

Ngā puna wai Water supply



Water is a fundamental need for our communities, so we will continue supplying a sustainable, clean, and safe drinking water supply. Respecting the environment and tackling climate change are a key consideration in how this is achieved.



<p>Capital Spending 2024-34</p> <p>\$702m</p>	<p>Operational Spending 2024-34</p> <p>\$829m</p>	<p>Funding Sources: Bulk Water Levy and debt.</p>	<p>Rates contribution 2024/25</p> <p>\$0, funded by water levy which makes up the Territorial Authority rates</p>
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Greater Wellington is responsible for collecting, treating and distributing safe and healthy drinking water to Wellington, Hutt, Upper Hutt and Porirua City councils. This work is carried out for Greater Wellington by Wellington Water Limited (WWL), a joint council-owned water management company. City and district councils are responsible for the distribution of water to households and businesses through their own networks. Providing the bulk water supply to the city councils involves managing a network of infrastructure, ensuring safe, high-quality, secure, and reliable water sources, and that our freshwater is sustainable.

On the horizon

Regulatory reforms, stricter water quantity and quality rules, decarbonisation, adapting to climate change, natural disasters, urban growth and demand and the structural ageing of infrastructure all require changes to what was business-as-usual service delivery.

We are not meeting our one in 50-year drought resilience level of service. Changes in climate, water shortages during drought years and as demand from increases in population will contribute to our ability to meet current and future demand.

Funding and delivery of a significant capital work programme to maintain levels of service and support growth.

Reducing emissions associated with taking, treatment, and supply of drinking water as well as construction of new carbon-intensive (concrete, steel) assets.

Skills shortage at all levels of the engineering industry from experienced consultants and contractors to skilled labourers is limiting the availability of staff to progress programmed works. The limited availability is also leading to increased costs and timeframes for delivery.

Our response

Embracing and realising Te Mana o te Wai (the fundamental concept of the Essential Freshwater regulations introduced by the Government in 2020) to ensure that WWL manages bulk water in a way that prioritises the health and wellbeing of our water (quantity, quality and ecology) alongside a kaupapa Māori approach in our work programmes and services.

We expect that WWL will raise community awareness of the value of water supply services and their provision, will drive proactive leak detection and effective water conservation initiatives.

We will work with WWL and councils to establish a regulator and the broader reform process to ensure a consistent standard of safe and reliable drinking water across the country, but also health and wellbeing of all waters across the whole water cycle.

Climate change impacts are being felt now and within the lifetime of this Long Term Plan will be felt more keenly. We will require WWL to make deliberate, evidence-based decisions in the short term, to enable our long term, well-planned adaptation approach, including how, and where, we deliver water assets and services.

We will monitor Wellington Water Limited's key projects

Te Marua Water Treatment Plant Capacity Optimisation	Upgrade at Te Marua Water Treatment Plant to increase its treatment capacity to improve the security of supply to the region.	2024/25
Te Marua Water Treatment Plant Scheme Expansion Stage 1 (Pakuratahi Lakes 1 and 2) - Pre-construction	Concept design, consenting, preliminary design and procurement planning for additional storage lakes.	2024/25 and 2030/31
Regional Fluoridation Improvement Stage 2 ¹	Upgrade fluoride dosing equipment to provide permanent reliable dosing systems for the region.	2027/28 and 2028/29
Te Marua Pump Station Capacity Upgrade	Upgrade the pump station at Te Marua Water Treatment Plant to increase the amount of water that can be delivered from the treatment plant to customers, and increase the operational resilience of the pump station.	2026/27 and 2028/29
Kaitoke main on Silverstream Bridge ²	Replacement of the critical supply pipeline across the Hutt River at Silverstream, which supplies treated water to Porirua City and Northern/Western Wellington City, to reduce its risk of failure and improve resilience .	Ongoing – 2024/25
Relocation of Te Marua/ Ngauranga pipeline	Relocation of Te Marua to Ngauranga pipeline from Haywards Substation to Haywards Reservoir to minimise risk of damage due to landslips expected following a significant seismic event .	2030/31 and 2032/33
Gear Island and Waterloo Wells Replacements - Part 2	Progressive installation of new boreholes to replace those approaching the end of their service life. The objective is to reduce the risk of asset failure and interruption/ limitation to supply .	2024-2026 2028/29
Wainuiomata Water Treatment Plant - Washplant Capacity & Quality Upgrade	Treatment plant improvements.	2027/28 and 2030/31
Wellington Metro Water Treatment Plant Planned Renewals	Replacement of critical parts within the Wainuiomata, Waterloo, Te Marua and Gear Island Water Treatment Plants, which are approaching the end of their service life, to reduce the risk of their failure and interruptions to supply.	Continuous
Water Supply Pump Station Renewals	Replacement of critical parts within the water supply pump stations, which are approaching the end of their service life, to reduce the risk of their failure and interruptions to supply.	Continuous

