



# Wellington Water Committee | Komiti Ngā Wai Hangarua

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Report no: WWC2021/5/276 (4)

## The 30 Year Investment Story for Wellington's Water

### Purpose of Report

1. To obtain the Wellington Water Committee's endorsement to release a public discussion document to help communicate the region's future three waters investment needs.

### Recommendations

That the Committee:

- (1) endorses the publishing of the attached draft discussion document (attached as Appendix 1 to the report) to the public, subject to incorporating the Committee's feedback, final proofing and formatting consistent with the draft design concept (attached as Appendix 2 to the report);
- (2) notes the release of the discussion document will be supported with associated communications and engagement activities delivered through Wellington Water Limited's website and social media;
- (3) notes Wellington Water Limited will be working with the shareholding councils' communications teams to obtain their support for the public engagement, and would also like to work with iwi Mana Whenua to ensure their perspectives are represented as part of this engagement;
- (4) notes the content of the discussion document is likely to be of interest to the public and the engagement will inform planning for the 2024-34 Long Term Planning period; and
- (5) notes the publishing date for the discussion document will most likely be early in the 2022 calendar year.

## Background

2. The region has aspirations to improve its three waters services, and to reduce the impacts of these services on Te Mana o te Wai - the health and mauri of the water - and on the wider environment. The region shares the services and the benefits of enhancing Te Mana o te Wai, so needs to act collectively to invest in and improve the services.
3. Achieving these aspirations will require a significant increase in investment above the existing levels of funding over a sustained period. The region has set out a pathway for the next 30 years, giving a sense of the scale and scope of the issues and how they might be addressed.
4. This will require us to move away from existing approaches, and to think more carefully about how we use and interact with water and how we design our houses, towns and cities. The benefits of this change include improved urban environments, healthier water and ecosystems, lower carbon emissions, improved resilience, and reduced capital expenditure in large-scale, "hard" infrastructure. For example, using water more efficiently, including understanding how water is being used at an individual level, can avoid or defer the need for investment in new lakes and dams, treatment plants, pipes, and reservoirs.
5. On 30 September 2021, the Committee, the Wellington Water Board, and invited iwi Mana Whenau held a workshop to discuss and agree the regional investment direction and key milestones for the three waters services over the next 30 years. The purpose of the workshop was to seek input to and support for this investment direction ahead of the proposed release of a public discussion document.
6. The release of the discussion document will demonstrate to the public and wider stakeholders that the region has a clear, long-term plan for the three waters services. It will also build upon the signalling that commenced in the 2021/31 Long Term Plan process on the significant investment required if the region is to achieve its aspirations for water and the three waters services. Wellington Water Limited's (the Company) customer feedback surveys indicate there is a high level of interest in understanding the future plans for the water services.
7. The Committee supported the investment direction presented to the workshop and provided some feedback on aspects that they considered should have greater emphasis. This included the need to act collectively as a region. This feedback has been captured in the draft discussion document.

### **The water services are important to the public, but it is hard for them to engage in discussions on expectations, planning, and investment**

8. Infrastructure asset management has a much longer timeframe than the current local government planning cycle of 10-year plans updated every three years. Additionally, while councils do work hard to engage communities on their plans, and keep 30-year infrastructure asset management plans, these documents are often so comprehensive it is difficult for members of the public to find a way in, to understand the issues and what needs to be done, and to participate in problem-solving activity that affects their communities.

### **The region has done the investment planning, and it aligns with customers' aspirations**

9. The challenge here is not the absence of planning – long-term investment planning underpinned The company's advice to councils for their 2021-31 long term plans (LTPs). This planning was developed around a set of strategic priorities that align with key environmental and economic drivers affected by water network operations: freshwater quality standards; carbon reduction targets; drinking water supply and other services that will support growth; and looking after existing infrastructure.
10. These strategic priorities also reflect the public's aspirations for their water services, as expressed through their feedback on LTPs, through customer surveys, and through the increasing range of national-level standards and regulations. The aspirations are fundamental to the services, and are expected to endure for a long period of time.
11. The proposed investment direction was tested with the Wellington Water Committee, Wellington Water Board, and invited iwi representatives at a workshop on 30 September 2021. The workshop participants requested that the discussion document capture the need to act collectively as a region, especially on key opportunities such as universal water meters and the adoption of water sensitive design practices. There was also a strong interest in pursuing distributed technology approaches ahead of major capital infrastructure investment; pursuing the required transformation faster than what had been outlined in the discussion document; and an increased focus on customer education.
12. The company acknowledges that the workshop and engagement on the plan was not well constructed for iwi Mana Whenua participation. The company will ensure future workshops include appropriate pre-engagement and co-design.
13. It is important that an iwi Mana Whenua perspective and their interest in improved outcomes is presented as part of this public engagement. The company would like to work with iwi Mana Whenua to facilitate this. Drawing on the work undertaken in the Whaitua process to describe iwi Mana Whenua interests and values provides a useful starting point and avoids some duplication of effort.

### **The release of a discussion document creates an opportunity for focussed public engagement**

14. The company conceived the development of the 30-year investment direction as a non-technical presentation of issues facing the three waters over the next three decades and beyond, to help demonstrate the work that has been done (including the planning) and the work that needs to be done (including the investment).
15. The discussion paper serves dual purposes: to capture and express the longer term thinking that has already been completed in order to provide strategic investment advice now; and to provide visibility to community of the scale and scope of these issues in a way that not just helps them make sense of the issue, but offers them opportunities to get engaged in addressing them in the future.
16. Creating and promoting this discussion with the community will also enable more informed and engaged discussion when investment is proposed for the next investment period, i.e. the 2024/34 LTP or the equivalent process completed by any future Water Services Entity.
17. It is always a challenge to present complex information to lay people in a way that invites participation. The approach taken has been to make the discussion document easy to engage with, and to have a 'fresh' look rather than being presented in a report-style format. This includes the minimum use of prefatory material, in an effort to get straight to the heart of the matter, and to speak to the audience in an open, non-technical way.
18. Additionally, to give the discussion document an explicit purpose, the discussion document asks questions of its readers. These questions invite people to consider their own role or position on the issue at hand. The purpose is as much about helping communities recognise their own agency, their own roles in these issue, as it is about gaining feedback. The questions are reasonably provocative, to better stimulate discussion.
19. The proposed text of the discussion document is presented in Appendix 1 attached to the report. A sample of the proposed concept is presented in Appendix 2 attached to the report. We would welcome comment from the Committee on whether the structure, format and approach are likely to inform, and generate interest and input from the community, while also demonstrating that planning for the future that has been occurring.

