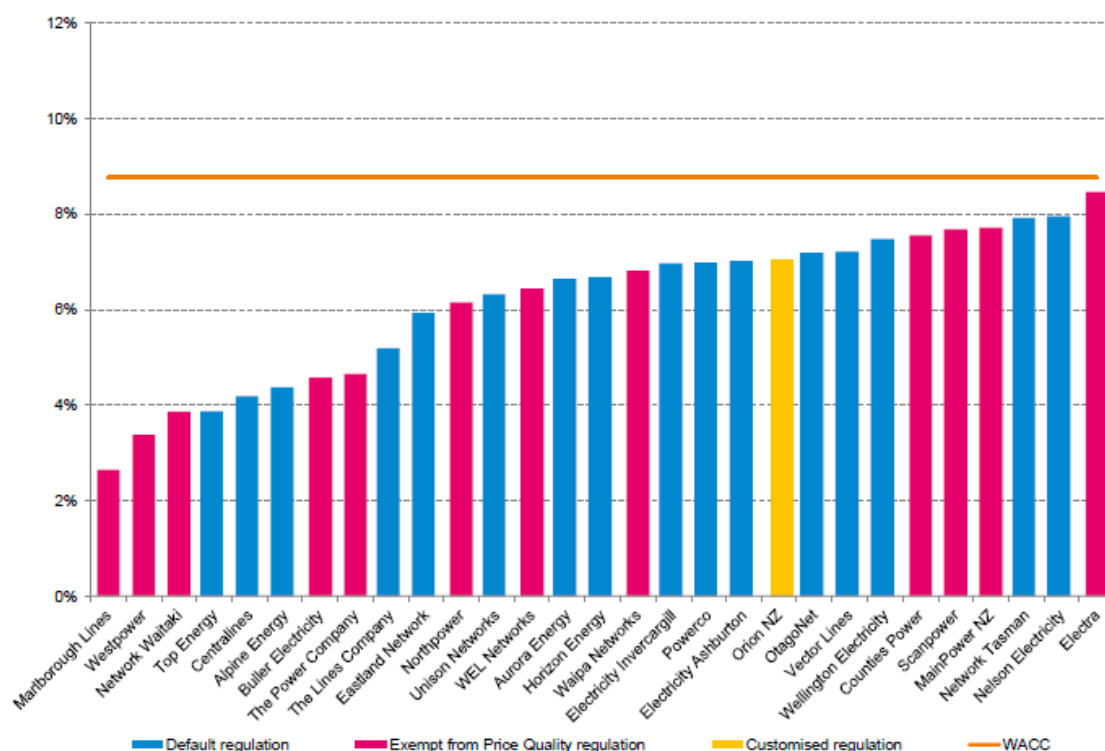
³⁹ Figure 4 in the Discussion Paper shows that the 12 EDBs subject to information disclosure-only regulation have a similar performance to those also regulated for price and quality.

⁴⁰ Meade, R, Söderberg, M, (2020), Is welfare higher when utilities are owned by customers instead of investors? Evidence from electricity distribution in New Zealand, *Energy Economics*

customer ownership per se – of US electric utilities to be associated with lower costs and higher quality relative to investor ownership.

Analysis in the government's Electricity Review (overseen by MBIE) at Figure 6.1 also shows that the profits of the 12 EDBs subject only to information disclosure were not structurally dissimilar from the EDBs subject to information disclosure and price-quality regulation.

Figure 6.1: EDBs' profits compared with 8.77 percent WACC (2013–15)



Electricity Price Review, First Report for Discussion (2018)

This evidence is consistent with the economic theory and the policy rationale that justifies for the regulatory regime for customer-owned EDBs. Where customers have direct accountability is that because of customer ownership, a reduced regulatory burden is sufficient.

6.3 Better governance can enable incentive-based regulation

Improving the ownership structure and governance of water service entities can improve the incentives on governance and management. The best outcomes from government economic oversight and regulation occurs when regulatory interventions work hand-in-hand with the underlying incentives of the owners of the regulated firms.

If an appropriate governance model is confirmed—in line with Castalia's analysis for Partner Councils—the regulatory model will be able to work better. This is because the incentives of

governance and management of future water entities will be better aligned with the interests of customers.

