



2020-24 Key investment areas

Year 2

To 30 June 2022



Government of
South Australia

Summary

Programs	Proposed RD20 spend (2020-24) (millions, including inflation)	Spend progress 2020-22 (millions, including inflation)
Water Network Reliability	\$532.9	\$230.4
Water quality	\$214.8	\$73.3
Reducing wastewater overflows	\$94.5	\$40.1
External responsibilities	\$249.0	\$101.2
Dam safety	\$99.8	\$13.3
Enabling growth	\$376.3	\$130.3
Operating our business	\$140.5	\$40.2
Total	\$1,708.0	\$628.7

A number of external factors have impacted delivery of the program to date including COVID restrictions and escalating costs of delivery with a global price increase on materials and fuel, freight and electronic shortages, inflation rates and increasing labour costs. Furthermore, a number of large projects were programmed to commence construction in the second half of the regulatory period. Collectively this will see expenditure in the second half of the regulatory period to be greater than the first half.

For 2020-21 and 2021-22 SA Water have invested \$629 million out of the total allowance of \$1,708 million, with some key highlights per the below.

Significant improvements in water network reliability

This includes water main relays for both metropolitan and regional areas of approx 140 kilometres and 25 kilometers of sewer mains and the 358 associated valves, this is projected to reduce 1,353 property outages each year going forward.

The Kangaroo Island Desalination plant

The installation of about 50 kilometres of large underground pipeline on Kangaroo Island has begun, to be followed by construction of a new desalination plant. This project will improve drinking water security and support the Island's tourism and agriculture industries.

South Road Trunk Main Stage 1

The \$24 million South Road trunk main relocation project was completed in 2021-22 to meet the expected customer service requirements.

Tea Tree Gully Wastewater works

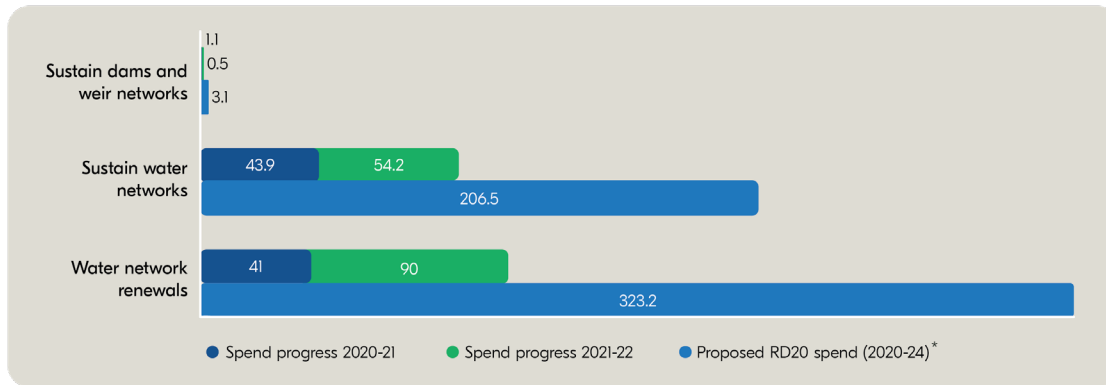
The project involves the transition of approximately 4,700 properties and more than 12,000 people currently connected to the City of Tea Tree Gully's Community Wastewater Management System to SA Water's modernised sewer system.

Water network reliability



Service outcome for customers

- Reliable water supply with minimal unplanned water service interruptions



* Adjusted for inflation

Sustaining dams and weirs networks

This program of works includes the renewal of assets not directly related to dam safety at dam sites and headworks infrastructure including weirs and aqueducts. Investment in 2020-21 and 2021-22 included design and development on several weir screens and upgrades at Barossa Dam.

Planning is underway, with future works due to commence in early 2022-23, to replace the control valves and pipework at Warren Dam.

Sustaining water networks

This program of works includes the renewal of water storages (water tanks and earth banks) and pump stations, with a focus on structural integrity and reliability of operations. In 2020-21 and 2021-22, \$59.9 million was spent on storage renewals, and \$12.4 million was spent on pump station upgrades. New high voltage switchboards have been commissioned on three pump stations on the Mannum to Adelaide pipeline to improve system reliability and operability. A 32 megalitre water storage (forecast to be \$19.4 million) is currently in construction near Port Lincoln to help ensure a reliable water supply for Eyre Peninsula customers.