### **The discussion document will be supported by wider communications and engagement**

20. The release of the story marks the first stage of public engagement looking towards the 2024/34 investment period. To get the maximum benefit from the discussion document it should be released when the public is best-placed to engage with it.

The country has experienced a challenging year managing the risks and consequences of COVID-19, so the intention is to release the discussion document after the summer break in the first quarter of the 2022 calendar year.

21. The company's Communications Team is in discussion with the councils' communications teams on the overall engagement approach to undertake. At a high level, our proposed approach will be to make the discussion document accessible and engaging, and provide numerous ways for people to provide us with their thoughts and feedback. In addition to having the discussion document available on all of The company's and councils' online channels, consideration is also being given to targeted engagement with key community interest groups, hosting opportunities for people to provide face-to-face feedback, and taking advantage of public engagement tools and platforms to help gather feedback and sentiment.
22. As the engagement on the discussion document needs to be done on a regional basis, the communications approach will take into consideration other public consultations/engagements that our councils have planned during and after this period such as 2022/23 annual planning. This could also potentially include submissions on the draft water reform legislation, that is expected to enter the House in mid-December.
23. Engagement on the discussion document may provide insight that is relevant to the councils' pending 2022/23 Annual Plan processes. The Company will work with the councils' planning teams to ensure the proposed Annual Plans are consistent with the investment direction set out in the discussion document and incorporate any relevant public feedback.

## Appendices

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1	Wellington Water 30 Year Draft	46
2	Wellington Water 30 Year Discussion Document - Draft Concept Design	57

**Author:** External Author (Wellington Water Ltd)

Front Page**The next 30 years for Wellington's water [Actual title to come]  
A public consultation document****On the pathway to Te Ika Rō Wai**

*When the right balance is achieved between the water, the environment and the people, the mana and mauri (power and life force) of water will be enhanced.*

(Insert month of publication)

Introduction to 30 Year Plan Public Consultation Document**It's time to change direction and we need to do it now**

We're facing big changes and growing pressures, but there's one common vision that binds us all together - to protect and enhance the quality of our water. Over the years, the way we all view, interact with and use water has become unbalanced and it's time to change that.

Councils have asked residents about their key priorities for water and the environment, and the response has been loud and clear. Our region urgently wants our water infrastructure to be upgraded to cope with today's demands as well as future needs. You, our customers and community, have asked for better environmental protection of our harbours and waterways, protecting ecosystems and providing safe swimming and places to gather kai moana. You want to see more green spaces and a reduced carbon footprint – and we couldn't agree more.

Wellington Water and our council owners are planning for changes now, to ensure our focus and investment go into the right areas to make the biggest impacts for our water, the environment, and our communities.

We're already dealing with significant issues, but there's a lot we can all do to protect the things that matter and improve the way we live with water. This will take decades to turn around and require us all to do things differently. But together we can protect the health and wellbeing of our water and each other and enjoy improved living environments.

**Where we are now and what's next**

Our water services – storm water, drinking water and wastewater are under pressure. We've all seen the impacts of historic underinvestment in our ageing infrastructure. Climate change is here, there are new housing developments all over the region to meet the demands of population growth, and we need to ensure that we improve the way we manage the impacts of this on our freshwater, harbours, and the environment. Up front, it doesn't make for pretty reading but there are six key areas we intend to focus on that will make a real and positive impact:

- Looking after ageing infrastructure
- Protecting water while enabling growth
- Ensuring there's water for people and the environment

- Improving the quality of water in the environment
- Reducing Emissions
- Building Resilience

This document looks at the issues, challenges, changes required, goals we want to hit and investment priorities. You'll find all the detail in the following pages, as well as some important questions we'd value your feedback on.

Your views will help us shape the most effective way to tackle the issues, so please tell us what you're thinking, because we're all in this together – and together we'll make it work.

### **Looking after ageing infrastructure**

*Taking care of what we've got – operating, maintaining and renewing our three waters infrastructure*

#### The Vision

To keep our region healthy and thriving by reliably delivering safe, clean water and efficiently managing stormwater and wastewater. At the same time, supporting people to look after the water, and the water services on their property, reducing leaks and water loss.

#### The Issues

Over the past 40 years, we've gradually fallen behind with maintenance and renewal of our water infrastructure. This means we're seeing a lot more pipe failures than we used to. This has several flow-on effects: less reliable services, harm to the environment, drawing and treating much more water than we actually use, increased costs when we need to fix things urgently, and it makes it more difficult and expensive to cater for growth.

#### The Challenges

We need a much clearer picture of the state of our infrastructure to be able to make the right investment decisions. We also need to increase our construction capacity to deal with the replacement backlog and new infrastructure required for population growth. They're big challenges that need urgent and ongoing solutions.

#### Supercharging Change

There's plenty of new technology out there and we're tapping into that. A great example is trenchless pipe laying which means lower costs, less emissions and reduced impact on our customers. We've also been investing in systems and analytical tools to give us improved data to assess the issues, and while growth is a challenge, it's also an opportunity to improve our assets.

#### Goals

In 30 years, we intend to:

- Have cleared the backlog of all deferred renewals so we're able to provide more reliable services at lower cost, and reduce the risk of outages and environmental harm
- Have a clear picture of all our infrastructure and be using that knowledge to deliver effective, efficient maintenance and renewal

- Have strengthened our current systems, processes and delivery to be managing our water network to recognised good practice standards
- Be meeting industry benchmarks for reliability, availability and cost, as well as reducing leaks and blockages

#### Investment Priorities

- Double, or even triple the rate of current renewals to address the backlog of renewal work on our aging infrastructure. This will reduce the risk of failures and keep on top of future maintenance needs
- Expand asset condition assessment to get a more complete picture of the state of all of our infrastructure
- Increase planned maintenance to the optimum level, relative to the costs to customers for loss of service
- Continue and complete development of the asset management system, including data and analytics
- Using digital and emerging technologies to expand and improve monitoring, sensing and controls for operations and maintenance, creating efficiency, reliability and sustainability across the water cycle
- Continue to incorporate growth and resilience requirements into renewal investments

#### Question

**Understanding this is a big job that needs big investment, how quickly would you like the backlog of aged infrastructure to be renewed?**

(At the current rate of investment, it would take over 30 years)

Please tick your preferred:

1 – 10 years

10 - 15 years

20 - 30 years

(See page XX on how to send us your feedback)

#### **Protecting Water While Planning for Growth**

*Safeguarding what matters as the region grows*

#### The Vision

We want to look after our water as it travels from the mountains to the sea and ensure it is used efficiently and respectfully, acknowledging its sacred nature and the social and cultural benefits it gives to all of us. This is particularly important in the face of population growth where the demands on our water sources and infrastructure increases.

