



Strategic Investment Plan

2025-2035

Water Quality and Reliability



Acknowledgement of Country

Sydney Water respectfully acknowledges the Traditional Custodians of the land and waters on which we work, live and learn. We pay respect to Elders past and present.



Summary

Outcome objectives

This Water Quality and Reliability Strategic Investment Plan sets out how we will deliver on our outcome to provide safe, clean, reliable drinking water every day. It is focused on four objectives aligned to customer priorities and preferences:

1. Safe and clean water
2. Secure water supply
3. Saving water together
4. Reliable water.

Customer priorities

Through the Our Water, Our Voice engagement program, customers told us their top priority is to have safe and clean drinking water. Customers also want to see a reduction in water loss, support to save water, improved drought resilience and they want to continue to have reliable water services.

Expenditure to deliver outcomes

We will invest **\$21 billion over the 10 years to 2035 (40% of all expenditure)** delivering on the water quality and reliability outcome, ensuring our performance measures and targets are met for all objectives:

- **\$9,820 million in capital investment:** Upgrade our water filtration plants, expand, renew and maintain our water network and build new rainfall independent water supplies to continue provide a safe, reliable and secure water supply to a growing city under all weather conditions. Targeting actions to mitigate the most pressing water quality risks, such as pre-treatment capability at water filtration plants, where prudence was less certain prior to the climatic extremes experienced during the 2018 to 2020 period. Of this, around \$316 million is for digital investment: Enhanced automation, monitoring, and control of infrastructure and Supervisory Control and Data Acquisition for more efficient and reliable operations.
- **\$11,253 million in operating expenditure:** Support rising bulk water costs, growth, improve asset and service performance through increased investment to ensure a safe, reliable and secure water supply. Increased investment in maintenance to minimise leaks and breaks and the volume of water lost from our water network. Our investment plan also maintains expenditure in water community focused conservation activities to minimise the costs of providing a safe and secure water supply and to improve our ability to respond to drought when it does occur.

Ways this plan will make a difference

<p>Safe and clean water Upgrade four water filtration plants by 2030 to ensure safe, clean drinking water across Greater Sydney, the Illawarra, and the Blue Mountains in all weather conditions.</p>	<p>Secure water supply Able to meet up to 33% of drinking water demand with rainfall independent supply by 2030, enhancing water security and reducing risk of severe restrictions.</p>	<p>Support housing needs Deliver services to 300,000 new homes to support the NSW Government's growth ambitions and our growing population and cities.</p>	<p>Reduce leaks Enhance our water network leakage management to save 6GL a year by reducing the volume of drinking water lost as leakage by 2% by 2030.</p>
<p>Invest for the future Invest to secure Sydney's future by planning and building today to support population growth of 1.7 million people by 2050.</p>	<p>Save water together Provide more support to help customers each save over five litres a day, and assist community and business organisations to improve water efficiency and drought resilience.</p>	<p>Reliable water Ensure reliable water service, with under 2% of customers facing lengthy unplanned interruptions, and prompt responses to minimise impact.</p>	

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Introduction

Sydney Water's Strategic Investment Plans (SIPs) show how over the next 10 years we will achieve our strategy and vision to create a better life with world-class water services. Informed by our Long Term Capital and Operational Plan (LTCOP) and insights from the customer engagement program Our Water, Our Voice, the five SIPs outline our medium-term (10-year) targets, measures, and key activities:

- Customer experience
- Water quality and reliability
- Environmental protection
- Accountable, agile, innovative culture
- Successful and sustainable business.

These plans are essential for achieving our customer outcomes, balancing expenditure with risk, performance, cost, and customer price impacts. The SIPs support our Independent Pricing and Regulatory Tribunal (IPART) Price Proposal, business planning, and financial budgeting. They also integrate with other asset management and operational planning.

We will hold ourselves accountable for performance for these outcomes via annual reporting to customers and the monthly and quarterly corporate performance reporting process with the Sydney Water Executive and Board.

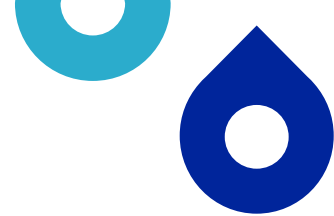
This **Water Quality and Reliability Strategic Investment Plan** delivers on our outcome to provide safe, clean, reliable drinking water every day, focused on four objectives:

1. Safe and clean water
2. Secure water supply
3. Saving water together
4. Reliable water.

Through the Our Water, Our Voice engagement program, our customers' top priority is to have safe and clean drinking water. This is also a principal objective under the *Sydney Water Act 1994*. Customers also want to see a reduction in water loss, support to save water, improve drought resilience and have reliable water services. The Water Quality and Reliability outcome addresses these customer insights, supports the *Greater Sydney Water Strategy (GSWS)* and directly responds to our public health responsibilities.

