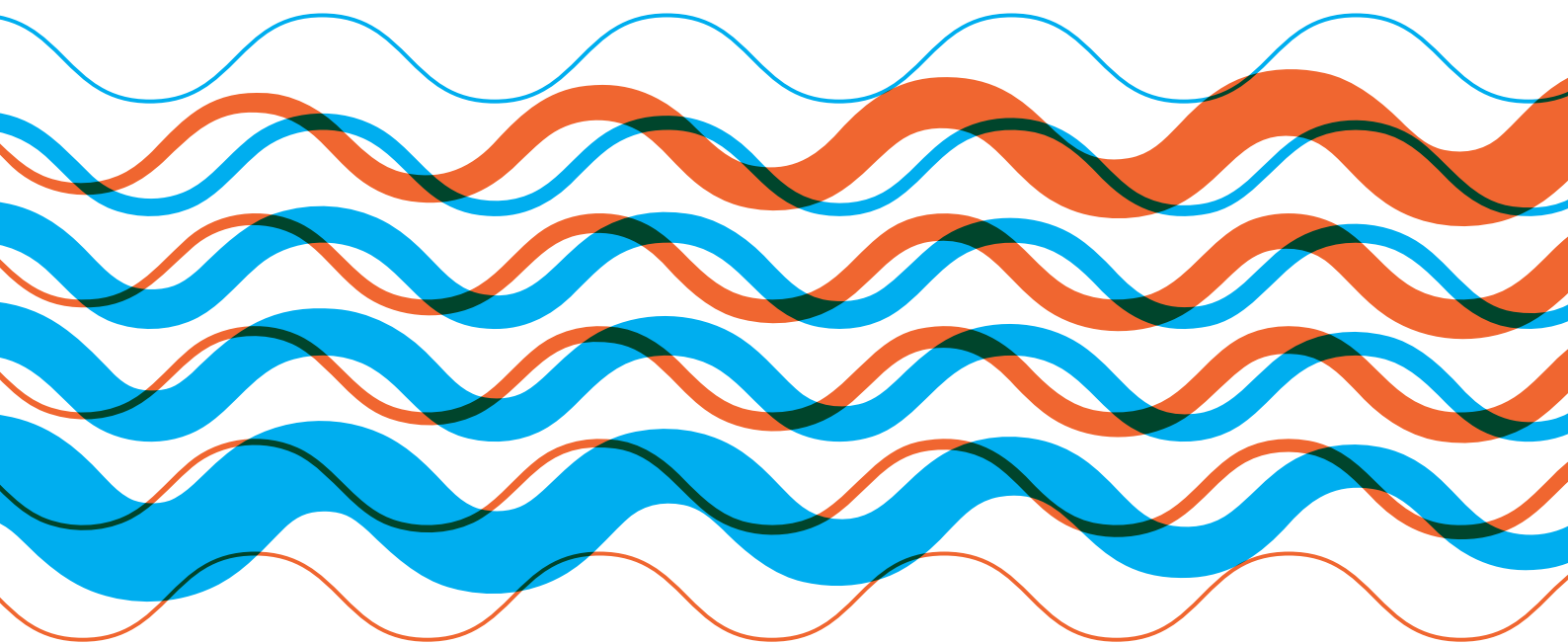


# Water Services Sector Performance

## Issues and Opportunities

Report of the Working Group 05.26



Internal Affairs  
Te Tari Taiwhenua

# Water Services Sector Performance

Report of the Working Group 05.26

## Introduction



# Foreword



Recent reforms in the water sector provide the legislative and regulatory frameworks needed to enable improved water services for all New Zealanders. Improvements include:

- clearer and more consistent regulatory requirements and standards to ensure the safety and quality of water services
- new requirements on councils and their water service providers to better manage water services to ensure their financial sustainability
- new funding options for water service providers
- new options for how to organise water services including through multi-council organisations
- new regulatory tools including economic regulation to drive efficiencies, quality improvements and better protect the consumers of water services.

Water Services Delivery Plans were an important first step to address the challenges of decades of poor management and underinvestment in water services by councils. The plans have now been received and accepted by the Department of Internal Affairs, signalling \$48 billion of investment in water services over the next ten years to address decades of underinvestment.

The legislative settings are now established and are driving substantial change in how water services are delivered. These changes will lead directly to cost savings and quality improvements in local water services delivery, as well as providing the framework to drive collaboration to lift performance across the sector. Even at this early stage, we are already seeing new water organisations working collaboratively and sharing their knowledge and expertise.

As a result of the changes under Local Water Done Well, the sector will be primed to become

a far more significant part of the national economy. Now is the right time – while change is occurring and new water organisations are being established – for the sector to take ownership of the issues and seize the opportunities identified in this report.

The Working Group has identified important issues for the sector to address to enable water service providers to fully realise the benefits of Local Water Done Well for their customers. These issues relate to how the sector operates, such as its workforce, procurement practices, and application of new and emerging technologies. These are practical issues that sector leaders and CEs are best placed to lead and address.

I commend the Working Group's report and recommendations to sector leaders. In doing so I note that a 10% – 30% productivity gain in water services operation will result in billions of dollars of benefit to customers over the next ten years.

I encourage water sector leaders to carefully consider the Working Group's advice and work together to decide how best to take ownership of the issues identified and to drive the sector-level initiatives needed to realise the large benefits for water service providers and customers.

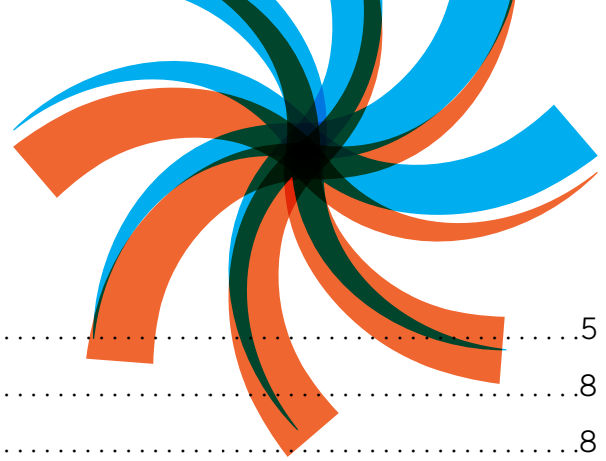
Finally, I thank the Working Group for committing their time and energy to develop this report. Their work provides a strong platform for the next phase of work and sets the sector on a pathway toward long-term success.

A handwritten signature in black ink, appearing to read 'Lori Hand'.

**Lori Hand**

*Executive Director, Water Services Reform Programme*

# Contents



<b>01</b>	<b>Executive summary</b> .....	5
	<b>Introduction</b> .....	8
	Who are the Working Group? .....	8
	Role of the Working Group .....	8
	Who is the audience? .....	9
	How was the report developed? .....	9
<b>02</b>	<b>The opportunity</b> .....	10
	What does success look like? .....	13
	<b>Local Water Done Well: Now is the time</b> .....	14
	Water service delivery is transitioning .....	14
	Regulation will lift sector performance .....	16
	Water Services Delivery Plans signal the direction of water services across the country ..	17
	Further consolidation .....	18
	WSPs have greater access to funding and financing tools .....	18
	More focus on customer experience .....	19
<b>03</b>	<b>The challenge</b> .....	20
	Meeting the scale and pace of investment needed is a major challenge .....	21
	Planned investment will be impeded unless sector wide issues are addressed .....	22
	Improving productivity is key to delivering planned investment and reducing costs .....	22
	<b>Strategy and Leadership</b> .....	23
	<b>Labour Market and Workforce</b> .....	25
	<b>Supply Chain and Procurement</b> .....	30
	<b>National Asset Data Standards</b> .....	35
	<b>Technology and Innovation</b> .....	36
	<b>Conclusion</b> .....	38
<b>04</b>	<b>Summary of recommendations</b> .....	40
	<b>Appendix A: Working Group members</b> .....	42

# Executive summary



The Working Group: Water Services Sector Performance Issues and Opportunities (the Working Group) was established by the Department of Internal Affairs in November 2025. Our membership comprised people with practical expertise in water services including operational and managerial experience, consultancy and contracting to service providers, applying technology to operations, regulation and planning, and the perspectives of smaller and rural providers.

The Working Group was required to consider issues with how the water services sector operates that (if not addressed) will constrain individual providers in fully realising the benefits enabled by Local Water Done Well (LWDW).

This report sets out our view of the most important issues and challenges and records our advice and recommendations on what is needed to address each issue.

Our central message to water services sector leaders is that the full benefits enabled by LWDW will not be delivered by individual water service providers (WSPs) acting alone. Sector-level issues and challenges, such as those related to workforce and skill constraints, need sector-level solutions underpinned by strong collaboration between WSPs, their suppliers, regulators, iwi/Māori partners, other stakeholders, and central government agencies with roles in the sector.

LWDW is reshaping how water services are planned, funded and delivered. Services will continue to be locally owned and delivered, but under stronger national settings: ringfencing, clearer expectations of financial sustainability, and economic regulation by the Commerce Commission alongside improved public health and environmental regulation by the Water Services Authority/ Taumata Arowai.

The reforms are enabling new, more efficient service delivery models including multi-council water organisations and are resulting in strong incentives on providers to operate efficiently, transparently and to be more customer focused. LWDW preserves local arrangements for iwi/Māori participation, with councils determining how partnerships work in practice and WSPs acting consistently with Treaty settlement obligations.