#### The Issues

Our population is growing quickly. The region is planning to accommodate 150,000 more people. This will impact infrastructure already struggling to cope, as well as putting more pressure on water sources and the environment. The way we build our towns and cities is not keeping pace with the knock-on effects of new developments, but this is a problem we all have to solve – from households and businesses to councils, Wellington Water and the Government.



### The Challenges

The harsh reality is that growth is being allowed to happen in areas where there is insufficient infrastructure to support it. The standards that are currently set for these developments, through things like council regulations, do not go as far as they could to encourage and support people to reduce their impacts on water and the environment.

### Supercharging Change

People want better living environments and more affordable housing. In a positive move, policies and regulations are catching up with these aspirations, such as the National Policy Statement for Freshwater Management which gives local authorities new direction on how to manage and enhance freshwater. Achieving these higher standards will require us to take much greater care in how our towns and cities, and the houses within them interact with the water. We need to take a collective response to how we intensify and expand our cities and towns.

### Goals

In 30 years, we intend to:

- Be investing in infrastructure ahead of demand at all scales including regional, catchment and local network
- Be requiring design standards and behaviours that minimise impacts on water, the environment and services. This would include requirements in District Plans
- Continue coordinating infrastructure and land use planning
- Take further steps to ensure all new connections are 'fault-less' and completed to agreed standards, and that existing connections maintain their integrity over time

### Investment Priorities

For investment, we will use growth as an opportunity for regeneration, innovation and change:

- Complete investment in infrastructure to support council-prioritised growth areas. This would require a 4-5-fold increase above current funding levels
- Complete regional, trunk and local network plans to optimise investment and support council-prioritised growth, supported by hydraulic and network models

For land use and development:

- Revise District Plans, policies, codes of practice, bylaws and compliance processes to require water sensitive practice and incentivise behaviour change
- Continue to develop the Regional Standard for Water Services, revising it to support achievement of the strategic priorities

### Question

Thinking about individual houses through to community environments, do you think water-sensitive design, such as low-flow showerheads to reduce consumption, rainwater tanks and green roofs right through to constructed wetlands should be required under our District and Regional Plans, bylaws and codes of practice?

Yes No

Why?

### **Ensuring there's enough water for people and the environment**

*Increasing awareness of water use and only using what we need.*

#### The Vision

For everyone in our region to truly value water and do everything possible to use only what they need, and reduce water loss, and to re-use water where possible. Also, to see healthy river flows sustaining ecosystems.

#### The Issues

We need to ensure we have enough water when we need it, while also leaving enough behind to sustain our ecosystems - but our system is close to its limits and under increasing pressure. Demand is accelerating and we're falling further and further behind global benchmarks on efficient use of water. The way we use and deliver water can also impact the environment, including the carbon emissions from pumping and water treatment.

#### The Challenges

There currently isn't enough reliable information about where water is being used, how much is being used and the amount we're losing through leaking. We do know, however, we're already taking too much from our major source, Te Awa Kairangi/Hutt River. We need to balance all of this with the fact that creating additional water sources means increased infrastructure with associated costs and carbon emissions. Water is taonga and we need to take greater care in how and why we use it.

#### Supercharging Change

There are two big improvements we can make to create important change that will last:

- Capturing accurate information on how much water businesses and households are using, and how much water we are losing in the network through undetected leaks. The information will also help us to optimise operations and investment as it will allow us to quickly identify any issues in the network.
- This same information, together with targeted education delivered through digital technologies will enable us to support everyone to use water more efficiently. The amount of water we use dictates the amount and size of the infrastructure required to treat and supply it, and an infrastructure charge linked to consumption provides an incentive for efficient use, keeping costs down for everyone.

We have commenced some research into capturing and providing this information from smart water meters to gain a better understanding from our customers of how they will help people to use less water.

Goals

In 30 years, we intend to:

- Reduce domestic water use to global benchmark levels. The average Wellingtonian uses more than 200 litres per day, well above the current benchmark of around 150 litres per day and falling.
- Reduce network water leakage to global benchmarks
- Reduce the amount of water we take from Te Awa Kairangi in summer and further diversify our water sources
- Provide our customers with information about their water consumption and help them use water more efficiently

Investment Priorities

- Increase investment in leakage and network management
- Installation of smart water meters that measure water consumption and identify leaks
- Create customer education programmes with supporting policies, that utilise the data provided by the smart meters
- Upgrade Te Marua Water Treatment Plant to peak efficiency
- Develop a third storage lake at Te Marua
- Identify, assess and progress new water sources while reducing our call on Te Awa Kairangi

Question**How do you think we should go about ensuring a sustainable water supply and lowering demand?**

No single action will be enough of course, but combined they'll make a powerful impact.

Rate your preferences below, 1 being your top priority:

- Mandatory rain and greywater tanks
- More or new river and stream sources
- Building a desalination plant
- Investing in water recycling for wastewater
- Installing smart water meters in households and businesses to measure water usage and detect leaks
- Creating education campaigns and policies to reduce water demand
- Applying a water infrastructure charge, linked to the consumption measured by the meters, to incentivise efficient water use

(See page XX on how to send us your feedback)

**Improving environmental water quality**

*Caring for our freshwater, rivers, streams and harbours*

The Vision

To have a truly integrated approach to the way we manage and care for water, protecting and enhancing downstream environments, increasing the extent of naturally flowing water, and supporting communities to care for and enjoy their local water.