Our strategic investments are designed to be affordable, deliverable, and aligned with our risk tolerance, ensuring we meet and exceed customer and stakeholder expectations. This approach underscores our commitment to keeping customers at the heart of everything we do.





What we heard from our customers

Sydney Water is evolving and moving towards becoming a customer-led organisation in line with global best practice for water utilities. Over the last 2 years we have built on our customer engagement program by actively engaging with customers to develop outcomes aligned with their preferences and priorities. In July 2022 we started a customer engagement program called Our Water, Our Voice, the largest in Sydney Water's history, with over 13,000 customers participating over 21 months and 6 phases of engagement.

The feedback gathered through the customer engagement process summarised below informs our objectives, measures, targets and delivery plan. Customers told us they care about the following priorities:

Safe, clean drinking water: Maintaining a safe, clean supply of drinking water is our customers' highest priority. Maintaining current standards is a non-negotiable for our customers. They also express, as a lower priority, a desire to have reduced chances of drinking water occasionally smelling or tasting different after extreme weather events.

Secure water supply: Customers are concerned about the future resilience of water supply in the face of growth and climate change and want Sydney Water to build more water recycling and/or desalination capacity (rainfall independent supply (RFIS)).

Customers accept that water restrictions are an option to manage drought, but they value investment to reduce the severity of restrictions and to make them equitable for the community. They support us considering all options to secure future water supplies, including making better use of existing assets, water conservation, desalination and recycled water. The two most important things customers want us to consider when investing in new water supply are: the environmental impact of the chosen investment and how rainfall dependent the option is.

Water conservation: Customers expect us to reduce water loss by minimising leaks and breaks in our network. Customers are also open to doing more to conserve their own water use. However, they feel that Sydney Water should do more to educate them on how they can do this and provide community based water savings programs.

Reliability of water services: Consistent water access is important for homes and businesses, both for livelihood and for supporting economic development. Customers expect us to continue to minimise the impact of outages both planned and unplanned. Customers are generally satisfied with our current service level and want us to maintain this in the future.

Water quality and reliability Ranked customer identified priorities

01	Maintaining safe and clean drinking water
04	Enhancing the water network's resilience to drought through building water recycling and/or desalination infrastructure
05	Reducing water loss by minimising leaks and breaks in the water network
06	Increasing water savings and reducing water usage through community-based water saving programs
09	Reducing the chances of your drinking water occasionally smelling or tasting different
10	Minimising the impact of outages both planned and unplanned
14	Reducing the frequency and duration of severe water restrictions

Opportunities



Safe and clean water

- Continue to meet our public health obligations by meeting Australian Drinking Water Guidelines (ADWG) at all times while being resilient to growth, diverse supply sources, raw water quality and variable weather.
- Utilise technology to enhance the performance of our water filtration plants and maintain quality as it travels to our customers.
- We will invest to continue to meet to ADWG requirements as they are reviewed and updated.



Secure water supply

- Respond to increasing demand for water and climate change by contributing to the city's sustainable water supply by rainfall independent supplies (RFIS).
- Support Sydney's growth by providing access to water services in new homes and businesses.
- Leverage water conservation activities to reduce the impact of restrictions on the community.
- We will manage our water supply purchases to provide increased resilience and affordable servicing



Saving water together

- Leverage data, technology and process improvements to improve the effectiveness of our asset maintenance activities and reduce water loss from our aging distribution network.
- Educate and empower the community to save water to help us to reduce future investment in new water supplies and keep water bills low.
- Reduce barriers to adopting water efficiency practices by collaborating with policy makers to drive long term improvements.



Reliable water

- Renew and maintain our aging water assets to provide reliable water services every day.
- Minimise the impact of supply interruptions on customers, even in uncertain weather, to maintain levels of service that meet or exceed customer expectations.
- Leverage technology and process improvements to enhance the maintenance and renewal of our aging water network, managing asset health and stabilise asset performance.

Expenditure

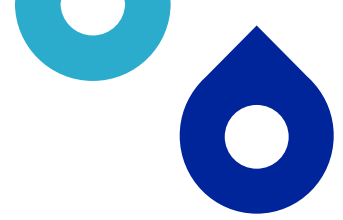
Total proposed expenditure in the Water quality and reliability Strategic Investment Plan is \$21 billion over the 10 years from 2025 to 2035. Around 48% of this expenditure is capital investment to upgrade our water filtration plants, expand, renew and maintain our water network and build new rainfall independent water supplies to ensure we continue to meet the growing city's demand for safe drinking water under all weather conditions. Bulk water purchases represent about 33%. Drought response costs have not been included.

