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Taumata Arowai – the Water Services Regulator Bill

Local Government New Zealand's submission on the Bill

3 March 2020

We are. LGNZ.

LGNZ is the national organisation of local authorities in New Zealand and all 78 councils are members. We represent the interests of councils and lead best practice in the local government sector. LGNZ provides advocacy and policy services, business support, advice and training to our members to assist them to build successful communities throughout New Zealand. Our purpose is to deliver our sector's Vision: "Local democracy powering community and national success."

This submission was endorsed under delegated authority by Dave Cull, President, Local Government New Zealand (LGNZ).

LGNZ wishes to speak to this submission.

Introduction

LGNZ welcomes improvements to the regulatory system for the health and safety of drinking water.

We have been calling for fit for purpose regulation of all water infrastructure (including storm and wastewater networks) for many years. Our work started prior to the Havelock North event and has included research papers (attached as [Appendix A](#) and [Appendix B](#) for the Committee's reference) and ongoing engagement with central government's three waters programme.

Taumata Arowai – the Water Services Regulator Bill (the Bill) is a significant and important step in the wider programme of work needed to address three waters regulation, investment, funding and performance. Cabinet papers refer to a second bill that will complete the legislative picture for regulating the health and safety of drinking water. We look forward to engaging on that bill in due course and focus this submission on ensuring Taumata Arowai is set up for success.

Setting Taumata Arowai up for success is crucial because it will face a challenging task, and its work will have an extensive impact.

In particular, the Bill defines "regulated party" broadly enough to capture every drinking water supplier other than individual domestic self-suppliers. This broad scope extends far wider than our members' water supply networks and we urge central government to ensure aspirations for this wider set of small networks are calibrated appropriately. This includes setting realistic expectations at the outset and allowing Taumata Arowai to recalibrate as it gathers information on the extent of these networks, their risk profile, practical challenges and the economic level of risk mitigation. Central government will also have to address the funding needs that will inevitably attach to any step changes in management and performance standards for these smaller networks.

The other important context is that Taumata Arowai addresses only part of the wider water infrastructure picture. This is appropriate, and we particularly support the focus on technical (as distinct from economic) regulation and on drinking water (rather than storm and wastewater). We comment later in this submission on these matters of scope, because being clear about boundaries and objectives will help Taumata Arowai pursue its purpose effectively. Here we simply note that Taumata Arowai will be working with a sector that is dealing with change from multiple directions, and where some of the factors that hamper performance are not within Taumata Arowai's ambit and may take considerable time to resolve. Taumata Arowai will also find itself competing for scarce technical resource, and this itself will impact capacity for change in the wider sector.

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Bearing in mind the context described above, the balance of this submission addresses key design considerations for Taumata Arowai:

- Establishing a clear distinction between technical and economic regulation;
- Defining storm and wastewater functions appropriately, and
- Ensuring effective engagement with local government.

Technical and Economic Regulation

Material supporting the Bill makes it clear that Taumata Arowai is intended to be a technical regulator (like WorkSafe) and not an economic regulator (like the Commerce Commission). LGNZ supports this approach and recommends the Bill is refined to ensure this role clarity endures.

As a technical regulator, we would expect Taumata Arowai to:

- Concern itself with ensuring public health risks for drinking water are managed effectively;
- Have a toolkit that may span supplier registration, standards for technical parameters (eg maximum contaminant levels), standards for technical risk management (eg water safety risk management requirements, laboratory accreditations, occupational standards) and more facilitative measures such as guidance, education etc;
- Deploy its toolkit in a way that balances the risks being managed with the cost of mitigation to ensure broadly optimal settings ie risks are mitigated but not over-controlled; and
- When carrying out the above, effectively set and maintain clear bottom lines that provide reassurance to the public and clear, predictable settings for suppliers to meet or exceed.

This contrasts with economic, or utility, regulation which concerns itself with the overall prudence and efficiency of regulated firms, and with access arrangements including pricing. Economic regulation takes the requirements set by technical regulators as a given (eg all regulated suppliers need to meet worker safety and environmental management requirements, and all electricity suppliers need to meet electrical safety requirements). Within such bounds, an economic regulator may assess wider asset management and pricing practices to ensure suppliers are responsive to consumer preferences, understand the long-term needs of their assets and have efficient investment programmes and operating arrangements.

Our position is not that there is no place for economic regulation in the water sector, but that it is important not to blur technical and economic regulation. For example, an economic regulator should not override health standards, and a technical regulator should not stray into areas that may disrupt investment, undermine operating efficiency or intervene in price-quality trade-offs that better sit outside the domain of health and safety bottom lines.

Given the above, we recommend:

1. *Clause 12(2) (dealing with board composition)* is amended to add a requirement for knowledge and experience of, and capability in, infrastructure regulation.

This will help ensure Taumata Arowai is aware of the (sometimes indistinct) line between technical and economic regulation and is better able to ensure it sticks to its intended mandate.

This skillset is also important for helping Taumata Arowai understand the asset-intensive network utilities who will make up a small (by number) but important (by impact) share of the parties it is charged with regulating.

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In addition, this skillset complements the more operational regulatory focus of clause 12(2)(a). This is important given Taumata Arowai is expected to have operational policy functions such as standards setting. For these functions, Taumata Arowai will need to ensure it aims to optimise outcomes, rather than attempting to maximising elements of risk mitigation at any cost.

2. *Clauses 10 (Objectives) and 11 (Functions)* are amended to ensure Taumata Arowai’s drinking water regulatory mandate is clearly limited to safety and public health.

Clauses such as 10(b) and 10(c) could be read as not being limited to safety and public health – for example, the objective to build capability among drinking water suppliers could be taken by an enthusiastic regulator as extending much more broadly than intended.

Clause 11(a)(i) would be clearer if amended from *drinking water safety and regulation* to *drinking water safety and regulation for which Taumata Arowai has responsibility*.

Similar comments apply for clauses 11(d), 11(f), 11(g), 11(h) and 11(i).

3. *Clauses 10 (Objectives) and 11 (Functions)* are amended to ensure Taumata Arowai’s storm and wastewater regulatory mandate is clearly limited to environmental performance.

In this case, the wording introduced in clause 11(a)(ii) (*environmental performance, management and regulation*) is clearer than the wording in clause 10(e) (*regulation, management, and environmental performance*).

Clarity would also be enhanced by inserting *the environmental performance of wastewater* in clauses 11(d)(i), 11(d)(ii) and 11(i)(ii).

These recommendations will contribute to avoiding duplication and conflict between Taumata Arowai’s actions, and those of other government agencies. This challenge was highlighted recently by the Office of the Auditor General:

The challenge in seeking to achieve multiple outcomes from water management is ensuring that government policies, objectives, and priorities are clear and aligned. If they are not, the risk of conflicting actions and/or duplication of effort by public organisations and of making investment decisions that are not targeted to where the greatest benefits can be achieved will remain.¹

Stormwater and Wastewater Functions

LGNZ supports Taumata Arowai having a strong focus on drinking water.

We can understand the desire to leverage the technical expertise, systems and relationships that Taumata Arowai will build by extending its functions to limited technical aspects of storm and wastewater environmental performance. Material supporting the Bill makes it clear that the policy intent is for these extensions to be tightly proscribed. We think holding to this intent is important.

¹ Office of the Auditor General (2020), *Reflecting on our work about water management*, para 2.13.

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Storm and wastewater regulation is more complex than drinking water, so there is risk for Taumata Arowai that involvement in this area could stall progress with its drinking water objectives while not enhancing environmental outcomes. In particular:

- Taumata Arowai will (rightly) not replace other arrangements for regulating water quality in receiving environments. This is sensible, because it supports a holistic approach that deals with all discharges and water abstraction rather than singling out storm and wastewater. This means Taumata Arowai's activities must complement (rather than override, cut across or undermine) the Resource Management Act regulatory systems;
- Resource Management Act systems are complex and subject to ongoing reform efforts by central government. This complicates the picture for Taumata Arowai, for suppliers and for local government (as regulators). It is important that Taumata Arowai's efforts do not add to these challenges; and
- Storm and wastewater networks are much bigger public assets (by value) than drinking water networks. The extent of investment that may be needed in these areas over coming decades, dwarfs municipal drinking water investment needs. This means that suitable investment conditions and funding arrangements are crucial, as is ensuring appropriate trade-offs can be made between storm and wastewater network performance, network investment levels, and efforts applied to other means of improving water quality in receiving environments.

We think the recommendations we have made above (about clarifying scope) and the recommendations we make below (about working with local government) will help ensure Taumata Arowai has a constructive role in storm and wastewater. We also expect to comment further on this matter in our submission on the second bill.

For this Bill, we recommend the words "oversight of, and" are removed from the description of Taumata Arowai's storm and wastewater objectives (clause 10(e)) and functions (clause 11(d)).

"Oversight" implies a much more extensive role than suggested by supporting papers, and introduces considerable scope for role confusion, overlap with other agencies in the wider environmental regulatory system, and diversion of Taumata Arowai's resources away from its primary focus on drinking water.

Working with Local Government

To achieve its objectives, it will be essential for Taumata Arowai to develop effective working relationships with local government, because:

- Councils are major owners, operators and funders (on behalf of their communities) of drinking water infrastructure, as well as storm and wastewater assets;
- Councils are the home of local democracy; and
- Councils are co-regulators, particularly for environmental management in relation to receiving environments, source environments, and land use.

It is inevitable that Taumata Arowai will interact with local government extensively and intensively at technical and operational levels. The Bill should ensure there is also suitable interaction at governance and policy levels. This will help set Taumata Arowai up for success in terms of understanding local government, sustaining effective relationships and forging effective operational policy.

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We recommend:

- Board composition requirements (clause 12(2)) include “knowledge and experience of, and capability in” local government. The Board will be set up to fail if it does not include this element; and
- The Māori Advisory Group requirements (clauses 14 to 17) are repeated (and adapted) to form another advisory group with local government expertise. The advisory group should address local government as asset owner, regulator and arm of government – ie it will require multiple local government members – but need not exclusively contain local government members.

The requirement for an additional advisory group of this nature is not unusual, with similar provisions in s21 of the Electricity Industry Act 2010 and s8 of the WorkSafe New Zealand Act 2013 (for example).

Summary

LGNZ welcomes the establishment of a Taumata Arowai, as part of improvements to the regulatory systems for drinking water and, to a lesser extent, storm and wastewater. We look forward to commenting in more detail on the signalled second bill that will complete the legislative picture of Taumata Arowai’s role. This submission focusses on setting Taumata Arowai for success. This is important, because Taumata Arowai will face have an important but challenging role.

The first key factor in setting Taumata Arowai up for success will be ensuring it does not blur its intended role as a technical regulator (like WorkSafe) with the, often adjacent, role of an economic regulator (like the Commerce Commission). Making this clear will help avoid creating conflict and confusion across the wider regulatory system, which would in turn worsen the investment climate for water infrastructure.

To enhance role clarity, we recommend:

- Understanding utility economics is an essential for skillset for the Taumata Arowai board;
- *Clauses 10 (objectives) and 11 (functions)* of the Bill should be amended to make it clearer that Taumata Arowai’s mandate is limited to *safety and public health* of drinking water and *environmental performance* of storm and wastewater networks.

The second key factor is ensuring Taumata Arowai’s role in storm and wastewater is suitably proscribed. This is important to avoid resources being diverted from the core focus on drinking water, and to avoid creating an unclear or unproductive interface with the Resource Management Act regulatory system that rightly addresses a wider set of factors addressing receiving environments and water sources.

In addition to our recommendations above on enhancing role clarity, we recommend:

- The words “oversight of, and” are removed from clauses 10(e) and clause 11(d) of the Bill.

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The final key factor is ensuring Taumata Arowai forms effective relationships with local government. Local government is the major asset owner in the sector, as well as network operator, regulator and home of local democracy.

To ensure an effective relationship at governance and operational policy levels, we recommend:

- The Bill is amended to require a second advisory group (alongside the Māori Advisory Group) that includes strong local government membership.

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Appendix A

Exploring the issues facing New Zealand's water, wastewater and stormwater sector

Exploring the issues facing New Zealand's water, wastewater and stormwater sector

An issues paper prepared for LGNZ by Castalia Strategic Advisors

October 2014



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LGNZ.**

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Foreword

The LGNZ 3 Waters project is a proactive and collaborative effort by local government, central government and the water sector to improve asset performance and service provision in potable, waste and stormwater across New Zealand.

The project was established by LGNZ in 2013 to respond to an information gap that was revealed in the 2011 National Infrastructure Plan, when it suggested that the three waters system in New Zealand may be broken.

The project has already established a significant step change in 2014 where, for the first time, we now have a populated National Information Framework database that provides a clearer picture of the current state of the three waters assets and services.

70 councils of the total 77 surveyed have collaborated and disclosed information that covers potable and wastewater services delivered to 95 per cent of the New Zealand's population and stormwater to 75 per cent of the population.

The information collected provides compelling evidence that the three waters system is far from broken. In fact, it reveals a large (\$35 billion total asset replacement value) and highly complex asset and service system with many moving parts that deliver valued services to communities.

That said, there are a number of questions and possible challenges that present themselves. These require debate and consideration as they potentially raise policy issues of concern to communities, ratepayers, local and central government.

Water is a network utility. Although publicly owned many of the issues such as asset management; financing of new and upgraded assets; and price and performance transparency are similar to issues that present themselves in other network utilities. We need to test the scale and scope of these issues and what, if any, might be an appropriate solution tool kit.

Because of its size and complexity there are no simple solutions. The approach being taken here provides the best option for developing sustainable solutions for New Zealand where we can gain measurable improvements over time.

The issues paper presents the key issues facing the sector that arguably need to be addressed if we are to achieve this aim.

We look forward to your feedback.



Malcolm Alexander
Chief Executive
Local Government New Zealand

Executive summary

LGNZ established the 3 Waters project to respond to the lack of information on the state and performance of the three waters assets and services. The first deliverable in the project was to develop a National Information Survey, which collected detailed data on the three waters assets and services from a total of 70 councils. The evidence from the survey results is used in this issues paper, together with the expertise of stakeholder workshop participants, to identify and describe the major issues facing the provision of the three waters in New Zealand. This paper presents an analysis and interpretation of the survey results, while the responses themselves are provided in an accompanying report from NZIER (“Three Waters Services: Results of a Survey of Council Provision”).

The local government sector has collectively demonstrated a major commitment to disclose information and take ownership of the issues, both in providing survey responses and through attendance at LGNZ workshops.

Future challenges present real risks to current levels of performance

The evidence gathered through this project confirms that the three waters sector is a large and multifaceted sector that is currently performing largely as expected. However, changes can and should be made to lift performance, particularly in light of future challenges facing the provision of three waters infrastructure.

This project has identified several issues, that while not immediately concerning, could emerge as significant problems within the next ten years or following severe weather events. Combined with new demands that are being placed on the sector, these challenges mean that the future levels of services expected exceed the current levels of service that are being provided. Councils will need to “step up” to meet these challenges.

Issues in the three waters vary by council, but there are core issues facing the sector

Examining the evidence from the National Information Survey, we find that there are few, if any, issues that are truly ‘sector-wide.’ Instead, the issues experienced by councils reflect the size, demographics, consumer groups and asset composition of different councils. However, global issues still exist in the three waters, and these cannot be avoided based on particular circumstances of individual councils.

To strike the right balance we have identified three core issues facing at least a subset of councils:

1. **Investing to replace and renew existing assets.** Survey responses on remaining asset life and condition suggest that a relatively high level of future investment is needed to maintain existing infrastructure (with a replacement value of \$35.7 billion). Funding such investment programmes may be challenging as a number of councils either do not have a renewals profile or, where renewals profiles have been prepared, they are not fully funded.
2. **Investing to meet rising standards and increasing expectations.** Future performance standards and greater customer expectations will place additional pressure on councils’ performance. The survey data suggests that current Drinking Water Standards and wastewater resource consent conditions are not always met, suggesting that the case will be similar or worse when additional standards are imposed.
3. **Providing end-users with the right incentives to use water infrastructure and services efficiently.** Most councils use rates to charge customers for three waters services, which obscures the link between the end-user’s price and the costs involved in delivering the service. Only a small group of councils have implemented alternatives to provide better incentives to end-users, even though these would be particularly beneficial to councils with increasing demand, limited knowledge of network performance, scarce water supply or high treatment costs.

In some cases, survey and anecdotal evidence suggest that other issues may also exist. These include accessing three waters expertise, drawing on external skills and engaging with customers. We examine these issues in less detail in this report to provide a foundation for future comment and investigation if warranted.

Different councils face very different challenges, reflecting changing demographics

As discussed above, the variety of circumstances facing different communities makes it impossible to distil a single set of issues that face all councils in providing three waters infrastructure and services. However, it is possible to identify some of the challenges facing particular groups or types of councils, such as:

- metro councils experiencing high levels of population growth, who face the challenge of planning and delivering new infrastructure while also meeting ever-increasing performance expectations and quality standards (particularly in the area of stormwater services); and
- provincial and rural councils facing flat or declining populations, who need to fund infrastructure renewal investments from a small and declining pool of households.

Other sector issues at first appear relatively broad, but on closer inspection have quite local dimensions. For example, there is broad agreement that water consumers should face the right incentives to use water sector assets and services effectively. However, what qualifies as the 'right incentives' varies by council. In some cases, recovering the costs of water services through volumetric charges makes sense – whereas in other cases, the value created through such incentives will not outweigh the costs.

Information is critical to lifting sector understanding and performance

The National Information Survey and this issues paper aim to build a better understanding of the challenges facing the sector and inform better decisions on where to focus resources to deliver the best outcomes for New Zealand. Strong council participation in the survey has been crucial in achieving this goal. However, more can be done to better understand sector issues and to improve transparency on sector performance.

Councils collect and record data on the three waters in various ways which, prior to the National Information Survey, has made it difficult to compare the state of their assets and management. Through future development of the National Information Framework, LGNZ aims to develop a common set of key performance indicators for water service providers and benchmark relative performance levels. It is critical that the sector can provide confidence that the issues are understood and that plans are in place to ensure that required services can be delivered efficiently.

The next step in LGNZ's 3 Waters project is to agree on policy options that may help to resolve the issues identified in this report. LGNZ welcomes feedback on this issues paper and looks forward to the continued support of central and local government in this initiative.

1

Introduction and background

LGNZ is leading the effort to understand how councils throughout New Zealand are managing their three waters assets (water, wastewater, stormwater).

The purpose of this paper is to help to build a shared understanding of the main challenges facing the sector. This will inform future policy decisions and enable water service providers to meet community expectations and deliver better outcomes for consumers.

