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

An issues paper prepared for LGNZ by Castalia Strategic Advisors

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Contents

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.

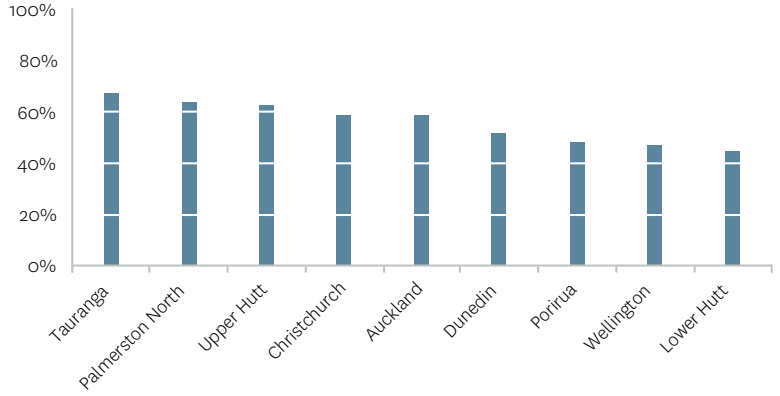
However, a national snapshot of three waters infrastructure masks significant local differences. Some councils (such as Tauranga) have made investments relatively recently, while others have much older, lower-graded networks. We have used survey responses suggesting the remaining life and condition of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

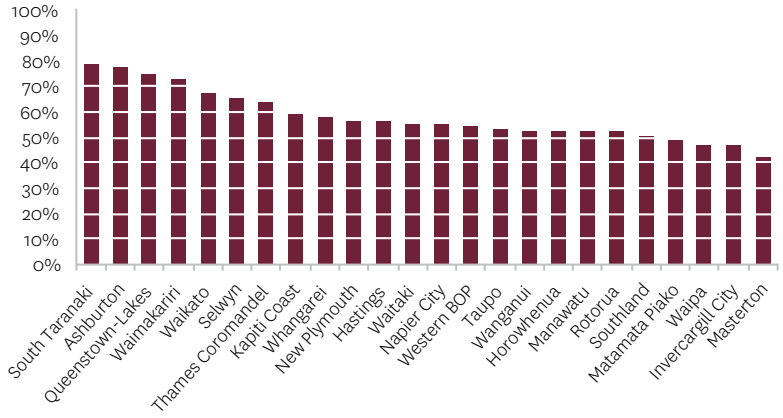
Figure 2.1 plots the proportion of drinking water network value that remains after depreciation for those councils that provided data on their total asset value and depreciated replacement costs. Renewals are likely to be most pressing for those councils with lower proportion of remaining value. At the 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)

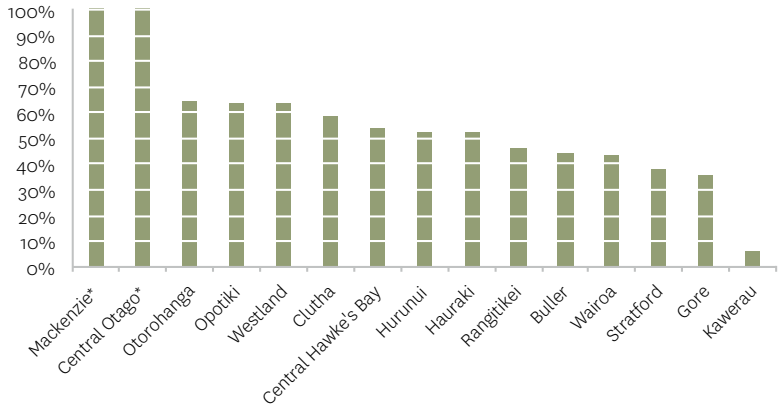
Metro councils
(Responses: 9/10)



Provincial councils
(Responses: 24/26)



Rural councils
(Responses: 15/24)



