Investment Options 2021-31 Long Term Plan

Greater Wellington Regional Council

Presentation to Council

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Wellington Water

Our water, our future.

Today Wellington Water is presenting options on investing in Greater Wellington Regional Council's bulk water assets to improve performance and reduce the risk profile

Today's presentation provides context on three waters issues, investment options to meet these challenges and seeks direction for Greater Wellington Regional Councils 21-31 LTP on:

1. Which options to take to invest in looking after existing infrastructure
2. How GWRC supports the regional growth aspirations
3. How GWRC support the councils in improving performance against the regional priorities.

The context for three waters issues: LTP approach, and progress of the LTP process

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Aging water assets are a national issue.

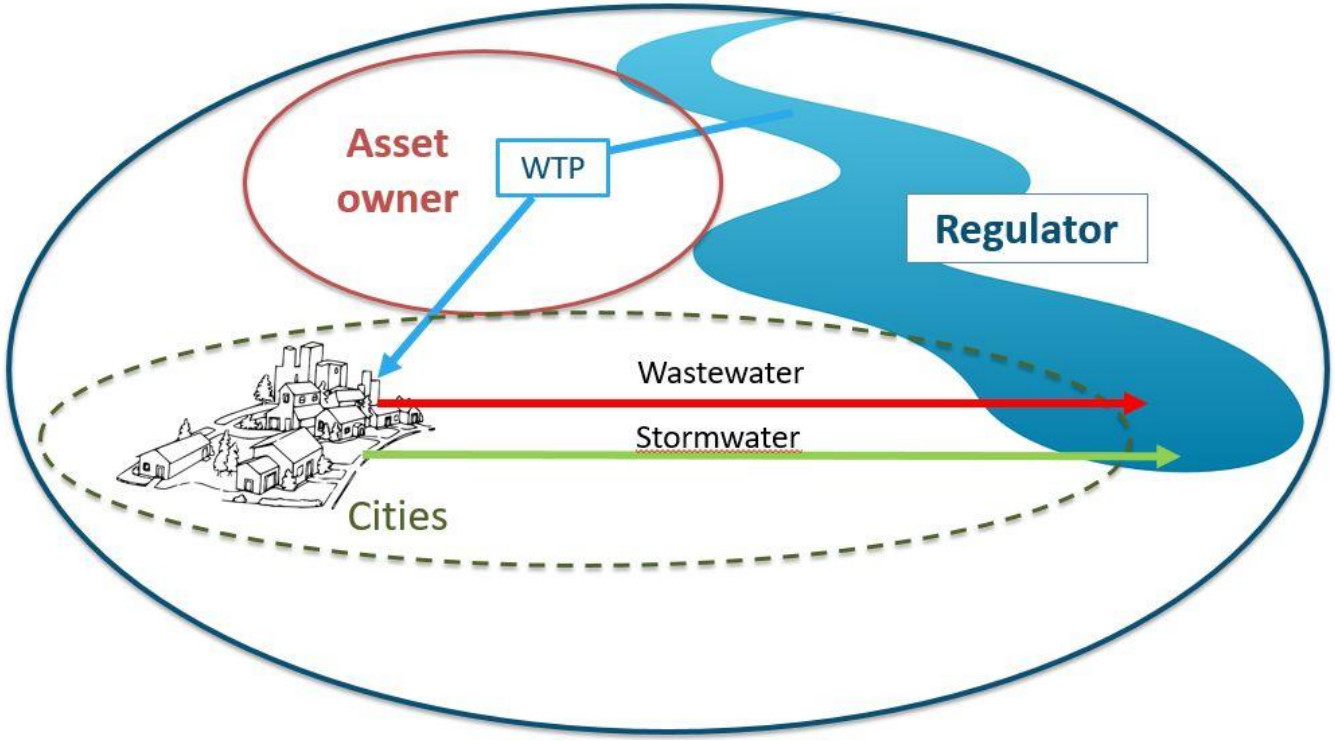
Regionally, approximately 50% of three waters assets are due to be replaced in the next 30 years (based on age), and they are getting older.

This poses a steadily increasing risk to core three water services and healthy growing communities

At the same time, community expectations are increasing, and so are national standards: water regulator, freshwater management

Growth, reducing water consumption, improving water quality and climate change are all additional challenges facing three waters asset owners

Greater Wellington's dual roles



The bulk water levy directly impacts the city council operational budgets and therefore how much they can invest to address the regional challenges.