Under new planning requirements, councils and their WSPs have signalled their intentions to invest \$48 billion in water services over the next decade. This is intended to address decades of underinvestment in water services, renew ageing networks, meet drinking water quality and environmental expectations, and respond to growth and climate pressures.

The Working Group considered the signalled level of investment and noted that it represents a large increase over what councils have previously sought to deliver through their long-term plans, as well as reviewing councils' past intentions to invest in water services and noting a history of not fully delivering on planned investments.

The Working Group identified the following sector wide issues that, if not addressed, will continue to constrain WSPs in delivering on their proposed investment:

**1** Workforce capacity and skill constraints: an estimated shortfall of around 10,000 skilled workers across roles needed to deliver planned renewals and capital programmes over the next ten years. Training and workforce development is fragmented, competition for talent is intense, and leadership capability is under pressure as new entities are established.

**2** Poor procurement practices and supply chain performance: variable procurement maturity across WSPs, continued reliance on lowest-cost tendering, inconsistent risk allocation, and limited pipeline visibility for suppliers. These factors drive delay, rework and higher whole-of-life costs.

**3** Lack of consistent asset data standards that are a barrier to improved collaboration between providers, realising scale efficiencies and more efficient procurement practices. Fragmented asset data and inconsistent systems reduce interoperability, limit the ability to adopt proven technologies (including monitoring, metering and AI-enabled tools), and increase compliance and reporting burden.

**4** Slow and inconsistent application of productivity enhancing technologies such as online network monitoring and water metering that are critical to more effective and reliable network performance.

The Working Group considers that the above are primarily issues for the sector and its leaders to address. We recommend that sector leaders should put in place the mechanisms and actions required to address them.

Modest efficiency and productivity gains from doing so will result in big improvements and cost savings for WSPs and their customers. A 10% - 30% productivity gain against the estimated \$48 billion of planned investment will materially reduce cost pressures while accelerating service quality improvements. This could translate to billions in savings over the next decade.

Sector level collaboration is the most practical and effective way to realise these benefits. Collaboration can reduce duplication, strengthen efforts to improve workforce capacity, capability and focus on workforce wellbeing and safety, create common approaches to procurement and data management, strengthen the visibility and credibility of pipelines for suppliers, and help smaller WSPs access capabilities that would otherwise be unaffordable to them. It will also support further cooperation and consolidation of services across providers, if determined to be in the local interest, by making systems, processes and skills more transferable across organisations.

The Working Group is conscious that the sector is already managing significant transition demands, but delaying collaboration will only compound delivery risks and cost pressures.

We make 18 recommendations targeting the sector and Government to address sector-wide challenges and unlock productivity gains.

Core to our recommendations is the need for sector leaders – CEs and governors – to commit to establishing and funding the sector-level work needed to provide for the required collaboration and to support individual WSPs. Such approaches have occurred in other sectors including farming, electricity, forestry and construction.

The Working Group recommends that water sector leaders organise themselves to drive productivity and efficiency improvements in water services delivery, with a focus on the actions needed to:

- increase workforce capacity, skills and productivity
- improve procurement practices including opportunities for bulk procurements
- implement consistent asset data standards as an enabler for other initiatives
- support WSPs to be fast adapters of productivity enhancing technologies.

# Introduction

In November 2025, the Department of Internal Affairs (the Department) established the Working Group: Water Services Sector Performance Issues and Opportunities (the Working Group) to inform how the sector can best address legacy issues in the context of the Local Water Done Well (LWDW) reforms – and how the Government might support the sector’s work to implement the legislation.

## Who are the Working Group?

The Working Group comprises expert members with practical knowledge and experience of the water services sector, including:

- workforce strategy, development and training
- infrastructure investment and delivery
- procurement and supply chain management
- water services operations (metro, provincial and rural)
- technology and innovation
- Māori and iwi perspectives and interests in water services.

These combined skill sets mean members understand the issues that water service providers (WSPs)<sup>1</sup> and their suppliers will face in putting local water services onto a financially sustainable footing, including investment for growth (see [Appendix A](#) for membership and brief biographical information).

An observer from the Infrastructure Commission/Te Waihanga attended Working Group meetings to provide insights from the Commission’s research.

The Department appointed the Working Group and provided secretariat and administrative support.

## Role of the Working Group

The Working Group was established to inform the Department’s advice to the Minister of Local Government on issues with how the sector operates that, if not addressed, will constrain WSPs in fully realising the benefits for customers enabled by LWDW. Its terms of reference can be found [here](#).

The Working Group was tasked with advising on:

- what we consider the most important issues for the water services sector that, unless addressed, will constrain WSPs in achieving efficiencies, cost savings and improvements for customers in delivering water services
- the nature and impact of each issue
- what the sector is already doing to address each of the issues, and the roles of sector participants and Government
- what further action is needed to address each issue, with a focus on:
  - key priorities, and what is needed over both the short and longer term

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<sup>1</sup> WSP is a new term used in LWDW legislation to cover councils with responsibilities for water services, water organisations and Watercare.

- what the Department and other government agencies could usefully do to support the sector
- potential quick wins, pilots and demonstration projects that the Department could initiate or support.

This report contains advice that falls within the boundaries of the Government's current legislative framework for LWDW. The Working Group was directed not to include suggestions for further legislative changes.

## Who is the audience?

As water services are critical to everyone, this report will be of interest to communities and water services customers across the country.

The Working Group expects this report will be of particular interest to water service sector leaders, water organisation governors and CEs, service suppliers to WSPs and regulators.

Our recommendations are relevant to and require action of:

- water organisations and council WSP leaders
- water sector group leaders and members
- relevant government agencies and regulators (for e.g., the Water Services Authority/Taumata Arowai (the Authority), Ministry of Business Innovation and Employment, Commerce Commission, Infrastructure Commission)
- industry leaders across water-related industries (for e.g., engineering sector and Civil Contractors New Zealand)
- training and qualifications organisations (for e.g., Industry Skills Boards, industry training providers)
- iwi (e.g., Iwi Chairs Forum).

## How was the report developed?

The Working Group met in a series of four one-day workshops between November 2025 and February 2026 to discuss issues facing the water sector, focusing on:

- the challenges that WSPs will face in realising their investment and service quality improvement objectives
- labour market and workforce constraints
- opportunities to improve supply chain and procurement practices
- innovation and better use of technology.

We worked collaboratively to address these focus areas, as well as other matters raised and considered during our discussions, including:

- demand management as a lever to delay investment requirements
- customer focus
- health and safety in the construction sector.

To inform our deliberations, we have:

- familiarised ourselves with the WSPs' water services delivery plans (WSDPs), previous initiatives to address sector-level issues, and relevant overseas initiatives and developments
- taken account of the Infrastructure Commission's recently released National Infrastructure Plan<sup>2</sup> recommendations and Infrastructure Pipeline<sup>3</sup>.

The Working Group's terms of reference focus on issues in the water services sector. We did not have a mandate to consider issues relating to broader Government policy areas that touch on water services, such as resource management reform or local government reorganisation.

<sup>2</sup> National Infrastructure Plan | Te Waihanga, February 2026.

<sup>3</sup> The Pipeline | Te Waihanga.

**Water  
Services  
Sector  
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# The opportunity



# The opportunity

The Working Group identified many opportunities for the sector and its providers to improve productivity and efficiency, and to lift the quality of water services and make them more affordable to customers. Unlocking these opportunities requires strong ownership of the challenges and clear, decisive leadership from the sector.

We have identified realistic and practical steps to make this happen and to promote a culture of continuous improvement.

Even modest efficiency gains will result in tangible benefits for customers. A 10% - 30% gain on an estimated \$48 billion of planned investment will result in meaningful service improvements and savings for customers. Given the sector's current performance, we believe that greater gains are realistic and achievable over the life of current water services delivery plans (WSDPs).

Realising this productivity opportunity will require sector leaders to collaborate and take ownership of the issues within their control to address that will otherwise constrain WSPs to the detriment of their customers and communities. Some of the key issues we discussed are:

- Workforce capacity and capability constraints
- Poor and variable procurement practices that are resulting in delays and inefficiencies in maintenance and renewals, and higher lifetime costs for new water services infrastructure
- The importance of implementing national asset data standards as a key enabler of efficiency gains in water services operations
- Risk aversion and capability gaps in applying existing technology that mean the productivity gains, savings and

service improvements (such as online infrastructure monitoring and water metering) and emerging technologies (such as AI) are not being fully realised.

Sector-level issues require sector-level solutions. To achieve better customer outcomes, water service CEs and leaders need to take collective ownership of issues with how the sector operates and work more collaboratively and strategically. Appropriate mechanisms and structures need to be put in place to support these objectives.

**Recommendation 1:**  
**Water sector CEs and leaders should establish the sector-level governance arrangements needed to drive productivity and efficiency improvements in water services delivery**

The Working Group's key recommendation is for sector leaders to establish sector-level governed work and initiatives needed to drive productivity and efficiency improvements in water services delivery. Such an effort should create buy-in with WSPs across the country, promote a culture of continuous improvement, and provide the mandate and accountability to enact change.

We are aware of the already enormous demands on the sector to improve and

establish new water organisations, and to meet new regulatory requirements. However, we note that there is no better time than now to grip up these issues, and delaying will result in unacceptable outcomes for customers.

We think it is essential that sector leaders commit to the sector-level work needed to address the main sector-wide issues discussed below, with support from a secretariat and funded by WSPs who will directly benefit from water services delivery improvements for their communities.