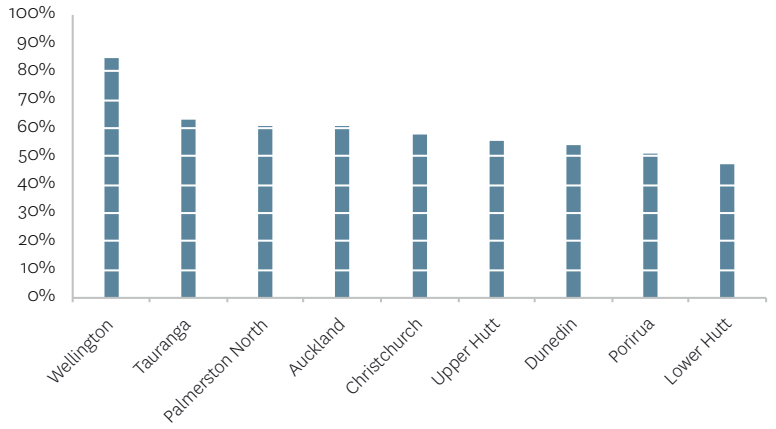
Source: LGNZ 3 Waters project – National Information Survey

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

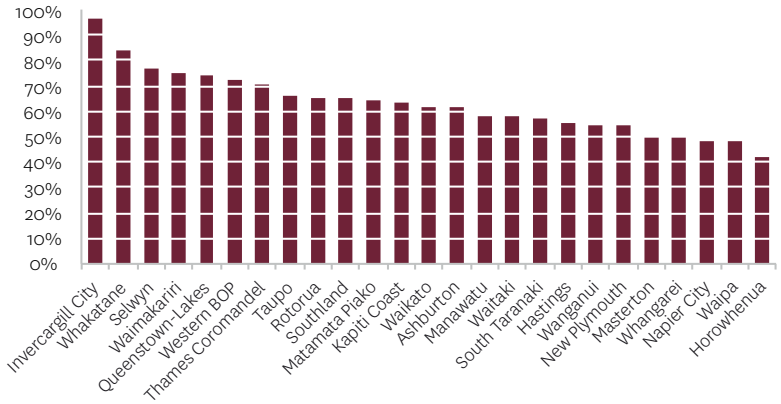
Figure 2.2 plots the proportion of wastewater network value that has been depreciated. This shows similar trends as for drinking water, although with slightly higher levels of asset value remaining after depreciation.

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

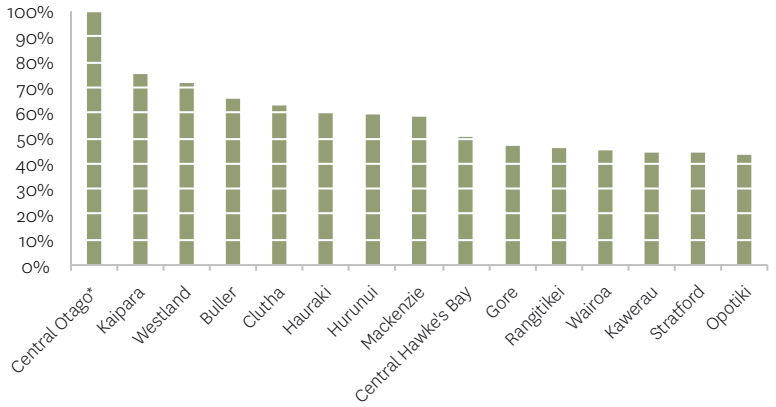
Metro councils
(Responses: 9/10)



Provincial councils
(Responses: 24/26)



Rural councils
(Responses: 15/24)