1.1 Background to the LGNZ 3 Waters project

The management of the three waters is a sensitive and often political topic. Several studies have been carried out in recent years focusing on specific aspects of service delivery, such as metering and health standards.

No one central government agency has a lead role in water policy: Treasury (through the National Infrastructure Unit), Department of Internal Affairs, Ministry for the Environment, Ministry for Primary Industries, Office of the Auditor General (OAG), and others all have an interest in how the sector performs. Previous studies that have taken a national perspective to the three waters generally contain high-level assessments of water infrastructure, before quickly moving to focus on recommendations for improving outcomes.

There is a lack of comprehensive data on the performance of three waters infrastructure assets and services across the local government sector. Understanding important linkages and trade-offs between water and other council infrastructure investment also needs to improve. To date, the information gap has limited the scope and direction of discussions on the three waters. Without a consensus on current levels of sector performance, any recommendations of policy change have been met with resistance.

In 2011, the National Infrastructure Plan noted that a considerable obstacle in evaluating water infrastructure was a lack of quality information. The National Infrastructure Plan identified the urban water sector as the worst performing category of infrastructure.¹ As part of the 3 Waters project, representatives from Treasury's National Infrastructure Unit have partnered with LGNZ to provide a central government perspective on how the quality of information made available on the three waters can be improved.

Other central government agencies and local government representatives have also played an important role in LGNZ's 3 Waters project. The project structure includes technical level input through Working Groups, an Advisory Group that led the development of the survey and a Steering Committee that provided overall direction and governance of the project. The Advisory Group and Steering Committee both provided comments on this Issues paper. Members of the Advisory Group and Steering Committee are listed in Appendix A.

1.2 Developing the National Information Framework

In a first step to fill this information gap and enable a more constructive dialogue on water issues, LGNZ has collected data through a national survey. Data was collected from a total of 70 councils between 21 February 2014 and 29 July 2014. The strong survey response has generated a significant database with over 5,000 columns of information covering multiple schemes across the three waters. The responses for potable and wastewater cover approximately 95 per cent of the population, while stormwater coverage is around 75 per cent. LGNZ aims to make the survey information widely available to elected members and communities to initiate an informed conversation on the performance of the three waters in their area.

A significant feature of the National Information Framework is that through the survey it has engaged councils using a single framework to evaluate the three waters infrastructure. As a result, the data collected is consistent and easily comparable at both a council level and on a scheme by scheme basis.

Summary of the National Information Survey

The survey was designed and developed over a three month period under the guidance of an industry-led Advisory Group. The survey asks 145 questions across the three waters for each scheme and aggregates the responses for each council. The survey focuses on the following six objectives:

- financial management, including information on operating and capital costs, the level of cost recovery and revenue sources;
- the age, condition and performance of the network;
- setting, delivering and measuring levels of service and compliance with standards;

¹ New Zealand Government. (2011). National Infrastructure Plan 2011. Available at <http://www.infrastructure.govt.nz/plan/2011>

- planning capabilities and tools applied in areas such as demand forecasting and asset management;
- the governance model for three waters delivery; and
- service delivery mechanisms.

Councils are grouped into metro, provincial, regional and rural councils. Appendix B outlines how each council is categorised by LGNZ and whether a survey response was provided. We have followed this categorisation with the exception of the water and wastewater data from Auckland Council (Unitary), which is grouped with metro council data. This approach is also used in the accompanying NZIER report. LGNZ received survey responses from 70 councils, including nine regional councils. This is a particularly positive result given it is the first time this survey has been undertaken.

The strong response to the survey provides a rich database on three waters infrastructure to better inform future discussions on policy options. LGNZ engaged NZIER to compile the responses to the survey and conduct initial analysis, observing stand-out trends in the data. Councils can use the accompanying NZIER report to assess how their survey responses compare to other councils facing similar circumstances, and to understand how they might improve the services they provide.

Councils expressed good levels of confidence in the survey data they provided. NZIER noted that most councils rated their answers as highly reliable or reliable. Where this was not the case, councils' concerns relate to only one or two of the survey's objectives.

This is helpful for drawing conclusions from the 2014 survey, but is also promising for future iterations of the survey as councils become more comfortable with standardised measures of infrastructure performance and add more data to the database. The issues facing three waters infrastructure are not limited to those discussed in this paper. The National Information Framework equips those responsible for delivering three waters services to develop the evaluation of the current issues and to identify issues that arise in the future as the quality of data improves.

The future role of the National Information Framework

The National Information Framework is a positive, first step on the pathway towards better information and more transparent sector performance.

Ultimately, the future use of the National Information Framework is up to the councils themselves. For instance, the current and future iterations of the survey provide an opportunity to benchmark performance against the rest of the local government sector, particularly those councils with similar serving populations and industries with similar challenges. In conjunction with other data collection initiatives, water providers will have extensive data on the three waters to identify concerns, learn from the rest of the local government sector and inform discussions with customers and policy makers. However, the usefulness of the benchmarking tool is reliant on the level of participation from the councils.

The first survey has provided an initial foundation of data, which can be used to inform policy decisions now, or can be further developed to overcome some data quality concerns of some workshop participants. LGNZ intends to consult with project stakeholders and update the survey regularly to ensure that changes over time are monitored and reported, while building a shared understanding of the questions in the survey.

1.3 Role of this issues paper

This issues paper uses the responses to the survey and other information sources to identify the most pressing challenges being faced by local government in providing three waters infrastructure and services. This paper deliberately focuses on identifying and describing key issues, rather than exploring 'solutions.'

Following consultation on this issues paper, LGNZ will release a paper in early 2015 that evaluates what these issues mean for future three waters policy options.

There are clear links between the issues raised in this paper and other LGNZ initiatives, particularly the Local Government Funding Review, the Local Government Insurance Review and the assessment of Natural Hazards Management. The data gathered for the 3 Waters project will be used to inform these other LGNZ initiatives,² and the issues identified in this paper (particularly on affordability, standards and asset resilience), are being actively considered in those other LGNZ workstreams.

² Water New Zealand has conducted its annual National Performance Review (NPR) over six years. Its most recent edition included the responses of 29 providers of 3 waters services. The NPR captures information on networks' physical condition, financial management and environment and social impacts. The Department of Internal Affairs has developed the Non-Financial Performance Measures Rules, which came into force in July 2014. Potable water measures focus on the safety and quality of drinking water, the management of customer complaints and demand management. Wastewater and stormwater systems will be measured by overflows or flooding events, environmental impacts, the management of customer complaints and overall customer satisfaction.

Identifying and analysing issues requires a balanced and evidence-based approach

The issues discussed in this paper were identified through an analysis of survey responses, searching for issues that stood-out or were particularly significant for certain types of councils. We have also drawn on interviews with three waters and local government experts from the 3 Waters Advisory Group and Steering Committee. They provided us with anecdotal evidence and recommended past work on the three waters to support our analysis.

LGNZ and Castalia tested the significance and understanding of the issues during nine workshops with three waters and general council staff that were held across the country in August and September 2014. These workshops were attended by over 100 stakeholders, including representation from 61 councils, as well as sector representatives from shared service providers such as Wellington Water (formerly known as Capacity Infrastructure Services) and Watercare. These workshops were extremely valuable to the process, helping to shape the issues and suggest more issues that should be explored. Appendix B lists which councils were represented at workshops and a summary of feedback from the sessions is provided in Appendix C.

There are no universally common issues in three waters

Our initial approach to this issues paper was to identify issues that appeared to be common to all councils. However, it quickly became clear there are few, if any, issues that are truly 'sector-wide.' Instead, the issues experienced by councils reflect the size, demographics, consumer groups and asset composition of different councils.

The variation that we witness across the sector does not mean that no issues exist. The particular circumstances facing individual councils cannot be used to excuse poor performance, or to avoid conversations about how the delivery of key services to communities can be improved.

To strike the right balance and avoid sweeping generalisations, this paper highlights specific issues facing at least a subset of councils. We attempt to identify which issues appear more pressing for particular councils, while articulating the issues in a reasonably general way so that parties can understand the sector issues without having to separately consider the specifics of each council.

Structure of this issues paper

The remainder of this paper extensively analyses three core issues facing the three waters sector at length:

- investing to replace and renew existing assets;
- investing to meet rising standards and increasing expectations; and
- providing end-users with the right incentives to use water infrastructure and services efficiently.

Each section of this issue paper starts by outlining the issue and providing an overview of the relevant evidence from the survey responses. We then identify which councils are most affected by the issue. Where possible, we supplement the evidence from the survey with past work on the three waters in New Zealand. We consider the possible impacts of these issues in the medium and long-term.

There were several additional issues that arose from the survey and interactions with three waters stakeholders. While they are not as widespread or easily supported with survey responses, they still raise important questions about the current state of three waters management and performance. We discuss these additional issues in Section 5. These additional issues include ensuring access to expertise needed to meet future sector challenges, drawing on external skill and governance to deliver three waters and delivering on customers' expectations of performance.

We conclude this issues paper with a discussion on the next steps and how the feedback on this issues paper will be used.

2

**Investing
to renew
and replace
existing assets**

Responses to the three waters survey provide an indication that some councils will face an increasing level of asset renewal and replacement expenditure over the coming years. Responses on remaining asset life and condition suggest that a relatively high level of future investment is needed to maintain existing infrastructure assets.

At the same time, the survey indicates that councils may find it challenging to pay for the required asset renewals programme. A number of councils do not have a renewals profile for their water and wastewater assets and renewals profiles that have been prepared are not always fully funded in long-term plans. We emphasize that the survey responses are only indicators of the investment challenge facing councils. The unique development of three waters assets and future investment strategy of each council is not captured in the analysis presented below.

Ultimately, whether the level of asset renewals required is a “problem” will depend on a combination of other factors – such as the ability for councils to raise debt to carry out the required investment, to increase rates and to develop lower cost ways to deliver the required infrastructure and services. The survey has raised this issue as one that calls for attention, but further work is needed to understand this issue in greater depth.

Survey responses indicate an approaching need for asset renewals

Considerable value exists in the three waters assets across New Zealand. Together, three waters assets have a replacement value worth around \$35.7 billion. The wastewater network has the highest replacement value at around \$15.8 billion, followed by drinking water assets at \$11.3 billion and stormwater at \$8.6 billion.

The timing and coverage of the need to invest in replacing existing infrastructure depends on the investment needs of each council. The age and condition of graded assets provides an indication of the scale of asset renewals. The service life of the network also depends on the materials chosen (for example, pipe materials) and a number of other factors.

From a national perspective, approximately one quarter of assets in the water, wastewater and stormwater sectors are more than 50 years old. The survey responses suggest that between 10-20 per cent of the graded network in the three waters requires renewal or is unserviceable (graded condition 4 or 5). Most councils have some older assets within their water portfolio and will need to manage a coordinated programme of renewals and replacement.

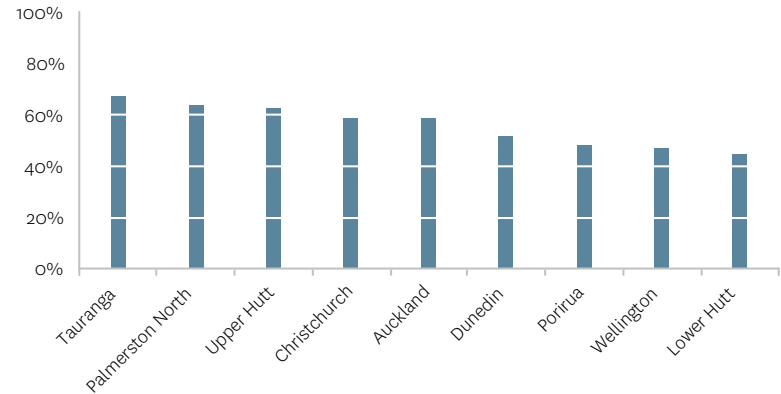
However, a national snapshot of three waters infrastructure masks significant local differences. Some councils (such as Tauranga) have made investments relatively recently, while others have much older, lower-graded networks. We have used survey responses suggesting the remaining life and condition of network assets to identify which councils may have a significant programme of asset replacements approaching.

Figure 2.1 to Figure 2.4 provide indicators on investment needs.

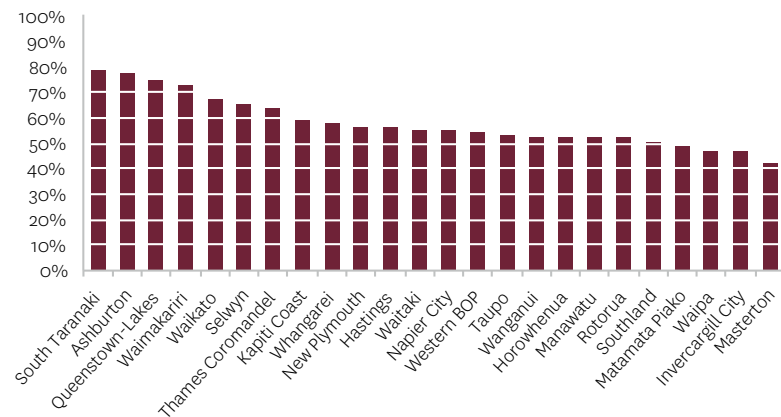
Figure 2.1 plots the proportion of drinking water network value that remains after depreciation for those councils that provided data on their total asset value and depreciated replacement costs. Renewals are likely to be most pressing for those councils with lower proportion of remaining value. At the other extreme, councils with a high proportion of remaining value may be investing in renewals too early and not maximising the useful life of their assets. Figure 2.1 shows that with the exception of Mackenzie, Central Otago and Kawerau, between 40-80 per cent of asset value remains.

Figure 2.1: Proportion of water assets useful life remaining (depreciated replacement cost/replacement cost)

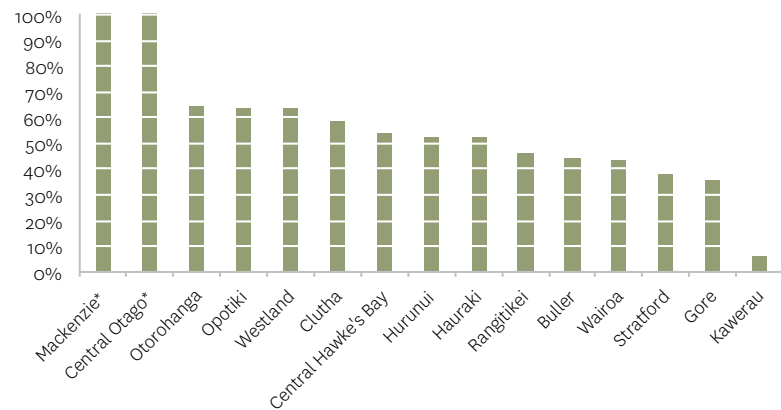
Metro councils
(Responses: 9/10)



Provincial councils
(Responses: 24/26)



Rural councils
(Responses: 15/24)



Source: LGNZ 3 Waters project – National Information Survey

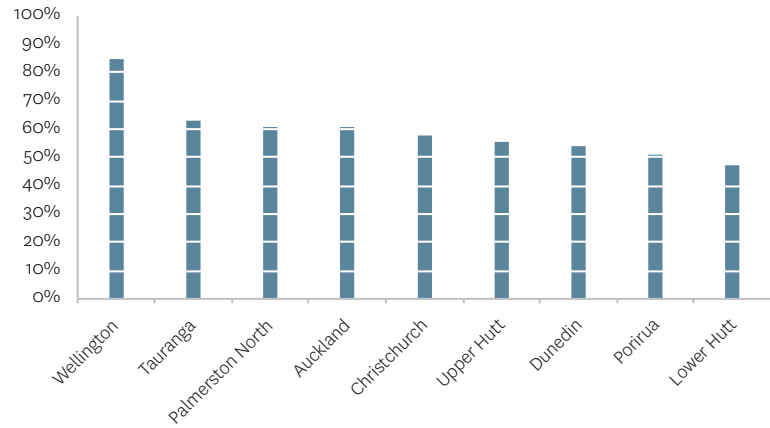
Note: A 'response' indicates a council gave data on total asset value and depreciated replacement costs.

* Mackenzie District's depreciated replacement costs are reported to be 600 per cent of the total replacement costs, while Central Otago's reported 142 per cent.

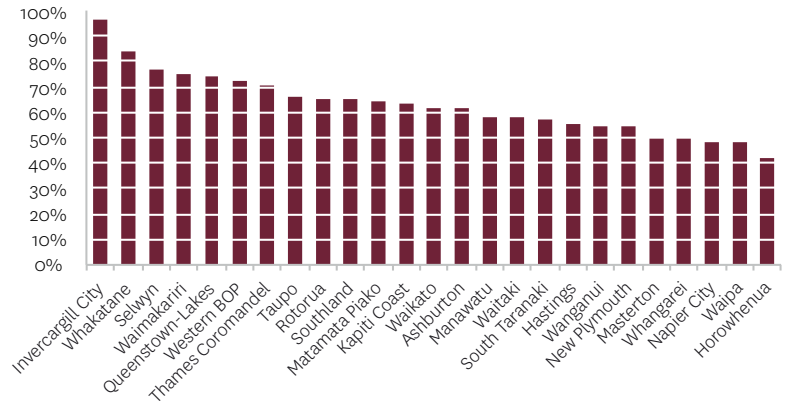
Figure 2.2 plots the proportion of wastewater network value that has been depreciated. This shows similar trends as for drinking water, although with slightly higher levels of asset value remaining after depreciation.