Water network renewals

Through our water main management program, in 2020-21 and 2021-22, we installed approximately 140 kilometres of new water reticulation mains with 50 kilometres laid in metropolitan Adelaide and 90 kilometres in regional areas of the state. We installed 358 valves across the metropolitan network, which is forecast to prevent 1,353 property outages over the next year. The \$24 million South Road trunk main relocation project was completed in 2021-22, and the first two stages of Beetaloo trunk main, costing \$10.1 million, and the North Terrace trunk main, costing \$6.2 million, were delivered.

Water network reliability



Service outcome for customers

- Supply of safe, quality drinking water

Temporary service interruption

The number of customers experiencing three or more unplanned service interruptions has a target of 1,750 by 2024.

We will achieve 1,750 by 2024 by setting incremental targets each year: 2,400 by 2020-21; 2,184 by 2021-22; 1,968 by 2022-23; 1,750 by 2023-24. In year two, we are ahead of target, with 1,482 properties experiencing three or more interruptions.

The number of customers (per 1,000 properties) experiencing an unplanned interruption event has decreased to 146 in 2021-22, also ahead of target.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22
Number of customers experiencing three or more temporary service interruptions a year by 2024	<1,750 by 2024	2,073	1,482
Number of properties a year experiencing an unplanned temporary service interruption	<153 per 1,000 properties	169.4	145.7

In 2020-21 and 2021-22, key projects have included South Road trunk main replacement and Morgan to Whyalla Pipeline rehabilitation, both of which remain on track for delivery in the regulatory period.

Key focuses for the next two years include:

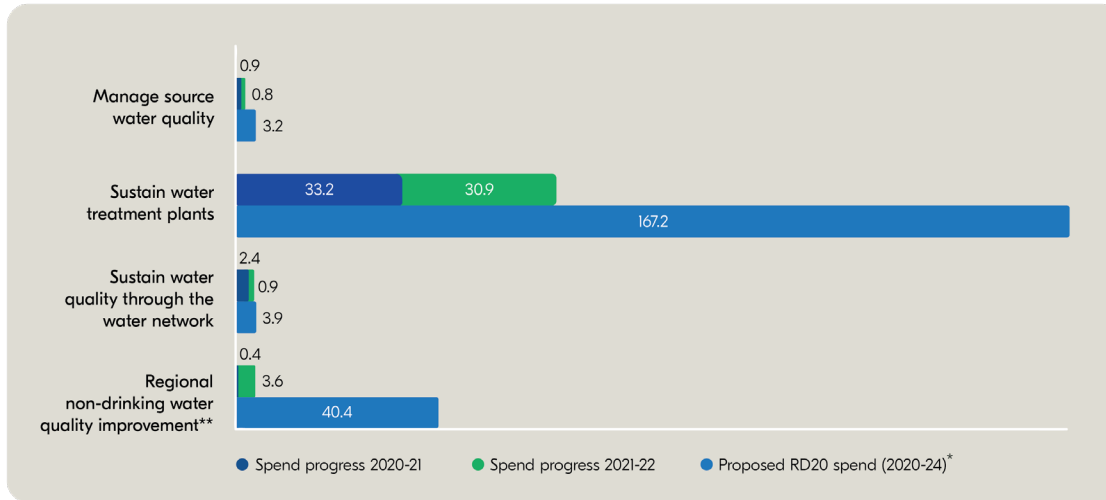
- Completion of stage three of the Beetaloo trunk main and the Morgan to Whyalla Pipeline rehabilitation.
- Network install as part of major, third-party projects on South Road (Torrens to Darlington), Victor Harbor Road, Main South Road and Port Augusta Highway to meet the expected customer service requirements.
- Completion of valve installation and reticulation renewal programs.
- Implementing new technology, such as the S-gate valve to minimise service interruptions on mains that cannot be isolated.
- Making operational boundary changes to the network to lower the static operating pressure in high pressure areas.
- Installation of smart leakage and transient sensors through the network.

Water quality improvements



Service outcome for customers

- Supply of safe, quality drinking water



* Adjusted for inflation.

**Investment as directed by the South Australian Government under the *Public Corporations Act 1993* and the *South Australian Water Corporations Act 1994*.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22
Compliance with the <i>Safe Drinking Water Act 2011</i>	100%	100%	100%
Customer perception of overall quality of water	80%	84%	78%

In 2021-22, upgrades for six non-drinking systems were designed. Plant and equipment manufacturing is underway to deliver drinking water standard via desalination plants in Oodnadatta, Marla and Maree and new storage and disinfection systems at Terowie, Yunta and Mannahill by June 2024.