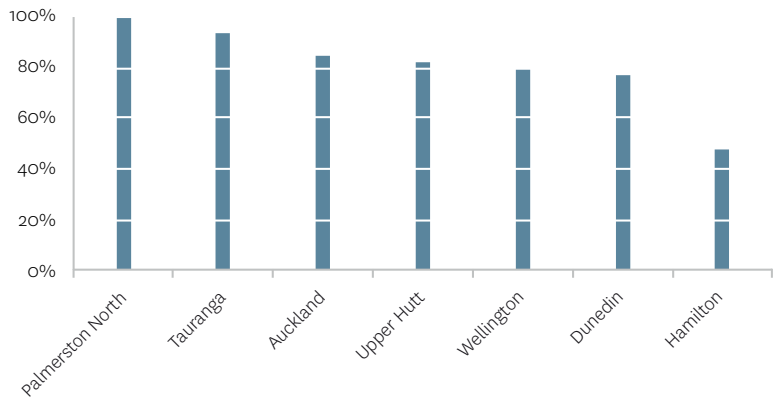
Source: LGNZ 3 Waters project – National Information Survey

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.

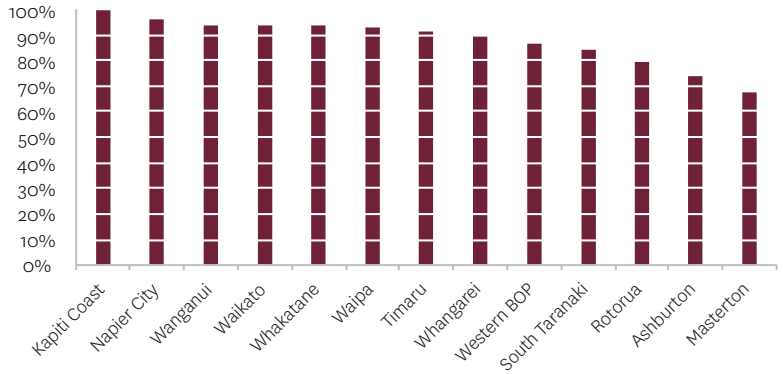
Figure 2.3 and Figure 2.4 plot the proportion of graded assets that remain in good condition (ie graded 1, 2 or 3 using the International Infrastructure Management Manual (IIMM)). The IIMM considers these assets only require maintenance to return the assets to an accepted level of service. In contrast,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

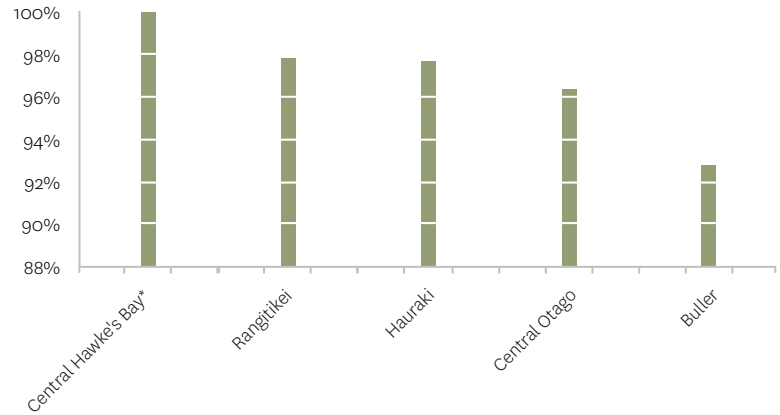
Metro councils
(Responses: 7/10)



Provincial councils
(Responses: 13/26)



Rural councils
(Responses: 5/24)