### The Issues

Stormwater and treated wastewater are returned to the environment and re-enter the water cycle. The poor quality of our urban waterways, that don't meet community and regulatory expectations shows that our current approach is not meeting the needs of the environment or our communities. Our goal is to ensure that water is safe for people and the environment but along the way, several factors can impact on water quality:

- Substandard private and public wastewater pipes and connections creating leaks and causing overflows into the environment
- New housing developments can compound these problems by increasing stormwater runoff and increasing the demands on our already stretched wastewater networks

### The Challenges

There are two big challenges here - the amount of private and public pipes leaking wastewater into the environment and the stormwater system harming the environment with contaminants and peak flows from non-permeable surfaces such as roads and other paved areas.

### Supercharging Change

Conversations about water are changing as we see the increasing impacts of ageing infrastructure and the way we currently manage stormwater.

There's a growing understanding that we all have a part to play in improving the way we live with water, through the way we build and live in our towns and cities. We all need to get the balance right and start taking action now.

### Goals

In 30 years, we intend to:

- Make significant progress in improving water quality to the required level, catchment by catchment
- Have all new developments and infill built to achieve higher water quality requirements, including bringing piped stormwater flows or buried streams to the surface and into restored stream environments (daylighting) where possible
- Have ensured our customers are maintaining their private pipes and connections
- Be renewing pipes and assets, addressing their impacts on water quality

### Investment Priorities

The investments we make here have strong connections to the actions needed to upgrade existing infrastructure and support growth.

For Investment:

- Prioritise the renewal and maintenance of assets that create risks to water quality
- Using digital and data technologies to increase our monitoring and 'smart networks' capability, improving operations and infrastructure management
- Significantly expand the 'Know your Pipes' inspection programme for private pipes
- Increase the capacity of networks to contain peak flows
- Use growth (including developer-supplied infrastructure) as an opportunity for regeneration and change

For land use/development and council policy

- Use all available council levers including District Plans, codes of practice, bylaws and compliance processes to mandate water sensitive practice and enable and incentivise behaviour change everywhere
- Ensure the Regional Standard for Water Services is adopted across the region and revised to support achievement of the strategic priorities (such as designing and building a water-tight network)

### Question

Would you be prepared to pay for a regular, scheduled inspection of the laterals on your property, and to have them repaired if they are in poor condition, to improve the quality of your local freshwater and the harbours? (Laterals are the wastewater and stormwater pipes that connect to the public network).

Yes No

(See page XX on how to send us your feedback)

## **Reducing Carbon Emissions**

*Becoming more efficient and creating value from wastewater*

### The Vision

To have become more efficient in the use of water and energy and be taking advantage of the energy and nutrient value of wastewater to the extent that we're making a significant contribution to achieving New Zealand's 2050 carbon emission targets.

### The Issues

It's time we made carbon emissions a part of our discussions about water. Our water services are entirely dependent on the climate but, simply by doing what we're here to do – delivering clean, safe drinking water and managing wastewater and stormwater, our operations create carbon emissions. It also happens when we maintain and create new infrastructure. The emissions are directly linked to the demand for water.

We want and need to do our share to support New Zealand's zero emissions target, but we need a deeper understanding of the emissions from wastewater treatment and the options for turning wastewater biosolids (the solid, organic matter recovered from the wastewater treatment process) from waste into something of value – and bring everyone in our region along with us.

### The Challenge

The challenge we face is one of transparency and collective action. Our carbon emissions are closely linked to how our customers use water. It's important to have a better understanding of how we generate emissions, what we can do to turn waste into value and to collectively take action to reduce emissions through behaviour and investment.

### Supercharging Change

It's not going to be easy, and it'll take serious investment, but the first step is to be totally transparent around the amount of emissions and the cost to reduce them. It'll help set up the right conversation.

An important part of that discussion will be exploring action to achieve zero waste – reducing, re-using, recycling and recovering. We'll look at ways we can adopt a circular economy approach, where resources are kept in circulation and not simply disposed of. It's a complete change of mindset and we'll all have a part to play.

### Goals

In 30 years, we intend to:

- Be utilising the energy and nutrient value of wastewater biosolids
- Be highly energy efficient and have expanded our use of on-site renewable generation such as solar, wind and bio-energy
- Have reduced the emissions from our construction programme in line with recognised international benchmarks

### Investment Priorities

- Adopt low carbon construction methods
- Assess and invest in energy efficiency and renewable energy
- Invest in treatment processes for wastewater biosolids that enable them to be put to beneficial use, rather than sent to landfill
- Understand the emissions from wastewater treatment and optimise the treatment process to minimise them
- Convert our fleet to electric vehicles

### Question

Would you like to see the cost of carbon in the charges for your water services – and be willing to pay a dedicated charge for these to be reduced?

Yes No

Or

Would you support the conversion of wastewater biosolids into a beneficial soil additive?

Yes No

And would you use it on your property?  
Yes No  
(See page XX on how to send us your feedback)

## **Building Resilience**

*Strengthening our ability to deliver the services in the face of natural hazards and climate change*

### The Vision

To have made the big decisions that enable our water services to reliably meet the needs of the region and be resilient to natural hazards and climate change.

### The Issues

We're particularly exposed to natural hazards in our region and climate change impacts everything we do. The risks are increasing, so we need to front up to some big decisions about how to stay ahead of the dangers and adapt at all levels – local, network and catchments.

### The Challenges

We're still coming to grips with exactly what it will take to be resilient to climate change, but our understanding is increasing as we develop our models and analyse our network and asset performance. The other big challenge is that we need to significantly increase our resilience to earthquakes. We will achieve some of this through renewing our infrastructure using more resilient materials, but significant investment in infrastructure that provides security of service in the event of damage to critical assets may still be required.

### Supercharging Change

Achieving resilience will require councils and communities to make some key decisions about how our towns and cities will be used and developed into the future. What are the key risks that we face? And what is the best way to respond to them? What role will the water services and infrastructure play in this response? This is likely to include moving to a more distributed approach, and not continuing to be dependent on assets that service entire cities and catchments.