Our 11 reservoir reserves welcomed 432,453 visitors in 2021-22. Since Myponga Reservoir Reserve opened in April 2019, we have recorded 658,649 visitors at all reservoir reserves, supporting the health and wellbeing of active thriving communities. We continue to enhance the visitor offerings to improve the customer experience and manage the risk associated with these upgrades.

Interstate floodwaters in the Murray Darling Basin are beginning to present local challenges and heightened risk in treatment and disinfection processes. Blackwater events traditionally follow flooding events in the Murray Darling Basin, as dramatic increases in organic materials deplete oxygen from the river. This poses significant challenges to our treatment plants and processes and results in reduction of treatment plant capability and an increase in operating costs, and can cause nitrification of the water storages.

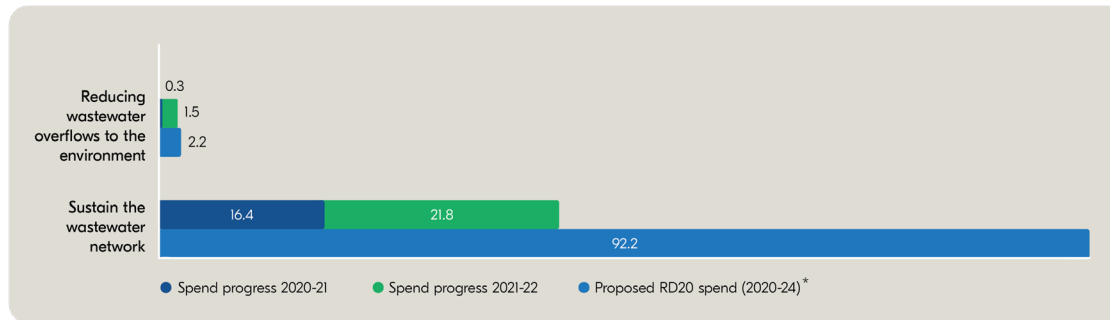
There has been a slight decrease in the customer perception of water quality in 2021-22, due in part to the Murray River and a number of surface water reservoirs experiencing elevated levels of dissolved organic matter and increases in algal numbers.

Reducing wastewater overflows



Service outcome for customers

- Improved environmental protection from reduced number of wastewater overflows to the environment
- Reliable wastewater services for customers



* Adjusted for inflation

Reducing wastewater overflows to the environment

Capital expenditure includes investment to improve reliability of wastewater pump stations and ensure adequate storage capacity or back up power in the event of outages. This work will continue with increased investment across the remaining years of this regulatory period.

In addition to the capital expenditure, in 2020-21 and 2021-22, we have implemented an enhanced wastewater mains cleaning regime. In the second year of the program, we cleaned and inspected 197 kilometres of wastewater mains in 16 hot spot suburbs. Mains are first cleaned, and then inspected using CCTV to identify any structural issues that may cause further tree root intrusion or breaks. Proactive CCTV inspections help us address issues before they impact our customers and/or the environment. Close to 70 issues have been proactively identified and repairs scheduled or completed.

Sustaining the wastewater network

Sustaining the wastewater network includes trunk main renewals, gravity trunk main renewals and pump station improvements.

Through our wastewater main management program, approximately 19.4 kilometres of wastewater reticulation mains and 5.6 kilometres of wastewater trunk mains were renewed in 2020-21 and 2021-22.

Reducing wastewater overflows



Service outcome for customers

- Improved environmental protection from reduced number of wastewater overflows to the environment
- Reliable wastewater services for customers

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22
Number of customers experiencing more than one wastewater internal overflow in five years	< 21	34	34
Number of Type 1 and Type 2* environmental overflow events reported to the Environment Protection Authority (five year annual average)	< 135	120	128
Number of customers that have had an internal overflow in the past 12 months	< 191	214	280

* Type 1 event is an overflow >100kL, Type 2 event is an overflow to a watercourse or stormwater >5kL.

Customers experiencing an internal overflow exceeded our target by a large margin in 2021-22. Causes identified are dispersed, with a significant increase in the number of first-time occurrences. To alleviate these incidents and proactively manage performance in 2022-23, we are:

- increasing targeted mains cleaning and inspection at worst performance mains and connections
- reviewing operational capabilities, processes, systems and tools.