Sector leaders should establish the following workstreams with an overarching Strategy and Leadership governance function:

- 1:** Labour Market and Workforce
- 2:** Procurement and Supply Chain Improvement
- 3:** National Asset Data Standards
- 4:** Technology and Innovation

Government support for the proposed work could strengthen its mandate and ensure that locally delivered water services support national outcomes. It could also support sector leaders to establish the proposed work programme quickly, at a point when the sector is coming to grips with a new legislative framework and establishing new water organisations. The Department

## Proposed sector-led workstreams



should support the work programme establishment and determination of appropriate governance, funding and delivery arrangements.

For the longer term, the Working Group recommends that:

**Recommendation 2:**  
**The Government should provide ongoing support for sector-level collaboration to improve sector performance. This could include ongoing engagement, representation and support for sector initiatives to improve productivity, and through monitoring and evaluation of performance under LWDW legislative and regulatory settings**

## What does success look like?

The Working Group's vision for the future is a step-change in the water sector where services consistently meet regulatory expectations while lifting performance in ways that customers and communities can see and feel. This means water services are reliable, resilient and affordable, and that locally delivered services can meet national outcomes, including:

- everyone has access to safe, reliable drinking water and there is a dramatic reduction in boil water notices
- water is valued as a scarce resource, there are dramatic reductions in leakage and consumption per person due to better demand management, water literacy and adoption of technology
- rivers and beaches are swimmable as wastewater treatment plants are reliable and there is a dramatic reduction in overflows

- the stormwater network and conveyance system protects people and property from severe weather events that occur on a more regular basis.

Success means a sector that delivers the efficiencies of scale where appropriate, while maintaining local accountability and strong relationships with customers. Water services feel reliable and professional, combining the benefits of coordinated national direction with the strengths of locally grounded decision-making.

In a successful future, the sector is supported by a highly skilled and motivated workforce, WSPs have strong and trusted relationships with suppliers, and a robust supply chain creates competitive downwards pressure on infrastructure costs. Customers experience real-time information, trusted pricing and quality services supported by predictive maintenance, smart networks and robust compliance systems.

The sector harnesses innovation – digital tools, interoperable data systems and adopting proven international technologies enable WSPs to optimise networks and make better investment choices. These improvements build community confidence, reduce regulatory risk, and lift the sector's overall professionalism.

Achieving this vision requires sector leaders to take collective ownership of the longstanding cross-sector issues that have constrained performance of individual providers and make a shared commitment to sector-level solutions such as a refreshed workforce strategy, more mature procurement and supply chain practices, and greater standardisation of asset data and infrastructure design.

With these shifts, WSPs will be able to deliver infrastructure on time and within budget, reduce whole-of-life costs, and build the workforce and supply chain capability needed to sustain long-term investment programmes.

# Local Water Done Well: Now is the time

The Working Group's recommendations are grounded in the context of the new legislative and regulatory framework for water services established under Local Water Done Well (LWDW), and the current investment intentions of New Zealand's 40 locally-owned WSPs, as described in their 2025 Water Service Delivery Plans (WSDPs).

## Water service delivery is transitioning

The water sector is shifting from services mainly being delivered by 67 local authorities (councils) under the local government framework, to operating under the new LWDW framework. At present water services will be provided by 40 WSPs, but further consolidation is probable.

LWDW recognises the importance of local decision-making and flexibility for communities and councils to determine how best to deliver their services to nationally consistent standards. It also provides for improved governance, management, regulatory oversight and scale in water services delivery.

Key components of LWDW are:

- Fit-for-purpose service delivery models and financing tools that will make it easier for councils to establish multi-council WSPs that can take on more debt to fund renewals and growth in water services infrastructure.
- New obligations on councils and WSPs to better manage water services and ensure their financial sustainability, including ring fencing water services from other council services. This requires that revenue and funding are spent on maintenance, improvements, infrastructure renewal, servicing debt relating to the water services provided and providing for growth. Councils that continue to provide water services in-house will need to account for them separately from other council activities. WSPs will charge customers separately for water services.
- Improved regulatory oversight of water services: economic regulation by the Commerce Commission to ensure that revenues are sufficient to cover the costs of services, and regulation by the Water Services Authority/Taumata Arowai (the Authority) to ensure that water services are delivered to acceptable public health and environmental standards of quality.
- Continuing obligations on local councils and iwi/Māori to work together to deliver water services and act in accordance with Treaty and any other obligations. The existing arrangements under the Local Government Act 2002 for councils to provide for iwi/Māori participation and interests are preserved under LWDW. These arrangements continue regardless of whether water services are provided by a council or separate water organisation. Water organisation shareholders may provide a statement of expectations that

# Key elements of the LWDW legislation framework



covers how the organisation will conduct its relationships with iwi/Māori. This points to the need for board members to have skills and knowledge in the areas of iwi/Māori interests and Treaty

settlements, and an understanding of the local context.

The key elements of the new LWDW legislative framework are set out in the diagram<sup>4</sup> above.

<sup>4</sup> The diagram reflects existing arrangements. Following the creation of the Ministry of Cities, Environment, Regions and Transport on 1 July 2026, the Department of Internal Affairs and Ministry for the Environment functions relevant to LWDW will be transferred to the new ministry. Changes to the Resource Management framework and Local Government system are also in development.



## **Regulation will lift sector performance**

The regulatory environment is becoming more demanding for WSPs, which face clearer, more consistent and sometimes new obligations (and consequences) across public health, economic regulation, environmental compliance, consumer expectations and performance reporting. This means strengthened capability across governance, operational, technical and digital functions is needed.

The Authority has a range of regulatory tools that will be rolled out over the coming years, including national wastewater environmental performance standards,

national engineering design standards (NEDS) and infrastructure design solutions (IDS). These will support efficiencies by standardising planning, consenting, design, construction, operation and maintenance of water infrastructure and make it easier for WSPs to collaborate and consolidate.

Alongside existing settings such as the drinking water standards, we anticipate that new standards will have direct flow-on impact, enabling economies of scale in procurement and infrastructure delivery, and reducing bespoke infrastructure. It will also make it easier for WSPs to join up in their water services management and operation.

As the economic regulator for water services, the Commerce Commission now has a clear mandate to protect the interests of water services customers<sup>5</sup>. Economic regulation is a way to influence supplier behaviour in sectors with limited or no competition. Over time, it aims to improve sector efficiency, by simulating conditions that occur in competitive markets, while ensuring an acceptable service level.

Information disclosure requirements will apply to all WSPs from 2026 onwards, providing increased transparency for how the sector spends the money they charge for their services and the value they deliver. The Commerce Commission will take a risk-based approach to applying further regulatory tools to WSPs, which could include setting performance requirements, quality regulation or price quality regulation. Over time we expect this will incentivise improvements in how the sector plans for and delivers infrastructure.

## **Water Services Delivery Plans signal the direction of water services across the country**

A key first step in implementing LWDW required all councils to submit WSDPs, either individually or with other councils, by 3 September 2025. WSDPs are a one-off, transitional requirement and will be replaced by Water Services Strategies (WSS)<sup>6</sup>, which WSPs are required to produce by 1 July 2027 (although some are developing their strategies as they establish new water organisations).

Along with baseline information for economic regulation, councils' WSDPs

were required to provide an assessment of their water infrastructure, how much they need to invest, and how they plan to finance and deliver it through their preferred delivery model. The Secretary for Local Government is responsible for accepting or not accepting WSDPs.

All councils delivered their WSDPs within the required timeframes and only three were not accepted by the Secretary for Local Government<sup>7</sup>, with the rest now working towards implementing their plans. At the time of writing, the water services that had previously been delivered by 67 organisations (councils and Watercare) will now be delivered by 40 WSPs of varying size and capability made up of:

- 13 multi-council council-controlled organisations (CCOs), covering 41 councils<sup>8</sup>
- five single-council CCOs
- 22 in-house business units (IBUs) of individual councils (including Auckland stormwater), with finances ring fenced from other operations.

Across the country, WSDPs signal around \$48 billion in investment into water services over the 10 years from 2024 to 2034. This shows that councils recognise decades of underinvestment in the sector and other factors at play including:

- ageing pipeline renewals
- climate resilience
- growth and intensification
- compliance and regulatory uplift
- customer service quality expectations.

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<sup>5</sup> LWDW Factsheet Economic regulation and consumer protection Sept 2025

<sup>6</sup> WSSs will be prepared by WSPs every three years with an annual budget in the other years. The WSS will include pricing and charging over 3 years, financial forecasting information over 10 years, and infrastructure and investment information over 30+ years.

<sup>7</sup> Mackenzie District Council's amended WSDP submitted on 26 March 2026, is currently being assessed by DIA. Waitaki District Council and Chatham Islands Council must submit an amended WSDP by 30 June 2026.

<sup>8</sup> These figures include Mackenzie District Council and Waitaki District Council which have taken council resolutions to enter into joint CCOs.

Given the historic underspend in the sector against planned expenditure, the Working Group expresses a degree of scepticism of whether this level of investment will be delivered unless sector-wide productivity improvements can be achieved. However, for consistency and ease of reference, we refer to the \$48 billion figure throughout the report.

## Further consolidation

The current arrangements for water services delivery in WSDPs represent a significant starting point, with some individual councils signalling intent to further explore establishing multi-council WSPs.

We strongly support the system drivers that enable future consolidation of WSPs into larger and more professional organisations.