### Goals

In 30 years, we intend to:

- Achieve a regionally consistent approach to protecting communities from stormwater flooding, utilising a mixture of infrastructure and operational approaches informed by our hydraulic models and real-time performance information
- Increase the resilience of key infrastructure and services to climate change, through completing risk assessments and investing in the resulting adaptation plans
- Increase the resilience of our services to earthquakes, through the renewal of ageing infrastructure and investing to achieve the outputs of a reviewed and revised resilience strategy.

### Investment Priorities

For investment:

- Use renewals and regeneration to increase resilience to natural hazards

For land use/development and council policy:

- Support councils with information to assist their climate change response and adaptation planning

### Question

In understanding that with all long-term investments we need to prioritise and make some trade-offs, where should we prioritise our investment?

Rank your preferred options in the order of 1-3 with 1 being your top priority:

1. improving environmental water quality
2. reducing carbon emissions
3. building resilient networks?

(See page XX on how to send us your feedback)

### **How to share your feedback**

1. If you'd like to use the questionnaire in this document, just fill it in and freepost it to us, or you can download it [here](#).
2. Or respond online at [www.xxxxxxxx](http://www.xxxxxxxx) and follow the instructions.
3. Or you can simply write us an email: [xxx@xxxxxx](mailto:xxx@xxxxxx)

Thanks for taking the time to be involved in shaping our future. If you have any questions at all, please contact us on:

Phone: 04 XXX XXXX

Email: [xxxx@xxxxxx](mailto:xxxx@xxxxxx)

### **Further reading and links to more detailed information**

- Letter from CE and Chair
- Insert relevant documents and/or links such as:
  - Regional Investment Priorities
  - Strategic Priorities
  - Annual report
  - SOI
  - Graphs/stats/maps





# 30 Year Plan

Public consultation document

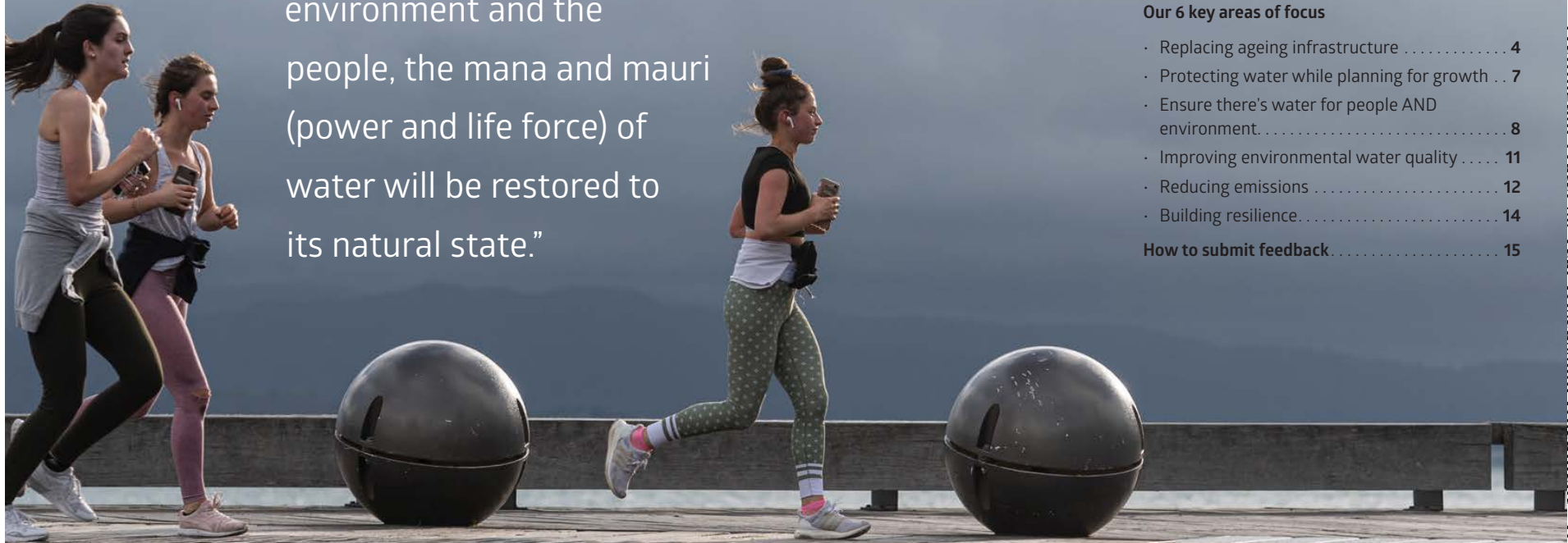
**Our water. Our future.**

January 2022

INTRODUCTION TO 30 YEAR PLAN PUBLIC CONSULTATION DOCUMENT

# Te Ika Rō Wai

“When the right balance is achieved between the environment and the people, the mana and mauri (power and life force) of water will be restored to its natural state.”



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## It's time to change direction and we need to do it now

We're facing big changes and growing pressures, but there's one common vision that binds us all together – to protect and enhance the quality of our water. Over the years, the way we all view, use and deliver water has become unbalanced and it's time to change that.



**Our water. Our future.**

Councils have asked residents about their key priorities for water and the environment, and the response has been loud and clear. Our region urgently wants our water infrastructure to be upgraded to cope with today's demands as well as future needs. You've asked for better environmental protection of our harbours and waterways, protecting ecosystems and providing safe swimming and places to gather kai moana. You want to see more green spaces and a reduced carbon footprint – and we couldn't agree more.

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### Where we are now and what's next

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- [Replacing ageing infrastructure](#)
- [Protecting water while planning for growth](#)
- [Ensuring there's water for people and the environment](#)
- [Improving Environmental Water Quality](#)
- [Reducing Emissions](#)
- [Building Resilience](#)

This 30 Year Plan looks at the issues, challenges, changes required, goals we want to hit and investment priorities. You'll find all the detail in the following pages, as well as some important questions we'd value your feedback on.

Your views will help us shape the most effective way to tackle the issues, so please tell us what you're thinking, because we're all in this together – **and together we'll make it work.**

## ASSESSING INFRASTRUCTURE FOR RENEWAL AND MAINTENANCE

# Replacing ageing infrastructure

**The Vision:** To keep our region healthy and thriving by reliably delivering safe, clean water and efficiently managing stormwater and wastewater. At the same time, supporting people to look after the water services on their property, reducing leaks and water loss.