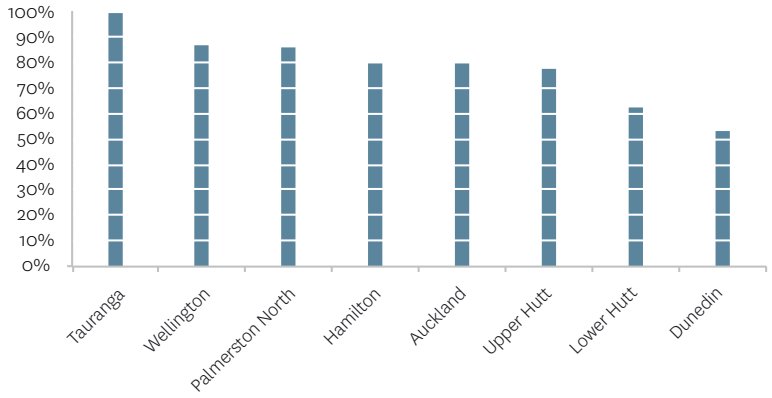


Source: LGNZ 3 Waters project – National Information Survey

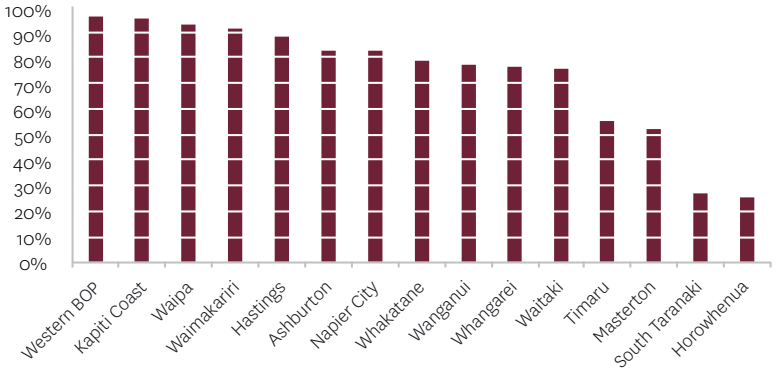
Note: A 'response' indicates a council gave data on total length of reticulation and its condition grading.
* Central Hawke's Bay reports that 103 per cent of its total length of network is Condition 3.

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

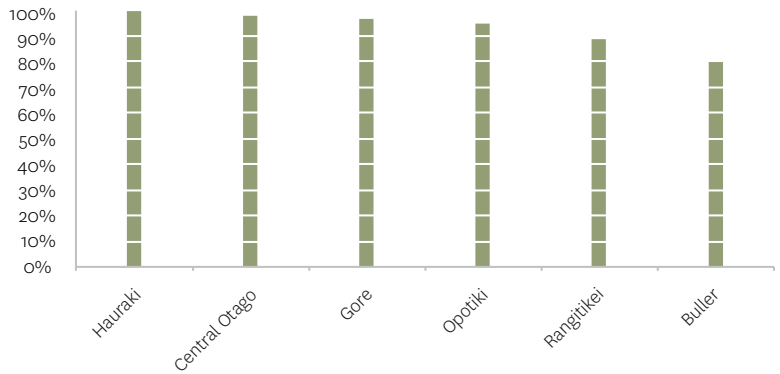
Metro councils
(Responses: 8/10)



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.

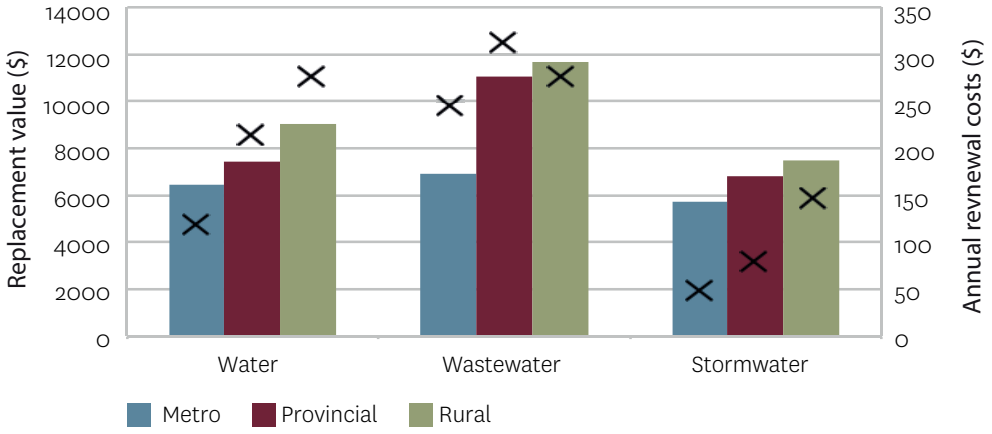
Asset renewal costs, represented by the crosses on the Figure 2.5 below, also show a considerable difference for provincial and rural councils when compared to metro councils. In additional to only being able to spread the costs over a small population, provincial and rural councils face higher estimated 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.