Figure 2.2: Proportion of wastewater assets useful life remaining (depreciated replacement cost/replacement cost)

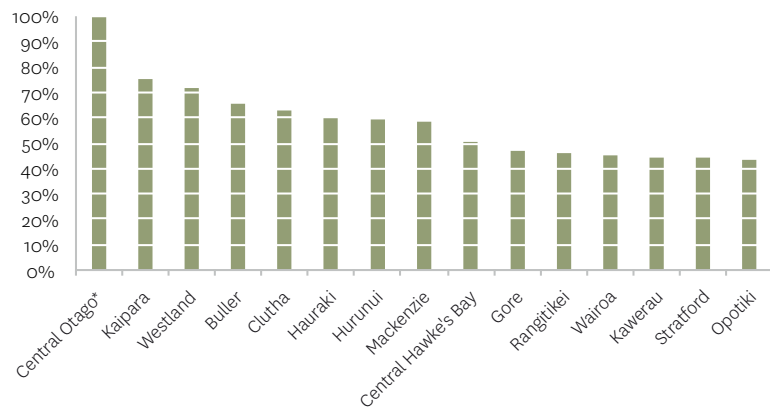
Metro councils
(Responses: 9/10)



Provincial councils
(Responses: 24/26)



Rural councils
(Responses: 15/24)



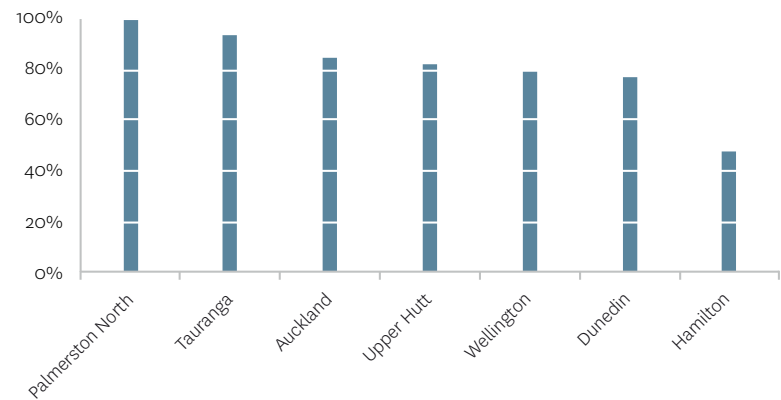
Source: LGNZ 3 Waters project – National Information Survey

Note: A 'response' indicates a council gave data on total asset value and depreciated replacement costs.
* Central Otago's depreciated replacement costs are reported to be 171 per cent of replacement costs.

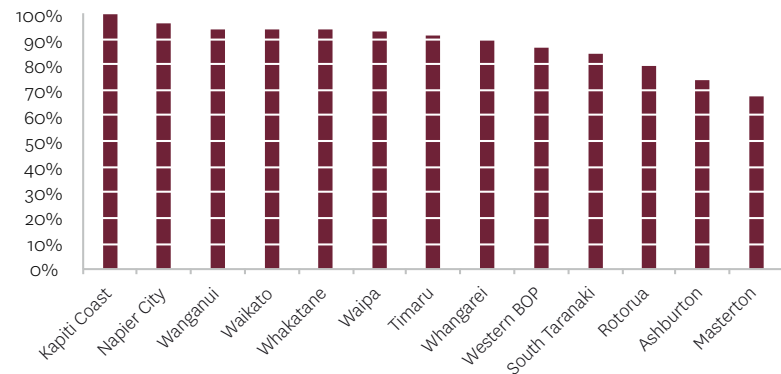
Figure 2.3 and Figure 2.4 plot the proportion of graded assets that remain in good condition (ie graded 1, 2 or 3 using the International Infrastructure Management Manual (IIMM)). The IIMM considers these assets only require maintenance to return the assets to an accepted level of service. In contrast, those assets graded 4 or 5 require significant renewals or are considered unserviceable.

Figure 2.3: Proportion of water assets graded condition 1, 2 or 3 (per cent of graded network)

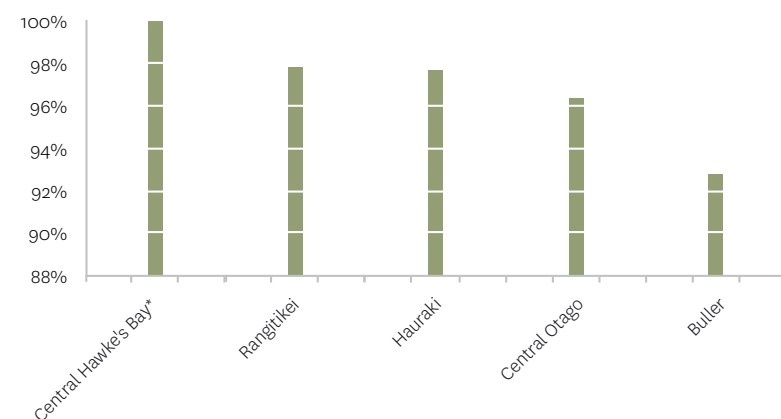
Metro councils
(Responses: 7/10)



Provincial councils
(Responses: 13/26)



Rural councils
(Responses: 5/24)



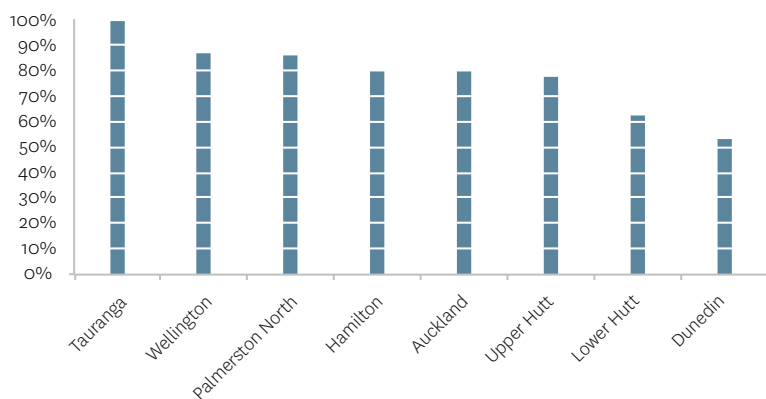
Source: LGNZ 3 Waters project – National Information Survey

Note: A 'response' indicates a council gave data on total length of reticulation and its condition grading.
* Central Hawke's Bay reports that 103 per cent of its total length of network is Condition 3.

Figure 2.4: Proportion of wastewater assets graded condition 1, 2 or 3 (per cent of graded network)

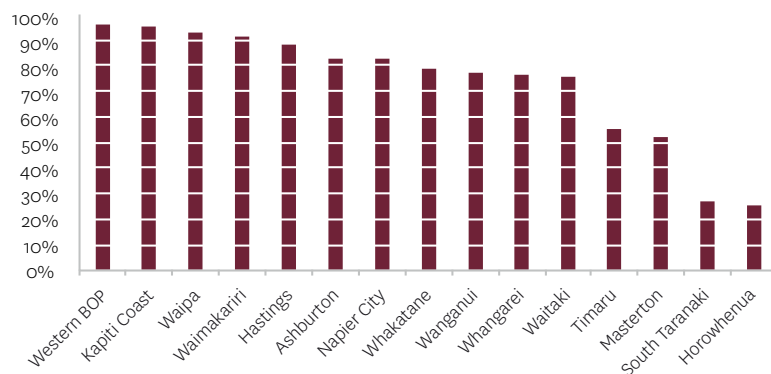
Metro councils

(Responses: 8/10)



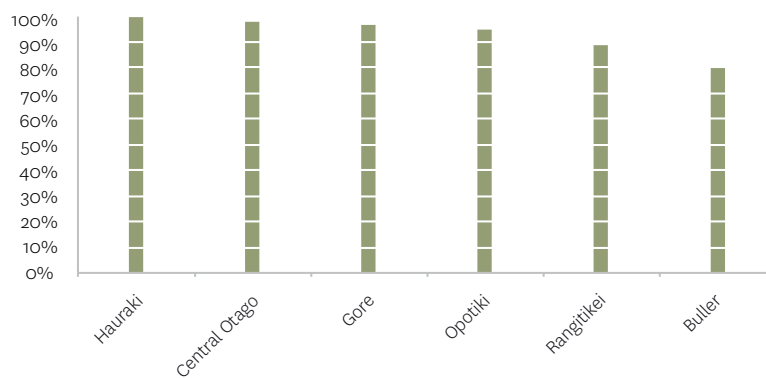
Provincial councils

(Responses: 15/26)



Rural councils

(Responses: 6/24)



Source: LGNZ 3 Waters project – National Information Survey

Note: A 'response' indicates a council gave data on total length of reticulation and its condition grading.

The survey responses reported that large sections of the three waters networks remain ungraded. Indeed, some councils have entire networks that have not been graded by their condition. These figures therefore only show the proportion of respondents' graded network that receives a condition grading of 1, 2 or 3 (ie this excludes ungraded assets). Fewer councils responded to questions on asset grading, and only a handful of councils have less than 70 per cent of their graded water or wastewater assets in good condition. As the data is constrained to graded assets, these figures are not necessarily representative of the condition of all councils' water and wastewater networks. To determine the actual need to renew or replace existing assets, further investigation into the condition of ungraded assets is required, as the investment need may be larger than the following figures suggest.

Survey responses suggest that funding renewal investments could be difficult

The ability to access sufficient funding and financing to carry out renewal investments will be driven by financial planning and the strength of council balance sheets.

An indicator of councils' ability to fund renewals is the per cent of depreciation funded which would ideally be at 100 per cent. This measure is clearly not perfect. If previous levels of investment do not need to be matched to meet future demand (for example due to demographic changes or decreasing costs), then there is no need to fully fund depreciation based on historic asset costs.

As Table 2.1 demonstrates, depreciation allowances appear to be lower than the level needed to replace existing assets at the same cost. This is particularly evident for wastewater and stormwater assets in metro councils, although the reason for this difference is unclear.

The proportion of assets graded to condition 4 or 5 suggests that councils should be considering the financial implications of investment needs carefully in their LTPs. Otherwise, communities may not be well-placed to fund the level of investment required. The survey asked councils about their asset renewals profile – whether they have a known profile of how much investment is required over the coming years to renew and replace assets, and whether that renewals profile is funded.

Several councils responded that while they have a renewals profile, it is not fully funded in their plans. The extent of these planning and funding issues is outlined in Table 2.2. Overall, eight councils responded that they do not have a renewals profile for their water assets and nine councils do not have renewal profiles for wastewater assets. All metro councils have renewal profiles (although two councils in this sector group do not have funded profiles) and rural councils are generally less likely than metro or provincial councils to have a renewals profile, or one that is funded.

Table 2.1: Average percentage of depreciation funded (%)

Council type	Water	Wastewater	Stormwater
Metro	90	62	55
Provincial	71	79	68
Rural	81	74	77
Regional	N/A	N/A	80

Source: LGNZ 3 Waters project – National Information Survey

Which councils face the greatest challenge on renewals investment?

The councils most affected by the challenge of asset renewal will be those that most need to invest to replace aging or poorly conditioned assets, but do not have the financial capability to carry out the investment required.

It is hard to draw definitive conclusions on this issue from the survey responses alone. However, some councils appear to have a high proportion of either their water or wastewater assets depreciated, but do not have a fully funded renewals profile to deliver the investment programme. The fact that not all councils have renewals profile in place is concerning. Renewals profiles are generally considered to be part of good asset management practice and councils can only meet the Local Government Act requirements (to have strategies to fund water infrastructure in their LTPs) if their renewals profile is known.

Infrastructure renewal also involves economies of scale. For the same level of investment, per household costs will be lower in areas that serve larger, more densely populated communities. The bars in Figure 2.5 below show the replacement value of assets across the three waters, which are higher for rural and provincial councils on a per connection basis.

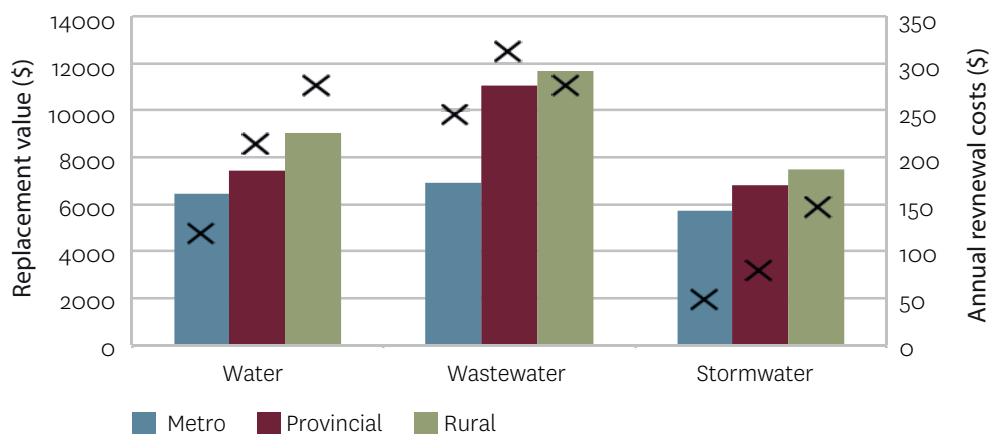
Asset renewal costs, represented by the crosses on the Figure 2.5 below, also show a considerable difference for provincial and rural councils when compared to metro councils. In addition to only being able to spread the costs over a small population, provincial and rural councils face higher estimated renewal costs (leading to per connection renewal costs of more than twice those in metro council areas for water infrastructure).

Table 2.2: Councils without a funded renewals profile for water and wastewater (number of councils that answered ‘no’)

Council type	Potable water		Wastewater	
	Councils that do not have a renewals profile	Councils without a profile that is matched and funded	Councils that do not have a renewals profile	Councils without a profile that is matched and funded
Metro	0/10 responses (0 non-responses)	2/9 responses (1 non-response)	0/10 responses (0 non-responses)	2/9 responses (1 non-response)
Provincial	4/22 responses (4 non-responses)	2/20 responses (6 non-responses)	3/18 responses (8 non-responses)	3/17 responses (9 non-responses)
Rural	4/18 responses (6 non-responses)	5/18 responses (6 non-responses)	6/17 responses (7 non-responses)	6/15 responses (9 non-responses)

Source: LGNZ 3 Waters project – National Information Survey

Figure 2.5: Replacement values (bars and left hand axis) and renewal costs (crosses and right-hand axis) per connection



Source: LGNZ 3 Waters project – National Information Survey

3

**Investing to
meet current and
rising standards
and customer
expectations**

Water providers are facing increasing standards and customer expectations across the three waters. At the same time, survey responses suggest that current standards are not always met.

Several councils are struggling to communicate the costs of imposing greater standards to policymakers and customers, and the fact that there are clear trade-offs to be made between cost and quality. This is an issue both for larger metro councils that deal with the twin challenges of growth and rising customer expectations (particularly in stormwater management) and for smaller rural councils that lack economies of scale.

Standards are increasing

Standards for the delivery and management of water services are often driven by central government agencies. As there is not one lead agency for water, standards covering a range of performance dimensions have been developed, each with their own focus. Together, these standards are placing increasing pressure on councils. In the last decade, councils have been asked to comply with increasing standards:

- **Drinking Water Standards (DWS).** In October 2007, the Health Act 1956 was amended to make compliance with certain drinking-water standards compulsory. This Act requires councils to take all practicable steps to comply with the (previously voluntary) drinking-water standards and to implement a public health management plan for drinking-water supply.

- **National Policy Statement on the management of freshwater.**

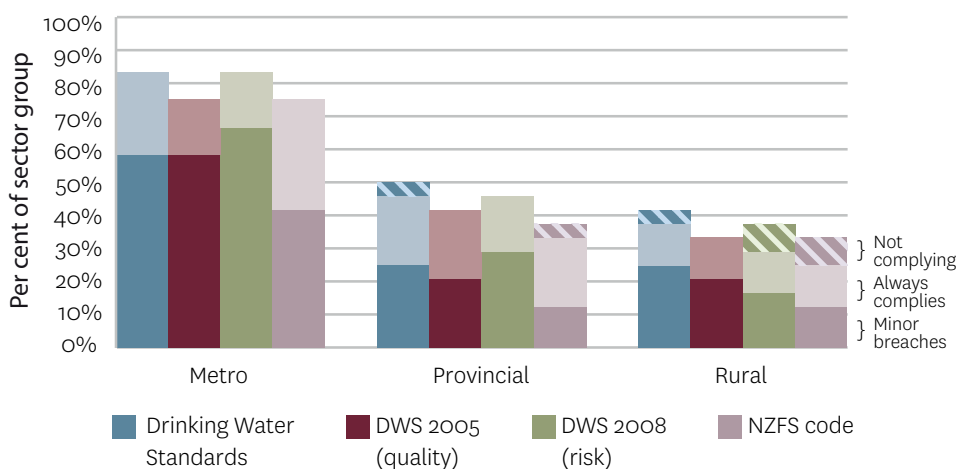
The NPS for freshwater management directs regional councils to set objectives and limits for fresh water in their regional plans. The NPS gives specific direction on how this should be done to recognise the national significance of fresh water for all New Zealanders and Te Mana o te Wai (the mana of the water).

- **Calls for greater management of the resilience of three waters assets (particularly in the area of stormwater).**

Councils broadly report that customers increasingly expect higher levels of service in the extent and frequency of stormwater flooding during and after storm events, and in the associated impacts on local water quality. There is a widely held view that the stormwater assets have traditionally not been as visible to consumers and ratepayers as the water and wastewater services. As a result, investment has not focused in this area. However, as storms become more frequent and community expectations of performance rises, councils are under greater pressure to increase their spending to meet these expectations and standards.

The implications for meeting these standards and new expectations will become clearer as councils prepare their next Long Term Plans (LTPs) under Part 6 of the Local Government Act 2002.

Figure 3.1: Compliance with Drinking Water Standards and Fire Service Code



Source: LGNZ 3 Waters project – National Information Survey

Survey responses suggest that existing standards are not always met

The survey was designed to give a snapshot of the current state of the three waters infrastructure. Accordingly, the impact and management of higher standards is not captured through survey responses. However, compliance with existing standards gives an initial indication of ability to meet future standards.

Figure 3.1 on page 17 illustrates compliance with existing potable water standards. The data on current levels of compliance is incomplete – with a high level of non-responses among provincial and rural councils. Of those that did respond, provincial and rural councils have lower levels of reported compliance, and in addition to minor breaches in some cases did not comply with the relevant standards. Non-compliance with standards such as the DWS can pose serious health risks to water consumers, particularly where customers do not expect to have to treat their water further (for example, through boiling).

In the wastewater sector, councils need to meet resource consent conditions on the volume and quality of wastewater discharges (including parameters for suspended solids, oil, grease and pathogens). Figure 3.2 demonstrates the level of compliance with these resource consent conditions. As with potable water standards, the data is incomplete. However, the responses suggest that less than half of provincial and rural councils always meet resource consent conditions. This is also a serious issue. Non-compliance with resource consents for wastewater discharges risk contaminating natural environments, and damaging people’s health when these areas are used by the public.

The survey asked whether councils have developed risk profile or resilience analysis of their critical wastewater and stormwater assets. The responses shown in Figure 3.3 suggest that metro councils are more likely to have this level of analysis to support their decisions. Fewer provincial and rural councils have completed this analysis, with many responding that no such analysis is currently underway. Risk profiles or resilience analysis are far less extensive for stormwater assets across all of the sector groups.