The key desirable incentives that improve outcomes are:

- Incentives to charge reasonable tariffs
- Incentives to improve efficiency and provide a service that reflects consumer demands
- Incentives to share benefits of any efficiency savings with customers
- Incentives to innovate and invest in replacement, upgraded and new assets.

6.3.1 Better governance and targeted regulation will align incentives with reasonable tariffs

There are limited incentives on publicly-owned water utilities to impose high and extractive prices on customers (who are also voters). The regulatory system, therefore, needs to provide the conditions for prices that recover the cost of service, for the services at the quality and the cost that citizens want (subject to meeting safety standards).

The regulator can assist by identifying the optimal trade-off between cost and quality. It can use the business plans disclosed to it under information disclosure to ensure that services are provided at a quality and cost that citizens want, and to optimize the trade-off between cost and quality. The real value of such an exercise for publicly-owned entities would be in helping customers (voters) and elected decision-makers understand what is reasonably possible. The regulator could publicise the consequences of failing to set adequate tariffs in the form of deteriorating assets and service.

6.3.2 Better governance can ensure incentives to improve efficiency and provide a service at a quality that reflects consumer demands

In principle, firms in natural monopoly industries have a strong incentive to minimise costs and ensure productive efficiency, because their owners wish to maximise surplus available to them. Hence, even in the absence of competitive pressures, owners have no incentive to permit waste. This is true of both investor-owned and consumer-owned firms: investors wish to earn the greatest profits, while consumers wish to take advantage of the lowest possible prices. Modern economic literature, however, highlights the fact that managers and workers do not share the owners' objectives.⁴¹ Managers may prefer an easy life, or may have other objectives, which would tend to raise costs and reduce productive efficiency. In competitive industries, managers face both direct supervision from business owners and pressure from competitors. Investor-owned utilities also face take-over threat, which in principle puts management at risk of being replaced. This combination serves to align their behaviour with the interests of owners.

⁴¹ Jensen, M. and Meckling, W. "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure", 1976. *Journal of Financial Economics* 3. pages 305-60; Buchanan, J. M., & Tullock, G. (1965). *The calculus of consent: Logical foundations of constitutional democracy* (Vol. 100). University of Michigan press, Von Mises, L., & Morris, R. (1944). *Bureaucracy* (p. 47). New Haven: Yale University Press; Niskanen, W. A. (2017). *Bureaucracy & representative government*. Routledge; Dunleavy, P. (2014). *Democracy, bureaucracy and public choice: Economic approaches in political science*. Routledge. We note that MBIE confirmed by e-mail to Castalia that it cited this literature for its para 19 of the Discussion Paper.

In natural monopoly industries, the absence of competitive pressures may give managers more leeway, allowing them to be less efficient. For this reason, regulators often believe that their interventions can contribute to productive efficiency of regulated firms, over and above the pressure from the owners.

However, this is not always true for consumer-owned or public firms. It is difficult for regulators to construct the cost models which are supposed to reflect efficient costs of an efficient firm.⁴² By setting prices with reference to those efficient costs, regulators force managers and owners of regulated firms to recognise gaps in performance—a regulated firm which is not able to earn reasonable returns at regulated prices would, by definition, be less efficient than the benchmark used by the regulators. Hence, this gap would provide owners with the information needed to demand improved performance from managers.

A consumer-owned or publicly-owned water entity will have as much incentive as the regulator to set prices which maximise consumer surplus. This would improve allocative efficiency.

Finally, if the governance and ownership structure delivers the closer alignment of customers, owners, governance and management, it can be a good mechanism for ensuring that the price-quality trade-offs selected by the distributor reflect those desired by its consumers.

6.3.3 Ensure benefits of efficiency gains shared with consumers, including through lower prices

Publicly-owned or consumer-owned water entities, with the governance changes Partner Councils seek, can ensure that benefits from efficiency gains are passed on to customers, rather than dispersed among management (through inefficiencies or inflated salaries) or particular sub-sets of customers. Even if earnings are not distributed as dividends, retained earnings benefit consumers through enhanced services, or reduced future borrowing.

There are a number of ways to align incentives to ensure efficiency gains are shared with consumers. The Castalia advice on Partner Council Options is the first step in identifying the appropriate model for the sector. Thereafter, the economic regulation mechanisms that align the incentives for efficiency gains with the optimal ownership and governance model should be explored.