### Goals

**In 30 years, we intend to:**

- Have cleared the backlog of all deferred renewals so we're able to provide more reliable services and reduce the risk of outages and environmental harm
- Have a clear picture of all our infrastructure and be using that knowledge to deliver effective, efficient maintenance and renewal
- Be managing our water network to high standards
- Be meeting industry benchmarks for reliability, availability and cost, as well as reducing leaks and blockages

### The Issues

Over the past 40 years, we've gradually fallen behind with maintenance of our water infrastructure. This means we're seeing a lot more pipe failures than we used to and it has several flow on effects: it can harm the environment, it means we need to draw and treat more water than we actually use, it costs more to fix things urgently and we're not developing the whole network in a way that makes the most of opportunities such as catering for growth.

### The Challenges

We need a much clearer picture of the state of our infrastructure to be able to make the right decisions. We also need to increase our construction capacity to deal with the replacement backlog and new infrastructure required for population growth. They're big challenges that need urgent solutions.

### Supercharging Change

There's plenty of new technology out there and we're tapping into that. A great example is trenchless pipe laying which means lower costs, less emissions and reduced impact on our customers. We've also been investing in systems and analytical tools to give us improved data to assess the issues, and while growth is a challenge, it's also an opportunity to improve our assets.

### Investment Priorities

- Double or triple the rate of current renewals to reflect the condition of the infrastructure, so we reduce the risk of failures and keep on top of future maintenance needs
- Expand assessment to include all types of infrastructure and seriousness of issues
- Increase planned maintenance to the best possible level, relative to costs for loss of service
- Continue and complete development of the infrastructure management system, including data and analytics
- Expand and improve monitoring, sensing and controls for operations and maintenance, creating efficiency, reliability and sustainability across the water cycle
- Incorporate growth and resilience requirements into renewal investments



### Question 1

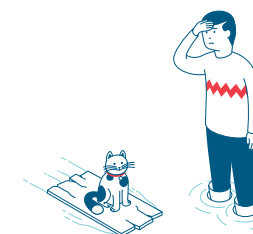
**Understanding this is a big job that needs big investment, how quickly would you like the aging infrastructure to be renewed?**

(At the current rate of investment, it would take over 30 years)

Please tick your preferred:

- 1 – 10 years
- 10 – 15 years
- 20 – 30 years

→ See page 15 on how to send us your feedback



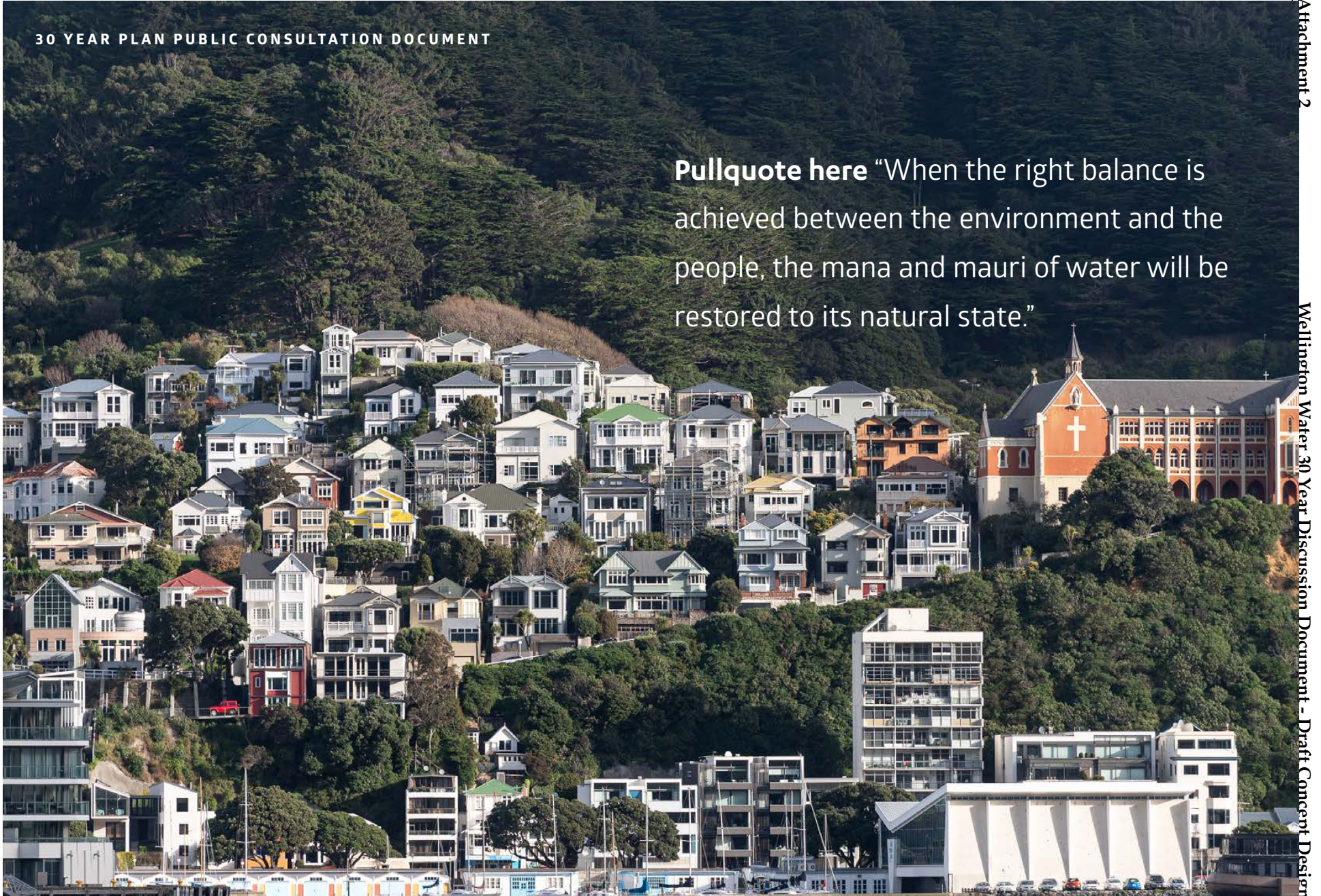
30 YEAR PLAN PUBLIC CONSULTATION DOCUMENT

**Pullquote here** “When the right balance is achieved between the environment and the people, the mana and mauri (power and life force) of water will be restored to its natural state.”