¹ <https://www.wellingtonwater.co.nz/resources/topic/drinking-water/whats-in-your-water/fluoride-at-water-treatment-plants/>

² <https://www.wellingtonwater.co.nz/projects/silverstream-pipe-bridge-project/>

Water Storage Lakes	<p>We are planning for continued ownership of bulk water supply assets as part of the Government’s move from Three Waters to ‘Water done Well’. We will continue to have a role supplying safe bulk drinking water to Wellington, Porirua, and the Hutt Valley through WWL which operates and maintains our assets. We do not manage stormwater or wastewater.</p> <p>In the long term, we need to increase the amount of bulk water we supply to the Wellington, Porirua and Hutt and Upper Hutt City councils by building two more water storage lakes. These lakes will ensure we have sufficient water supply in the summer to meet demand in Wellington, Porirua and the Hutt Valley.</p> <p>Wellington Water Limited will develop concept designs, and work through consenting. The cost to build the lakes will be high and, as a region, we need to first reduce our use of water by fixing leaks in the parts of the system owned by the city councils, and by reducing demand. Construction of any new water storage lakes will be subject to community consultation and resource consent approvals.</p>	2024-2027
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Things we will be keeping an eye on

Water supply infrastructure for the collection, storage, treatment and distribution of water can have a negative effect on environmental wellbeing. Taking water reduces flows in rivers and groundwater impacting aquatic ecosystems. Use of electricity and chemicals for treating and pumping water also has carbon emissions and other environmental impacts.

We will address this by identifying the environmental impacts of existing water supply activities and very closely monitoring these through resource consents and an ISO 14001 accredited environmental management system. We are also reducing our impacts by continuing to use electricity and chemicals more efficiently and by encouraging people to use water wisely.

We will monitor the delivery of WWL’s key activities.

Kaitoke Bridge Replacement

The Kaitoke flume bridge is a critical asset for Greater Wellington, conveying approximately 50 percent of the raw water supply to the region. The bridge is a 70-year-old 3-span concrete box structure on 20m high concrete piers, crossing Te Awa Kairangi (Hutt River).

The Kaitoke Flume Bridge Seismic Resilience project provides a water supply network resilient to shocks and stresses. This is being achieved by replacing the existing flume with a new pipe bridge and connecting pipeline.

The new pipe bridge and pipeline have been designed to meet the latest seismic standards. The pipe on the bridge has been supplied by a Japanese company which specialise in the manufacture of seismically resilient pipe and will be largest diameter they have installed in New Zealand. The 2.5-year contract is to construct a new single span steel Network Arch Bridge that supports a 1.5m diameter seismic resilient ductile iron pipe; pedestrian and maintenance walkway and approach ramps and new downstream pipeline to connect to the existing sand trap.



Whakawhirinaki Silverstream Pipe Bridge

Whakawhirinaki is an essential asset for the bulk water supply to Porirua City and north Wellington, and therefore is significant for the resilience of the region. The Te Mārua to Karori pipeline (also known as TM2K or the Kaitoke main) runs from the Te Mārua water treatment plant to the Karori pump station. The project involves upgrading the pipeline that runs across the Silverstream Road Bridge and then along State Highway 2. Under normal supply conditions, the proposed upgraded section of

the Kaitoke main at the Silverstream Road bridge supplies drinking water to 100 percent of Porirua City and approximately 40 percent of Wellington City.

WWL is improving the resilience of the bulk water supply network by replacing pipelines in the Silverstream area and constructing a new bridge spanning the Te Awa Kairangi/Hutt River. Construction is currently taking shape with the bridge materials arriving on site over the next three months to allow erection of the steel bridge sections from May through to October 2024. The main arch section is planned to be installed from mid-2024.