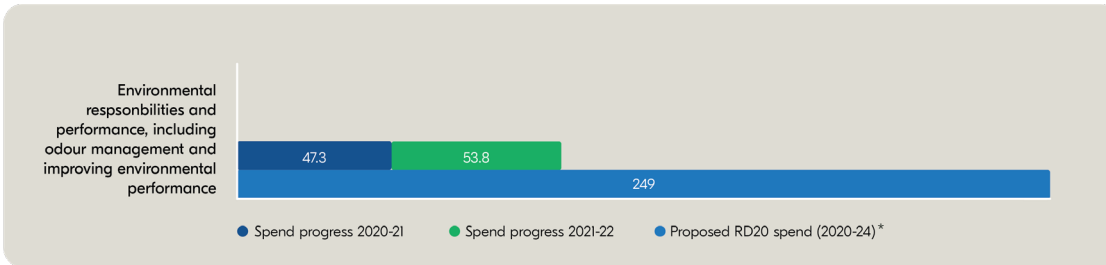


External responsibilities



Service outcome for customers

- Our environmental responsibilities are met
- Security of future water supply
- Odour is well managed with minimal customer impact



* Adjusted for inflation

In 2020-21 and 2021-22, more than \$73 million was spent renewing our wastewater treatment facilities to sustain services, improve reliability and enable the safe treatment of wastewater, including:

- \$6.9 million at Christies Beach Wastewater Treatment Plant
- \$15.6 million to renew ageing assets and \$17.8 million to improve pipework and digesters at Bolivar Wastewater Treatment Plant
- \$8.6 million to renew ageing assets and \$14.3 million to improve galleries and bioreactors and install new primary effluent pipeline at Glenelg Wastewater Treatment Plant.



External responsibilities



Service outcome for customers

- Our environmental responsibilities are met
- Security of future water supply
- Odour is well managed with minimal customer impact

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22
Compliance with environmental protection obligations	98%	99%	100%
Number of odour complaints received	< 450	556	576

Number of odour complaints received

In 2021-22, 100 per cent compliance with environmental protection obligations was achieved. In the same year, \$8.5 million was spent on:

- improvement to the Northern Adelaide Irrigation Scheme infrastructure
- installing monitoring bores across wastewater treatment plants to detect leakage from our lagoons
- investigating options to improve performance across regional and metropolitan sites to achieve environment improvement programs compliance, including development of preferred solutions, in consultation with stakeholders (including Environmental Protection Authority, Department for Health and Wellbeing), local community and businesses, for Millicent and Port Augusta East Wastewater Treatment Plants to minimise environmental harm
- Adelaide coastal waters research.

Investment of more than \$600,000 has minimised peak wet weather inflows by 46 per cent, from 130L/s to 70L/s, at Myponga Wastewater Treatment Plant in winter 2021-22. Other key infiltration investigations at Millicent and Naracoorte have progressed, and are expected to provide similar reduction of inflows to those wastewater systems.

Compliance with environmental protection obligations

While the number of odour complaints remains above target, investment through operating and capital expenditure will address root causes of odour in hotspots and complaint clusters in the coming years. In 2020-21 and 2021-22 the focus was on:

- data collection and analysis
- root cause analysis of odour hotspots
- developing options and progressing design for a complex program of upgrades including chemical dosing in the network
- investment in odour control units at pump stations
- managing treatment plant processes to ensure low odour.

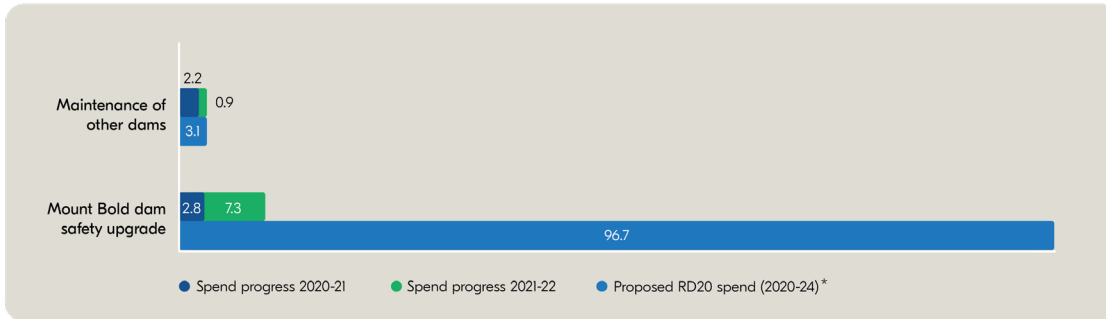
There will be higher expenditure in 2022-23 with the construction phase beginning for upgrades at the most critical odour hot spots including Aberfoyl Park, Queensbury and Largs Bay. Capital investment will target reduction in the number of odour hot spots, which will also reduce number of overall complaints.