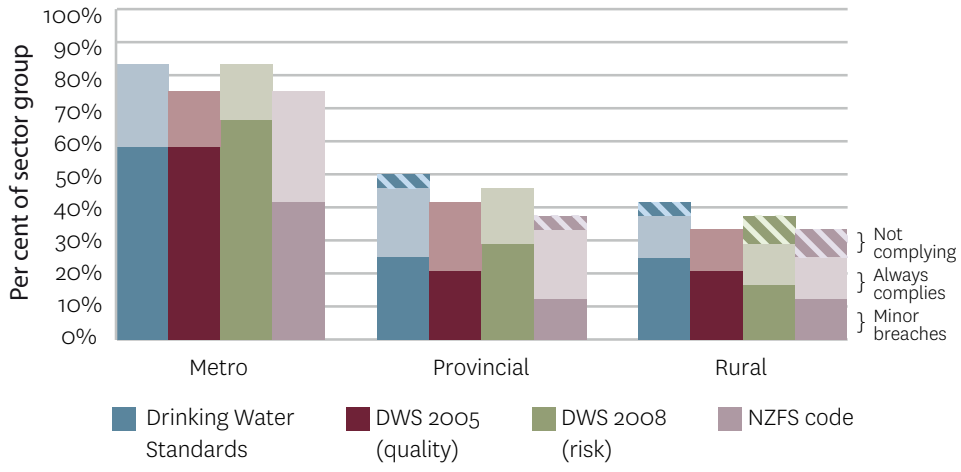
Standards are increasing

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.

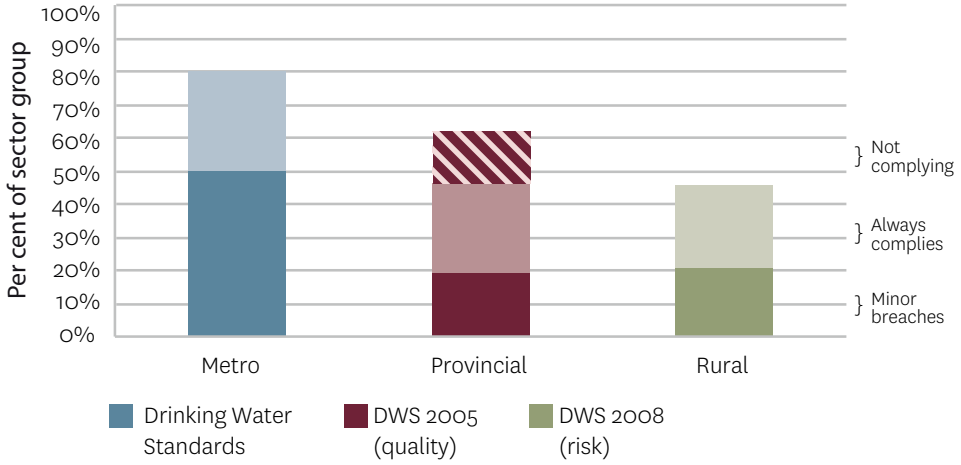
The state of resilience analysis may not pose an immediate risk to wastewater and stormwater services. However, it does suggest that a significant number of councils are less prepared, and therefore may struggle, to provide these services in the case of an unforeseen or adverse event.