The populations serviced by Watercare and the seven largest multi-council WSPs currently numbers over 3.4 million people (more than 64% of New Zealand's total population). Adding the two largest IBUs (Christchurch and Dunedin City Councils) which serve the remaining population areas with more than 100,000 residents, brings the number of people serviced by relatively large-scale WSPs up to 4.2 million (around 75% of the population).

In the medium term, we expect to see more collaboration across providers. Smaller WSPs will become increasingly aware of the benefits of scale – and with economic and other regulation, will be incentivised to seek scale efficiencies and increased collaboration which in turn could support further consolidation. For example, there is potential to share data management and back-office functions.

We expect this will lead to gains including improved deliverability and productivity. Productivity gains are key – alongside a

transition to larger organisations with a more professional outlook, we expect to see improved professional services and planning, and changes in approach and mindsets.

While the direction of travel is towards fewer, larger, multi-council WSPs, in the short-to-medium term there will continue to be many smaller WSPs with fewer than 20,000 connections. There is a risk that, without sector level support, smaller WSPs may lack the scale and capabilities needed to achieve the productivity gains to improve service quality to consumers and deliver on planned investments in water services.

While the group supports future consolidation, it recognises the need for water services to maintain a local focus and be responsive to demands from local communities and customers.

## WSPs have greater access to funding and financing tools

LWDW has unlocked increased funding and financing options for WSPs including:

- access to the Local Government Funding Agency (LGFA) which provides low-cost financing for local government. The LGFA will support leverage for water organisations up to a level of equivalent to 500 percent<sup>9</sup> of operating revenues (around twice that of existing councils), subject to meeting prudent credit criteria
- flexible growth funding tools such as the infrastructure financing and funding levy and providing water organisations with the ability to set development contributions
- requirement that water services revenues are ringfenced
- new charging powers to allow water organisations to bill consumers directly and a requirement that charges are not based on property value.

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9 Debt to revenue cap of 500% is a typical for regulated utility companies such as electricity distribution businesses.

The Working Group has therefore not focused on water services funding and financing arrangements.

### **More focus on customer experience**

LWDW will drive a system designed to deliver on customers' long-term interests – access to safe, reliable and cost-effective water services.

Customers will have more visibility over the cost of water services to their homes and businesses through direct billing from many WSPs. As a result, the Working Group expects customers will have higher expectations around value for money, fewer disruptions, real-time information and trusted pricing.

We encourage WSPs to put the customer at the forefront of their work, irrespective of the longer-term regulatory incentives. Given the increased capital expenditure signalled

in many WSDPs and the corresponding need for WSPs to gather sufficient revenue to meet their operational expenditure and debt repayments, it will be critical that customers can see value for money.

WSPs should also proactively communicate with their customers and look to align future investment and communication with customer expectations. Increasing water literacy and awareness about water conservation and the cost of infrastructure will also be important to help customers understand the value of services and build trust and social license. This will help unlock opportunities to reduce the cost of providing water services in the long run, through improved demand management.

Supporting customers in identifying leakages on their properties will also be critical to building community trust, improving the efficiency of water networks, and reducing the cost of the service.



# Water Services Sector Performance

Report of the Working Group 05.26

## The challenge



# The challenge

Meeting the scale and pace of investment needed is a major challenge. New Zealand’s drinking water, wastewater, and stormwater networks have suffered from decades of underinvestment.

Deferred renewals, environmental and safety standards, population growth, climate driven pressures and policy uncertainty have all contributed to the investment gap.

The \$48 billion signalled in WSDPs over the next decade is a substantial increase in the level of investment the water sector considers it needs to deliver to bring water infrastructure up to regulatory compliance and provide a level of service that New Zealanders expect, while accommodating a growing population. Diagram 1 shows aggregated WSDPs plan for a significant increase over the planned spend in aggregated 2024 council long term plans (LTPs)<sup>10</sup>.

Diagram 2 shows that renewals make up a very high proportion of investment over 10 years, followed by investment for growth and then service level improvements. The signalled investment is also much higher than

the Forward Guidance provided in the National Infrastructure Plan – particularly with respect to investment for growth and levels of service. \$48 billion is on par with our cumulative investment in water and wastewater infrastructure from the years 1885 to 2012, even after adjusting for inflation.

The uplift from the total investment previously signalled in council LTPs is significant given that historically, councils have delivered on average only between 60 to 80% of their planned investment in water sector. Within this context, there is evidence the sector has struggled to deliver major capital projects in full, on budget and on time.

However, the Working Group expects the investment figures set out in WSDPs will be refined over time as WSPs develop their first WSS and start to ‘ground truth’ requirements and potential productivity savings.

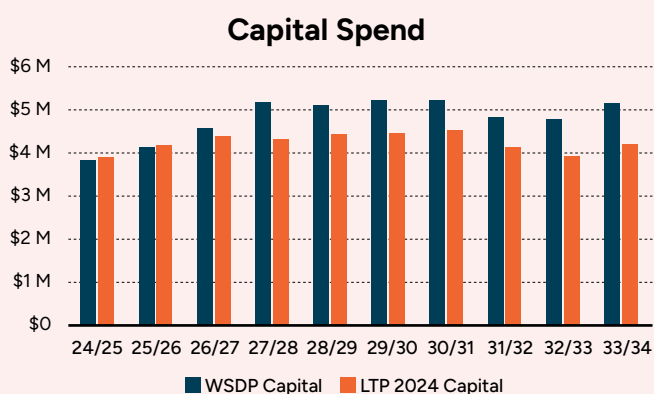


Diagram 1: Comparison of capital expenditure signalled in WSDP vs LTP

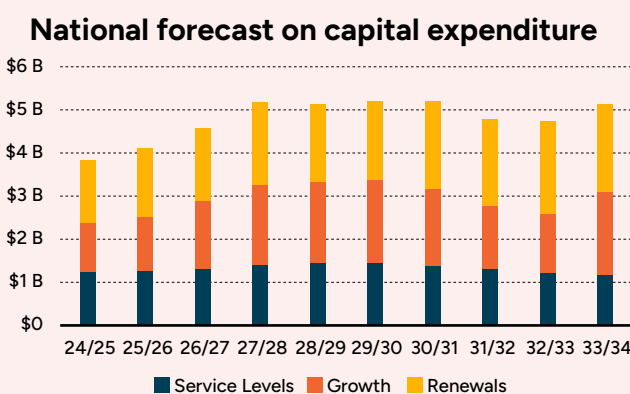


Diagram 2: National forecast capital expenditure in waterservices by investment type

<sup>10</sup> This comparison does not include full 10-year LTPs for all councils as some councils produced a 3-year LTP, while others produced an enhanced annual plan during the 2024 LTP cycle. If the LTPs included 10-year numbers we estimate the gap between WSDP and LTP investment figures the gap would be \$3 billion.

## Planned investment will be impeded unless sector-wide issues are addressed

We recommend that sector leaders, with encouragement and support from the Department and Government, take urgent steps to consider the mechanisms needed to address sector-wide issues in the following areas:

- **Labour market and workforce:** workforce shortages of around 10,000 workers across the sector, as investment in the sector is set to ramp-up over the next 10 years; difficulties in attracting and retaining talent; and fragmented training and workforce development.
- **Procurement and supply chain:** lowest cost procurement driving poor outcomes; fragmentation and inconsistent practice across the water sector; capability and skills gaps in procurement; and a lack of pipeline visibility and market confidence in the water sector.
- **Consistent asset data standards:** a lack of national asset data standards to provide the basis for improved operability across WSPs and enable other initiatives to improve efficiency and productivity in water services operation.
- **Innovation and technology:** fragmentation of data systems across WSPs limiting innovation and interoperability; different WSPs have varying capability and capacity to innovate, detracting from opportunities for the sector to uptake new technologies, including those for delivering essential water services in more effective and/or efficient ways.

There are linkages and interdependencies between and across these areas: the increasing pipeline of works will intensify competition for skilled labour, supply-chain resources and technological capability.

Addressing these issues will mean improved productivity, better allocation of risk in procurement, ensuring the customer experience – including affordability – is front of mind, and ensuring alignment across the sector. Key interdependencies include use of technology to reduce labour demand, improved procurement practice to identify skills and capability requirements, and nationalised asset data standards as an enabler across the sector.

These issues and the Working Group's recommendations for starting to address them is covered in more detail below.

## Improving productivity is key to delivering planned investment and reducing costs

The Infrastructure Commission has highlighted in the National Infrastructure Plan that New Zealand struggles to deliver good value for the amount it spends on infrastructure. Over the last 20 years, New Zealand spent an average of 5.8% of GDP per year on infrastructure<sup>11</sup>, putting us towards the upper end of OECD countries. However, the estimated efficiency of our investment ranked second-to-last in the OECD at 37th in 2019<sup>12</sup>. Compared to other high-income countries, it is costly to build complex public infrastructure in New Zealand. New Zealand's water service expenditure is about 70% higher than other OECD countries for a similar level of quality.

The constraints identified above mean that water services cost local consumers considerably more than they should, without delivering materially better quality. While LWDW has introduced a regulatory backstop to improve sector productivity over time, the sector needs to front foot addressing its ongoing challenges. Improving productivity is needed to meet the sector's intended service levels while keeping water services affordable for customers.

11 National Infrastructure Plan | Te Waihanga, page 25.

12 National Infrastructure Plan | Te Waihanga, page 7.



## Strategy and leadership

The water services sector is facing a significant transformation following the LWDW reforms.