Dam safety



Service outcome for customers

- Dam structures are safe



* Adjusted for inflation

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22
Meet guidelines set by the Australian National Committee on Large Dams (ANCOLD) by July 2028	17 of 20 dams compliant	16 of 20 dams compliant	16 of 20 dams compliant

We proactively manage 20 large dams across South Australia to help us deliver trusted water services to our customers. Currently, all 20 dams are operated safely and efficiently. Four dams (Baroota, Warren, Sturt and Mount Bold) are being assessed and upgraded to ensure compliance with updated ANCOLD guidelines with focus on flood and earthquake resilience.

We have successfully collaborated with local, state and federal governments for a grant to deliver additional, incremental flood mitigation to the Mount Bold dam upgrade to protect the communities of Old Noarlunga and Port Noarlunga from a 0.01 annual exceedance probability rainfall event. Concept design has progressed and will require review to incorporate the additional flood mitigation design.

The completed concept design for Baroota is now ready to commence detailed design. This project is on track to achieve risk reduction by the end of the current regulatory period.

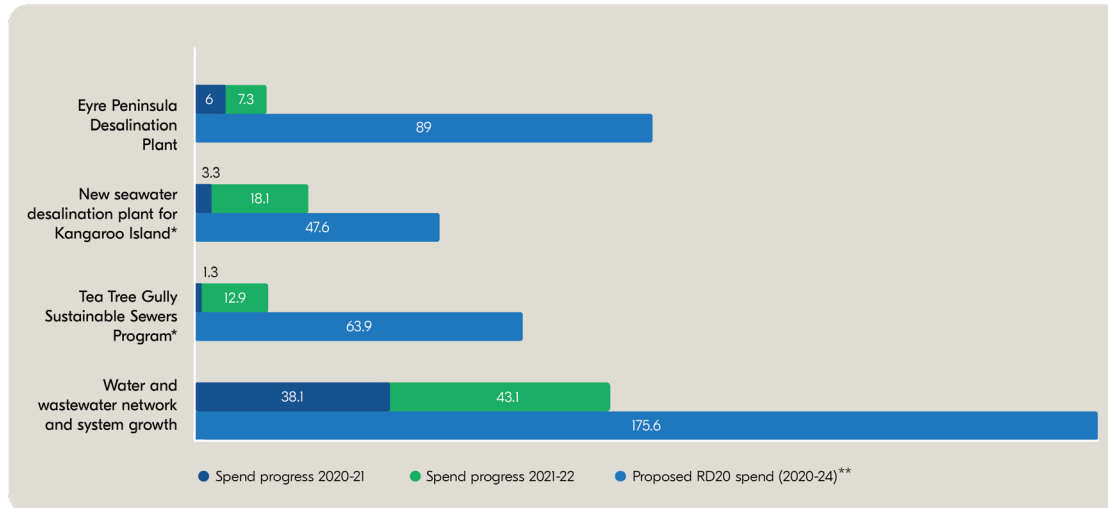
We have progressed a number of investigations in readiness for delivery of a range of smaller asset renewal projects to continue to maintain overall dam safety.

Enabling growth



Service outcome for customers

- Increased demand for water and wastewater services is met



* Investment as directed by the Government of South Australia under the *Public Corporations Act 1993* and the *South Australian Water Corporations Act 1994*

** Adjusted for inflation

The key wastewater network and system growth project in 2020-21 and 2021-22 includes:

- \$1.5 million for metropolitan wastewater and recycled water extensions
- \$1.7 million for developing wastewater and recycled water models to calibrate with inflow monitoring and modelling to depict risk of overflows across our wastewater catchments, and to inform and prioritise investments for wastewater network growth upgrade for this current regulatory period and beyond
- \$29.14 million for wastewater network upgrades in Angle Vale (\$12.3 million), Virginia (\$13.9

million), Buckland park (\$0.4 million) and investigations and definition of solutions (\$2.4million)

- \$14.65 million for upgrading wastewater treatment infrastructure across the state, including:
 - \$8.1 million to upgrade Murray Bridge, Port Lincoln and Aldinga Wastewater Treatment Plants in 2020-21
 - \$6.5 million to upgrade Bolivar, Murray Bridge, Port Lincoln and Aldinga Wastewater Treatment Plants and enable growth across metropolitan north, Normanville and Finger Point wastewater catchments in 2021-22.