Budget summary 2025-2035

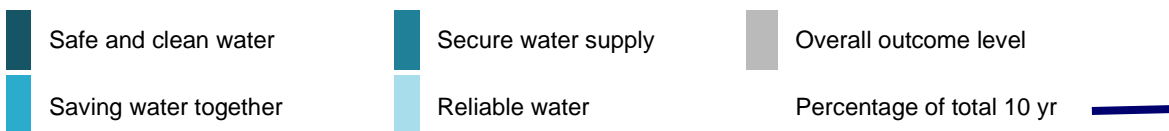
Forecast expenditure (\$2024-25 in millions)	Category	2025-30	2030-35	Total 10yr
Water filtration plant (WFP) upgrades and pretreatment at:	Capex	1,001	435	1,436
- Prospect WFP				
- Nepean WFP				
- Cascade WFP				
- Orchard Hills WFP				
- Other WFPs				
WFPs renewals	Capex	274	287	561
New WFPs or augment existing plants to support growth	Capex	388	57	445
WFPs operations and maintenance, including energy, chemicals, sludge disposal and asset management	Opex	250	273	523
Build-Own-Operate water treatment operations	Opex	634	647	1,281
Laboratory services and water quality testing	Opex	99	100	199
Maintaining water quality and respond to change	-	<i>Costs to implement reflected in items above and other SIPs</i>		
New, or augmentation of, water network to support growth	Capex	2,341	952	3,293
Rainfall independent water supplies – Purified Recycled Water ¹	Capex	481	960	1,441
Sydney Desalination Plant (SDP) water network expansion	Capex	920	0	920
Resilient reliable water supply other (future desalination planning, water system resilience and program adjustment)	Capex	(95)	405	309
Water NSW bulk water purchases	Opex	1,717	1,912	3,629
Desalination bulk water purchases (no allowance for SDP expansion costs in 2025-30)	Opex	1,204	2,158	3,361
Leak reduction program including ² :	Opex	150	154	303
- Proactive/active Leak Detection Inspection				
- Minor preventative maintenance				
- Reactive maintenance (leak response)				
- Water network pressure management				

¹ Includes costs for Purified Recycled Water treatment required to deliver the Environmental Protection outcome to recover resources.

² Asset management activities that supports the delivery of this outcome and other water network operations and maintenance is captured under reliable water objective.



Forecast expenditure (\$2024-25 in millions)	Category	2025-30	2030-35	Total 10yr
Enhanced water conservation plan – water efficiency ³	Opex	50	50	100
NSW water efficiency program implementation and policy change (Climate Change Fund contribution)	-	<i>No allowance currently</i>		
Water network renewals including: <ul style="list-style-type: none"> - Critical watermains - Reticulation watermains - Pumping stations - Reservoirs 	Capex	883	930	1,812
Water network operations and maintenance including water mains, pumping stations and reservoirs, energy, chemicals and asset management (excluding leakage management).	Opex	699	800	1,499
Digital investment to support water quality and reliability including (for 2025-30): <ul style="list-style-type: none"> • Water quality automation renewals (supervisory control and data acquisition, SCADA) • Spatial services \$8 million • Other enhanced monitoring and control of infrastructure such as Enterprise Asset Management and Digital twins 	Digital invest	175	162	337
Digital core opex supporting water quality and reliability	Opex	103	100	203
Infrastructure portfolio adjustment (estimate)	Capex	(446)	(268)	(714)
Opex adjustments (Right-of-use assets and unregulated activities)	Opex	83	71	154
Total capex for water quality and reliability outcome	Capex	5,907	3,913	9,820
Total opex for water quality and reliability outcome	Opex	4,988	6,265	11,253



Notes:

- Years indicated refer to financial years (i.e. 2025–30 refers to the period between 1 July 2025 and 30 June 2030).
- Dollar amounts are presented in ‘real’ terms (without inflation) as at 1 July 2024.
- Capex forecasts are more certain for near term activities that have progressed past planning stages.
- Opex includes controllable and non-controllable costs.
- Digital investment includes project capex and an operational component that can’t be capitalised (‘propex’) - this is already included in the digital core opex - only the capex component of digital investment is added to the total capex.
- Allocation of adjustments and efficiencies are estimates as these are applied at portfolio level. Corporate level adjustment for opex efficiencies allocated to the Successful and sustainable business SIP.