Our water. Our future.

30 YEAR PLAN - CONSULTATION | 5

**Pullquote here** “When the right balance is achieved between the environment and the people, the mana and mauri of water will be restored to its natural state.”



**SAFEGUARDING WHAT MATTERS AS WE GEAR UP TO GROW**

# Protecting Water while Planning for Growth

**The Vision:** To protect and make the best use of our water from the mountains to the sea – ki uta ki tai. To do that we would ensure water is used efficiently and respectfully right from the start, acknowledging its sacred nature and the social and cultural benefits it gives to all of us.

## Goals

In 30 years, we intend to:

- Be investing in infrastructure ahead of demand at all scales including bulk, catchment and local network
- Be requiring design standards and behaviours that minimise impacts on water, the environment and services. This would include regulations in District Plans
- Be coordinating land use and infrastructure planning
- Ensure all new connections are 'fault-less' and completed to agreed standards

## The Issues

Our population is growing quickly. By 20XX, there will be 150,000 more people living in our region. This will impact infrastructure already struggling to cope, as well as putting more pressure on water sources and the environment. Some District Plans aren't keeping pace with the knock-on effects of new developments, but

this is a problem we all have to solve – from households and businesses to councils, Wellington Water and the Government.

## The Challenges

The harsh reality is that growth is being allowed to happen in areas where there is insufficient infrastructure to support it. Those developments are also failing to set standards, through things like council regulations, that encourage and support people to reduce the impacts on water and the environment.

## Supercharging Change

People are wanting better living environments and more affordable housing. In a positive move, more policies and regulations are catching up with that, such as the National Policy Statement for Freshwater which gives local authorities new direction on how to manage freshwater. But we need that focus on protection and a collective response to intensify and expand.

## Investment Priorities

For investment (enabling growth to be an opportunity for regeneration, innovation and change):

- Complete investment in infrastructure to support council-prioritised growth areas. This would require a 4-5-fold increase above current funding levels
- Complete bulk, trunk and local network plans to optimise investment and support council-prioritised growth. This would include the support of hydraulic and network models

## For land use and development:

- Revise council plans and regulations like District Plans, policies, codes of practice, bylaws and compliances to enforce water sensitive practice and incentivise behaviour change
- Set a Regional Standard for Water Services, revised to support achievement of the strategic priorities



### Question 2

**Do you think water-sensitive designs, such as low consumption fittings, rainwater tanks and green roofs should be required under our District and Regional Plans, bylaws and codes of practice?**

- Yes  No

Why?

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Or

**Should new builds be required to include on site water storage, like rain tanks?**

- Yes  No

**And should councils provide discounts for water stored at home?**

- Yes  No

→ See page 15 on how to send us your feedback

**DIALLING BACK DEMAND AND INCREASING AWARENESS OF WATER USE**

# Ensuring there's enough water for people and the environment

**The Vision:** For every person in our region to truly value water and do everything possible to reduce water use and water loss, and re-use water where possible. Also, to see healthy river flows sustaining ecosystems.

### Goals

In 30 years, we intend to:

- Reduce domestic water use to global benchmark levels (150 litres per day, per person, or less) what is it currently?
- Reduce network water leakage to global benchmarks
- Reduce the amount of water we take from Te Awa Kairangi in summer and further diversify our water source
- Provide our customers with information about their water consumption



### The Issues

We need to ensure we have enough water when we need it, while also leaving enough behind to sustain our ecosystems - but our system is close to its limits and under increasing pressure. Demand is accelerating and we're falling further and further behind global benchmarks on efficient use of water. The way we use and deliver water can also impact the environment, including the carbon emissions we generate.

### The Challenges

We just don't know enough about where water is being used, how much is being used and the amount we're losing through leaking. We also know we're already taking too much from our major resource, Te Awa Kairangi. We need to balance all of this with the fact that creating additional water sources means increased infrastructure with associated costs and carbon emissions. Water is taonga and we need to take greater care in how and why we use it.

### Supercharging Change

There are two big improvements we can make to create important change that will last:

- Create accurate information on how much water businesses and households are using
- Support everyone to use water more efficiently

### Investment Priorities

- Increase investment in leakage and network management
- Support the installation of smart metres that measure water flow and identify possible leaks, in households and businesses
- Create customer education programmes with supporting policies
- Upgrade Te Marua Water Treatment Plant to peak efficiency
- Develop a third storage lake
- Identify, assess and progress new water sources in a way that aligns with reduced water allocation



### Question 3

**What are your priorities for tackling sustainable water supply and demand?**

Rate your preferences below, 1 being your top priority:

- Mandatory rain and greywater tanks
- More or new river and stream sources
- Building a desalination plant
- Investing in water recycling
- Installing water meters in households and businesses to measure water usage and leaks
- Creating education campaigns and policies to reduce water demand

→ See [page 15](#) on how to send us your feedback





**Our water. Our future.**

30 YEAR PLAN PUBLIC CONSULTATION DOCUMENT

**Pullquote here** “When the right balance is achieved between the environment and the people, the mana and mauri of water will be restored to its natural state.”

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Our water. Our future.



**CARING FOR OUR FRESHWATER, RIVERS, STREAMS AND HARBOURS.**

## Improving environmental water quality

**The Vision:** To have a truly integrated approach to the way we manage and care for water, where we're protecting downstream environments, enhancing naturally flowing water, and seriously supporting communities to care for their local water.

### Goals

In 30 years, we intend to:

- Be seriously improving water quality to the required level, catchment by catchment
- Have all new developments and infill built to water quality requirements, including bringing piped stormwater flows or buried streams to the surface and into restored stream environments (daylighting)
- Have ensured our customers are maintaining their private pipes and connections
- Be renewing pipes and assets, addressing their impacts on water quality

### The Issues

Stormwater and treated wastewater are returned to the environment and re-enter the water cycle. Our goal is to ensure that water is safe for people and the environment but along the way, several factors can impact on water quality:

- Poor quality of urban waterways that don't meet the community and regulatory expectations for human contact and ecosystem health
- Substandard condition of private and public wastewater pipes creating leaks and causing overflow into the environment
- The current response to population growth using conventional methods, which compounds problems by increasing stormwater runoff and placing higher demands on wastewater networks

### The Challenges

There are two big challenges here - the amount of private and public pipes leaking wastewater into the environment and the stormwater system harming the environment with contaminants and peak flow from non-permeable systems.