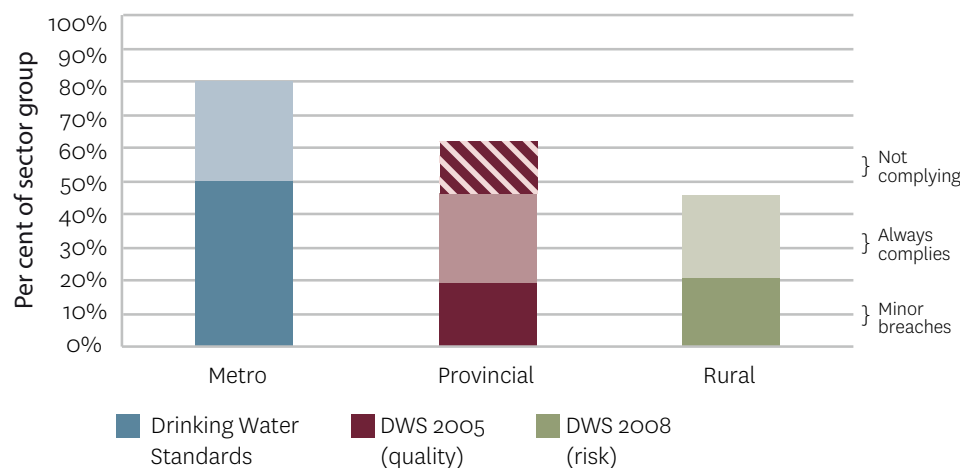
The state of resilience analysis may not pose an immediate risk to wastewater and stormwater services. However, it does suggest that a significant number of councils are less prepared, and therefore may struggle, to provide these services in the case of an unforeseen or adverse event.

Highlighting the trade-off between cost and quality

A common theme at the workshops was that increasing standards can be costly to achieve – and that clearly communicating the cost to stakeholders can be challenging. Higher standards and levels of performance invariably cost more to achieve, which creates the need to reprioritise funding that would otherwise be used in other ways.

This may still create appropriate and efficient outcomes, if differing levels of quality and cost are matched to the needs and preferences of different communities. Put another way, the benefits of higher standards will be different in different communities. For instance, a rural community may have little use for high quality drinking water if most water is used for non-consumptive purposes.

Figure 3.2: Compliance with resource consent for receiving environments



Source: LGNZ 3 Waters project – National Information Survey

This was examined in a cost-benefit analysis of implementing proposed Drinking Water Standards in communities of varying size. This analysis showed that while the benefits of higher standards outweighed the costs for larger populations, higher standards were not universally justified by the benefits they would provide in communities with fewer than 10,000 residents.³

Councils have little flexibility in making decisions on drinking water standards. The Local Government Infrastructure Efficiency Expert Advisory Group noted that Clutha District Council spent \$3.5 million on water supply plant upgrades and, as of 2010, had \$2.5 million of work planned. The Council has stated to the Productivity Commission that: *“This was an absolute requirement on Council, despite the fact that independent analysis showed a negative cost-benefit ratio for small-medium schemes such as ours. If Council had been able to make its own choices there could have been much better uses of \$6m (eg road safety, where a similar investment would save many lives instead of simply reducing the incidence of stomach upsets). It is also quite possible that ratepayers themselves would have had other priorities for that money, whether through rates or retaining it themselves.”*

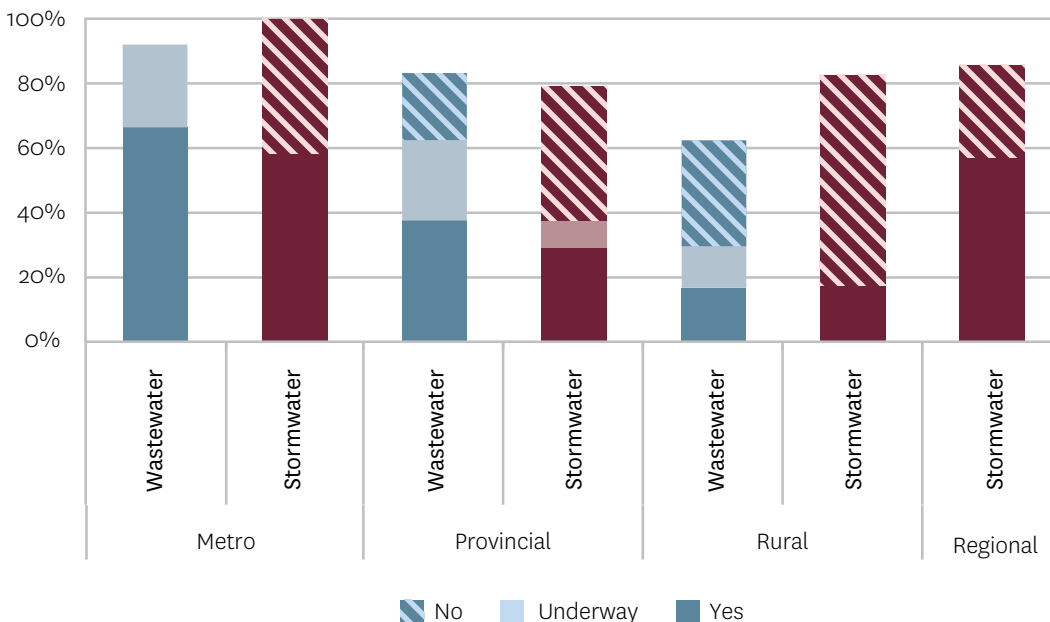
Which councils are most affected by the challenge of rising standards?

The ability for councils to meet rising standards can be inferred from the survey responses. Rural and provincial councils have a higher level of non-compliance than metro councils, suggesting that the case will be similar or worse when additional standards are imposed.

However, workshop sessions indicate that growing metro councils also face particular challenges in this area. While they generally have more detailed planning process and information than other councils, they have to deal with rising standards while at the same time expanding the scale of their operations. This challenge is particularly stark in stormwater management, where ratepayers expect higher standards (less flooding of driveways and other surfaces), while the area covered by hard surfaces is increasing.

The impact of rising standards will become clearer as councils complete their next LTPs, which will need to assess the future investment needs and costs of meeting standards and customer expectations over the next 30 years.

Figure 3.3: Documented risk profile/resilience analysis of critical assets



Source: LGNZ 3 Waters project – National Information Survey

³ LECG. (2010). Cost benefit analysis of raising the quality of New Zealand networked drinking water.

4

**Providing the
right incentives
to customers**

Given the value invested in three waters infrastructure, it makes sense to ensure that customers have the ability and the right incentives to use those assets efficiently. The survey responses suggest that most councils do not incentivise water customers through prices, with revenue primarily coming from rates. A smaller group of water providers has explored alternative options for sending price signals, as well as demand management. There are multiple ways to inform and incentivise efficient levels of consumption (for example through information campaigns on the value of water). The key is to build confidence that appropriate measures are being used in various circumstances.

The role of water meters is naturally raised in discussion of this issue – and water metering is often a highly-charged debate. A dispassionate technical analysis of this issue suggests that the value of water meters will depend on the cost of investing to meet demand growth (for either water or wastewater treatment) and the value of information provided from water meters for resource and asset management.

It is therefore not possible to conclude that water meters are either universally good or bad. The 3 Waters project plans to explore this issue further as part of developing the Best Practice Framework and Toolbox to ensure that all councils understand when water metering is likely to be an appropriate option.

Most sector revenue is generated through rates

Figure 4.1 suggests that the majority of metro, provincial and rural council charge customers for three waters services through their rates. A relatively small proportion of water providers use water metering and volumetric charging to signal the costs of service provision to water consumers. The method of charging for water does not appear to depend on the size or type of council. Most of the councils that rely on rates for over 50 per cent of their revenue use some form of targeted rates (those councils that did not report using targeted rates are shown in bold in Figure 4.1).

Figure 4.1: Councils’ reliance on rates (per cent of water revenue from rates)



Source: LGNZ 3 Waters project – National Information Survey

Note: Councils indicated with an * recover a significantly different proportion of wastewater costs through rates (much higher for Tauranga, Whangarei, Kaipara, South Taranaki and Westland and

This provides few incentives to manage demand for water assets and services

Using rates to fund water services means that there is no link between the price paid by end-users and the costs of delivering water services and investing to improve services or network performance. Instead, these signals are mixed in with the costs of other council functions (although in some cases targeted rates do provide consumers with a clearer signal of the total cost of providing services in the region). Water metering and volumetric charging can provide stronger price signals to reflect the cost of delivering the service. Consumers then have the ability and incentive to adjust their consumption to efficient levels that reflect the value they place on water consumption.

Several water providers who have brought in metering and volumetric charging have observed that end-users are willing to adjust their water use in response to these price signals. In the most recent National Performance Review of selected water utilities, Water New Zealand noted that two of the three organisations with water consumption under 200 litres per person per day (compared to the national average of 340 litres/person/day) have universal metering.⁴

Tauranga observed a 30 per cent fall in peak demand for water following the introduction of water meters and volumetric charging. A similar reduction in demand was observed in Carterton when it introduced similar schemes. The savings generated by Tauranga's metering and charging system have been estimated at around \$4.7 million per year over a 30 year period of analysis.⁵

Most of the savings stem from deferring capital expenditure on infrastructure upgrades. Changes in consumption have meant that there has been no requirement for water restrictions since metering and volumetric charging was introduced. Interestingly, lower rates of water consumption also led to less investment in wastewater treatment.

Which councils should be providing incentives to their customers?

Water metering is often a controversial topic for councils for two reasons. Firstly, by revealing the value of three waters services, water meters are often seen as the first step towards the commercialisation and privatisation of three waters assets. However, current legislation largely addresses this concern – section 130 of the Local Government Act 2002 prevents local government authorities from divesting their ownership or interest in water services. Secondly, water metering can be perceived to be a means of increasing council revenue, when volumetric pricing is not accompanied by an offsetting reduction in rates. Managing this concern relies on councils to clearly communicate the expected changes in water costs and rates to their communities.

Despite these concerns, the discussion above highlights that the merits of installing water meters and charging for consumption can be evaluated according to its costs and benefits. In each case, the value will depend on the circumstances of different councils. Metering will provide benefits for councils that have one or more of the following conditions:

- **Increasing demand:** Encouraging efficient water use helps to reduce the need to invest in new assets. The value of meters is likely to outweigh the costs when new investment in either water or wastewater treatment facilities would otherwise be required to meet demand growth. Cost benefit analysis of water metering and volumetric charging indicate that there is a high rate of return in areas where large capital expenditure is being considered on the treatment facilities to keep up with demand. Metering also enables demand management regimes such as pressure zoning or reduction, which extends the condition and overall lives of water infrastructure.

⁴ Water New Zealand, 2012/2013 National Performance Review. Available at http://www.waternz.org.nz/Category?Action=View&Category_id=232
⁵ Sternberg, J. & Bahrs, P. Water Metering – The Tauranga Journey.

- **Limited knowledge of network performance:** Water meters provide detailed and accurate information on network condition and performance, allowing more targeted asset management programmes, such as leak reduction initiatives. For instance, the Kapiti Coast District Council has commented that over 340 water leaks, equivalent to a daily loss of 1,800 m³ of water, had been detected since it had introduced water meters and improved its water reduction strategy.⁶
- **Scarce water supply:** Water metering will incentivise end-users to reduce their demand and allows water providers to fix any issues with network performance. Both of these relieve the pressure placed on water supplies, which either currently or in the future are not expected to demand. This avoids having to rely on extracting water from alternative sources that are more expensive or damaging to the environment.
- **High treatment costs:** Some parts of New Zealand are not growing or have an abundant supply of high quality water – and existing capacity is likely to be more than sufficient to meet future needs. Any benefits of metering in these areas will be limited to avoiding operating costs, such as electricity for pumping and chemicals for treatment. However, these benefits could outweigh the costs of metering where operating costs are high. Where councils have provided sufficient information, their operating and maintenance costs per 000 m³ of treated water and wastewater are illustrated in Figure 4.2 and Figure 4.3 respectively (see pages 24 and 25). There is considerable variation in these reported operating costs.

There are likely to be councils that face one or more of the conditions listed above that do not have water meters or use volumetric charging. By the same token, some councils may not realise benefits from metering that are sufficient to outweigh the costs.

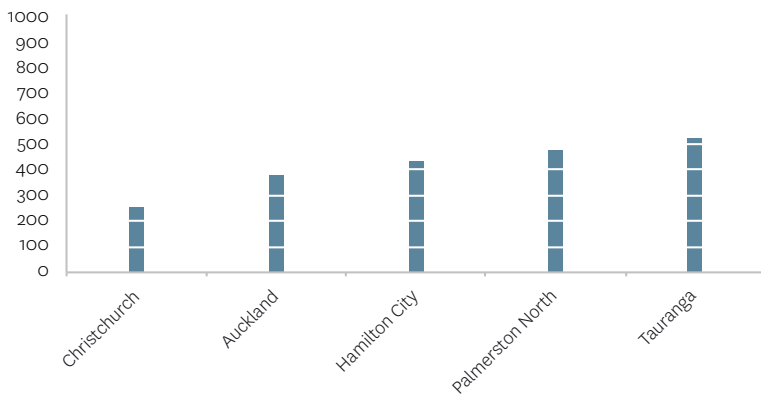
To build confidence in how this issue is being managed, LGNZ will be inviting councils to help us build better evidence on the merits of water metering and volumetric charging in different circumstances. This evidence will help to ensure that the Best Practice Framework and Toolbox is developed with a realistic sense of the costs and benefits of water metering across the full range of situations facing New Zealand councils.

⁶ EAG. (2013). Report of the Local Government Infrastructure Efficiency Expert Advisory Group. Available at <http://www.dia.govt.nz/Better-Local-Government-Background#expert>

Figure 4.2: Operating and maintenance costs of reticulation and treatment for potable water (\$ per 000 m3 of treated water)

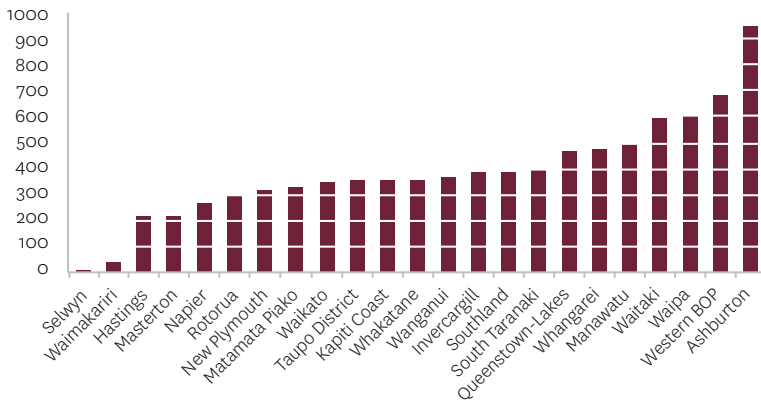
Metro councils

(Responses: 5/10)



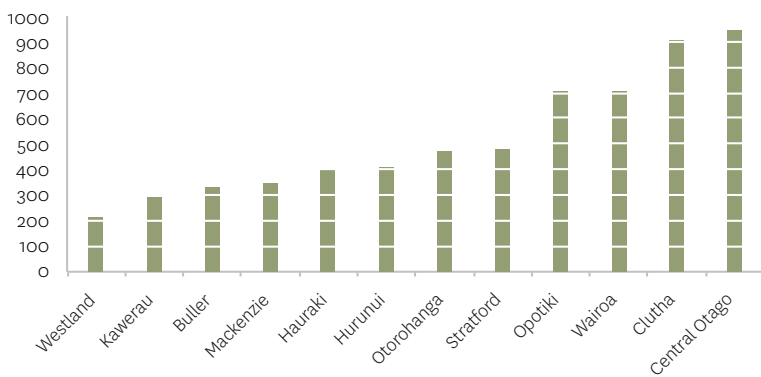
Provincial councils

(Responses: 23/26)



Rural councils

(Responses: 12/24)



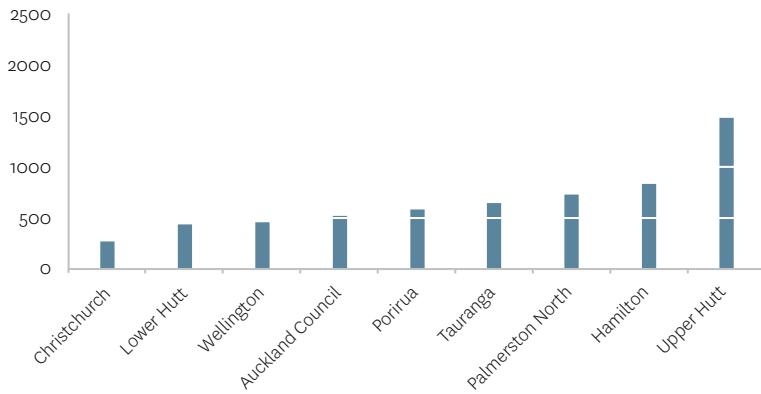
Source: LGNZ 3 Waters project – National Information Survey

Note: A 'response' indicates a council gave information on operational, maintenance costs and volumes of treated water.

Figure 4.3: Operating and maintenance costs of reticulation and treatment for wastewater (\$ per 000 m³ of treated wastewater)

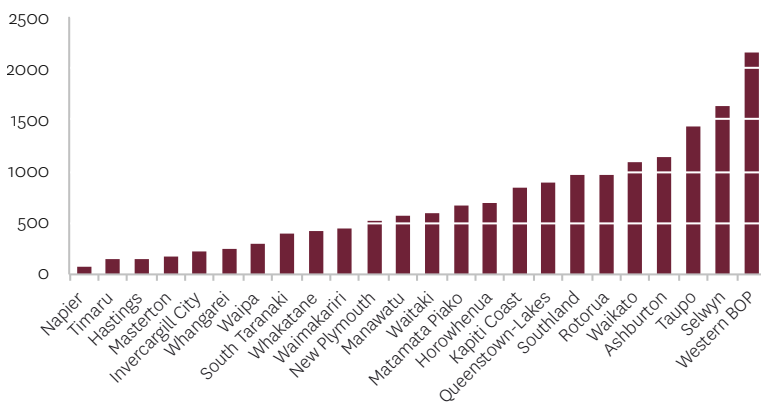
Metro councils

(Responses: 9/10)



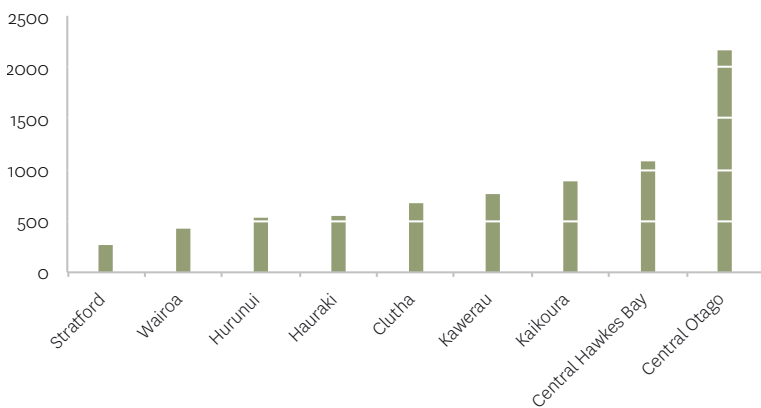
Provincial councils

(Responses: 24/26)



Rural councils

(Responses: 9/24)



Source: LGNZ 3 Waters project – National Information Survey

Note: A 'response' indicates a council gave information on operational, maintenance costs and volumes of treated water.