GWRC has two roles that impact the city councils as supplier of bulk water and regulator of environmental performance.

International review confirms a step change is needed – but we can't do everything

The internationally recognised water industry regulator, the **Water Industry Commission for Scotland** (WICS), has reviewed all our advice to owner councils, based on experience with multiple water entities.

Wellington Water's big picture view, using capex as a proxy for annual investment for the region, was that an annual regional investment of $240 million is required, compared to $140M in 2020.

WICS concluded a higher level of $300M-$350M in capex annually was required.

Wellington Water recognises that this is desirable, but not affordable – clearly councils must prioritise, especially in view of the economic impact of covid-19.

Today's advice is also intended to provide Greater Wellington Regional Council with context on the investment advice being provided to the City Councils.

Priorities for three waters investment

Looking after existing infrastructure

Growth

Reducing water consumption

Improving environmental water quality

Reducing carbon emissions

Looking after existing assets is foundational to a sound risk management approach. It reduces the risk of surprises that usually cost more, and have greater negative effects, than planned work does and emits more carbon.

Growth is inevitable and must be managed in a way that ensures it doesn't add to existing challenges. Extensions of the bulk water network may be required to service greenfield developments.

The other priorities are system wide issues that need addressing over the next 30 years:

- The region is near capacity for water supply
- Communities expect better environmental water quality than we have now
- Carbon emissions are a key contributor to climate change

NOTE - Individual activities associated with localised risks such as resilience are still considered.

Investing in looking after existing infrastructure – a regional view

- **Councils are struggling to afford the uplift in renewals to address the renewals backlog.**
- **There is additional pressure on operational budgets to respond to the consequences of having an aging network.**
- A 30% increase in operational costs is forecast to maintain levels of service and respond to new standards e.g. water quality.
- The condition of the wastewater network is having a negative impact on the environment due to leaky pipes
- There has been a ca. 40% increase in the reporting of water supply leaks in the metropolitan area

What this means for GWRC Renewals

- Investment has broadly kept up with renewals requirements
- We recommend that the renewals continue to be funded at a rate that does not create a future backlog

Renewals	3 year spend	10 year spend	30 year spend
Capex	$49M	$167M	$544M

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed.

What this means for the GWRC operational budget

Operational Costs (excl Power)	3 year spend	10 year spend
Current base	$44.3M	$148M
Recommended LTP opex	$50.7M	$176M

Costs are based on 2020 NZD and increases are indicative

Acknowledging that stimulus funding has been confirmed, this is however only short term, We still recommend to smooth the transition to a 20% uplift in the least disruptive manner.

With additional funding Wellington Water would;

- aim to complete all health assessments of very high criticality assets
- target the digitising of backlog data and old reports
- build improved digital support to assist in our asset management work
- increase planned maintenance to manage and reduce risk
- funding is recommended in years 1 and 2 to complete a feasibility study for the new water source so we are prepared to react when needed

Regional priorities for three waters investment

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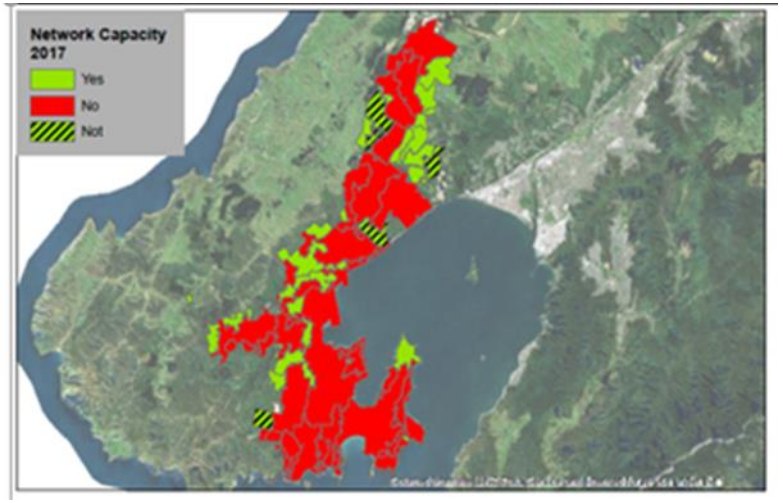
Growth



The Wellington Regional Growth Framework (RGF) anticipates up to 151,000 additional people in the region over the next 30+ years.