6.4 Better governance can reduce costs of regulation

By aligning the incentives of public ownership and accountability to the public through governance mechanisms, the costs of regulation can be reduced. Under the government's proposed WSE model, the regulator would have to assess each WSE's business plans and costs against efficiency benchmarks. The regulator also has to overcome the information gaps it has in understanding the highly complex networks and competing socio-cultural and efficiency objectives of each WSE.

New Zealand regulators have experience regulating almost 30 EDBs, and using cost-effective tools to do so where governance is accountable to customers. There is every reason to expect

⁴² Or by using benchmarking, which is supposed to reflect efficient prices.

that a regime that balances ownership and governance with regulatory tools can achieve a similar cost-effective outcome in water services.

Appendix A: Analysis of economic regulation in selected jurisdictions

Table A.1: Analysis of economic regulation in selected jurisdictions

Jurisdictions (Entity name)	Economic regulator	Total entities	Number of customers (range)	Profit motive	Tariff setting	Monitor and enforce tariffs	Monitor and enforce service standards	Water quality, Environmental protection
Tasmania (TasWater)	Office of the Tasmanian economic regulator	1	522,000	Yes	Sets tariffs	Yes	Yes	Public Health Services, Environmental Management and Pollution Control Act
New South Wales	IPART	5	600,000 – 5,000,00	Yes	Sets tariffs	Yes	Yes	WaterNSW, NSW Department of Planning, Industry and Environment
Victoria	Essential Services Commission (ESC)	15	17,265 – 839,516	Yes	Sets price caps	Yes	Yes	Environmental Protection Authority, Department of Environment, Land, Water, and Planning, Department of health and human services (drinking water quality standards)
Scotland (Scottish water)	WICS	1	5,000,000	No	Sets price caps	Yes	No	Drinking water quality regulator (DWQ), Scottish Environment Protection Agency (SEPA)

England and Wales	OFWAT	32	Over 50 million	Yes	Sets price caps	Yes	No	Drinking water inspectorate, Environment Agency
Ireland (Irish water)	The commission for regulation of Utilities (CRU)	1	1,800,000	No	Reviews and approves tariffs	Yes	Yes	Environmental protection agency (EPA)
Florida	Florida Public Service Commission	147	Up to 2,000,000 customers	Yes (for Investor-Owned Utilities)	Sets tariffs	Yes	Yes	US Environmental protection agency (EPA), Florida Department of Environmental protection (FDEP)
Jamaica (National water commission Jamaica)	Office of utilities regulation (OUR)	National water commission, other water and sewerage providers, and national irrigation commission	2,000,000	No	Sets tariffs	Yes	Yes	None
Columbia	'CRA' and 'Basic sanitation regulatory commission'	Numerous entities (High degree of fragmentation)	Wide range	Yes (for private/public stock corporations)	Sets tariffs	No ⁴³	No	Vice Ministry of water and sanitation defines sector standards. Multiple regulators (CEA, SSPD, Basic sanitation regulatory commission)

Sources: TasWater, ESC, IPART, OFWAT, WICS, OUR, CRU, Scottish Water, Irish Water and Castalia research

⁴³ Enforced by Superintendencia de servicios Publicos Domiciliarios (SSPD).