5

Additional issues for discussion

In the process of developing this issues paper, the survey responses, or anecdotal evidence from three waters experts, often suggested further issue areas but the survey evidence was insufficient to assert their prevalence. However, these additional issues still sparked useful discussions about the performance of three waters infrastructure. This section provides a starting point for further information to be gathered on these issues.

5.1 Ensuring access to the required expertise

In many respects, the critical importance of the three waters to local communities ensures that the sector delivers adequate levels of performance. Performance failures are noticed quickly and reported to councillors and local government managers for rapid resolution. Perhaps not surprisingly, nothing in the survey responses or other reports on the sector suggests that the sector is fundamentally broken. However, there are opportunities to improve sector performance. The sector has shown interest in addressing these areas, and the strong sector participation in the National Information Survey shows councils' willingness to learn from each other's experiences.

One component of those improvements might focus on ensuring that councils have access to the expertise needed to plan, procure and manage the three waters in the best possible way to meet further needs.

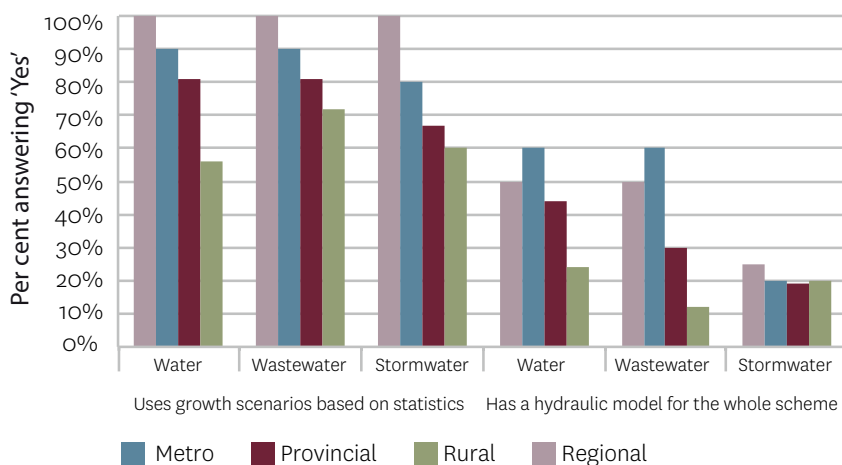
Many council water providers are not focused solely on delivering the three waters services but also carry out other council functions. This can limit the ability for the providers to develop specialised knowledge in the three waters. The provision of modern water services requires a significant range of engineering and management skills. Some non-metro councils report difficulties in attracting and retaining expertise in three waters management and procurement. This becomes a concern for the long-run operation of the assets when councils rely on a small number of staff and do not have plans to pass on their expertise. This appears to be an issue experienced across all of the services managed by local government authorities (not just water).

The use of planning tools varies by Council type

The survey asked several questions about the planning capabilities of councils. These are closely linked with the ability to fund asset replacement and understand the investments needed to meet increasing standards. Regional and metro authorities generally have greater access to these capabilities than provincial and rural water providers. This is reflected in Figure 5.1, which shows the councils that use demand forecasting tools.

In some cases, councils likely do not have these capabilities because they are not needed in their particular situation. For example, communities such as Kawerau with little or no population growth are unlikely to get much value out of population growth scenarios for planning.

Figure 5.1: Council use of demand forecasting tools



Source: LGNZ 3 Waters project – National Information Survey

5.2 Drawing on external skills and governance to deliver the three waters

There may also be a link between a water provider’s operational and management capabilities and its governance model.

The governance models for water providers is typically an internal committee, or external, using council controlled organisations, or a mix of the two options. There is a perception that there is better access to operational or management expertise or capabilities in water providers that use some form of external model. To confirm this perception, we would expect to observe some follow-on effect in these councils’ sector performance.

The following tables indicate there is very little variation in the type of governance model used by water providers in New Zealand. This limits the ability to empirically link the performance of three waters infrastructure to the incentives to those who manage it. This situation may change when the recent explorations of new models mature, allowing some comparison to inform this issue.

5.3 Delivering on customers’ expectations of performance

While customer engagement is common in most sectors, its value is not always fully understood by providers of utility services, such as water or electricity. The traditional model of utility service delivery focuses much more on engineering and economics, rather than customer engagement.

However, most water providers in New Zealand appear to be relatively active in terms of understanding what their customers want. Councils will get some sense of the needs and expectations of their communities through the LTP process, although they do not consult specifically on water Key Performance Indicators (KPIs) unless there is a significant change in the level of service or capital expenditure planned. Some councils have further engaged with potable water customers to agree on the KPIs for water pressure and disruptions to their water services – two metrics that clearly matter to customers.

Table 5.1: Governance models for potable water (per cent answering ‘yes’)

Council type	Which governance model do you use?		
	Internal	External	Both
Metro	40	40	10
Provincial	81	0	4
Rural	72	0	4

Source: LGNZ 3 Waters project – National Information Survey

Table 5.2: Governance models for wastewater (per cent answering ‘yes’)

Council type	Which governance model do you use?		
	Internal	External	Both
Metro	40	20	30
Provincial	85	0	0
Rural	68	0	4

Source: LGNZ 3 Waters project – National Information Survey

Councils have also been proactive in developing customer satisfaction KPIs. The level of customer engagement in each council sector group is provided in Table 5.5. Customer satisfaction KPIs are almost universal amongst metro water providers across the three waters.

While the level of engagement is promising for determining a minimal level of service that water providers should meet, it remains unclear whether this is leading to meaningful outcomes. For instance,

customer engagement can be used to manage expectations of the trade-off between water quality and greater costs. There are also opportunities to manage expectations of wastewater and stormwater services by developing more KPIs that are agreed with the community. Provincial and rural councils may be in an advantageous position to make use of these opportunities as councils with smaller populations may find it easier to understand and meet the specific needs of their communities.

Table 5.3: Governance models for stormwater (per cent answering ‘yes’)

Council type	Which governance model do you use?		
	Internal	External	Both
Metro	50	30	10
Provincial	81	0	4
Regional	100	0	0
Rural	68	0	4

Source: LGNZ 3 Waters project – National Information Survey

Table 5.4: Councils that use KPIs that are agreed with the community (%)

Council type	Annual pressure KPI	Disruption to water service KPI
Metro	70	90
Provincial	59	78
Regional	75	75
Rural	60	72

Source: LGNZ 3 Waters project – National Information Survey

Table 5.5: Councils with annual KPIs for customer satisfaction (%)

Council type	Potable water	Wastewater	Stormwater
Metro	90	90	100
Provincial	78	78	81
Regional	75	75	75
Rural	76	72	72

Source: LGNZ 3 Waters project – National Information Survey

6

Next steps

This issues paper has been discussed with central and local government experts on the 3 Waters Advisory Group, 3 Waters Steering Committee and the LGNZ National Council (listed in Appendix A). Their input and guidance has been highly valuable.

LGNZ is now seeking feedback from wider sector stakeholders on this issues paper. We are keen to confirm whether there is consensus on the issues that need to be addressed now and those issues that need further analysis. LGNZ also want to engage with stakeholders on how the issues facing the sector should be prioritised – ensuring the right balance between analysis and action. Responses to this issues paper can be addressed to LGNZ Chief Executive Malcolm Alexander or LGNZ 3 Waters project manager Philip Shackleton and should be received by 21 November 2014.

Please email Malcolm at malcolm.alexander@lgnz.co.nz
or Philip at philip.shackleton@lgnz.co.nz
or post your response to:
Local Government New Zealand
Level 1, 117 Lambton Quay
Wellington.

LGNZ will then prepare a white paper that explores options for addressing the issues that emerge as high priorities. This white paper will:

- canvas a range of possible policy changes that could help to solve the issues identified and assess the relative merits of different approaches;
- develop recommendations for the direction of future policy work in the sector; and
- continue in parallel to develop understanding in those areas where further analysis is needed.

We intend to release the white paper publicly in the first quarter of 2015.

7

Appendices

Appendix A: 3 Waters Advisory Group and Steering Committee members

Steering Committee

Malcolm Alexander (Chair)	Chief Executive Local Government New Zealand
David Taylor	Head of the National Infrastructure Unit Treasury
Paul Bayly	Managing Partner Cranleigh
Paul James	Deputy Chief Executive – Policy, Regulatory and Ethnic Affairs Department of Internal Affairs
Phil Wilson	Board member New Zealand Society of Local Government Managers
Stephen Selwood	Chief Executive New Zealand Council for Infrastructure Development
Steve Couper	Past President Water New Zealand
Bruce Robertson (As observer)	Assistant Auditor General for Local Government Office of the Auditor General

Advisory Group

Tony Stallinger (Chair)	Chief Executive Hutt City Council
Braden Austin	President Institute of Public Works Engineering Australasia – New Zealand Division
Chris Upton	Chief Executive Upper Hutt City Council
David Fraser	Consultant AMSAAM Ltd
Geoff Swainson	Manager – Transport Planning Wellington City Council
Helen Mexted	Director Advocacy Local Government New Zealand
Ian Gooden	General Manager Infrastructure Services Tauranga City Council
Martin Fletcher	Chief Financial Officer Marlborough District Council
Richard Kempthorne	Mayor Tasman District
Richard Kirby	Consultant R.Kirby Ltd
Richard Ward	Senior Analyst Treasury

Appendix B: Council categorisation and responses

LGNZ determines the council sector groups by the following criteria:⁷

- **Metropolitan:** populations exceeding 90,000
- **Provincial:** populations between 20,000 and 90,000

- **Rural:** populations under 20,000
- **Regional:** regional councils and unitary authorities

Table 6.1 outlines which sector group each council falls under and whether each council responded to the LGNZ National Information Survey.

Table 6.1: Council sector grouping and responses

Council name	Sector group	Provided survey response?	Attended workshop series
Ashburton District Council	Provincial	Yes	Yes
Auckland Council (Unitary)	Regional	Yes	Yes
Bay of Plenty Regional Council	Regional	No	Yes
Buller District Council	Rural	Yes	Yes
Carterton District Council	Rural	No	No
Central Hawke's Bay District Council	Rural	Yes	No
Central Otago District Council	Rural	Yes	Yes
Christchurch City Council	Metro	Yes	Yes
Clutha District Council	Rural	Yes	Yes
Dunedin City Council	Metro	Yes	Yes
Environment Canterbury	Regional	Yes	No
Environment Southland	Regional	No	Yes
Far North District Council	Provincial	Yes	Yes
Gisborne District Council (Unitary)	Regional	Yes	Yes
Gore District Council	Rural	Yes	Yes
Greater Wellington Regional Council	Regional	Yes	No

Council name	Sector group	Provided survey response?	Attended workshop series
Grey District Council	Rural	Yes	No
Hamilton City Council	Metro	Yes	Yes
Hastings District Council	Provincial	Yes	Yes
Hauraki District Council	Rural	Yes	Yes
Hawke's Bay Regional Council	Regional	No	No
Horizons Regional Council	Regional	No	Yes
Horowhenua District Council	Provincial	Yes	Yes
Hurunui District Council	Rural	Yes	No
Hutt City Council	Metro	Yes	No
Invercargill City Council	Provincial	Yes	Yes
Kaikoura District Council	Rural	Yes	Yes
Kaipara District Council	Rural	Yes	Yes
Kapiti Coast District Council	Provincial	Yes	No
Kawerau District Council	Rural	Yes	Yes
Mackenzie District Council	Rural	Yes	Yes
Manawatu District Council	Provincial	Yes	Yes
Marlborough District Council (Unitary)	Regional	Yes	Yes

⁷ LGNZ (2014, March 26) Sector groups. Available at <http://www.lgnz.co.nz/home/about-lgnz/membership-representation/sector-groups/>

Council name	Sector group	Provided survey response?	Attended workshop series
Masterton District Council	Provincial	Yes	Yes
Matamata-Piako District Council	Provincial	Yes	Yes
Napier City Council	Provincial	Yes	Yes
Nelson City Council (Unitary)	Regional	Yes	Yes
New Plymouth District Council	Provincial	Yes	Yes
Northland Regional Council	Regional	Yes	Yes
Opotiki District Council	Rural	Yes	Yes
Otago Regional Council	Regional	No	Yes
Otorohanga District Council	Rural	Yes	Yes
Palmerston North City Council	Metro	Yes	Yes
Porirua City Council	Metro	Yes	No
Queenstown-Lakes District Council	Provincial	Yes	Yes
Rangitikei District Council	Rural	Yes	Yes
Rotorua District Council	Provincial	Yes	No
Ruapehu District Council	Rural	Yes	No
Selwyn District Council	Provincial	Yes	Yes
South Taranaki District Council	Provincial	Yes	Yes
South Waikato District Council	Rural	Yes	Yes

Council name	Sector group	Provided survey response?	Attended workshop series
South Wairarapa District Council	Rural	Yes	Yes
Southland District Council	Provincial	Yes	Yes
Stratford District Council	Rural	Yes	Yes
Taranaki Regional Council	Regional	No	No
Tararua District Council	Rural	Yes	Yes
Tasman District Council (Unitary)	Regional	Yes	Yes
Taupo District Council	Provincial	Yes	Yes
Tauranga City Council	Metro	Yes	Yes
Thames-Coromandel District Council	Provincial	Yes	No
Timaru District Council	Provincial	Yes	Yes
Upper Hutt City Council	Metro	Yes	Yes
Waikato District Council	Provincial	Yes	Yes
Waikato Regional Council	Regional	Yes	Yes
Waimakariri District Council	Provincial	Yes	Yes
Waimate District Council	Rural	Yes	Yes
Waipa District Council	Provincial	Yes	Yes

Council name	Sector group	Provided survey response?	Attended workshop series
Wairoa District Council	Rural	Yes	Yes
Waitaki District Council	Provincial	Yes	Yes
Waitomo District Council	Rural	Yes	No
Wanganui District Council	Provincial	Yes	Yes
Wellington City Council	Metro	Yes	Yes
West Coast Regional Council	Regional	No	No
Western Bay of Plenty District Council	Provincial	Yes	Yes
Westland District Council	Rural	Yes	No
Whakatane District Council	Provincial	Yes	Yes
Whangarei District Council	Provincial	Yes	Yes

Source: LGNZ

Appendix C: Summary of 3 Waters project workshop outcomes

Attendance and coverage

The 3 Waters project workshops were attended by 109 people across nine locations. 61 councils were represented with additional representation from Watercare, Wellington Water (formerly known as Capacity), Department of Internal Affairs and WaterNZ. A list of council attendees is provided in Appendix B.

Summary of feedback received

Below is a summary of the feedback received during the workshops. Feedback has been taken from the notes that were collected and is sorted by the issues discussed in this issue paper. We have also included general comments and observations.

General comments and observations

- Issues on renewals and increasing standards were generally accepted as important issues facing the sector. Providing customers with the right incentives was identified as issue that needed further evidence. Access to expertise and external skills was agreed as an issue that needed stronger evidence. Meeting customer expectations of performance was not considered as a major issue.
- There is a need to drill deeper into the data from the survey when preparing evidence for the issues paper.
- We need to watch how we aggregate data as this can inform policy decisions which need to be sensitive to local situations.
- We need to ensure the issues paper is integrated with other pieces of work, for example the Local Government Funding Review.
- Participants wanted to be able to access data from the survey to benchmark performance.

Investing to renew and replace existing assets

- It is important to understand the differences between funding required in high growth areas versus where the population base is declining or remaining static.
- Some felt that the affordability issues were not captured well by the data presented. However, it was acknowledged that more data will be available to inform this issue.
- Councils need to better understand the risks when considering asset replacement and renewals.
- The National Policy Statement for Fresh Water Management will have a big impact on affordability in some areas.
- Depreciation and how this is dealt with by councils is a big issue. The feeling was that we could consider having a separate paper on it. For average depreciation funded, a better understanding of the problem needs to be developed.
- When considering affordability the point was made that we need to get a better perspective from the customer. For example, consider affordability from the individual.
- The next LTPs with the Infrastructure plans will show how many types of council are going to be able to cope with the full renewals schedule.
- The ability to fund asset replacements varies across the councils. We therefore need to find the right funding mechanisms so they can pay.
- Funding storm water infrastructure emerged as a very big issue. Specifically the amount of depreciation being actually funded versus renewal/lifecycle costs.
- Some felt that the sector was capable of developing renewal programmes but funding them was the big issue. Councils need to have visibility of their sustainable renewals.
- The age of the network was good data to have but it needs to be combined with other data to inform the life of the asset. For example, materials to become more useful.
- Getting valuations of assets correct, having renewals profiles and having consistent grading of assets were seen as important issues.

Investing to meet current and rising standards and customer expectations

- There was overall agreement that this is a big issue.
- There is a need to acknowledge that there is a lot of investment going on across the sector to improve performance in meeting existing standards.
- There will need to be some give and take on communities' ability to meet standards. We need to be asking the question, is there anything coming up that the sector hasn't already planned for?
- The sector is sufficiently challenged to meet existing and historical standards. Therefore, we need to focus on how to meet existing standards before looking at new ones. It's important to create a connection between the standards and customer expectations. There is a need to examine the costs and benefits of meeting various standards. The survey data suggests that the benefits are not there.
- We need to look closely if we are over the hump of both Drinking Water Standards and wastewater standards.
- The new standards for freshwater management will have a significant impact on storm water.
- There is a need to consider work safety and general shifts in expectations.
- There is also a need to consider the costs associated with climate change adaptation.

Providing the right incentives to customers

- There was a general feeling that we do not have the right incentives in place now in many areas. But where meters were being used there were examples of improved efficiencies.
- The general feeling was that meters are but one tool and solutions need to be fit for purpose. The important thing is to consider the costs and benefits when looking at meters as a tool for driving efficiencies.
- Some reported that you can have a metered network and have customers who are using less water but their costs are still rising. This is due to the fact that the costs of maintaining the network are still there and will continue to go up at least at the rate of inflation.
- In some cases, councils' marginal cost of water is too low to make it worth measuring.
- This issue links to customer engagement and the need to understand what levels of service are acceptable to customers. This will vary across communities.
- Wastewater metering was seen as an option.