Water services will continue to be delivered at a local level, reflecting local knowledge and community demands, however stronger national settings are creating obligations on WSPs to ensure they provide access to safe drinking water, manage environmental impacts, and deliver a level of service their communities expect.

The sector faces systemic challenges that may exceed the capacity or jurisdiction of individual councils to adequately manage, including how to manage increasing wet weather events and water scarcity as the population grows.

**Recommendation 3:  
Develop a National Water Strategy (sector-led) within the next year to provide sector-wide direction and leadership for collaborative initiatives needed to improve productivity and performance**

Given the scale and complexity of the challenges the sector faces, the Working Group considers that sector leaders should provide governance oversight to develop an overarching National Water Strategy. This should provide direction and leadership for sector initiatives and WSPs, by highlighting the key challenges and opportunities facing the sector. The strategy should consider:

- How the sector can lift outcomes for, as well as better understand future demands of, customers, namely how local delivery can support national outcomes such as safe access to safe drinking water, swimmable oceans and rivers, and affordable water services.
- How the sector can be a responsible and respectful Te Tiriti partner and support the relationships between councils and iwi/hapū in relation to wai.
- The key challenges the sector faces in the coming decades (i.e. approach to stormwater management, energy use, climate adaptation and resilience).
- The key opportunities to address these challenges, including for further cooperation across WSPs and national direction setting, with a clear focus on affordability and performance.
- How to incorporate into the strategy or align with the workforce strategy (see Recommendation 5) and the water sector procurement strategy (see Recommendation 8).

#### **Recommendation 4: Support WSPs to improve water literacy and awareness in their communities**

The Working Group recognises the importance of customers in the water services system. Under the new arrangements provided for by LWDW, WSPs will have more direct relationships with and clearer accountabilities to their customers.

As a result of more transparent billing for water services, customers will be more aware of the true costs and will be interested in the performance of their WSPs. In this more customer-centric system, it will be important that customers have access to the information they need to understand their WSPs' responsibilities and obligations to invest in and improve service quality, and to understand their performance in order to hold them to account through local democratic processes.





# Labour market and workforce

The water sector faces an estimated shortfall of 10,000 skilled workers over the next ten years to deliver on the increased investment signalled in WSDPs<sup>13</sup>.

Additional workers will be required across a wide range of roles including engineers, treatment plant operators, project managers, supervisors, construction workers, customer management, digital specialists, leaders and directors. High-level workforce strategy work was started in 2022<sup>14</sup> to attract and build workforce capacity but needs updating in the LWDW context.

The Working Group identified issues and barriers relating to workforce that will need to be addressed to support a well-functioning labour market and workforce:

- **Workforce development and training in the water sector is fragmented and not informed by a coherent whole of sector view of workforce requirements:** the training sector is in flux with changes to vocational training bedding in. The new Energy and Infrastructure Industry Skills Board (ISB) will set and maintain qualifications for the water industry and currently houses the work-based training provider (Connexis). Water sector education and training is also provided
- **Skills and competency frameworks are fragmented and do not cover all roles across the sector:** a comprehensive framework would help define the skills required for particular roles, career progression in the sector and ensure there is a common language. Water NZ is developing a competency framework for voluntary use by the water industry<sup>17</sup>, Connexis has published a water career progression pathways 'map'<sup>18</sup> and previous work done by the Department will be useful.
- **Attracting and retaining staff is challenging:** the sector is often perceived as low-profile and unattractive compared to other industries. Some roles have an ageing workforce and risk losing institutional knowledge. In the construction sector, young recruits often lack skills, practical experience and risk awareness. Competition for talent is global and other similar markets (Australia, UK, Ireland and Canada) are facing similar shortages. Immigration settings are perceived as barriers to international recruitment in some parts of the sector.

13 For instance, workforce needs were analysed by Deloitte in a 2022 report [Water Workforce Analysis Phase 3 Results](#).

14 [Three Waters Workforce Development Strategy Report March 2022-1](#); [ESI Water Workforce Activation Strategy Report Aug 2022](#); [Towards 2050: Transformation vision for the water sector: Water New Zealand](#).

15 [Watercare opens award-winning training facility](#).

16 [Waikato Tainui Watercare Strategic Work Programme](#).

17 [Competency Framework: Water New Zealand](#) aimed at drinking water and wastewater operators, including small water supplies.

18 [Water Pathways web](#) sets out the progression of qualifications including pipeline construction and maintenance (drinking water, wastewater and stormwater), drinking water and wastewater operation and design, business management, contract management, procurement and asset management.



- **Attracting leadership is an issue** – in particular, high-quality board members and CEs for the 18 new CCOs. The unique nature of the new board roles will require particular skills and knowledge, given the new statutory settings and the local context of each CCO (including low consumer trust/water literacy, understanding of iwi/Māori interests and Treaty settlements). People with leadership and management skills will also be required for the IBUs.
- **Procurement:** models that focus on lowest cost procurement do not incentivise workforce development<sup>19</sup>.
- **Authorisations will need careful consideration:** authorisations (required to be in place by late 2031) will provide transparency and accountability, and will help with maintaining the quality of work in the sector. However, care will need to be taken in developing authorisations requirements to avoid placing unachievable requirements on the workforce.

Improving workforce capability and capacity will ensure the sector is able to deliver on the increased investment signalled in WSDPs. The Working Group recommends:

**Recommendation 5:  
Create and maintain a comprehensive national workforce strategy to identify needs and signal priorities, and provide the basis for sector actions to support growth and development**

We consider a sector-level strategy covering all occupations would set a blueprint for

action. The strategic work done to date should be refreshed and further developed to specify more clearly how to meet goals and account for the LWDW context. The sector should focus more on activating and implementing recommended actions to achieve strategic goals including better signalling of workforce needs and skill requirements to education and training providers.

We recommend that the strategy should be based on:

- The National Infrastructure Pipeline<sup>20</sup>, with information drawn from WSDPs and ‘real time’ WSP data (see rec 16), initially, to inform workforce demand by role and regional updates to previous workforce demand forecasts prepared by Deloitte for the Department and complemented by the proposed Water NZ workforce survey.
- Changes to how water services are provided and operated including new regulatory requirements, environmental and other changes to the operating context for water services and the impacts of new technologies such as AI, IOT and robotics for the future provision of water services (including third party service providers).

More clarity and confidence in the pipeline of work in the sector at a regional level (along with economic regulation and customer demand) is likely to drive incentives to invest in developing the workforce, finding efficiencies and improving innovation. Firming up the pipeline will also identify the skills needed from overseas.

A granular water sector pipeline at the level of individual WSDPs can be combined

<sup>19</sup> See supply chain and procurement section below.

<sup>20</sup> The National Infrastructure Pipeline already contains much of the information needed to support workforce projections. Filtering functions allow it to serve as a ‘water specific infrastructure pipeline’. The Working Group encourages WSDPs to provide their pipeline data to the Infrastructure Commission on a quarterly basis, and the Commission to publicly provide quarterly insights from the pipeline and water sector leaders.

with career mapping to show where there is demand and the skills (people and innovation) that match to jobs. This aligns with a recommendation in the *National Infrastructure Plan* about the need for coordinated workforce development to align planning and policy with infrastructure investment and asset management plans<sup>21</sup>.

The recommended workforce strategy should be practical, supported by industry and aligned to the actions to support the supply of workers required by the sector. Potential considerations include:

- A comprehensive competency framework across WSPs, based on prior work by Water NZ and the Department.
- How the sector workforce can develop skills and knowledge of te ao Māori to be a responsible and respectful Te Tiriti partner.
- A sector campaign to attract new entrants and retain workers in the sector, based on prior work, along with career pathway mapping.
- Identification of training requirements across all levels of the sector (e.g. leadership, graduates/internships, apprentices) to increase professionalism, and engage with the Tertiary Education