³ Does not include required investment in behavioural change campaigns and education or smart metering program which are foundational to the delivery of the glidepath. These costs are captured within the Customer outcome.

Our investment approach



Objective	Safe and Clean Water	Secure Water Supply	Saving Water Together	Reliable Water
Commitment to customers	Our water is kept safe and clean to drink.	We build water supply resilience to climate and growth.	Our water is used more efficiently, and we support the community to save water.	Our water services are reliable every day.
Customer priorities	Priority 1: Maintaining safe and clean drinking water. Priority 9: Reducing the chances of your drinking water occasionally smelling or tasting different.	Priority 4: Enhancing the water network's resilience to drought through building water recycling and/or desalination infrastructure. Priority 14: Reducing the frequency and duration of restrictions.	Priority 5: Reducing water loss by minimising leaks and breaks in the water network. Priority 6: Increasing water savings and reducing usage through community-based water saving programs.	Priority 10: Minimising the impact of outages both planned and unplanned.
Why this is important to our customers	Access to clean and safe drinking water is critical. Maintaining current standards is a high priority for our customers.	Securing additional rainfall independent water supply is important for resilience supply and the reduction of severity and length of time in severe water restrictions.	Customers view water as valuable.	Consistent water access is important for homes and businesses. Outages can disrupt home life and cause lost production and sales for businesses. Customers expect us to maintain current service levels.
Service level aim	Maintain	Improve	Improve	Maintain
What our investment will deliver by 2030	Continue to implement Drinking Water Management System (DWMS) and Operational Plan	Continue to deliver water infrastructure to service growth	Implement pressure management and digital enablement	Ongoing implementation of Water Continuity Management Plan to minimise the customer impact of supply interruptions when they happen
	Deliver 'Maintain water quality performance and respond to change' activities to manage to water quality risks		Continue to implement active leak detection on reticulation and trunk mains	Maintain a reliable water supply to customers through effective delivering of asset management informed by the Service Excellence Roadmap
	Renew and upgrade Nepean, Orchard Hills and Cascade WFPs and provide pre-treatment at Prospect to manage poor water quality and ADWG	Continue to purchase bulk water supply from WaterNSW and SDP	Improve response time to cease leaks through resourcing, process improvement and leveraging data and technology	Limit the chances of customers being affected by an unplanned water interruption > 5 hours
	Implement water quality automation program to improve disinfection, staff safety and quality management from catchment to tap	Increase the availability of rainfall independent water supply through SDP Expansion	Deliver Enhanced Leak Management Plan (ongoing) to reduce water lost by at least 6 giga litre (GL) a year by 2030	
			Continue to implement customer efficiency and education programs avoiding 38 GL of water use	Implement the enhanced monitoring and control of infrastructure initiative to improve the management of water within our network and inform our asset management planning
		Deliver enhanced water efficiency plan avoiding 38 GL of water use through programs, behaviour and policy change		
What our investment will deliver by 2035	Upgrade 6 WFPs for protection of public health, improving our drinking water quality and upgrading capacity to treat poorer water quality following extreme weather	Provide around 32 GL of purified recycled water each year from the Quakers Hill scheme (stage 1 and 2) and build future capability to provide for water needs	Manage leaks to an economic level through continuous improvement, enabled by metering, data and analytics	Leverage data, metering and digital programs to improve our asset management practices and maintain a reliable water supply to customers
	Operate our WFP and supply systems to meet ADWG including new health based targets (timeline under negotiation)	Able to meet 38% of Greater Sydney's water needs with rainfall independent supplies	Avoid 46 GL of drinking water use in 2034-35, through water efficiency	

Objective 1: Safe and clean water

Our water is kept safe and clean to drink. (Customer priority 1 and 9)

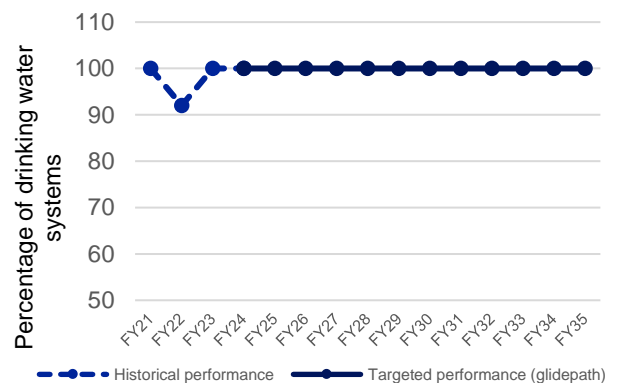
We will:

- provide safe drinking water to all customers by meeting the ADWG
- manage impacts to our drinking water from declining water quality from our catchments
- provide adequate disinfection throughout our water network
- adapt to changes to the ADWG to continue to protect public health.