Ensuring access to the required expertise and drawing on external skills and governance to deliver the three waters

- There was a general feeling that the data presented in the workshops did not evidence that there was an issue.
- Some felt that this was not just a three waters issue but something that was across all professions and impacting on regions. It is widely recognised that succession planning is a significant risk for the engineering sector as a whole.
- In respect of the variation in demand forecasting capabilities that was presented, one group identified that the question needing closer inspection is: Are the smaller councils doing the most with the data and tools they do have at their disposal now, such as basic data manipulation and development of basic assumptions using Excel?
- Although not well evidenced in the workshop, it was acknowledged that smaller councils may not have sufficient resources to attract the right level of expertise.
- It was generally agreed that this is an issue and the challenges are linked to the demographic, urbanisation and population changes.
- Other issues raised were, training gaps and the need to develop better recording techniques. Also knowledge transfer as an opportunity.

Delivering on customers' expectations of performance

- Most agreed that the survey evidence shows that there is a high usage across the sector of councils that use KPIs for annual pressure and disruption to water service.
- It was generally acknowledged that there are different levels of service across the sector and that the KPIs need to be meaningful.
- There was general agreement that the evidence shows that a high percentage of councils are using annual KPIs to measure customer satisfaction with water services.
- Some felt that there was not a real issue here and the approach was a bit simplistic. There was a general acceptance from survey results that there is good customer engagement from surveys and use of KPIs. The important thing to know is what qualifies as a meaningful KPI. Therefore, further investigation to inform this issue is needed.
- Minimum levels of service are being driven by legislation and are not in agreement with the community.
- There is engagement with customers through the LTP process. Some are reporting few if any submissions around levels of service and customer expectations.
- It is felt that where the reticulation assets are young we are meeting customer expectations. But this could change as assets become older.
- For treatment there are greater issues relating to discharges to (or abstraction from) the environment.
- Customer education is the key. It is also important to understand what customers actually want.

Other issues identified as important

- local community autonomy;
- climate change impacts;
- the ability to think outside of the box when considering water use efficiency methods;
- RMA consultation process;
- overall water allocations and availability;
- the fate of storm water;
- understanding the survey data (looking deeper to understand the problems and where they are);
- data accuracy and completeness;
- need for more data, customer complaints, breakages, interruptions to services etc;
- assessing risk/criticality in the networks;
- improve things through collaboration;
- difference in how compliance requirements are expressed;
- standardisation of data and reporting;
- need to improve asset management and demand forecasting; and
- no national body to provide consistency.

Acronyms and abbreviations

DWS	Drinking Water Standards
IIMM	International Infrastructure Management Manual
KPIs	Key Performance Indicators
LGNZ	Local Government New Zealand
LTPs	Long Term Plans
NPS	National Policy Statement on Freshwater Management



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SUBMISSION

Appendix B

Improving New Zealand's water, wastewater and stormwater sector

Improving New Zealand's water, wastewater and stormwater sector

A position paper prepared by LGNZ

September 2015



**We are.
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This paper has been prepared with assistance from Castalia Strategic Advisors.

Foreword



Foreword

In 2011, the National Infrastructure Plan gave water infrastructure the lowest ranking of all of New Zealand's infrastructure sectors across measures of investment analysis, resilience, funding mechanisms, accountability, performance and regulation. At the time, however, it was acknowledged that the level of information on the state of water infrastructure and management that gave rise to that assessment was sparse and that improvements in the information base were needed.

Local government, as the owners of water assets and the primary providers of three waters services, has taken on the challenge of improving the information base and water industry service delivery. In 2013, Local Government New Zealand (LGNZ) established the 3 Waters project as a proactive and collaborative approach to improve understanding of potable, waste and stormwater assets and services in New Zealand. The project brought together representatives from local government, central government and the water industry to explore an honest assessment of the performance of the three waters sector.

The 3 Waters project has already had a significant impact on the establishment of a clear picture of the state of infrastructure in the three waters sector. The first step was to fill the information gap by developing the National Information Framework survey, where councils disclosed information on their performance using an agreed framework and set of measures. A total of 70 out of 78 councils in New Zealand provided data on their potable, waste and stormwater assets and services.

In addition to substantially improving the level of sector data, the 3 Waters project released an issues paper in August 2014. The paper extensively analysed three core issues facing the sector namely:

- investing to replace and renew existing assets;
- investing to meet rising standards and increasing expectations; and

- providing end-users with the right incentives to use water infrastructure and services efficiently.

These issues, and others, were tested through a series of workshops attended by 61 councils. The draft paper received around 30 written submissions from councils, central government, consultants and interested individuals and organisations. This engagement and feedback shows both a strong level of commitment and ownership of the issues and a commitment to improving outcomes over time.

This position paper builds on this momentum by describing how a 'strong, sector-led approach' will put in place an improved regulatory framework to assist the potable and wastewater service providers in addressing over time the key issues described above. It poses three options: a multilateral contract or deed; a co-regulatory model; or, an option which has recently come onto the table, which is utilisation of the possible Local Government Risk Agency. The paper also draws attention to the unique challenges facing the third water (stormwater) when considering possible pathways to improve sector performance. The approaches outlined in this paper have been developed primarily through workshops with councils held across New Zealand, and through the guidance of the 3 Waters Steering Committee and Advisory Group. The paper has been approved formally by the National Council of LGNZ. LGNZ invites your feedback on the options discussed in this document.

We look forward to your continued support and commitment as we move ahead to ensure that we continue to deliver a fit for purpose water sector.

Lawrence Yule
President
Local Government New Zealand

Executive summary

Executive summary

New Zealand's water, wastewater and stormwater services ("the three waters") face challenges looking out over the next 20 years or so. Potable and wastewater service providers (predominantly district and city councils) are being asked to meet ever-increasing levels of reliability, quality, and resilience but the costs of meeting these service levels are likely to put pressure on affordability in many parts of the country. Stormwater service provision has its own unique set of challenges including impacts of national water quality standards and managing the risks associated with climate change. In addition to these challenges there is also the growing need for the renewal of existing infrastructure as assets reach the end of their useable life. The renewals requirement, quite apart from the need to extend infrastructure to meet growth or the need to meet new standards, also will place pressure on council finances and affordability.

LGNZ initiated the 3 Waters project to gain a better understanding of these sector challenges, and to ensure that decision-making processes are well-suited to addressing these challenges. The project has provided clarity on areas for improvement. LGNZ believes that the best way to deliver sustainable, cost-effective improvements in sector performance is for the local government sector to accept responsibility for delivering the outcomes needed through a "strong, sector-led approach."

Clarity on areas for improvement

The 3 Waters project has collected extensive data on three waters assets and services through a comprehensive survey completed by 70 councils.¹ For the first time, this information creates the ability to accurately diagnose sector strengths and weaknesses. Survey responses have been used to focus attention on key sector issues and challenges, and key issues have been further refined through industry consultation.² This collaborative process has contributed to a positive change. The councils across New Zealand have come together and effectively engaged in information disclosure using an agreed national framework. This is the first time this has been achieved to this degree.

The findings of the survey show that the potable and wastewater system is currently functioning as expected, but that opportunities exist to lift performance in the future. The findings from the survey improved our understanding of stormwater assets and services but also highlighted the differing circumstances of stormwater as compared to potable and wastewater infrastructure.

There is a need for further investigation of the stormwater sector, and this is catered for in the project timeline.

The process of preparing and consulting on the 3 Waters issues paper has singled out the following three key issues:

- The sector is facing an **increasing need to renew and replace assets**, although the exact timing of the renewals programme is unclear and it is likely to be different in different areas. Different councils approach this challenge in different ways – some replace assets based on age, others wait until assets start to fail, while others utilise the full life of an asset by careful monitoring. Although good asset management approaches are well-known throughout the sector, financial pressures create the need to prioritise capital and operating expenditures.
- Service providers are being asked to meet **higher standards of quality** – on drinking water quality, freshwater management, and in stormwater services. Each of these rising standards imposes new costs, which are all expected to be recovered through rates and user charges. These costs may make the services unaffordable for some communities. This may prove a challenge, in particular, where local populations are ageing and/or in decline.
- There is **not enough information on performance** to provide total confidence that the sector is operating as well as it should or is positioning itself well for future challenges. That said, the initial data gathered through this project demonstrates that the sector is not fundamentally broken. The challenges lie ahead. However, consistent and transparent reporting and performance benchmarks to ensure better investment, maintenance and operational decisions currently are missing.

A strong, sector-led approach can meet these coming challenges

Given that future expectations will exceed current service levels, improvements can and should be made to the way that the sector operates. One of the key themes that emerged from the LGNZ Three Waters project data analysis is that there appear to be few, if any, issues that are truly "sector wide" (although stormwater is an area that may require special consideration because of its intimate association with road infrastructure). The right approach to improving performance must reflect this sentiment, particularly avoiding "one size fits all" initiatives. Continuing to further develop and apply database technology to help build our understanding of the state of the three waters assets and services in the future will be a key focus for the strong sector led approach.

¹ NZIER, Three waters services: results of a survey of council provision.

² Castalia, Exploring the issues facing New Zealand's water, wastewater and stormwater sector. Available at <http://www.lgnz.co.nz/assets/Publications/LGNZ-3-Waters-Issues-Paper.pdf>.

Because local government both represents the diverse communities and constituencies that rely on three waters services and owns and operates the assets concerned, it must play the central role in resolving key sector issues. The sector's participation in the LGNZ National Information Survey, data analysis, the issues paper and the development of options to lift performance, demonstrates that local government is able now and committed to lead developments in the three waters sector. The options for a strong, sector-led approach described in this paper build on this momentum by strengthening collaboration to determine service expectations, funding approaches, and information sharing tools that best meet the varied circumstances of different councils.

This paper outlines three possible approaches to delivering a strong, sector-led approach. They are:

- 1. A multilateral contract or deed with a commitment to enforceable provisions;**
- 2. A co-regulatory approach modelled on the successful co-regulatory approach used in the gas industry; and**
- 3. Utilisation of the possible Local Government Risk Agency.** The business case to establish whether such an agency should be created presently is being developed in partnership with the Crown. If the business case stacks up, it would be the logical entity to set data standards and benchmarks, hold asset information and incentivise and share better practise across the sector since to carry out its functions it is likely to have to hold this information in any event.

Option 1 entails water sector participants voluntarily agreeing to be bound by an enforceable set of obligations under a multilateral contract or deed (the electricity market was regulated in this manner between 1996 and 2004). Option 2 would require empowering legislation to establish a new set of regulatory arrangements that would be delivered and owned by local authorities but which would be accountable ultimately to the Government. A current example of this model is the Gas Industry Company (GIC) which operates under the Gas Act 1992. Under that Act, the GIC (owned by gas market participants) is designated by the responsible Minister to be the mandated industry body to oversee gas market regulation. It is accountable to the Minister. If it fails to perform the Minister could intervene and establish a new Government owned regulator. This incentivises the GIC to focus keenly on its task.

Of the first two options it is considered that the more effective and most expeditious manner of proceeding would be to adopt a co-regulatory approach ie option 2. This is because, whilst option 1 could deliver similar outcomes to option 2, it would require all local authorities to agree to its provisions. This may prove challenging

to achieve. Additionally, there may be difficulty in binding council-owned organisations with a separate legal personality and non-council providers. A co-regulatory model could be delivered in a more comprehensive and timely fashion, relative to option 1 (assuming timely legislative processes) yet preserve at the governance table the expertise of local authorities in water management issues (which is required for long-term successful outcomes). Under either model a water sector "regulator" would set the "rules of the game" and councils would choose the best delivery options for water infrastructure in their respective communities consistent with achieving the regulatory goals.

The third option referred to above has recently come onto the table. Legislation is unlikely to be required and if selected would be able to be delivered fastest (because legislation and agreement by all water industry participants would not be required). In June 2015, LGNZ and the Crown announced a jointly funded project to consider whether a business case exists to create a local government owned entity to assist the sector, both to better understand risk, and to better manage and mitigate risk ("Local Government Risk Agency"). This proposal arose from LGNZ work on local government insurance markets and the management of natural hazards. Three waters infrastructure, is a significant component of the sector's overall risk profile. A risk agency would be modelled on the successful Local Government Funding Agency. If a business case exists for such an agency, then it is likely that a core part of its work will entail developing a detailed understanding of the state of local government assets, the methods employed by councils to manage those assets, and the investment profile and funding mechanisms for renewals and network extensions. Whilst membership is likely to be voluntary, there could well be compelling incentives for councils to join. If that is the case then most of the gains from having a central body with an overview of the three waters sector could be captured from utilising this body in preference to the first two options, should it proceed. If the business case is positive, then the project team prefers this option in preference to the others.

Other options do not offer the same potential for performance improvement

In developing the strong, sector-led approach, the 3 Waters project also considered two other pathways to change the way that sector decisions are made, namely:

- A less extensive set of changes could focus on generating performance improvements through greater transparency and accountability (we refer to this approach as the "enhanced status quo"). This would involve extending the National Information Framework and ensuring that council performance is reported in a consistent way across a set of agreed

benchmarks. Current decision-making processes would remain unchanged under this approach; and

- A more externally resourced and driven approach could empower an independent regulator to monitor sector performance and make regulatory decisions that aim to improve performance (we refer to this approach as “economic regulation”). This regulatory approach currently is used in interconnected network infrastructure such as electricity and gas distribution networks, airports and telecommunications infrastructure in New Zealand.

While these options have some advantages, neither approach would achieve all of the key outcomes identified through this project.

The enhanced status quo presents a real risk that the changes involved will not sufficiently incentivise asset owners to raise performance where needed, particularly given that some local authorities may face challenges in funding, investment and capability. Full blown economic regulation is costly. Additionally, decision-makers would struggle to make decisions that adequately reflect differences in local interests and constraints. Further to this, an economic regulator would have difficulty addressing the

differences in provision of stormwater infrastructure risking a ‘one size fits all’ approach to resolving sector issues. Water delivery was originally given to local authorities to manage precisely because of the local issues involved. This option also involves a loss of local government involvement, undoing the progress made so far under the 3 Waters project, and at a level of cost that is not well targeted to the challenges facing the three waters. Ultimately, however, adoption of a multilateral, a co-regulatory or a Local Government Risk Agency approach does not foreclose the possibility in the future of moving to economic regulation should that be required. That, in and of itself, may provide sufficient incentive to achieve the gains by way of a less intrusive and costly regulatory approach.

Overall, we consider one of the three options for delivering a strong, sector-led approach provides the best opportunity for the local government sector to lead, and to give stakeholders the confidence that improvements in performance over time of the three waters will be achieved, but not at the expense of the industry or the communities it serves.

1

**Three waters
serving diverse
needs and
interests**

New Zealand's economy and society rely on a well-functioning and adaptable sector to deliver potable water, wastewater and stormwater services ("the three waters"). The specific needs of local communities determine how best to use resources to provide these services – with the common goals of efficiency, safety, reliability and affordability.

The three waters are a substantial part of New Zealand's infrastructure

The economic, social and environmental impacts of the three waters and the direct value of the infrastructure involved in providing these services underscore the value of the three waters to New Zealand.

New Zealand's near universal coverage (at least for potable and wastewater services) has led to the development of a large three waters asset base. Councils' reticulated assets for potable water can range from 70 kilometres in length up to 550,000 kilometres per council. As this size suggests, three waters assets are a valuable part of New Zealand's infrastructure. Based on the survey data³ the total replacement value of the assets is estimated to be approximately \$35 billion (estimate from figures to year end 30 June 2013).

While the economic, social and environmental impacts of the sector are difficult to quantify, a well-managed three waters system is critical to public health and protecting property and the environment from flood damage. The management of the three waters in New Zealand is also unique in the need to respect the cultural value of water and water bodies to local iwi and hapu.

Three waters services are delivered to a diverse range of communities and interests

In total, 78 councils are involved in the delivery or management of the three waters in New Zealand. Territorial authorities, referred to as water service providers (WSPs) in this report, are responsible for delivering three waters services to their communities. Regional councils also have a responsibility in managing stormwater assets and for setting standards to manage the environmental impacts.

The interests served by local authorities in the three waters vary considerably across the country, and different local authorities face very different challenges in the three waters. Local communities vary significantly by size, growth rates and ability to pay.

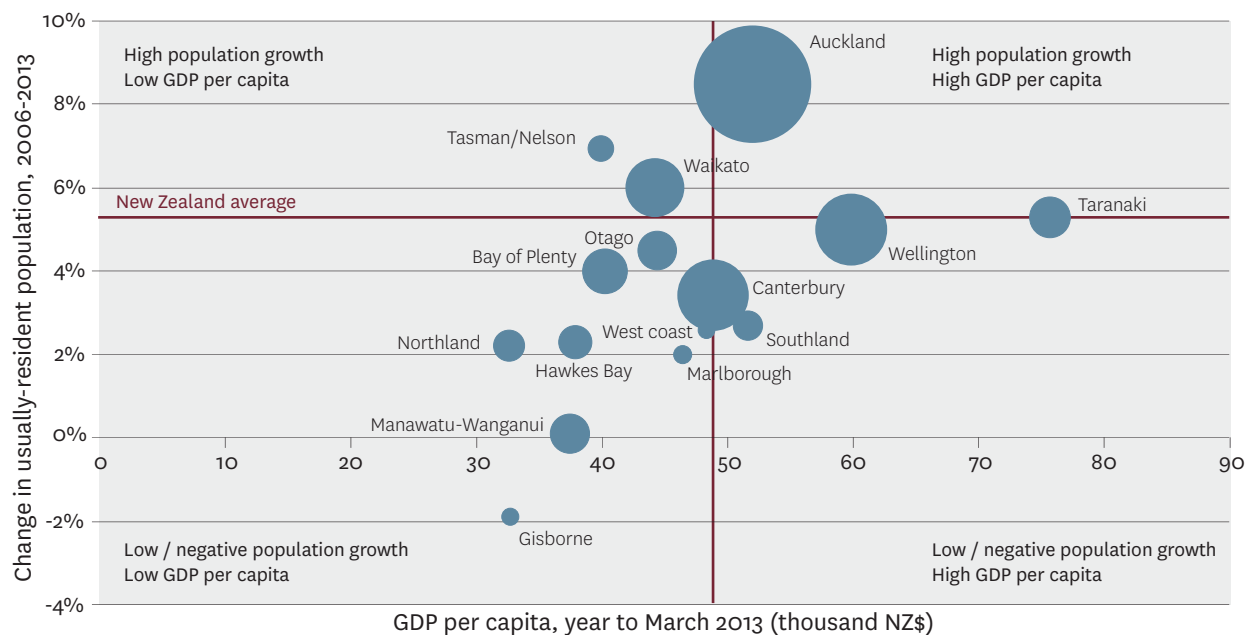
There is even considerable variation within council boundaries. A single territorial authority can be responsible for schemes with 15 to 125,000 connections for potable water alone. While some communities have growing populations, the population growth of some of New Zealand's regions is slowing down (or even shrinking). Figure 1.1 overleaf illustrates the diversity of population growth rates and incomes (measured by GDP per capita and total GDP).