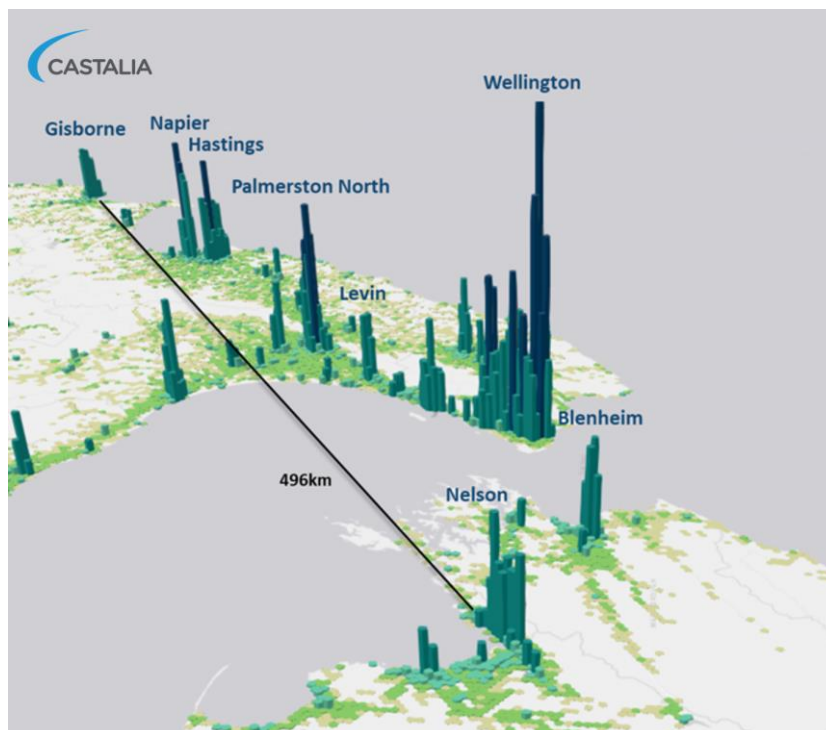
Appendix B: Maps of Water Service Entities and population centres

Figure B.1: Cities and towns in Entity A with population densities



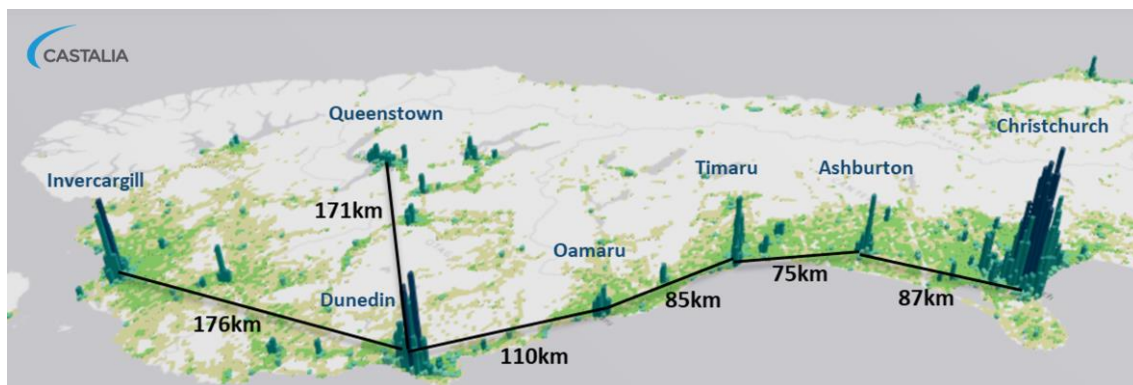
Castalia adapting Statistics New Zealand visualisation

Figure B.2: Cities and towns in Entity C with population densities



Castalia adapting Statistics New Zealand visualisation

Figure B.3: Cities and towns in Entity D with population densities



Castalia adapting Statistics New Zealand visualisation



Castalia is a global strategic advisory firm. We design innovative solutions to the world's most complex infrastructure, resource, and policy problems. We are experts in the finance, economics, and policy of infrastructure, natural resources, and social service provision.

We apply our economic, financial, and regulatory expertise to the energy, water, transportation, telecommunications, natural resources, and social services sectors. We help governments and companies to transform sectors and enterprises, design markets and regulation, set utility tariffs and service standards, and appraise and finance projects. We deliver concrete measurable results applying our thinking to make a better world.

**Thinking
for a better
world.**

WASHINGTON, DC

1747 Pennsylvania Avenue NW, Suite 1200
Washington, DC 20006
United States of America
+1 (202) 466-6790

SYDNEY

Suite 19.01, Level 19, 227 Elizabeth Street
Sydney NSW 2000
Australia
+61 (2) 9231 6862

AUCKLAND

74D France Street, Newton South
Auckland 1010
New Zealand
+64 (4) 913 2800

WELLINGTON

Level 2, 88 The Terrace
Wellington 6011
New Zealand
+64 (4) 913 2800

PARIS

64-66 Rue des Archives
Paris 75003
France
+33 (0)1 84 60 02 00

enquiries@castalia-advisors.com
castalia-advisors.com