City council growth strategies and the RGF will inform the Future Development Strategy for the Wellington region. This includes enabling urban growth and considering zero-carbon outcomes in decision making. Additional planning work is needed.

What this means for GWRC…..

Our growth planning work done to date in response to the National Policy Statement on Urban Development has identified significant capacity issues in networks across the metropolitan cities.

- Impact for Greater Wellington is an increasing demand for bulk water resulting in the need for some bulk water network extension projects to support the growth. The timing, location and need are yet to be finalised
- Further work on the RGF aims to develop a 50-100 year Three Waters Strategy and Regional Investment Strategy

Growth driven projects	3 year spend	10 year spend	30 year spend
Capex	$0.5M	$13M	$40M

For project budget estimates, Wellington Water have used a 95th percentile figure.
Costs are based on 2020 NZD and may vary as more detailed planning is completed.

Addressing water consumption is the top priority

The Wellington region has identified and agreed to three priorities which require a long-term, whole of system approach to address.

Reducing water consumption
2030

Progress towards this priority needs to be made in the next 3 years if the region is to defer investment in a new water source

(see following slides)

Improving environmental water quality
2040

Planning which activities to progress to meet swimmable water quality targets starting with improving understanding.

(no direct investment by GWRC bulk water)

Reducing carbon emissions
2050

Prioritising which activities to progress to meet the Zero Carbon Act 2019 targets starts with understanding first.

(assessment money has been included in the opex budget $150-$250K)

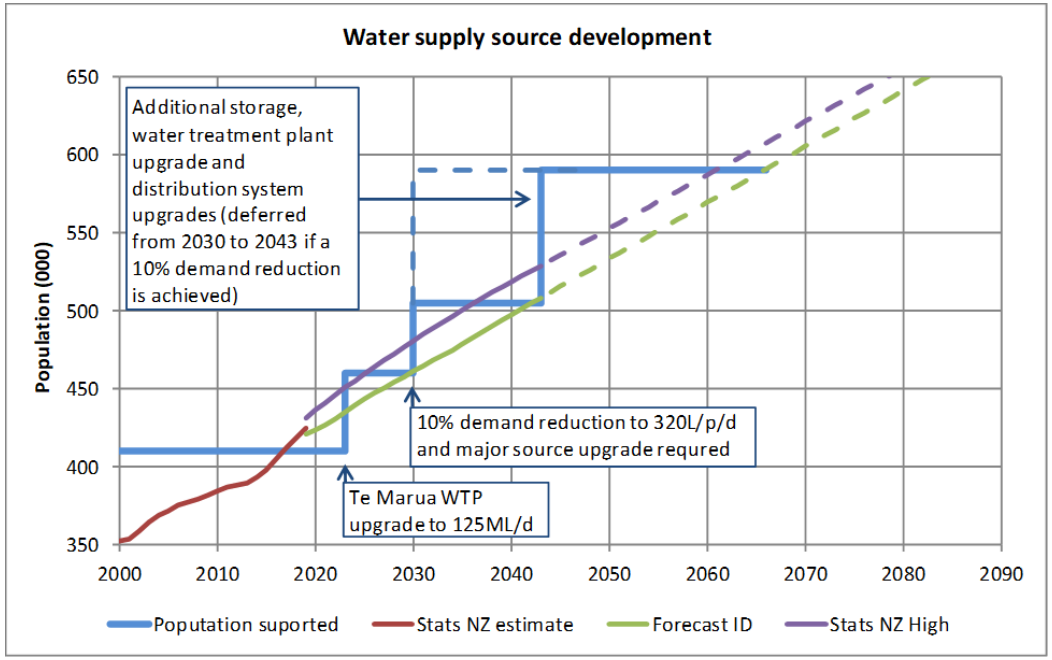
Reducing water consumption to ensure water security and supply

Regionally, we do not meet the drought resilience standard* and there is an increased risk we will not be able to supply sufficient water to meet peak demand.

There is high levels of leaks – but not great information on where they're occurring, creating a highly reactive and less efficient state of network management.

The regional policy position is to "conserve" water, not build new supplies. Investment by city councils is needed to reduce both network and private leaks. The risk of doing too little is increased service interruptions (watering restrictions) and the cost of a new facility needing to be brought forward.

(* Sufficient water is available to meet normal demand in a drought with a severity greater than or equal to 1:50 years)



Water security and supply

Investment is being recommended across the four city councils to incrementally increase our understanding and response to this systemic issue. If the region does not consistently invest and show incremental improvement the new water source will be needed within the 2021 LTP cycle.