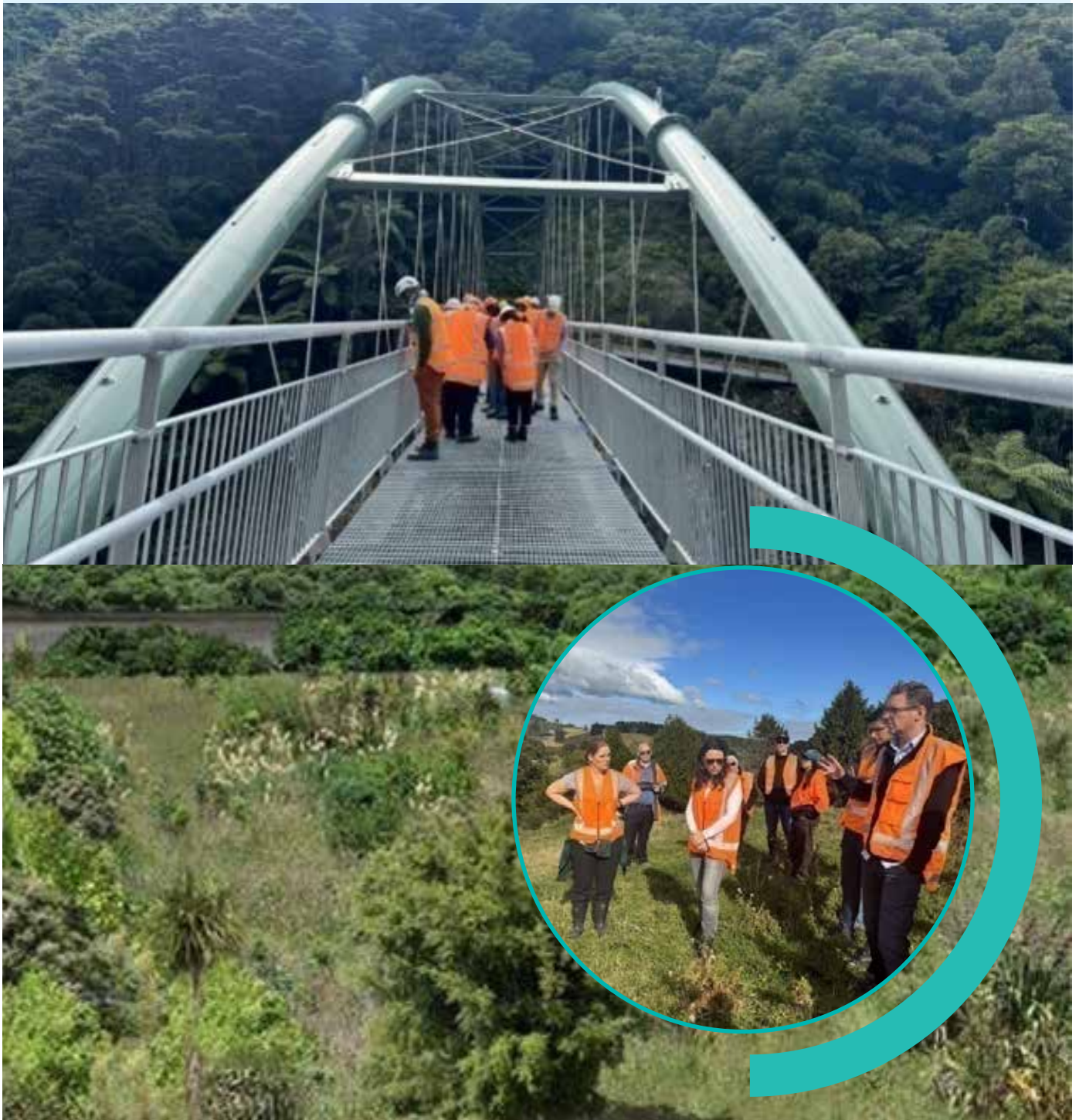


Councillors visit key treatment plants for a first-hand understanding

Greater Wellington councillors and officers spent the better part of a day in early April touring Macaskill Lakes, the site for the proposed new lakes, the Kaitoki Flume Bridge replacement, and the Te Marua Dissolved Air Flotation system project. The impressive scale of each project was not lost on the visitors, and their feedback was that they now have a more in-depth knowledge of the different projects WWL are undertaking to continue to improve

resilience. It was an opportunity for WWL to show what they have been investing in and explain the challenges that lie ahead.

Each pipe section for the Kaitoke pipe bridge replacement was put together on a support cradle with access walkway built on top. Engineers from Japan provided extra support to WWL's crews to ensure the pipes are installed correctly.



The Te Marua Water Treatment Plant Capacity Optimisation project is making good progress with a new caustic soda tank installed and upgrades are underway to allow the sludge dewatering system to handle the additional sludge resulting from the Dissolved Air Flotation system. Another key milestone is that detailed commissioning planning workshops for the Dissolved Air Flotation also got underway in March. This

technology involves using air bubble flotation to remove suspended solids, oils, and other contaminants from raw water. The Dissolved Air Flotation system is manufactured by Canadian company AWC Process Solutions, a word-leader in these systems. The project is expected to be completed around May 2025, taking our potential treatment capacity at Te Marua from 80 to a maximum of 140 mega litres per day.