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."*

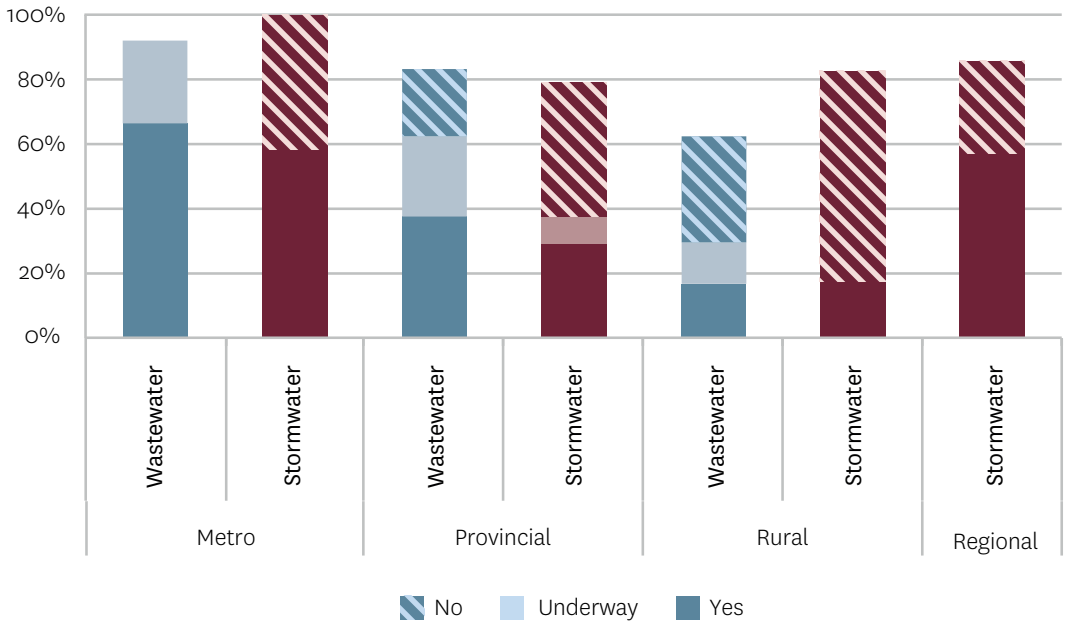
Which councils are most affected by the challenge of rising standards?

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)

0% 10% 50% 90% 100%

Auckland	South Taranaki*	Hamilton	Thames-Coromandel	Christchurch
Tauranga*	Waikato	Wellington	Hastings	Queenstown-Lakes
Whangarei*	Whakatane	Palmerston North	Selwyn	Waitaki
Hauraki	Otorohanga	Upper Hutt	Napier City	Masterton
Kaipara*	Westland*	Dunedin	Wairoa	Waimakariri
		Porirua	Central Otago	Ashburton
		Lower Hutt	**Waitomo**	Waipa
		Rotorua	Rangitikei	Kapiti Coast
		Western Bay of Plenty	Opotiki	Clutha
		New Plymouth	**Tararua**	Hurunui
		Matamata-Piako	**Kaikoura**	**South Wairarapa**
		Timaru	South Waikato	**Ruapehu**
		Southland	Stratford	**Grey District***
		Taupo	Gore	Mackenzie
		Manawatu	Central Hawke's Bay	
		Wanganui	Kawerau	
		Horowhenua	Buller	
		Invercargill		

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.

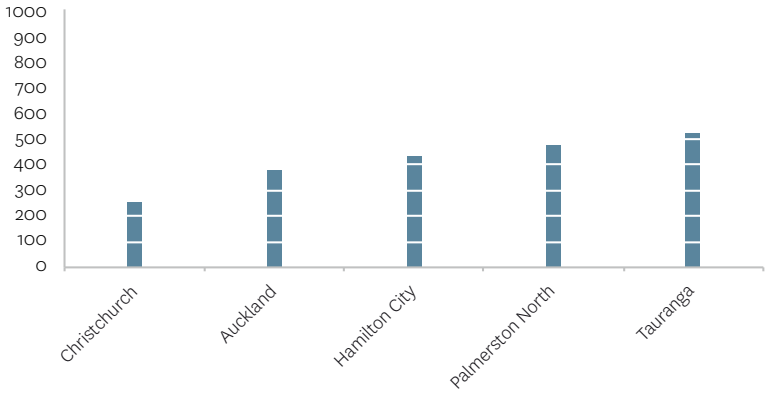
There are likely to be councils that face one or more of the conditions listed above that do not have water meters or use volumetric charging. By the same token, some councils may not realise benefits from metering that are sufficient to outweigh the costs.