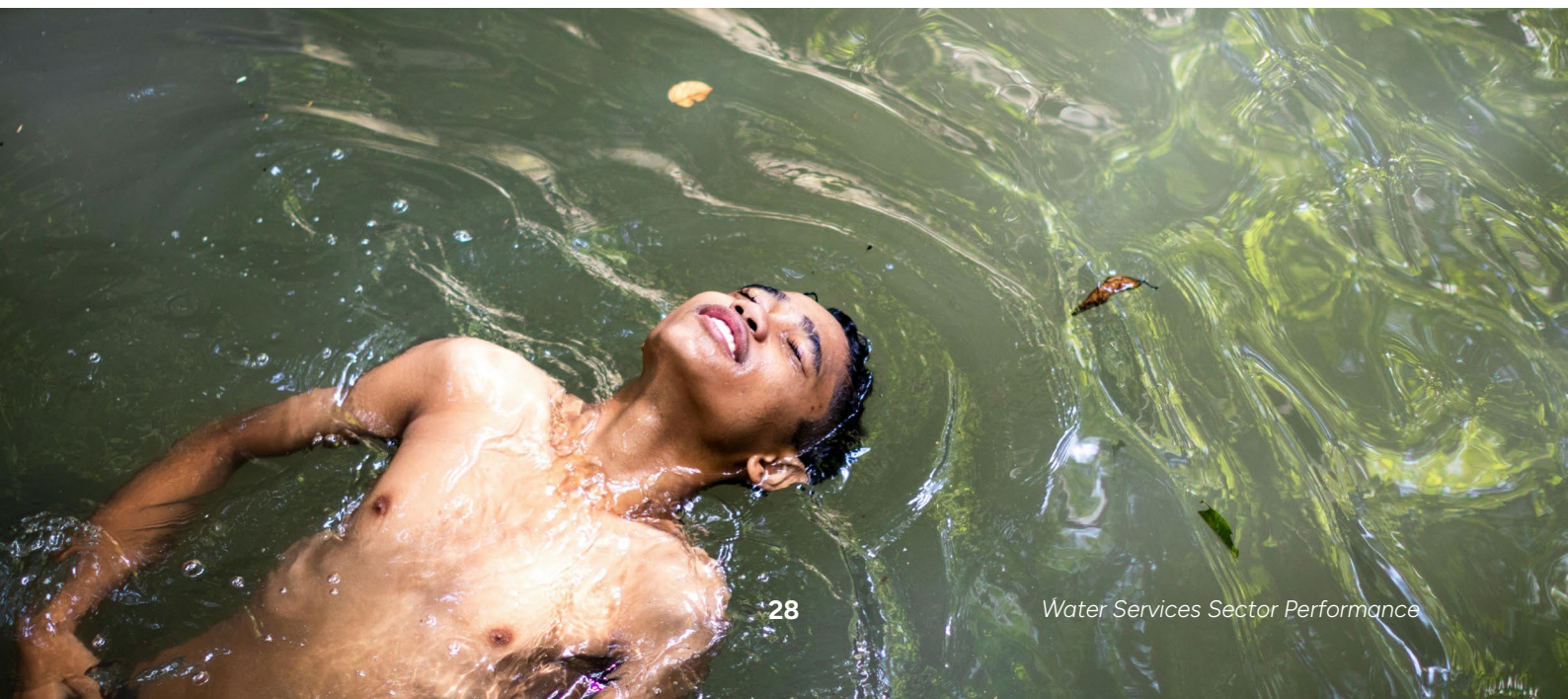
Commission (TEC) and Energy and Infrastructure ISB to increase investment in and sharpen focus on water sector-specific training needs.

- In consultation with Immigration New Zealand, investigate whether immigration settings could be improved to assist with offshore recruitment for skilled trade roles that do not fit current rules. This could include consideration of whether immigration settings are able to recognise the complexity and risks involved with particular roles in the sector where offshore recruitment for experienced workers may be needed for safety reasons if workers are not available in the domestic market.

An understanding of te ao Māori in relation to water services is a selling point for new sector entrants, from both New Zealand and abroad. A common competency framework, including cultural competencies and provision for locally specific knowledge and practices, would help to define key roles, qualifications and career pathways. It would provide a common language for workforce planning and training, and enable skills to transfer between organisations (simplifying future amalgamations).

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21 National Infrastructure Plan | Te Waihangā, February 2026, page 15.



The sector can advocate education and awareness, along with storytelling and branding to promote the sector and the jobs arising from various courses. Showcasing career pathways, diversity of meaningful roles, and purpose and future ambitions is a way to get people thinking of the sector when choosing a career.

There are opportunities across the sector to increase apprenticeships, cadetships and internships. Pastoral support for trainees and trainers should be increased. There is also an opportunity to capture the ageing workforce's experience to train the next generation while focusing on innovation. Water-specific qualifications could be coordinated with the industry, so learners get hands-on experience of the water sector.

**Recommendation 6:**  
**Consider developing a concept and/or pilot for a regional training hub for water services linking universities, polytechnics, iwi, and industry to help meet the workforce needs of local WSPs and their suppliers**

A regional training hub model aligns with the Working Group's support for local solutions, sector collaboration and growing talent pipelines within communities. We consider this would be a way to coordinate fragmented training systems, provide clear pathways into water careers and meet local labour market needs, including iwi involvement in shaping local workforce participation.

The water sector relies on a mix of providers offering different qualifications, short courses and micro-credentials. This can be hard for learners and employers to navigate. A regional hub would:

- act as a single front door for water-related training opportunities in a region
- create coherence across education and on-the-job training
- make it easier for employers to identify suitable training and for workers to understand the pathways available.

A pilot training hub could act as a 'proving ground' for innovation and new approaches, respond to local employer demand and help retain skills in the region, as well as attracting local workers to consider entering the sector.

**Recommendation 7:**  
**The Water Services Authority and the Department, when developing the authorisation requirements of the Water Services Act, should seek to avoid unintended consequences which may create workforce constraints and consider applying authorisations to priority high-risk roles**

The authorisations requirements under the Water Services Act 2021 can support a more skilled and qualified workforce across the sector. However, there are risks of administrative burden, and potential for an insufficient number of authorised workers to fill roles. The Working Group concluded that careful consideration is required in selecting key roles that may need authorisations and timing for implementing aspects of the framework.

While authorisations will provide for transparency and accountability, and help maintain quality delivery, there are questions about how and where authorisations are required in the LWDW context. Clarity is needed on the policy problem and the purpose of the framework.



# Supply chain and procurement

WSPs depend on capable contractors and service providers for their operation of water services which they procure through competitive processes.

The operation, management and effectiveness of these procurement processes in turn depends on the capabilities and experience of WSPs, with a range of competencies and different approaches to procurement across the country.

The Working Group identified issues and barriers relating to procurement and supply chain management that are leading to suboptimal outcomes and inefficiencies in the sector. The key issues are:

- **Fragmentation and inconsistent practice across the water sector:** new regulatory tools that promote water infrastructure standardisation such as the infrastructure design solutions will help reduce variability across the supply chain. However, wide variability in procurement process maturity may lead to cost escalations in some regions. Fragmentation can also lead to challenges achieving economies of scale, leaving some WSPs with insufficient buying power or limited options for suppliers.
- **WSPs default to the lowest-cost tender which can lead to poor outcomes:** this can result in unintended cost escalations, quality issues, and rework – factors that ultimately increase rather than reduce the lifetime cost of assets. The Infrastructure Commission notes that traditional

procurement approaches, built around selecting the cheapest bid and shifting risk to suppliers, have not delivered efficient, stable, or reliable results, and often prevent agencies from leveraging supplier expertise to improve project outcomes<sup>22</sup>.

This focus on upfront price may also contribute to constrained innovation, fragmented supply chains, and reduced ability to pursue outcomes that support the sector's success, such as workforce development and good health and safety. These issues are increasingly problematic given the scale and complexity of upcoming capital programmes.

- **Capability and skills gaps, lack of alignment within WSPs:** the sector faces persistent capability and skills gaps that constrain effective procurement and asset delivery. Workforce pressures are further intensified by ongoing retirements, sector transition uncertainty, and the need for significant workforce expansion to deliver the signalled investment. Despite these challenges, there is currently no dedicated accreditation or structured upskilling pathway for water sector procurement professionals.
- **Organisational misalignment poses additional barriers to effective procurement:** there can be a disconnect between procurement functions and the end-user, and internally between leadership, technical teams, and commercial or procurement functions. This can lead to siloed decision-making and inconsistent project delivery frameworks. These structural divides can exacerbate poor risk allocation,

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22 Delivering Better Value and Better Outcomes (New Zealand Infrastructure Commission | Te Waihangā, 2025).



with risk frequently pushed down the supply chain rather than assigned to the party best positioned to manage it – driving up project costs and reducing supplier participation.

- **Lack of pipeline visibility and market confidence:** given historic underspend in the sector, there is a degree of scepticism of whether the required level of investment will be delivered. When suppliers cannot rely on clear pipelines, they face higher commercial risk, reduce investment in capacity-building, and may price bids more conservatively or withdraw from the market altogether – further raising delivery risk for councils and WSPs.

The working group identified a range of additional issues that can contribute to poor procurement outcomes, albeit considered as less systematic than the issues identified above:

- **Lack of flexibility and right sizing:** procurement for small or BAU projects can be overly complex, while some significant high impact projects may lack adequate planning or consideration of potential costs.
- **Lack of standardisation:** designs, materials, and processes are over-customised across entities and there are too many bespoke solutions. There are many missed opportunities to standardise assets and reduce cost.
- **Limited market capability and capacity:** some regions may have thin markets where there is limited capacity. This can be from poor capability across suppliers, competition between providers in a region, or competition across other infrastructure sectors.
- **Project-by-project procurement dominance:** procurement is still heavily transactional, meaning missed opportunities for programme-level

procurement, building long-term supplier relationships, suppliers investing in supply chain capability, and innovation through early contractor involvement.

- **Digital and asset data fragmentation:** significant variation in asset information quality across providers can lead to poor planning and option identification. Poor data increases risk and reduces procurement efficiency.
- **Behavioural and cultural barriers:** some entities are overly risk averse, leading to slow processes and overdetermined contract conditions. There may be a resistance to collaboration and innovation due to competitive pressure or fear of scrutiny.

Improving procurement practices can result in tangible cost savings and better outcomes for customers. We recommend:

### **Recommendation 8: Develop a water sector procurement strategy to establish and promote best practice across WSPs**

A sector-wide procurement strategy should lay out a roadmap towards best practice and seek buy-in from WSPs across the country. It can be a vehicle to help align sector purchasing activities with outcomes that provide clear benefits to customers, sector health, and national goals.

The strategy should include procurement principles that can be used to help guide WSPs procurement practices – this could include:

- **Value for customers and the public good:** maximising the value of every dollar spent, reducing costs and passing the benefits on to customers.
- **Long-term focus:** considering costs not only at the point of investment but over the lifetime of the asset.

- **Transparency and accountability:** ensuring fair, open and accountable procurement processes.
- **Workforce and capability building:** developing a skilled workforce and supporting the adoption of technology.
- **Relationships:** developing stronger relationships with suppliers, iwi, communities and the customer.
- **Safety and compliance:** ensuring services and delivery meets regulatory requirements and supports a safe workforce.