This diagram illustrates the bulk water supply pipes that Greater Wellington owns and maintains.



Ko ngā inenga mahi - Performance measures

Reference number	Community outcome	Levels of Service	Performance Measures	Baseline 2022/23	2024/25 target	2025/26 target	2026/27 target	2027-34 target
1	Thriving environment	Provide water that is safe and pleasant to drink.	1) The extent to which the local authority's drinking water supply complies with bacteriological drinking water standards ³⁵	Non-complaint	100%	100%	100%	100%
			2) The extent to which the local authority's drinking water supply complies with protozoa drinking water standards ³⁶	Non-compliant	100%	100%	100%	100%
			3) The total number of complaints received about drinking water taste, clarity, odour, water pressure or flow, continuity of supply or the response to any of these issues; expressed per 1000 connections ³⁷	0	0	0	0	0
			4) Number of waterborne disease outbreaks	0	0	0	0	

³⁵ The Non-Financial Performance Measures Rules 2013 (the rules) require local authorities to report their compliance with the bacterial and protozoal contamination criteria of the New Zealand Drinking Water Standards 2005. In July 2022, these standards were superseded by the Water Services (Drinking Water Services for New Zealand) Regulations 2022 (the regulations) introduced by Taumata Arowai (the new Drinking Water Regulator), but the rules have not been updated to reflect this. The supply of safe drinking water is the major aspect of Greater Wellington's provision of bulk drinking water. Greater Wellington has therefore decided to voluntarily report against the bacterial and protozoal criteria in the regulations pending an update of the rules.

³⁶ Greater Wellington Regional Council does not have a direct customer relationship.

³⁷ Non-Financial Performance Measures Rules 2013, Water Supply (DIA Mandatory Measure).

³⁸ Non-Financial Performance Measures Rules 2013, Water Supply (DIA Mandatory Measure).

³⁹ Non-Financial Performance Measures Rules 2013, Water Supply (DIA Mandatory Measure).

⁴⁰ Non-Financial Performance Measures Rules 2013, Water Supply (DIA Mandatory Measure).

⁴¹ Non-Financial Performance Measures Rules 2013, Water Supply (DIA Mandatory Measure).

Reference number	Community outcome	Levels of Service	Performance Measures	Baseline 2022/23	2024/25 target	2025/26 target	2026/27 target	2027-34 target	
2	Resilient future	Provide a continuous and bulk water supply	<p>1) Average consumption of drinking water per day per resident within the TA districts³⁸</p> <p>2) The percentage of real water loss from the local authorities' networked reticulation system³⁹</p> <p>3) Response times to attend urgent call-outs in response to a fault or unplanned interruption to the network reticulation system⁴⁰</p> <p>4) Response times to attend non-urgent callouts in response to a fault or unplanned interruption to the network reticulation system⁴¹</p> <p>5) Number of events in the bulk water supply preventing the continuous supply of drinking water to consumers</p> <p>6) Sufficient water is available to meet normal demand except in a drought with a severity of greater than or equal to 1 in 50 years</p>	<p>398L/d/p</p> <p>0.03%</p> <p>Time to reach site: 0 min (no urgent callouts)</p> <p>Time to confirm resolution: 0 hours (no urgent callouts)</p> <p>Time to reach site: 0 hours (no non-urgent callouts)</p> <p>0</p> <p>6.7 %</p>	<375L/d/p	<375L/d/p	<375L/d/p	<375L/d/p	<375L/d/p
					+/-0.25%	+/-0.25%	+/-0.25%	+/-0.25%	
					Time to reach site <90min	Time to reach site <90min	Time to reach site <90min	Time to reach site <90min	
					Time to confirm resolution <8hours	Time to confirm resolution <8hours	Time to confirm resolution <8hours	Time to confirm resolution <8hours	
					Time to reach site <72 hours	Time to reach site <72 hours	Time to reach site <72 hours	Time to reach site <72 hours	
					0	0	0	0	
					<2%	<2%	<2%	<2%	