Performance measure	Aim	Baseline	Targets			
		23-24	24-25	25-26	29-30	34-35
Drinking water quality: Percentage of systems where drinking water meets health guidelines.	Maintain safe drinking water quality to all customers by meeting health guidelines at all our drinking water systems.	100%	100%	100%	100%	100%

Rationale and historical context

This measure responds to our customers’ highest priority – “Maintaining safe and clean drinking water” and is one of our principal objectives under the Act. It is measured on an annual basis as adherence with the health-related water quality parameters from the ADWG, which New South Wales (NSW) Health expects us to always meet. We have strong historical performance meeting the ADWG. Performance issues have included short term exceedance in 2021-22 related to disinfection byproducts although this event was unlikely to pose a significant health risk.



To continue to meet our public health obligations and our customer expectations, we must prepare for, and respond to, declining raw water quality in our catchments, weather variability and reoccurring severe weather events, growth and changes to the ADWG. Our WFP asset condition was identified as deteriorating in the 2023 State of the Assets Report. The quality of raw water in Greater Sydney’s dams has deteriorated over the last 20 years. Most WFPs have been treating raw water outside normal design envelopes, causing water quality issues in maintaining adequate chlorine residual at customers taps to manage microbial risks, and constraining production. Even with current operational risk control measures, the resulting high risk rating for the WFPs may remain for extended periods due to infrastructure delivery lead times however without investment, our ability to continue to meet our public health obligations will be increasingly difficult over time and our level of risk would exceed acceptable, manageable risk.

Strategy for improvement

The following activities will enable us to meet the customer outcome and priority:

- **Maintaining water quality performance and respond to change (W1):** We will continue to maintain and operate our WFPs, rechlorination plants and manage day-to-day risks in accordance



with our DWMS to deliver water that meets ADWG. We have identified a number of key activities to support the delivery of this objective in our Enterprise Initiative focussed on maintaining water quality.

- **Infrastructure upgrades, renewals and maintenance:** We will continue to plan for and invest in capital improvements at our WFPs to prepare for and respond to growth and declining raw water quality in our catchments. Improved treatment performance at our WFPs will improve our ability to meet new ADWG health based targets and reduce disinfection byproducts in our drinking water. If our risk exceeds acceptable levels we will need to trigger additional investment to meet our customers' top priority. Our investment includes:

- Prospect pre-treatment plant completed by mid-2026
- Water filtration plant upgrades at Nepean and Orchard Hills
- Woronora, Illawarra, and Warragamba pre-treatment

We will also need to deliver targeted corrective maintenance and planned renewals of our water treatment assets to reduce breakdown rates, manage reoccurring failures of pumping stations and reservoirs which are critical to managing water quality.

- **Water Quality Monitoring and control:** We will also invest to maintain water quality as it travels from our WFPs to our customers, including improvements to water quality automation in our networks to improve our disinfection management and reduce the variation in the taste and smell of drinking water across the system. Increased monitoring and control of the flows and water quality within the network, supported by analytics, will help us to better understand water quality risks and proactively manage them, as we increase the diversity and integration of the water supply.

Investment is also required to continue to deliver water quality monitoring through our Laboratory Services, which enable us to maintain our capability to monitor the water quality that reaches our customers, including mobile laboratory services. Investment in operational technologies, such as IoT, and predictive and preventative operational management and enhanced monitoring and control will help us to continue to provide safe water quality to our customers at all times.

Success factors

- Manage water quality risks within acceptable levels where possible.
- Invest in capital responses to reduce our water quality risk over time.
- Work with NSW Health to sequence upgrades to meet changes to ADWG requirements, once known.

Risks factors

- Budget and capital delivery constraints.
- Increased asset maintenance and renewal backlog for water quality related projects.
- Prolonged or severe wet weather events.

Objective 2: Secure water supply

We build water supply resilience to climate and growth. (Customer priority 4 and 14)

We will:

- ensure we have sufficient drinking water supply to meet the city’s demand for water
- increase the volume of rainfall independent supply (RFIS) to increase the city’s resilience to drought and flood
- reduce the need for severe water restrictions by preparing and planning for drought when we are not in one (combined with demand side measures discussed in Objective 3).