This approach could help shift procurement from a siloed, individual-WSP function towards a unified 'one customer' model that is more focused on providing a public good, and help strengthen the link between local decision-making and national outcomes.

### **Recommendation 9: Develop a set of template procurement models to support WSPs in adopting best practice approaches**

### **Recommendation 10: Establish a specialist procurement support and advisory function to provide targeted expert support to WSPs, promote sector guidance and template models, and lift sector capability**

These recommendations complement the sector procurement strategy by providing more granular and concrete mechanisms to develop and promote sector-level best practice. We recommend:

- Providing early procurement advice and improved planning capability to ensure WSPs appropriately prioritise investments.
- Adopting risk allocation frameworks and ensuring alignment on risk tolerance to avoid inappropriate risk shifting to suppliers, escalating costs.
- Moving away from consistently selecting the lowest-price procurement models to approaches that consider total cost of ownership, quality, capability, and wider sector benefits such as innovation and workforce development.
- Strengthening relationships between WSPs and suppliers and encouraging more transparent and collaborative procurement models.
- Where appropriate shifting from project-by-project delivery to procurement on a programme basis.
- Encouraging consideration of incentives within procurement models for continuous improvement.
- Providing expertise of water sector regulatory requirements and standardisation pathways.

We recognise that many WSPs are in an establishment and transition phase as they stand up new water organisations and navigate compliance with a new regulatory framework. Sector specific guidance and specialist advice can support WSPs in delivering the increasing levels of investment signalled in the WSDPs throughout this period.

We recommend that any guidance and advice should be developed with consideration of the Government Procurement Rules to leverage central government experience and expertise.

### **Recommendation 11: Develop a toolkit to accelerate water infrastructure renewals**

We identified renewals as a key investment category that could be accelerated through standardised and programme-based

procurement models. Renewals make up about 40% of the investments signalled in WSDPs. The Infrastructure Commission notes that depreciation costs are equivalent to 52% of recent capital investments for network infrastructure and 67% of investments for vertical infrastructure. The Working Group considers there is a significant backlog on renewals work in the water sector and expenditure on renewals has not matched depreciation.

The toolkit should include template procurement models and government support to develop standardised consenting processes for water infrastructure renewals.

**Recommendation 12:**  
**Encourage WSPs to provide quarterly updates to suppliers and the Infrastructure Commission’s National Infrastructure Pipeline about upcoming investments and project lifecycle stages**

Enhancing pipeline visibility remains essential to lifting market confidence and enabling suppliers to invest in capability and capacity. To give suppliers more certainty, WSPs should regularly publish and proactively engage the market about their upcoming water infrastructure investments, and key milestones such as consent approval.

The Infrastructure Commission’s National Infrastructure Pipeline can provide an aggregated, economy-wide view of the pipeline, and can be filtered to present upcoming procurements for individual WSPs. It will be a useful tool for gauging other infrastructure activity and identifying opportunities for alignment (i.e. minimising disruptions to customers from infrastructure works).

**Recommendation 13:**  
**The Government should prioritise and accelerate its regulatory programme to help standardise water infrastructure and consenting pathways**

Improved standardisation across the sector will support streamlined and bulk procurement, shorten delivery times, and reduce costs. Critically standardisation can help facilitate a more predictable infrastructure pipeline and help in building supply chain capability across the water sector and wider construction sector.

Standardisation also supports capability building within smaller WSPs by reducing complexity and allowing them to build infrastructure that is replicable across the country without large internal procurement teams.





# National Asset Data Standards

## **Recommendation 14: Prioritise WSPs' completion and adoption of common asset data standards**

Standardised data structures are essential to support collaboration, interoperability and innovation across the sector. While considerable work has previously been undertaken on national water data standards by the Department and more recently by experts supported by Water NZ, further work is needed to complete development and support adoption across WSPs to ensure their comprehensive and consistent use.

Completing work on and implementing these standards would provide a practical pathway toward improved data consistency across WSPs. This work should be undertaken collaboratively with the sector to ensure that standards are practical, scalable and aligned with operational needs.

A staged approach to data standardisation may be appropriate. Current standards can be perceived as complex and resource-intensive to implement, particularly for smaller providers. Introducing a simplified initial framework with a limited number of core attributes would allow organisations to begin standardising their data while progressively building toward more comprehensive standards.

Over time, consistent data standards would enable improved asset management, more efficient regulatory reporting and greater opportunities for open data and external innovation.

## **Recommendation 15: Establish a sector-wide asset management data platform**

High-quality and consistent data is fundamental to effective asset management and service delivery. Data practices across the sector are fragmented, with many organisations maintaining asset registers in incompatible formats and with varying levels of completeness.

These inconsistencies limit the ability to share information, undertake sector-wide analysis and implement advanced digital tools such as predictive analytics or digital twins.

A sector-wide asset management data platform would provide a shared framework for organising and managing water asset information. This would improve data quality and interoperability across providers, improve supply chain resilience, reduce duplication of effort and support smaller WSPs that may lack the resources to develop comprehensive systems independently.

Improved data capability will also be increasingly important for regulatory reporting. WSPs will be required to submit detailed information to regulators in coming years, including under economic regulation regimes. A common data platform could help streamline reporting processes and reduce the administrative burden associated with compliance.

Improved asset information may also support better risk management, civil defence, and asset valuation, which could assist in addressing the rising cost and availability of infrastructure insurance.



# Technology and Innovation

The capability to adopt and implement technology varies significantly across the water services sector in New Zealand.

Historically, water assets have been managed within individual councils that developed systems and processes independently over time. As a result, asset information is often stored in inconsistent formats across a mix of spreadsheets, bespoke software and commercial systems. Differences in data structures, naming conventions and data quality limit interoperability and constrain the uptake of advanced digital tools.

There is also a strong culture of risk aversion to innovation. WSPs are often reluctant to trial new technologies due to concerns about operational risk, public scrutiny or regulatory consequences if initiatives fail. This has contributed to relatively low levels of research and development when compared with other infrastructure sectors of similar scale.

The recommendations below seek to address these structural barriers by strengthening data foundations, encouraging collaboration and enabling the sector to adopt proven technologies more efficiently.

**Recommendation 16:**  
**Develop customer water-use dashboards and communication tools, based on improved network monitoring data**

Improving customer access to information about water use can support greater water literacy and contribute to demand management.

Customer water-use dashboards would provide households and businesses with clear and accessible information about their consumption patterns. When combined with communication tools such as usage alerts or comparative benchmarks, these systems can help users identify leaks, adjust behaviour and better understand their water use.

Improved transparency can also strengthen public trust in WSPs by providing customers with timely and accurate information about how water systems are performing.

From an operational perspective, customer-level data can help providers identify abnormal consumption patterns and potential system leaks. This can be complemented by better use of bulk and network metering data including minimum night flow analysis to identify leaks, pressure management to reduce background leakage, and demand forecasting to optimise treatment and pumping energy use. Together, customer and network data can support more efficient network management and improve planning for future system capacity.

**Recommendation 17:**  
**Develop and promote a sector-wide 'fast follower' culture in applying existing technologies, including creating a common AI use-case library**

Adopting existing technologies and innovating have the potential to significantly improve water services productivity, resilience and transparency. Effective use of digital tools, data systems and existing and emerging technologies can support evidence-based decision-making, improve operational efficiency and strengthen customer engagement.

For example, improved data systems and analytics based on IoT sensors (hardware devices that detect physical, environmental, or chemical changes such as temperature, motion, or light and convert them into digital data) can support predictive maintenance, real-time network monitoring, early water quality issues detection and improved system capacity management during weather events. These capabilities can reduce operational costs, minimise service disruption and improve public confidence in water services.

Centralised support is needed to promote and support providers in adopting proven technologies. This could involve sharing experiences with the benefits of applying particular technologies across providers and specialist guidance and advice to support those without in-house capability. Work in other countries such as Australia to adopt a fast follower approach to technology uptake includes focusing on rapid adaptation and data-driven improvement to achieve efficiency, particularly regarding AI integration.

AI has the potential to deliver efficiency improvements across a range of water service functions. However, its adoption within the New Zealand water sector is limited. Barriers include limited in-house capability, uncertainty about appropriate applications and concerns about the risks associated with new technologies. As a result, organisations may independently explore similar solutions without benefiting from shared experience.

A common AI use-case library would provide a central repository of practical applications, implementation guidance and lessons learned from both domestic and international examples. This would enable WSPs to identify proven use cases and adopt them more efficiently.

Potential applications include predictive maintenance of infrastructure assets,

treatment process optimisation, automated compliance and procurement workflows, improved planning processes and real-time leak detection.

A shared knowledge base would reduce duplication of effort, lower the perceived risk associated with adopting AI technologies, and support smaller providers that may lack dedicated innovation resources.

**Recommendation 18:**  
**Establish a hub to support innovation, test the application of new and emerging technologies, and provide hands-on experience with new technologies or operational methods**

Centralised capability to support WSPs to apply new and emerging technologies could be provided through a sector-level innovation hub similar to those that already exist in other large sectors of the economy such as construction and agriculture.



## Conclusion

The Working Group's recommendations provide for a comprehensive sector-led approach to addressing issues critical to water services delivery in New Zealand. They build on and complement the legislative and regulatory settings enabled by LWDW and are focused on issues with how the sector operates. As such, sector leaders should own the response.