Activities
Continue with low level education and reactive repair

Activities
Area metering programmes to build network knowledge; increase awareness, detection and repair services

Activities
Comprehensive area metering and /or private meters* to detect leaks

Aim
Defer $200m-$400m storage facility

* A metering economic case is nearing completion, next steps are yet to be determined.

What this means for GWRC…..

Key Project – New water source

- Funding for the new water source has been included for consideration in the GWRC LTP from 2031-2036 at an indicative cost of $270M+. More work is recommended (refer earlier slide) to undertake a feasibility study to get a better idea of the timing and cost requirements

Key Project – Te Marua Capacity Optimisation

- We have the ability to increase the output from Te Marua WTP from 80-100 MLD to around 125 MLD.
- The upgrade is required to meet existing peak demand and to achieve the existing target for regional resilience to drought

Reducing water consumption	3 year spend	10 year spend	30 year spend
Capex	$37M	$61M	$325M+
Opex	$0.8M		

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed.

Reducing water consumption

Other priorities for bulk water investment

There are a number of resilience projects that are underway or planned.

Resilience	3 year spend	10 year spend	30 year spend
Kaitoke Flume Bridge	$4.2M	$4.2M	$4.2M
Waterloo WTP ground improvements	$4.4M	$4.4M	$4.4M
Te Marua WTP Clarifier Seismic strengthening	$0.1M	$2.3M	$2.3M

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed.

- We are still completing projects started in the 2018 LTP
  - Kaitoke Flume Bridge seismic strengthening
- Since the last LTP two key resilience projects have been recommended and have been included for consideration in the 2021/31 LTP.
  - Waterloo WTP ground improvements – the treatment plant is potentially on liquefiable land and it is important for the plant to be able operate after seismic event. This work will support the work previously undertaken to strengthen the building.
  - The Clarifier at Te Marua has been identified as requiring seismic strengthening.

Other priorities for bulk water investment

- Proposed investment principles were presented in a workshop on 28 May 2020.
    1. GWRC 'tensions' its investment in bulk water, increasing the opportunity for the cities to invest in other three waters priorities, including healthy urban waters, through minimising the bulk water levy
    2. The priority for investment is to maintain the required levels of service, especially in relation to providing safe water, through continuing good asset stewardship
    3. Other investments should support regional priorities.

- **At this workshop it was decided to defer the Cross Harbour Pipeline outside the 2021/31 LTP.**
    - Doing this enables other key projects to be considered e.g. Te Marua Capacity optimisation which supports regional priorities.
    - Resilient benefits have been achieved through the implementation of the Community Infrastructure Resilience Project.
    - Future technological changes may provide an alternative solution.

Key Recommendations

Wellington Water recommends GWRC invests in the following key investment priorities;

	Fund an average increase $2.1M for OPEX for each of the three year supporting a step change increase in operational costs to look after existing infrastructure (and noting stimulus funding provides uplift in years 1 & 2)
	Fund $167m CAPEX over 10 years for renewals to look after existing infrastructure
	Include CAPEX funding of $13m over 10 years to extend the bulk water network. Phasing is linked with city council growth planning.
	Fund $61m CAPEX over 10 years in activities that Reduce Water Consumption including; **$37M to increase Capacity at Te Marua WTP**
	Fund $150-$250K OPEX for carbon assessments
	Fund the following in the first 5 years; **$4.4M for Waterloo WTP Ground Improvements** **$2.3M for Te Marua WTP Clarifier Seismic strengthening**
	Do not fund the Cross Harbour Pipeline ($184M+) within the next 10 years

Indicative Outcomes for Investment

		Reduce service interruptions	Lower risk of critical asset failure	Maintain customer satisfaction	Defer future investment	Reduce water consumption	Improve seismic resilience	Reduce CO_2 emissions
	Fund an average increase $2.1M for OPEX for each of the three year	Y	Y	Y	part	part	part	part
	Fund $167m CAPEX over 10 years for renewals to look after existing infrastructure	Y	Y	part	Y	Y	Y	part
	Include CAPEX funding of $13m over 10 years to extend the bulk water network.	Y		part			Y	
	Fund $61m CAPEX over 10 years in reducing water consumption activities				Y	Y	Y	
	Fund $150-$250K OPEX for carbon assessments							Y
	Fund key treatment plant resilience projects in the first 5 years.		Y		Y		Y	