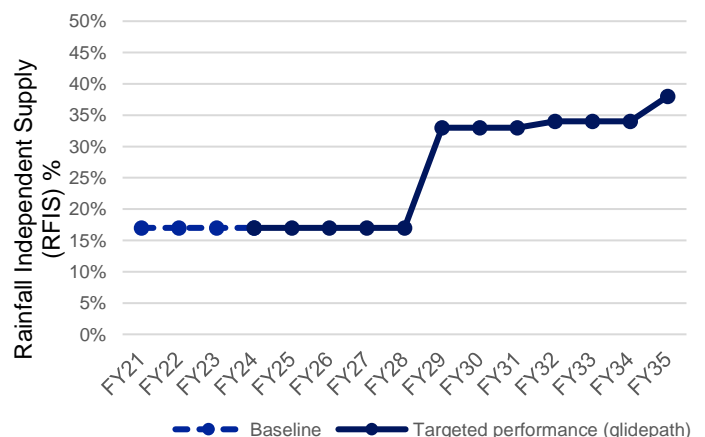
Performance measure	Aim	Baseline	Targets			
		23-24	24-25	25-26	29-30	34-35
Available water supply: Proportion of drinking water demand that can be met by RFIS	Improve the security of our water supply, by increasing the time we have to build a new water supply in drought, reducing the need to use severe water restrictions.	17%	≥17%	≥17%	≥33%	≥38%


Rationale and historical context

This measure responds to customer expectations that we improve the resilience of our water supply and reduce the frequency and duration of severe water restrictions. Securing Sydney’s water supply is a non-negotiable for our customers and the broader community and is reflected in our proposed measure to increase the proportion of demand met by more RFIS options.

The Greater Sydney Water Strategy (GSWS) and LTCOP highlight that our current drinking water supply does not sustainably meet the city’s demand for water. The *NSW State Water Strategy* and GSWS highlight the need to make the most of our existing supplies, invest in new ones and enable water conservation to respond to growth, climate change and increase the drought resilience of the city. The GSWS also directs us to focus on constructing new RFIS to manage climate and drought risks. Assessment of climate change impacts on drinking water availability shows that we have a 30GL reduction from surface water supplies (median) and we may experience a further 50 GL reduction by 2050 as climate evolves. We also need to cater for growth in our water network.

We need to make capital investment to improve the resilience of our supply, despite growth. Customers recognise this and have demonstrated a willingness to pay more to maintain current levels of water supply resilience and to reduce the risk of needing to spend more time in water restrictions. Through our Discrete Choice Experiment (DCE) study, average homeownership customers said they were willing to pay \$15 over the next 10 years to maintain the current estimated time of five and a half years before severe water restrictions are enforced in times of drought, rather than it being reduced to four years. They are also prepared to pay another \$15-\$20 each quarter on top of their current bills, over the next five years, to secure the water





supply for the future through building more supply, managing leakage, and providing water conservation programs.

Strategy for improvement

Our key activities for increasing the proportion of available water supply include:

- **Investing in new rainfall independent water supplies**, including expansion of the SDP by 2029.
- Following initial growth upgrades of Water Resource Recovery Facilities (WRRF) as covered in the Environmental Protection SIP, some of these are anticipated to undergo further changes to **support the delivery of PRW schemes**, namely at Quakers Hill, Camellia, Liverpool, and Glenfield. The first PRW scheme (Quakers Hill Stage 1) is anticipated to provide services by 2032. By doing so we will meet the demand of a growing city, be more prepared for drought and potentially reduce the time it will take to bring a new supply option online.
- We will also **invest to improve the interconnectivity** of our system and reduce single dependencies.

We will **continue to purchase water from our bulk suppliers**, WaterNSW and SDP, with volumes expected to increase by around 14 GL a year by 2030 (average weather). We will also invest to minimise risk of dam failure for our regulated drinking water storage reservoirs and dam.

Our delivery of new, rainfall independent infrastructure will be **supported by technologies** that allow us to better plan, maintain and operate our network to help us to control the integration of our water sources and manage risks as water supply levels decline in drought (refer other objectives).

This objective will be strongly supported though the delivery of the water conservation plan.

Success factors

- Diverse water supplies, with reduced dependence on vulnerable water sources.
- Improved water system resilience.
- Prepared for drought conditions.
- Delivery water conservation savings under normal conditions enabling further demand reductions in drought aligned to the *Greater Sydney Drought Response Plan*.

Risks factors

- Should our RFIS portfolio not be delivered to schedule, drought restrictions may be implemented sooner, and potentially be harsher.
- Community or customers may not accept recommended alternative water solutions.
- Water management policy may impact available water supply (e.g., Water Sharing Plan rules for environmental flow).