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.

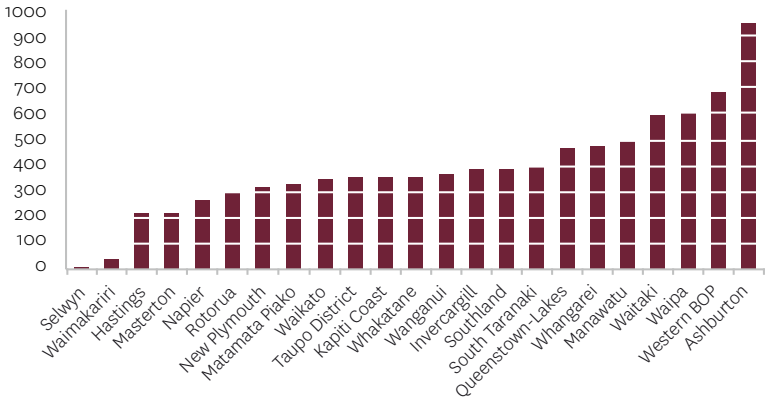
6 EAG. (2013). Report of the Local Government Infrastructure Efficiency Expert Advisory Group. Available at http://www.dia.govt.nz/Better-Local-Government-Background#expert

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

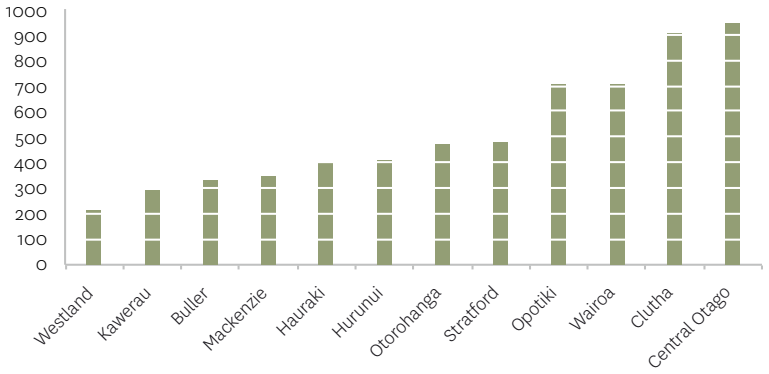
Metro councils
(Responses: 5/10)



Provincial councils
(Responses: 23/26)



Rural councils
(Responses: 12/24)