Population trends have important implications for three waters infrastructure and its financial sustainability. Population growth creates more demand for surfaced areas and, therefore, stormwater management. Other areas rely heavily on tourism, creating the need to build and maintain three waters assets to meet the demands of peak, seasonal populations – with much of the cost borne by smaller, resident populations. While a shrinking population might reduce the pressure to expand the network, it reduces the rate base available to maintain or replace existing infrastructure.

As Figure 1.1 illustrates, the ability of communities to pay for their three waters services (as indicated by regional GDP per capita) also varies. Areas with low or negative population growth and low per capita GDP will face particular challenges affording the fixed costs of three waters infrastructure. Areas with high population growth and low per capita GDP may struggle to fund system growth.

³ NZIER, Three waters services: results of a survey of council provision.

Figure 1.1: Population growth and GDP per capita, by region



Source: Castalia, based on Statistics New Zealand data
 Note: The size of each bubble represents a region's total GDP relative to the other regions

The particular services delivered by the sector vary. Potable water and wastewater users are typically residential, commercial or industrial users. However, stormwater customers are all property owners and communities that would be affected by the flooding if the system did not exist. As a result, the benefits of stormwater services are public goods (they are non-excludable and non-rival). The difference between the waters is reflected in the different ways of managing the three waters, either as “two-plus-one” waters, where stormwater is managed by a separate unit (such as in Auckland), or as three waters managed together. This paper adopts a three waters approach, but recognises the unique challenges facing stormwater.

The diversity of communities and customers supports the goal of consistently good outcomes across the three waters

Three waters services should be delivered in ways that ensure all councils deliver key outcomes (such as public health and safety and efficient asset management at a reasonable cost), while allowing councils the flexibility to manage their specific circumstances. However, there are concerns that these outcomes are not being consistently delivered across the country.

This paper describes the outcomes that should be attained in all areas and identifies whether, and where, the sector can meet these expectations (Section 2). We then describe how the sector can improve its overall performance and summarise the next steps in the 3 Waters project (Section 3).

While the needs of different communities vary, good performance has several common components. Rather than focusing on what we expect of particular sector players (such as service providers, central government agencies or water service users), this paper focuses on what we expect the three waters sector as a whole to deliver to New Zealand.

These expectations establish the benchmark for an efficient and sustainable sector, and are summarised in Figure 2.1. The expectations have been developed and supported by senior representatives from local government, central government and private interests in the three waters. This has included guidance and support from Department of Internal Affairs, Institute of Public Works Engineering Australasia, Local Government New Zealand, New Zealand Council for Infrastructure Development, New Zealand Society of Local Government Managers, the Office of the Auditor-General, Treasury and Water New Zealand.

2

**What does
strong
performance
look like?**

Figure 2.1: Expectations of an efficient and sustainable three waters sector

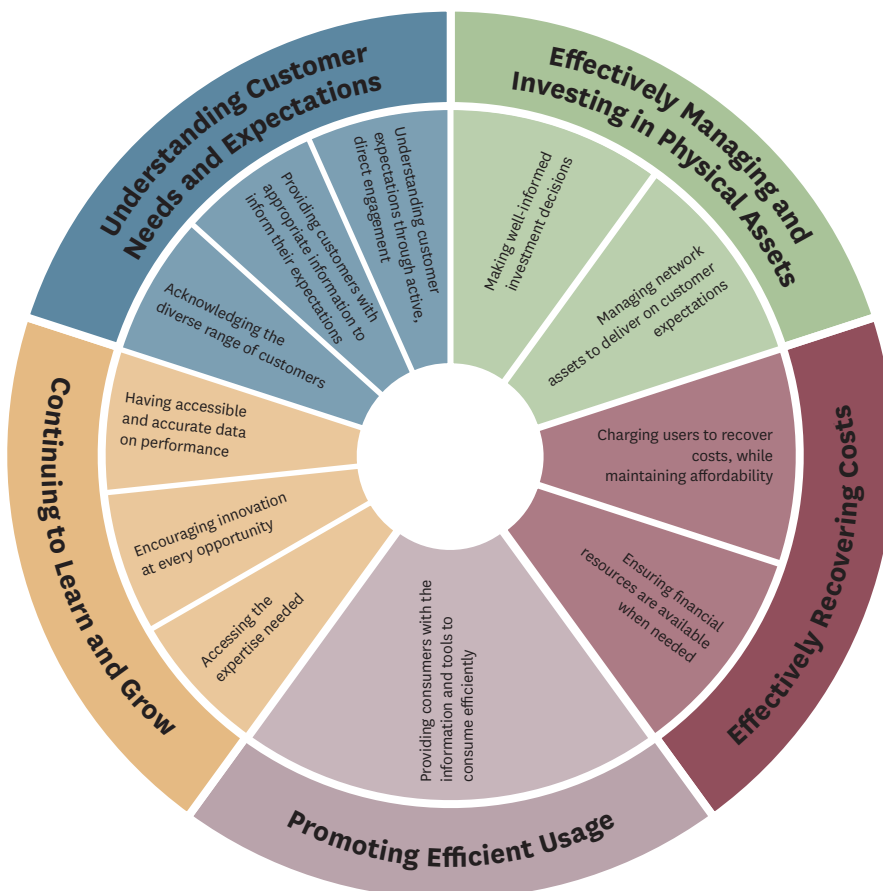
This diagram illustrates the complex relationships and linkages that exist between each expectation, which often overlap and reinforce each other. For example, a sector that shares performance data and best practice will likely have more detailed asset management information. This information in turn helps to guide customers' service expectations and helps asset managers make the right investment decisions. While these interactions are not reflected on the diagram, the major complexity of the three waters sector is front of mind when we recommend an approach to improving sector performance.

The following sub-sections discuss each expectation on the wheel, and whether the existing three waters sector currently meets those performance expectations. Overall, we find that while the sector does some things very well, it now acknowledges the areas where improvements are needed to strengthen overall performance. These improvements are the key outcomes that any change to the three waters sector must deliver.

2.1 Understanding customer needs and expectations

Water service providers should place users at the centre of the sector and treat them as customers, with a sense of choice and influence over the services they demand. Three waters services should strive to meet customers':

- **needs**, which are sometimes defined by statutory obligations (minimum levels of service) or are responses to phenomenon that substantially impact customers (even if this impact is not immediately obvious to customers) such as planning for climate change or resilience to natural hazards; and
- **expectations**, which can reflect individual customers' expectations of reliability, affordability and performance, or wider community interests.



Acknowledging the diverse range of customers

The idea of who qualifies as a three waters customer should encompass all of the interests at stake in the delivery of the three waters. In addition to residential, commercial or industrial service users, customers may also form expectations due to their position in the wider community. The sector currently acknowledges these community interests well. Existing processes, including Long Term Plans (LTPs) and resource consenting allow parties to share their environmental, health, iwi, relevant industry, or 'NZ Inc' interests.

While diverse interests are managed reasonably well at a local level, the lack of coordinated management of the three waters makes it more difficult for local processes to account for national interests, and vice versa. This can result in tension where customer and community interests compete with national or regional objectives.

The problems created by competing national and local interests are demonstrated in the current debate over the costs of rising standards. Stakeholder feedback on the 3 Waters issues paper expressed considerable concern about the impact that rising standards and expectations have on the affordability of three waters services, particularly for those councils with fewer residents to spread the costs across. Councils facing this challenge feel particularly aggrieved when their local constraints are not factored into decisions made at a regional or national level.

Providing customers with appropriate information to inform their expectations

Customers require information that is understandable, accurate and relevant to their needs and interests in the three waters. Customers can then make well-informed judgements on the level of service that they want to receive from their water provider and the wider impacts on the community. Customers should also understand the trade-offs associated with their desired service levels.

Three waters stakeholders have noted that standards are continually rising, sometimes without proper recognition of the costs and benefits of raising standards. This suggests that service expectations are not being driven by engaged and informed customers. There is scope for new tools to provide a better basis for informing customer expectations, particularly through requirements for 30 year infrastructure strategies in councils' LTPs.

Understanding customer expectations through active, direct engagement

It is not sufficient to simply provide customers with information. A two-way conversation with active customer engagement is crucial to ensure that customers' expectations are fully understood.

Current customer engagement is primarily focused on whether the system is working or not (pressure and disruption to water service). These Key Performance Indicators (KPIs) do not explicitly incorporate wider customer interests, which are left to be developed by other parties. While customer engagement is challenging for any infrastructure provider, there is a general sense that more can be done in this area.

2.2 Effectively managing and investing in physical assets

To deliver reliable services and meet the customer expectations described above, three water infrastructure assets need to be well designed, constructed, operated, maintained and renewed.

Making well-informed investment decisions (right type, right time, right place)

There is a body of knowledge on what constitutes good asset management. Investment decisions should promote the lowest whole-of-life cost and analyse alternative options, including the

potential to avoid capital expenditure through demand management. However, applying asset management disciplines requires detailed and well-understood information on the state of the physical assets and the level of likely demand in the future.

There are reasons to be concerned that investment decisions in the sector are being made with limited information on the state of the assets. Responses to the LGNZ National Information Survey revealed that a large proportion of three waters assets are ungraded, and some councils' entire networks have not been graded according to their condition. In addition, despite the requirement for renewal profiles in councils' LTPs, 16 per cent of respondents to the National Information Survey stated that they do not have a renewals profile for potable water assets, and 20 per cent of respondents did not have a renewals profile for their wastewater assets.

Anecdotal evidence suggests that asset management approaches vary across the three waters. In comparison to water and wastewater, councils appear to take a more reactive approach to managing stormwater assets, making key investments following major storm events.

Managing network assets to deliver on customer expectations

Asset management decisions must enable statutory obligations to be met. A well-functioning sector would also have the ability to incorporate additional priorities identified through directly engaging with customers. Overall, the sector does this well – with most services provided without incident or complaint.

However, some standards and statutory obligations are not always met. The National Information Survey found that provincial and rural councils generally have higher levels of non-compliance with some standards, and while some reported minor breaches, others stated they did not comply with the standards surveyed.

2.3 Effectively recovering costs

The three waters should be financially self-sustaining, so that the revenues generated by the sector are sufficient to recover costs.

Charging users to recover costs, while maintaining affordability

Three waters services should be charged at levels that recover operating costs, and a return on capital to repay any required borrowing, and depreciation. Because of the public good element, stormwater is typically rated as a general rate charge. There is significant flexibility to move money around between general rated items. Potable and Waste Water are typically levied as targeted rates or charges. As a targeted rate they must be separately accounted for often done to scheme level. Any surpluses are retained in activity and scheme related reserves. Where internal borrowing takes place an interest component is charged to those activities where reserve surpluses are used to fund other activities. Conversely the reserve in surplus gets credited interest. So, targeted rates that fund Potable and Waste Water infrastructure have quite specific rules for their disclosure and calculation under (ref: section 15, LGA 2002). In the long term targeted rate payers will only pay for the services for which they are being rated on.

The charges themselves can be expressed as volumetric prices, other user fees, or are met through rates. Within these charging structures there are ways to protect the wellbeing of households and communities that are not able to afford the full cost of service.

Ensuring that financial resources are available when needed at an efficient cost

The three waters should be managed in a way that allows investments to be financed when they are needed. Investments can be financed through debt, equity (such as through a one-off charge on ratepayers or by releasing capital in council's other assets), or through third parties (for example using Private Public Partnerships).

There are concerns that not all councils will be able to access the financial resources needed in the future. Approximately 19 per cent of respondents stated that while they do have a renewals profile for potable water assets, it is not matched or funded. This increased to 27 per cent of respondents responding to the same question on wastewater assets. The National Information Survey also found that current depreciation allowances may be lower than the level needed to replace existing assets in the future at the same cost.⁴ Councils

⁴ A recent report from the Office of the Auditor-General, "Water and Roads: Funding and Management Challenges," also identified risks around the ability to replace and renew existing assets to maintain service delivery. See <http://www.oag.govt.nz/2014/assets>.

have been required to fund depreciation on three waters assets since 1996 which creates a potential funding shortfall when assets need to be replaced.

2.4 Promoting efficient usage

Ideally, customers should see a clear link between their consumption of three waters services, the service levels they receive, and the amount they pay for the services.

There are a range of tools in the three waters sector that can be used to encourage efficient usage. Educational campaigns encourage customers to reduce their demands on the system, particularly when supply is low. Water restrictions add tools to enforce particular behaviours. Rainwater harvesting and other decentralised technologies can increase the supply of potable water. For provision of Stormwater infrastructure different pricing approaches (such as volumetric charges and developer contributions) can also be used to incentivise customers to change their decisions to better reflect the value they receive. For example to incentivise developers to use more permeable surfaces councils might impose lower external costs and require lower development contributions.

There may be room for more councils to trial and implement more effective ways of encouraging efficient use. However, there is no evidence currently available to estimate the benefits this would bring across the sector.

2.5 Continuing to learn and grow

The responsibilities and requirements of WSPs continue to change over time. The three waters sector needs to be adaptable to change and continue to deliver value to its customers in the long term. This requires a sector that monitors its performance, continues to innovate and draws on highly capable people.

Having accessible and accurate data on performance

Access to information on the state of the three waters should be as open and accurate as possible in order to inform customer expectations and asset management decisions. Transparency also fosters greater accountability for WSPs to perform well.

The state of the information on the performance of the three waters has been a recurring theme throughout the 3 Waters project. The National Information Framework has significantly improved the

availability of data by providing a single framework to measure sector outcomes. The leadership of LGNZ in this space has been acknowledged by the National Infrastructure Unit (NIU) in its most recent update of the National Infrastructure Plan Evidence Base.

However, the National Information Framework can be improved. Some stakeholders have voiced concerns over the consistency of responses to the National Information Survey. Some councils provided updated data to clarify their initial responses, which highlights that councils are still learning about the terms used in the survey (which is expected given that this is the first National Information Survey). More can also be done to get value out of the information that has been collected. Council staff (such as asset managers) do not yet have access to the raw data collected through the National Information Survey. While public transparency has been lifted through the issues paper, there is potential to increase transparency on performance.

Encouraging innovation

WSPs should be actively seeking new opportunities to improve their management of the three waters. Innovation can also be promoted through initiatives spreading best practice amongst councils, such as via Equip (LGNZ's Centre of Excellence) and other service providers. A Local Government Risk Agency could well play a significant role in this space.

Innovation ranges from refining best practice processes that are already used, to developing or adopting wholly new processes. For instance, some councils are making use of new tools to support their asset management decisions. However, regional and metro councils have greater access to capabilities like statistics-based growth scenarios and hydraulic models of the schemes. There is insufficient evidence to suggest whether management decisions are being made on the basis of the best available option to meet the identified need, rather than relying on past technologies and approaches.

Accessing the expertise needed

A capable sector attracts, retains and develops the expertise of dedicated three waters staff. Maintaining three waters expertise over time requires succession planning and a commitment from the entire sector to foster sector-specific expertise.

Stakeholder feedback in the 3 Waters project suggests that access to expertise is a particular issue for rural and remote councils, and that the situation is getting worse. Attracting and retaining specialised knowledge is seen as an issue common to most services requiring engineering expertise, and is being experienced across multiple council activities, such as in road asset management.

2.6 What must any approach deliver?

The assessment above indicates that the sector can improve, with some areas being more crucial than others. In order of importance, current sector arrangements need to improve to ensure that:

- There is transparency on performance, and confidence that performance will improve over time;
- Asset management practices are based on consistently high quality information on the state of assets; and
- Decision-making processes recognise and resolve competing interests and trade-offs.

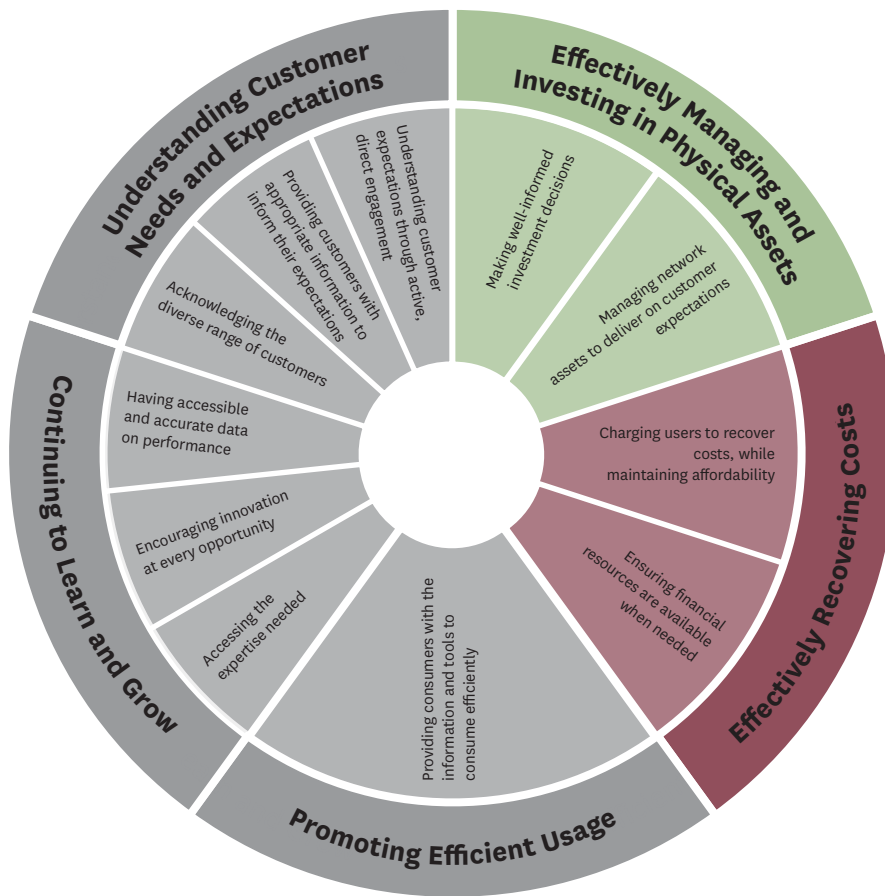
These outcomes determine what any change to the sector must deliver for performance to improve in a meaningful way. Figure 2.2 illustrates how these outcomes relate to the expectations defined on the wheel presented in Figure 2.1.