Water Supply Prospective Funding Impact Statement

For the year ending 30 June

	Annual Plan										Long Term Plan						
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034						
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000						
Sources of operating funding																	
Interest and dividends from investments	2,857	2,943	2,809	2,887	3,129	3,431	3,800	4,200	4,646	5,055	5,611						
Local authorities fines, infringement fees, and other receipts	53,455	67,880	76,115	80,894	85,216	92,761	100,079	107,777	115,181	122,280	130,102						
Total operating funding	56,312	70,823	78,924	83,781	88,345	96,192	103,879	111,977	119,827	127,335	135,713						
Applications of operating funding																	
Payments to staff and suppliers	35,369	38,958	41,889	43,731	45,199	47,868	48,821	50,596	52,568	54,261	57,127						
Finance costs	11,721	18,353	20,439	21,381	23,584	27,266	32,253	36,495	40,400	44,203	47,990						
Internal charges and overheads applied	2,207	3,189	3,373	3,486	3,466	3,538	3,637	3,593	3,668	3,724	3,776						
Other operating funding applications	-	-	-	-	-	-	-	-	-	-	-						
Total applications of operating funding	49,297	60,500	65,701	68,598	72,249	78,672	84,711	90,684	96,636	102,188	108,893						
Surplus/(deficit) of operating funding	7,015	10,323	13,223	15,183	16,096	17,520	19,168	21,293	23,191	25,147	26,820						
Sources of capital funding																	
Increase (decrease) in debt	70,600	97,618	39,224	24,428	56,133	71,330	77,869	57,936	60,453	49,838	40,990						
Total sources of capital funding	70,600	97,618	39,224	24,428	56,133	71,330	77,869	57,936	60,453	49,838	40,990						
Application of capital funding																	
Capital expenditure—																	
to meet additional demand	-	1,024	5,279	5,394	8,523	8,702	8,885	57	184	188	191						
to improve the level of service	38,300	53,908	10,451	6,635	28,871	22,730	37,094	29,623	11,555	-	-						
to replace existing assets	36,529	49,470	32,174	22,095	29,106	51,387	44,658	42,749	64,659	67,142	59,408						
Increase (decrease) in reserves	(71)	(270)	-	-	-	-	-	-	-	-	-						
Increase (decrease) of investments	2,857	3,809	4,543	5,487	5,729	6,031	6,400	6,800	7,246	7,655	8,211						
Total application of capital funding	77,615	107,941	52,447	39,611	72,229	88,850	97,037	79,229	83,644	74,985	67,810						
Surplus/(deficit) of capital funding	(7,015)	(10,323)	(13,223)	(15,183)	(16,096)	(17,520)	(19,168)	(21,293)	(23,191)	(25,147)	(26,820)						
Surplus/(deficit) of funding	-	-	-	-	-	-	-	-	-	-	-						
Deprecation on council assets	20,469	20,681	21,381	20,916	20,997	22,614	23,487	24,903	27,618	28,660	30,616						
Water supply levy	53,140	67,731	75,963	80,739	85,057	92,612	99,927	107,622	115,023	122,119	129,938						

Water Supply Prospective Funding Information

For the year ending 30 June

	Annual Plan		Long Term Plan										
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034		
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000		
Sources of operating funding													
Water Supply	56,312	70,823	78,924	83,781	88,345	96,192	103,879	111,977	119,827	127,335	135,713		
Total operating funding	56,312	70,823	78,924	83,781	88,345	96,192	103,879	111,977	119,827	127,335	135,713		
Applications of operating funding													
Water Supply	49,297	60,500	65,701	68,598	72,249	78,672	84,711	90,684	96,636	102,188	108,893		
Total operating funding	49,297	60,500	65,701	68,598	72,249	78,672	84,711	90,684	96,636	102,188	108,893		
Capital Expenditure													
Water Sources	-	10,556	9,285	574	1,071	21,878	20,048	3,190	10	1,653	2,718		
Water treatment plants	30,482	54,608	18,357	21,057	51,986	40,016	44,435	37,066	24,708	29,975	41,593		
Pipelines	42,651	28,906	2,913	3,967	7,851	10,646	13,095	5,819	26,412	24,874	11,302		
Pump Stations	604	6,077	15,318	7,320	4,387	8,943	10,144	14,266	12,044	9,596	2,768		
Reservoirs	875	2,197	812	14	14	123	1,680	10,800	11,902	16	16		
Monitoring and Control	217	2,058	1,219	1,192	1,191	1,213	1,235	1,288	1,322	1,216	1,202		
Capital project expenditure	74,829	104,402	47,904	34,124	66,500	82,819	90,637	72,429	76,398	67,330	59,599		
Total Capital Expenditure	74,829	104,402	47,904	34,124	66,500	82,819	90,637	72,429	76,398	67,330	59,599		

On 21 May 2024, Wellington Water Limited advised us that they needed an extra \$9 million over the first three years of the 2024-34 Long Term Plan. This amount is to cover increased capex costs. We have debt funded this capex to reflect intergenerational benefit according to our financial strategy. This change has no impact on the Water Levy in 2024/25 but will increase the levy for the rest of the Long Term Plan period. Debt funding this change does not have a material impact on any of our debt benchmarks.