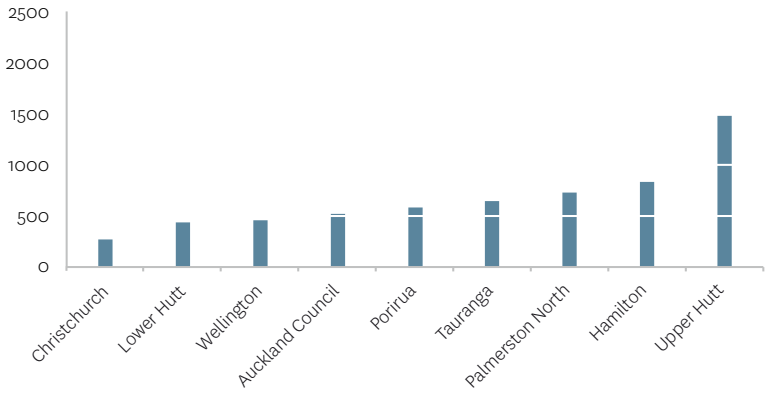


Source: LGNZ 3 Waters project – National Information Survey

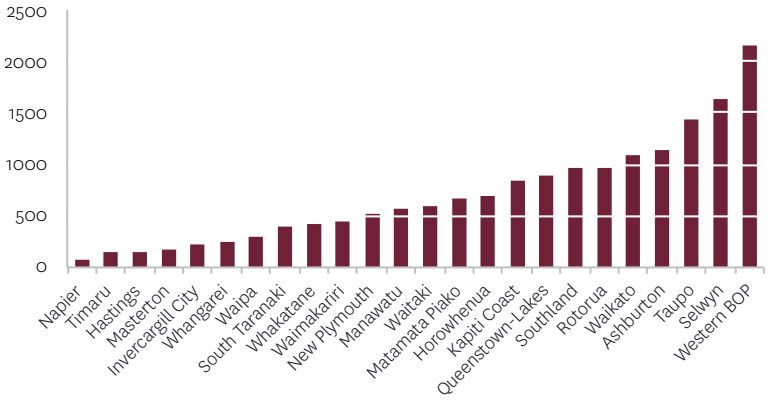
Note: A 'response' indicates a council gave information on operational, maintenance costs and volumes of treated water.

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

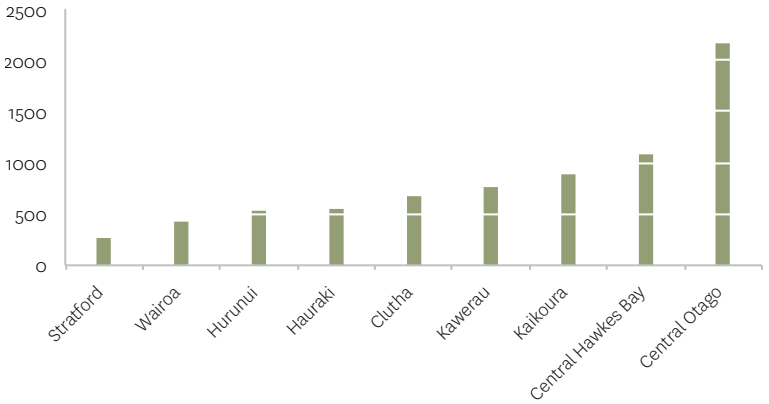
Metro councils
(Responses: 9/10)



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.

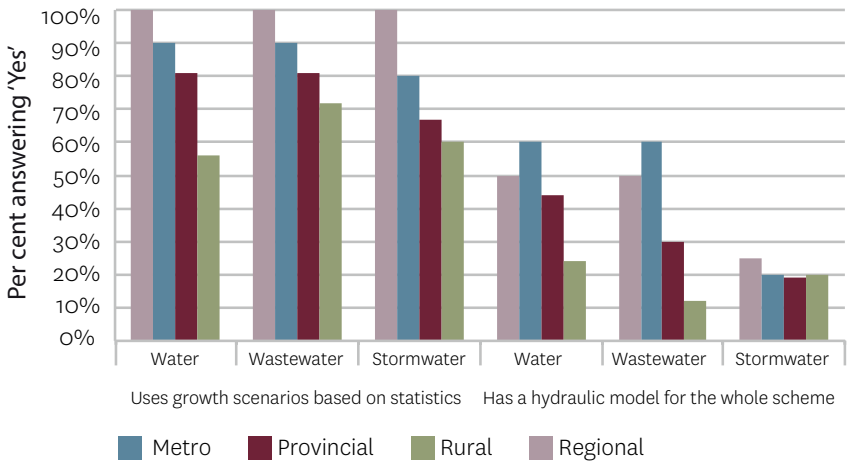
Many council water providers are not focused solely on delivering the three waters services but also carry out other council functions. This can limit the ability for the providers to develop specialised knowledge in the three waters. The provision of modern water services requires a significant range 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
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
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

We are. LGNZ.

PO Box 1214
Wellington 6140
New Zealand

P. 64 4 924 1200
www.lgnz.co.nz

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