Objective 3: Saving water together

Our water is used more efficiently, and we support the community to save water.

(Customer priority 5 and 6)

We will:

- reduce the time it takes to stop a leak by leveraging data, technology and process improvements
- manage the occurrence of leaks and breaks by renewing and maintaining our water assets
- provide customers programs and information to help them save water
- increase water savings by working with stakeholders, industry and the community
- reduce the need for severe water restrictions by maintaining a water conservation program under all weather conditions that can be scaled in drought (combined with supply side measures discussed in Objective 2).

Performance measure	Aim	Baseline	Targets			
		23-24	24-25	25-26	29-30	34-35
System leakage: Percentage of drinking water supplied lost as leakage (proposed as ODI, outcome delivery incentive).	Improve the efficiency of our network, by reducing the volume of water lost as leakage from our drinking water network	9% (Q3 result, 12 month rolling average)	≤8%	≤8%	≤7%	≤7%
Drinking water use (residential): Residential drinking water use per person per day (in LPD, litres per person per day)	Improve the efficiency of residential drinking water use to achieve less than 182LPD by 2030 by helping customers use water efficiently	183 LPD (Q3 result, observed 12 month rolling average)	<186 LPD	<183 LPD	<182 LPD	<173 LPD

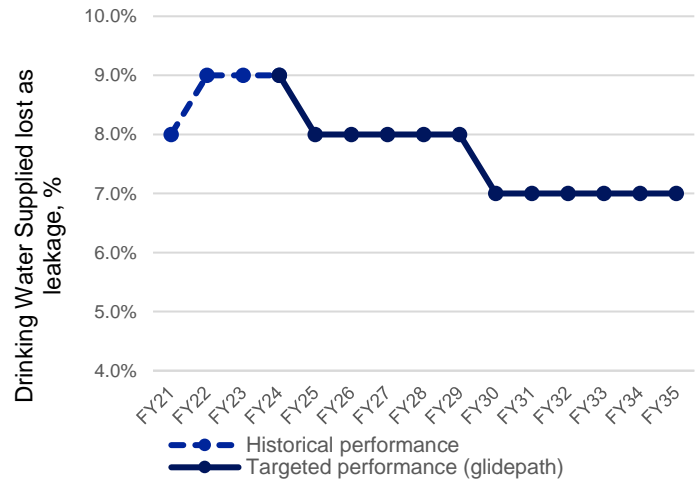
Rationale and historical context

Managing and conserving water is an important component of our water systems’ resilience to a changing climate and growing population. It can also help us to defer infrastructure investment, contributing to affordability. Our Operating Licence expects us to implement water conservation where it is economic and feasible to do so.

The measures above reflect that there are two key levers to reduce water demand, the rationale and context of which are summarised separately below.

System leakage

Customers expect Sydney Water to reduce water loss from by minimising leaks and breaks in our network. Leaks and breaks are highly visible to our customers, large leaks or ongoing poor performance can result in reputational damage, impacting delivery of some of our objectives within the Customer Outcome. Poor performance makes it more challenging for us to demonstrate our commitment to water conservation and engage with customers on using water efficiently themselves.

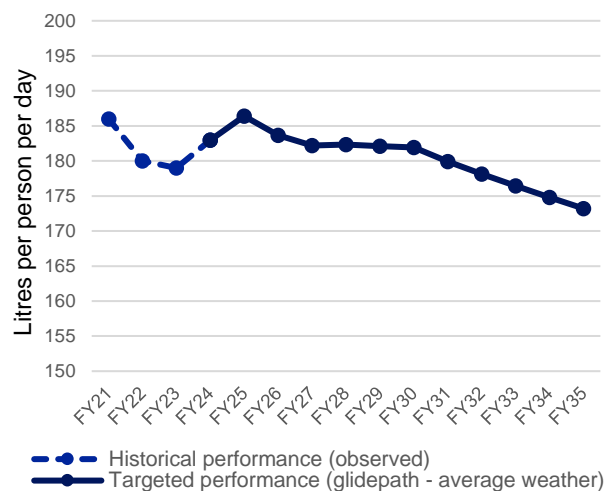


Our leakage performance is near the upper bound of the International Leakage Index benchmark and we have exceeded the agreed economic level of leakage since 2016. Leakage accounts for around 9% of the volume of drinking water demand (four year average from 2020-23). The size, complexity, and age of our water network has made it difficult for us to deliver step-change improvements in leakage performance over the last 15 years. With the introduction of an ODI for leakage, a financial reward and penalty for performance will be adopted.