### Supercharging Change

Conversations are changing as we see the increasing impacts of ageing infrastructure and discharge of untreated stormwater.

There's a growing understanding that we all have a part to play in improving the way we live with water. Wellington Water understands our own role play in that, by providing better education and support. We all need to get the balance right and start taking action now..

### Investment Priorities

The investments we make here have strong connections to the actions needed to upgrade existing infrastructure and support growth.

For Investment:

- Prioritise the renewal and maintenance of assets that create risks to water quality
- Increase our monitoring and 'smart networks' capability to improve operations and infrastructure management
- Significantly expand the 'Know your Pipes' inspection programme for private pipes
- Increase the capacity of networks to contain peak flows
- Use growth (including developer-supplied infrastructure) as an opportunity for regeneration and change

For land use/development and council policy:

- Use all available council levers including District Plans, codes of practice, bylaws and compliances to mandate water sensitive practice and enable and incentivise behaviour change everywhere
- Ensure the Regional Standard for Water Services is adopted and revised to support achievement of the strategic priorities (such as designing and building a water-tight network)



### Question 4

**Would you be prepared to pay for an annual inspection of the lateral on your property to help improve water quality? (A lateral is the wastewater or stormwater pipe that connects to the council main).**

- Yes  No

Why?

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→ See page 15 on how to send us your feedback

## CUTTING DEMAND AND UTILISING WASTEWATER BIOSOLIDS

# Reducing Carbon Emissions

**The Vision:** To have reduced the demand for water and be repurposing or recycling water to such an extent that we're making significant contributions to New Zealand's 2050 carbon emission targets.

### The Issues

It's time we put carbon emissions front and centre in our discussions about water. Simply by doing what we're here to do – delivering clean, safe drinking water and managing wastewater and stormwater, Wellington Water creates carbon emissions. It also happens when we maintain and create new infrastructure. Emissions are directly linked to demand.

We want and need to do our share to support New Zealand's zero emissions target, but we need a deeper understanding of the emissions from wastewater treatment, the options for turning wastewater biosolids from waste into something of value – and bring everyone in our region along with us.

### The Challenge

The challenge we face is one of transparency and collective action. Our carbon emissions are closely linked to how our customers use water. We need to have a better understanding of how we generate emissions, what we can do to

turn waste into value and to collectively take action to reduce emissions through behaviour and investment.

### Supercharging Change

It's not going to be easy, and it'll take serious investment, but the first step is to be totally transparent around the impact of emissions and the cost to reduce them. It'll help set up the right conversation.

An important part of that discussion will be exploring action around zero waste – reducing, re-using, repurposing and repairing. We'll also look at ways we can all create a more circular economy, where development benefits business, society and the environment. It's about a regenerative approach where resources are kept in circulation, repurposed or recycled. It's a complete change of mindset and we'll all have a part to play.

### Goals

In 30 years, we intend to:

- Be utilising the energy and nutrient value of wastewater biosolids
- Be highly energy efficient and have expanded our use of on-site renewable generation such as solar, wind and biomass energy
- Have reduced the emissions from our construction programme in line with recognised international benchmarks

### Investment Priorities

- Adopt low carbon construction methods
- Assess and invest in energy efficient and renewable energy
- Invest in sludge minimisation for Wellington City, Hutt and Porirua Councils, as well as the beneficial use of treated sludge
- Convert our fleet to electric vehicles



### Question 5

**Would you like to see the cost of carbon in your water services – and be willing to pay a fee for these to be reduced?**

Yes  No

Or

**Would you support the conversion of wastewater biosolids into a beneficial soil additive?**

Yes  No

**And would you use it on your property?**

Yes  No

→ See page 15 on how to send us your feedback



**Pullquote here** “When the right balance is achieved between the environment and the people, the mana and mauri of water will be restored to its natural state.”

# Building Resilience

Strengthening our response to natural hazards and climate change

## The Vision

To have made the big decisions that enable our water network to reliably meet the needs of the region and be resilient to natural hazards and climate change.

## The Issues

We're particularly exposed to natural hazards in our region and climate change impacts everything we do. The risks are growing, so we need to front up to some big decisions about how to stay ahead of the dangers and adapt at all levels – local, network and catchments.

## The Challenges

We're still coming to grips with exactly what it will take to be resilient to climate change, but we're collecting more and more data every day. The other glaring challenge is that we need to significantly increase our resilience to earthquakes, but we also need massive investment in our aging infrastructure to simply meet our core service requirements. Where do we prioritise the spend?

## Supercharging Change

XXXXXX

## Goals

In 30 years, we intend to:

- XXXXXX

## Investment Priorities

For investment:

- Complete the stormwater hydraulic models and flood maps and create a regionally consistent approach to service levels and operational/investment responses
- Complete climate change risk assessments and adaptation plans for treatment plants and bulk network infrastructure
- Use renewals and regeneration to increase resilience to natural hazards
- Revisit the drinking water resilience strategy due to unaffordability and complete the strategy for wastewater

For land use/development and council policy:

- Support councils with information to assist their climate change response planning



### Question 5

**Should our major investment be in renewing/replacing our ageing infrastructure or building earthquake resilience (such as duplicating major pipes)?**

- Ageing infrastructure
- Earthquake resilience

→ See page 15 on how to send us your feedback



## How to share your feedback

1. If you'd like to use the questionnaire in this document, just fill it in and freepost it to us, or you can download it here.
2. Or respond online at [www.xxxxxxxx](http://www.xxxxxxxx) and follow the instructions.
3. Or you can simply write us an email: [xxx@xxxxxx](mailto:xxx@xxxxxx)

Thanks for taking the time to be involved in shaping our future. If you have any questions at all, please contact us on:

Phone: 04 XXX XXXX

Email: [xxx@xxxx](mailto:xxx@xxxx)

Further reading and links to more detailed information

- [Letter from CE and Chair](#)

Insert relevant documents and/or links such as:

- [Regional Investment Priorities](#)
- [Strategic Priorities](#)
- [Annual report](#)
- [SOI](#)
- [Graphs/stats/maps](#)



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