Key water network and system growth projects include:

- \$16 million for upgrades in Northern Adelaide
- \$12 million in upgrades to increase supply to Murray Bridge and the surrounding area
- \$5.8 million to increase capacity in Yankalilla system.

Tea Tree Gully Sustainable Sewers Program

This project involves the transition of more than 4,700 properties currently connected to the City of Tea Tree Gully’s Community Wastewater Management System to our modern sewer system.

In 2021-22, work was completed at our first pilot site on Glenere Drive in Modbury, with 17 residents connected to our sewer network. Works will soon begin at the second pilot site on Dawson Drive in Modbury, to connect another 30 properties while we continue to engage the City of Tea Tree Gully to commence Stage One.

Enabling growth



Service outcome for customers

- Increased demand for water and wastewater services is met

Kangaroo Island Desalination Plant

The installation of about 50 kilometres of large underground pipeline on Kangaroo Island has begun, to be followed by construction of a new desalination plant. This project will improve drinking water security and support the Island's tourism and agriculture industries.

The two megalitre a day capacity plant at Penneshaw will supplement the smaller, existing facility and Middle River Reservoir. Through a series of pipes, it will also provide capacity to service four Island communities and other properties along the pipeline route, not currently connected to our network.

The plant will deliver an additional climate-independent supply of drinking water, providing benefits to local residents, boosting economic activity and increasing the Island's bushfire resilience.

Construction has commenced, but been delayed.

Eyre Peninsula Desalination Plant

During mid 2022 the Community Eyre Peninsula site selection committee is scheduled to finalise a recommended site based on criteria that consider key environmental, social, financial and technical criteria.

Significant work is then expected through the remainder of the year and into 2023 to review the viability of the community recommended site with regard for delivering the water security needs for the region and that it is the most cost-effective and timely water security solution for the people of the Eyre Peninsula.

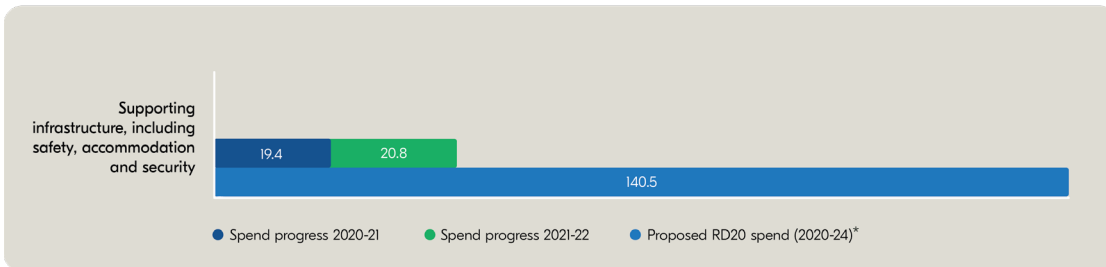
How this is measured	Target for 2021-2022	Achieved in 2021-22
Number of new water customers	7,647	6,841
Number of new wastewater customers	6,176	6,484

Operating our business



Service outcome for customers

- Safe and secure operation of our business



* Adjusted for inflation

The majority of our investment for this category in 2020-21 and 2021-22 relates to investment in work health safety improvements, including:

- \$10 million for safe access to water tanks, electrical equipment and workshops
- \$8.8 million for purchase of major plant and equipment
- \$6 million to transition our metropolitan service contract
- \$5.3 million replacing customers' damaged water meters
- \$3.7 million upgrading our work sites
- \$3.6 million for supervisory control and data acquisition (SCADA) upgrades.

How this is measured	Target by 2024	Achieved in 2020-21	Achieved in 2021-22
All incident frequency rate (number of injuries per 1 million hours worked)	20 by 2024	20.0	11.6