The Working Group advises that the recommendations should be considered as a comprehensive package that, if implemented as recommended, have the potential to achieve a 10% – 30% productivity gain on how water services are delivered.

There are strong interdependencies between the main issues and proposals. Improved procurement practices can be used to incentivise investment in workforce capabilities by infrastructure providers. Increased uptake of existing and emerging technologies can be used to better manage demand and reduce the need for large investments in new infrastructure. New technologies, such as online network monitoring and AI can also improve efficiencies in network maintenance and operations and reduce labour requirements.

Core to achieving these improvements is that sector CEs and leaders own and develop a strategy to provide the foundation for prioritising and governing the initiatives needed to deliver on the intended gains.

The CE forum established by Water NZ is well placed to consider the Working Group's recommendations.



# Summary of recommendations

## Foundational Recommendations

### Recommendation 1:

Water sector CEs and leaders should establish the sector-level governance arrangements needed to drive productivity and efficiency improvements in water services delivery

### Recommendation 2:

The Government should provide ongoing support for sector-level collaboration to improve sector performance. This could include ongoing engagement, representation and support for sector initiatives to improve productivity, and through monitoring and evaluation of performance under LWDW legislative and regulatory settings

### Outcome:

The sector organises itself to address the key issues it faces, and as a result WSPs and their customers realise the benefits of substantial productivity gains over the next ten years

## Strategy and Leadership

### Recommendation 3:

Develop a National Water Strategy (sector-led) within the next year to provide sector-wide direction and leadership for collaborative initiatives needed to improve productivity and performance

### Recommendation 4:

Support WSPs to improve water literacy and awareness in their communities

### Outcome:

There is consensus on the direction of travel for the sector and widespread commitment to improving sector performance and the priorities for doing so

## Priority focus areas



## Labour Market and Workforce

### Recommendation 5:

Create and maintain a comprehensive national workforce strategy to identify needs and signal development priorities, and provide the basis for sector actions to support growth and development

### Recommendation 6:

Consider developing a concept and/or pilot for a regional training hub for water services linking universities, polytechnics, iwi, and industry to help meet the workforce needs of local WSPs and their suppliers

### Recommendation 7:

The Water Services Authority and the Department, when developing the authorisation requirements of the Water Services Act, should seek to avoid unintended consequences which may create workforce constraints, and consider applying authorisations to priority high-risk roles

### Outcome:

WSPs and their suppliers have the workers they need to deliver on their Water Services Delivery Plans and Water Services Strategies

## Priority focus areas



### Supply Chain and Procurement

#### Recommendation 8:

Develop a water sector procurement strategy to establish and promote best practice across WSPs

#### Recommendation 9:

Develop a set of template procurement models to support WSPs in adopting best practice approaches

#### Recommendation 10:

Establish a specialist procurement support and advisory function to provide targeted expert support to WSPs, promote sector guidance and template models, and lift sector capacity

#### Recommendation 11:

Develop a toolkit to accelerate water infrastructure renewals

#### Recommendation 12:

Encourage WSPs to provide quarterly updates to suppliers and the Infrastructure Commission's National Infrastructure Pipeline about upcoming investments and project lifecycle stages

#### Recommendation 13:

The Government should prioritise and accelerate its regulatory programme to standardise water infrastructure design and performance requirements and consenting pathways

#### Outcome:

WSPs and their customers benefit from substantial time and cost savings and quality improvements in renewing and developing new water infrastructure



### National Asset Data Standards

#### Recommendation 14:

Prioritise WSPs' completion and adoption of common asset data standards and tools

#### Recommendation 15:

Establish a sector-wide asset management data platform

#### Outcome:

Increased collaboration including shared service arrangements are enabled across WSPs and their suppliers resulting in time and cost savings and other operational efficiencies.



### Technology and Innovation

#### Recommendation 16:

Develop and promote the use of customer water-use dashboards and communication tools, based on improved network monitoring data

#### Recommendation 17:

Develop and promote a sector-wide 'fast follower' culture in applying existing technologies, including creating a common AI use-case library

#### Recommendation 18:

Establish an innovation hub to support innovation, test the application of new technologies, and provide hands-on experience with new technologies or operational methods

#### Outcome:

Demand for investment in new water services infrastructure is reduced through improved demand management and the more effective use of existing infrastructure, networks are better maintained and faults fixed faster, and savings are realised in operating costs

**Water  
Services  
Sector  
Performance**

Report of the Working Group 05.26

**Appendix**



# Working Group members

## David Ward

David is a chartered civil engineer, fellow of the Institution of Civil Engineers and general manager at Dunedin City Council (DCC) responsible for 3 Waters, City Development (town planning function), City Growth and Property portfolios. Prior to joining DCC he was employed at Watercare Services responsible for establishing the Enterprise Model delivery framework, managing the Central Interceptor project (2013 to 2019), establishing the consultant panel and introducing an operational readiness framework.

## Emily Afoa

Emily (Ngāpuhi, Ngāti Maniapoto) is a Chartered Environmental Engineer with a PhD in Civil Engineering, co-director of Tektus Consultants Ltd, and a researcher with Pūrangakura. Her mahi centres on the vital connection between water, land, and people placing mātauranga and tikanga Māori at the heart of water-sensitive design, land development, and infrastructure delivery. Emily's work is grounded in te mauri o te wai and a commitment to uplifting indigenous leadership in engineering to shape how communities engage with infrastructure and creating space for future professionals to thrive.

Her experience spans local government, academia, and consultancy, and she is recognised for her leadership and technical excellence, combined with cultural insight, most recently as the inaugural recipient of the Te Mana Kiwi SPPEEx Te Ngaru Whakateo (Current) Award. She's previously served on the Board of ACE New Zealand and was part of the Steering Group for MindSpace, contributing to sector-wide conversations around mental health and wellbeing.

## Hugh Goddard

Hugh is the Managing Director of Pipeline & Civil, leading the company's vision to be New Zealand's leader in renewing and constructing critical infrastructure assets. A Chartered Director and independent chair of Inframax Construction, he is also a CHASNZ Board member, former Chair of the Auckland Branch Committee of Civil Contractors New Zealand, and part of Connexis' Industry Reference Group for trade training. Hugh is a strong advocate for health and safety, particularly in supporting SMEs to see it as a driver of operational excellence and business performance.

## Mair Brooks

Mair has over 20 years' experience in management consulting, with a wealth of experience in leading, directing and providing insights and assurance around complex infrastructure portfolios and projects. She leads the growing Major Projects Practice to support her clients to deliver large transformational change programs in infrastructure and complex business environments across Government and Corporate sectors from Board level to the front line. Mair has a strong track record of delivering projects across the world.

## Mohamed Abdulahi

Mohamed is the Managing Director – Partners in performance part of Accenture.

Mohamed has over 20 years of experience in consulting and operational roles, focussed on business improvement, capital optimisation, sustaining capital, contracting strategy and performance management across infrastructure, utilities, and manufacturing. He leads the Partners in performance's capital projects and infrastructure practice and has worked with some of Australia and New Zealand's largest water organisations.

### Experience

- Capital projects: Conducted structured optimisation sprints on key assets and development plans for a natural gas project to reduce capital costs by \$1.7bn
- Maintenance Productivity: Identified and rolled out more than 20% maintenance productivity improvement of a generator with thermal and renewable portfolio
- Workforce efficiency: Set up and rolled out a capital projects options tracking process which eliminated ~4,500 engineering hours during pre-feasibility stage
- Capital efficiency: Delivered over 16% improvement in capital efficiency across an \$8bn portfolio by focusing on simplification, standardisation and modularisation
- Op model redesign: Overhauled op model of a commercial department through contractor management and organisational wiring, delivering \$37m in 4 months

### Qualifications

- PLD (Mgmt.) – Harvard Business School
- MEng – First Class in Electrical and Electronics, and a BEng in Electrical and Electronics with Honours (Ardmore scholar) –University of Auckland.

## Paul de Quaasteniet

Paul is a strategic transformation and delivery leader with more than 20 years' experience guiding organisations through digital reinvention and large-scale, complex change. His approach is grounded in the understanding that change can only be successful when it considers all elements – people, process, data and technology.

As Director of Bluebeacon, Paul works with councils, utilities, NGOs, financial services and water organisations to strengthen capability, modernise systems and deliver data-driven performance improvements across critical services.

Paul's career includes senior leadership roles in the Department of Internal Affairs, where he led the design and delivery of national systems for the Water Services Reform Programme, and at Watercare Services, where he directed enterprise transformation and technology programmes. Earlier in his career, Paul provided ICT management and advisory services to a range of organisations including Fonterra, Zespri, Balfour Beatty and Chevron working across the Middle East, Asia and New Zealand.

With a background in digital strategy, organisational change, and programme leadership, Paul brings deep insight into the opportunities technology, data, and workforce capability can unlock to improve organisational performance and sustainability.

## **Ken Macdonald**

Ken is T+T's Group Sector Director for Water, based in the company's Auckland office. He is an accomplished business leader and consultant with over 35 years experience in the water sector in New Zealand, the Pacific, the UK and the European Union. He has expertise in strategic planning, managing complex portfolios, programmes and projects and in assisting water sector clients with organisational development, change management, policy development and legislative compliance.

His areas of technical expertise are centred on integrated water resources management, catchment planning, water quality modelling and environmental impact assessment. He is a Chartered Water and Environmental Manager, a Chartered Chemist and a Certified Programme Management Practitioner.



**Internal Affairs**  
**Te Tari Taiwhenua**