Sustainable financial management is a key aspect of the second and third outcomes. Rather than being an area of concern in itself, the challenges councils are facing in regards to financial management arise from increasing operating and capital expenditure costs. This can be made more difficult as a result of a lack of knowledge about the state of the physical assets and rising community expectations. We expect the improvements in these areas to have positive flow-on effects for the financial management of the sector.

Figure 2.2: Key outcomes required to improve the performance of the three waters

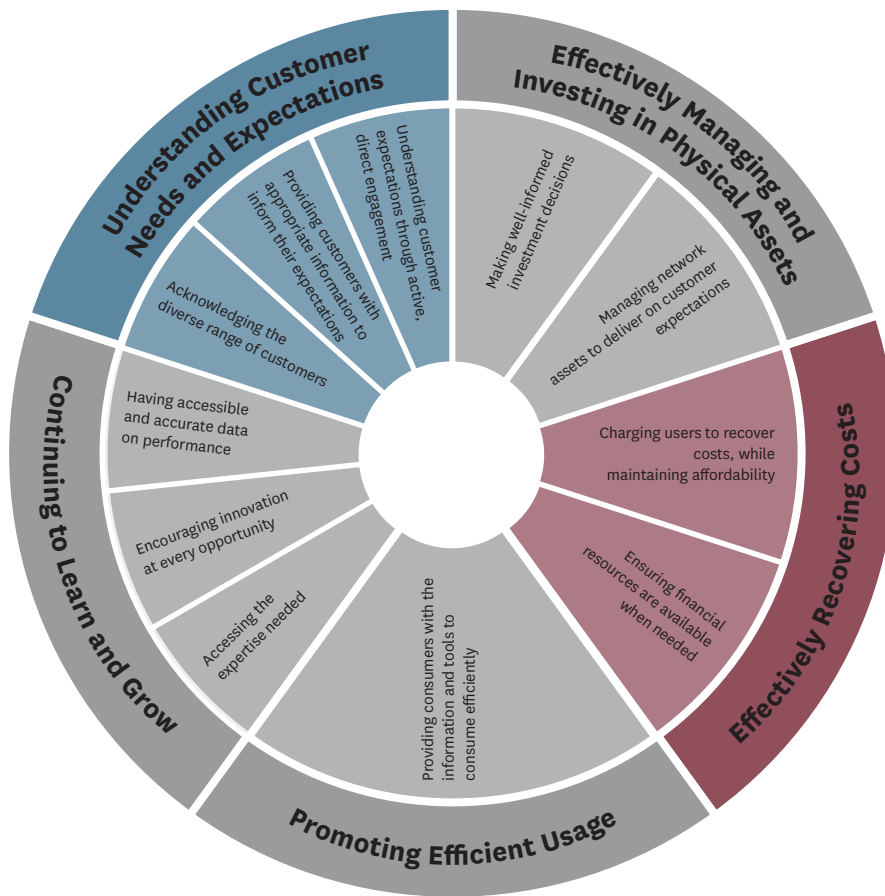


Figure 2.2: Key outcomes required to improve the performance of the three waters – continued



Key Outcome 2:
 Asset management practices that are based on consistently high quality information on the state of assets

Figure 2.2: Key outcomes required to improve the performance of the three waters – continued



Key Outcome 3:
Decision-making processes recognise and resolve trade-offs

3

**A strong,
sector-led
approach**

The evaluation presented in Section 2 demonstrates that the status quo will not continue to meet the outcomes required in the three waters – changes are needed. This section outlines three possible approaches to stimulating positive change in the three waters, which are evaluated on their ability to achieve the required performance improvements.

Rather than tinkering with existing arrangements or completely overhauling the way three waters services are delivered, this paper recommends a middle path – the “strong, sector-led approach.” As the name suggests, this approach calls on the local government sector to commit to improvements in the three waters that focus on the areas that are not currently performing as they should.

3.1 Three broad approaches for change

The outcomes that any change must deliver are spread over various functions of the sector. A suite of actions is therefore needed to improve overall sector performance. We characterise the options for effecting change as three broad pathways that contain several specific and consistent actions. These options are illustrated in 3.1. In essence:

- The **enhanced status quo** generates performance improvements through greater performance transparency and accountability that comes from extending the National Information Framework. Current decision-making processes remain unchanged, meaning this approach relies on individual councils building on current practices and tools to improve performance;

- A **strong, sector-led approach** creates a new, local government-owned body to lead overall sector improvement and collect and maintain sector data and expertise. This body’s decisions on important sector issues would be empowered through a sector-wide multilateral commitment delivered either through a binding multilateral contract; or a co-regulatory regime similar to that operating in the gas sector; or through the mooted Local Government Risk Agency (noting that under all three options decisions on delivery model and investment profile would remain with individual councils, or groups of councils). Individual councils would be obliged or incentivised to meet, for example, data standards and other measures to improve performance, giving the arrangements “teeth”; and
- **Economic regulation** would empower an independent regulator to monitor sector performance and make regulatory decisions that aim to improve performance over time. This approach is currently used in electricity, airports and telecommunications infrastructure in New Zealand.

Figure 3.1: Broad approaches to improving sector performance



3.2 Some options will not deliver on key outcomes

In evaluating these three options, we find that the enhanced status quo and economic regulation options are unlikely to produce the outcomes required. The enhanced status quo fails to provide confidence that sufficient improvements in sector performance will be achieved. On the other hand, economic regulation risks creating a costly, one size fits all regime that fails to recognise the diversity of three waters interests.

The enhanced status quo does not ensure improved performance across the sector

The enhanced status quo would improve performance transparency (Key Outcome 1) through the development of the National Information Framework. This would involve refining the metrics in the survey and continuing to build a common basis for reporting on performance. The National Information Framework survey would also be aligned with other reporting measures such as Water New Zealand's (WNZ) National Performance Review.

The greater transparency that results from these developments may incentivise WSPs to improve performance in various ways. By observing how other (potentially better resourced) service providers manage their assets, WSPs that are struggling would know who to look to for best practice. However, there is a real risk that these changes may not be sufficient to raise performance across the sector, particularly given that those facing multiple challenges may be among those facing challenges in ability to fund infrastructure investment.

The enhanced status quo would also include recent initiatives aimed at improving sector performance. These include the requirement to prepare 30 year infrastructure strategies in LTPs, reporting against DIA performance measures and producing service delivery reviews under section 17A of the Local Government Act 2002. However, these initiatives were developed before the National Information Survey provided the sector with a clear picture of the state of three waters. As a result, these recent initiatives risk creating a "one size fits all" approach to benchmarking and performance standards. That is not to say that consistency in approach is not needed but there must be sufficient flex in the system to allow meaningful comparisons between large cities and small rural communities, for example.

Under the enhanced status quo, sector leadership would continue to be disaggregated. The enhanced status quo therefore relies heavily on the initiative of individual councils. While councils are supported by institutions such as Local Government New Zealand, Water New Zealand, the New Zealand Society of Local Government Managers, and the Institute of Public Works Engineering Australasia, there is currently no centralised source for advice on key three waters issues, nor a means to resolve trade-offs in industry decisions.

The issues in the three waters do not justify the costs and disruption created by economic regulation

In contrast to the enhanced status quo, economic regulation provides more certainty that councils will implement the changes that are needed – but this form of control could come at a significant cost. A key finding of the LGNZ 3 Waters project is that the sector is not fundamentally broken – with services confirmed to be reliably delivered at reasonable cost. This suggests that full-blown economic regulation of the sector is unnecessary, and the costs seen in other sectors regulated this way would likely outweigh the benefits of change.⁵

Economic regulation would provide greater transparency on performance (Key Outcome 1) through requirements for WSPs to disclose information in a standardised format to the regulator. This data could then be analysed and reported, with commentary on the areas where improvements should focus. Economic regulation could also improve asset management practices (Key Outcome 2) by improving the information on the state of physical assets and requiring councils to follow certain practices.

Economic regulation would struggle to recognise and resolve the complex trade-offs involved in industry decisions (Key Outcome 3). As highlighted in Section 1 of this paper, local interests vary between communities over time. While a regulator would try to avoid imposing a 'one size fits all' approach, in reality it will be very difficult to adequately reflect regional and local interests in decisions that are centrally made. As a result, the needs and preferences of local communities would likely be put to one side to achieve standards and expectations that better fit other parts of the country – limiting the ability of WSPs to direct local resources to best meet local objectives.

⁵ In 2013, the Commerce Commission conducted a review of the funding of its regulatory role under Part 4 of the Commerce Act. The review's preferred and "most cost-effective option" costs around \$6 million per year to regulate electricity distributors (which control assets worth less than in the three waters). A further \$4.9 million will be required to review the methodologies for determining prices and quality standards (which occurs every seven years).

3.3 What does the strong, sector-led approach deliver?

The strong, sector-led approach is the only one of the three identified approaches that will deliver, at a reasonable cost, better performance transparency, information to support asset management decisions and processes to resolve trade-offs in important sector decisions.

Co-ordinated sector leadership

The central element of the strong, sector-led approach is the creation of some form of sector agency. Such a body would manage an overarching and common data and information framework in a manner that preserves the ability of individual councils to decide, for their communities, how best to meet appropriate rules and regulations determined to be necessary. Such an entity (established through any of the possible three options) would be owned by local government in a similar manner to which the gas industry regulator is owned (the Gas Industry Company is owned by gas industry participants) or the Local Government Funding Agency is owned by local government entities. The body could be governed by a board composed of independent persons and a mix of local government representatives that reflect the broad range of local interests across rural, provincial and metropolitan areas.

As well as discharging the regulatory role, the body would be a thought leader, conducting reviews and developing recommendations on key industry issues. Based on feedback during the 3 Waters project, we anticipate that the initial work plan would include:

- setting standards for data quality and reporting;
- setting standard processes to guide WSPs' investment decisions, particularly in the area of asset renewals;
- determining the merits of managing stormwater jointly with or separately from water and wastewater;
- reviewing and recommending optimal funding options for councils based on their specific circumstances, such as service area, resource scarcity and cost structure; and

Suggesting for local authority consideration an optimal delivery structure in particular areas and recommending WSPs adopt a service model from a menu of options.

The new body would have other means to encourage councils to embrace the changes needed to improve performance across the three waters. For example, it would co-ordinate the sharing

of councils' experiences and best practice between councils facing similar circumstances, and could support any struggling performers through particularly challenging processes and issues. It would lead the development of innovative ways to further improve understanding of the state of the three waters assets and services to improve decision making. It could also provide some councils with funding to support implementation of its decisions, or use funding or access to funding as an incentive for improving performance.

The three options presented consider an effective and efficient way of establishing the body that would undertake this work.

The body could be created through a sector-wide multilateral arrangement, where all parties agree to the rules, processes and data standards determined through the entity's processes. The agreement would ensure that the body has sufficient powers to meet its mandate on key sector issues, providing confidence that sector performance will be improved. A successful multilateral contract arrangement with robust enforcement provisions governed the electricity market between 1996 and 2004. To be successful all councils would have to agree the terms of any multilateral contract and that agreement would have to bind any delivery agency they utilise.

Alternatively, the body could be created on similar lines to the Gas Industry Company under the Gas Act 1992. This model is known as co-regulation as it sits under a broader government mandate to achieve certain outcomes but is empowered to pursue those outcomes in a more collaborative and cost-effective manner than full blown economic regulation. This is discussed further below.

Finally, if the proposed Local Government Risk Agency proceeds then it could perform the required role. It is likely to need all the requisite data to carry out its primary role of advising local governments on risk identification and management in any event. Accordingly it would be well-placed to carry out the three waters task. This would also obviate establishing two separate agencies when one could do the task.

Improved performance transparency

A strong, sector-led approach will maintain and develop the National Information Framework under the leadership of the new entity. This will involve aligning the National Information Framework with other surveys and reporting metrics such as the new requirements under section 101B of the Local Government Act 2002 (the 30 year infrastructure strategy requirement) to provide water sector managers with direct access to the data. Extending the National Information Framework will help to address concerns about the comparability and consistency of data reporting by ensuring that

WSPs understand and use a single set of terms and metrics relevant to council type.

The new body would develop benchmarks that councils would report against to provide clear, consistent reporting to the sector and central government on performance. To improve transparency and a focus on lifting performance, the body would publish results against relevant and appropriate benchmarks to highlight which councils perform noticeably better or worse compared to similar councils and where opportunities for the sharing of best practice can be achieved. This, over time, will drive a culture of innovation and responsiveness. Such reporting will also provide possible explanations for any differences in performance across the country and by size of council – helping to improve the general level of understanding of the challenges, costs and risks facing service delivery by WSP categories.

Developing and maintaining the National Information Framework and related services will require dedicated financial support. Under the self regulatory option it would be expected that the sector would provide the majority of the funding. However, given that the improved transparency achieved to date has produced benefits that contribute to national interests, there may be a case for some funding for specific workstreams to be met by central government.

Consistent and improved asset management practices

Greater performance transparency under the strong, sector-led approach will help to improve the quality of asset management decisions through providing better information on the state of the physical assets. Over time this should incentivise better and more efficient asset management practices within councils.

The body could, for example, require the sector to make renewals decisions that are informed by recent condition assessments, as opposed to simply relying on the asset's age profile. It could ensure that these practices are broadly consistent across the country, but are implemented in ways that reflect local circumstances and challenges. It could also evaluate and promote innovative approaches to asset management. Where possible, it would set appropriate standards for asset management that councils report against in the National Information Framework.

Asset management could also be improved by reviewing and recommending service delivery models that incentivise efficiency. The body could work with councils to determine the appropriateness of whether to establish “network utilities” (considering options like pooled services, joint outsourcing and council-controlled organisations) by providing WSPs with a menu of options from which they could choose. It could then advise on the performance management contracts between new utilities and the councils they serve.

The extent of improvements to asset management practices will depend on the decisions made by the new body. However, there are already councils using solid asset management practices and the strong, sector-led approach will better enable existing strong performers to share their experiences with other councils.

3.4 How will the strong, sector-led approach be implemented?

This sub-section describes the specific steps required to successfully implement the strong, sector-led approach.

A multilateral arrangement needs full support from the sector

As described above, a new body delivered by means of a multilateral contract requires all parties to agree the terms of that contract. The chief advantage of such an approach is cost. Self-regulatory mechanisms generally deliver the required outcomes at least cost particularly where competitive service provision is an aspect of the delivery model. However, the number of councils (78) impacted by these proposals is large and consequently the working assumption being taken is that attaining a commonality of view amongst so many different players is likely to be challenging, but not impossible. An additional factor to consider is how agencies, used by councils to deliver water services, could also be bound particularly when they have distinct legal personality from council.

Although this option should continue to lie on the table, the National Council of LGNZ is of the view that a more pragmatic approach would be to move to explore either a co-regulatory model or utilise the proposed Local Government Risk Agency (if it proceeds).

Co-regulation

The Gas Act 1992 empowers (section 43ZL) the Governor-General to approve on the recommendation of the responsible Minister a body to be the "industry body" for the purposes of the statute. That body is the Gas Industry Company (GIC). The GIC is industry owned but is governed by a board comprising a majority of independents and elected industry representatives. It has an independent chair.

The GIC's role is to regulate the industry and achieve the requirements set out in section 43ZN. Essentially, they are to ensure that gas is delivered to existing and new customers in a safe, efficient and reliable manner. There are other more specific objectives centred on efficient investment and promoting sustained downward pressure on costs. Sitting above the GIC is the Government's Policy Statement on Gas Governance which sets out the outcomes that the Government is expecting over time and against which the GIC ultimately is measured. However, the key aspect of this model is to delegate to the GIC (an industry body) the responsibility of assisting the gas industry to achieve these outcomes in a way that all players in the industry can contribute to and ultimately endorse.

Such a model could be replicated in the water sector and if successfully implemented would address both the legitimate concerns of Government for a more effective oversight regime in the water sector and the concerns of the local government sector that the model be appropriate to the sector being regulated, collaborative in its nature, and less costly than full blown economic regulation. Implementing this model does not foreclose moving to full economic regulation and that in itself should incentivise all parties to do their best to ensure the model's success.

Local Government Risk Agency (LGRA)

A third option has recently emerged, which LGNZ's National Council believes warrants consideration. In June 2015, LGNZ and the Crown announced a joint project to assess the business case to establish a local government owned LGRA. The project will deliver a positive or negative business case for an LGRA no later than June 2016. The project is overseen by an establishment board independently chaired and comprised of sector representatives and independents. Treasury has observer status.

The underlying rationale for considering an LGRA is the proposition that by working collectively the sector could significantly improve both its understanding of risk and management of risk in the sector. Three waters infrastructure is a significant and costly aspect of the local government sector's overall risk profile. To carry out its task to assist the sector in managing risk, the LGRA would require detailed data on the state of local government assets, detailed knowledge of asset management plans, and a detailed understanding of renewal and extension profiles – all of which would be required by a three waters sector body.

It is also likely to be the option that could most quickly be implemented because empowering legislation would not be required nor would the agreement of all water sector participants be required (as under the multi-lateral agreement option).

Specific steps to implement the strong, sector-led approach

This paper constitutes the first step in the process. Feedback on the concepts and options set out in this paper are sought so that the National Council of LGNZ, the wider membership, and central government can be informed as to how the three waters sector would prefer to proceed.

If support for a sector-led approach exists, and a preferred option is identified, then LGNZ would move in conjunction with its members and stakeholders to a more detailed institutional design phase. Discussions with central government to ensure alignment with broader public policy objectives would also be required. Such a process also allows time for the sector to determine whether it wishes to proceed to establish a LGRA, and if so, whether this additional three waters functionality should form part of its mandate.

Separately, LGNZ also will review whether requirements under the Local Government Act 2002 pose challenges for the development of the multilateral, co-regulatory approach, or LGRA options which might require legislative resolution to overcome. The objective is to have one set of effective requirements on councils rather than many sets of common or contradictory requirements.

In the event a new body is created, it is possible that it could be in a position to agree on priority areas within six months of its creation. Many of the priorities to be included in its work plan can be drawn from this paper. These include determining how best to develop the National Information Framework, developing guidelines or rules on asset management to respond to the growing need for renewals, and investigating funding options for the three waters.

Conclusion

We look forward to receiving your feedback on the options set out in this paper.

Acronyms and abbreviations

DIA	Department of Internal Affairs
DWS	Drinking Water Standards
GIC	Gas Industry Company
IPWEA	Institute of Public Works Engineering Australasia
KPIs	Key Performance Indicators
LGNZ	Local Government New Zealand
LTPs	Long Term Plans
NIU	National Infrastructure Unit
OAG	Office of the Auditor-General
PPP	Public Private Partnership
SOLGM	Society of Local Government Managers
WSA	Water Services Association
WSP	Water Service Provider



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