Drinking water use

Customers accept that, even outside of drought, they have an individual responsibility to save water and reduce their personal use of water. There is also a strong desire for Sydney Water to play an active role in educating customers and providing information on ways they can save.

Over the past 20 years, per capita consumption of drinking water has reduced by 36% due the adoption of more water efficient practices driven by behaviour change, policy, market influences and the use of more efficient water using devices in the home and by businesses. However, in 2020 the NSW Audit Office



found that the Government and Sydney Water had “not effectively investigated, implemented or supported water conservation initiatives in Greater Sydney”. Responding to this, the GSWS calls for increased water conservation in Greater Sydney increasing drinking water savings to 38GL/yr by 2030 and 49GL/yr by 2040.

This measure targets our performance within the residential customer segment, which accounts for 65% of drinking water demand in Greater Sydney. Our baseline reflects our observed 2024 Q3 12 month rolling average result of 183 LPD, influenced by actual weather conditions and the estimated population over this period.

Strategy for improvement

Our key activities for reducing the level of system leakage include:

- **Continuing to implement our Enhanced Leakage Management Plan** to avoid, find and fix leaks reducing the volume of water lost from our water network. We will continue to implement our active leak detection program and target our response through increased network monitoring and analytics. Leveraging technology, process improvements and increasing field resources we aim to reduce the time it takes us to stop leaks by at least 20% while also managing other maintenance and incident activities, such as water continuity and wastewater incident management. This will complement asset management activities, such as condition assessments and renewal programs that will help us to avoid leaks.
- **Leveraging data and analytics**, from the delivery of digital enablement programs such as smart metering, digital twins and IoT, so that we better understand where in our network leakage is occurring and target our response.

We will achieve our targets for reducing per capita drinking water consumption through the delivery of an Enhanced Water Conservation Plan by:

- **Supporting customers to use water efficiently** by continuing to implement our customer and community efficiency programs, such as residential and non-residential WaterFix offerings and also educating and informing our customers about water wise behaviours and choices (drawing on resources and funding captured under other activities such as smart water metering as well as customer and stakeholder engagement, communications and community education described in the Customer Experience SIP).
- **Supporting policy and market change to accelerate water efficiency outcomes** by working with external partners such as the NSW Department of Climate Change, Energy, the Environment and Water and industry to improve standards and reduce barriers for greater adoption of water efficiency best practice.

Success factors

- Our commitment to water conservation and leading by example.
- Reducing the time taken to stop leaks leveraging FLOW, data, metering and process improvements.
- Delivery of maintenance and renewal programs is critical to stabilise the health of our water assets.
- Support for non-residential customers as well as residential customers to be more effective with their water use.

Risks factors

- Delays or deferral in water network renewals and maintenance will increase breaks and leaks.
- Ability to recruit, maintain and deploy field staff in a timely manner to respond to leaks and complete maintenance.
- Wet weather conditions may result in ambivalence towards education and conservation.
- Changes in value of the economic level of water conservation can impact scale of investment into this program.
- Successful implementation of water efficiency policy change.

Objective 4: Reliable water

Our water services are reliable every day. (Customer priority 10)

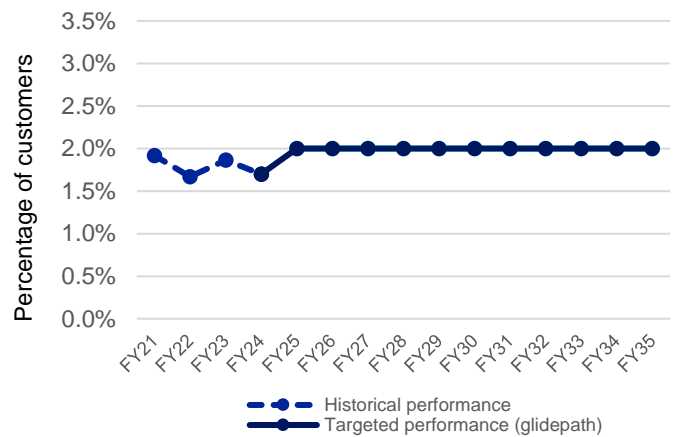
We will:

- maintain our current water continuity standards and avoid degradation of their current levels of service
- renew and maintain our water assets to plan
- deliver quality and timely maintenance and repairs of our water assets
- enable customers to be prepared for disruptions (e.g. provide adequate notification as discussed in the Customer Experience SIP).

Performance measure	Aim	Baseline		Targets		
		23-24	24-25	25-26	29-30	34-35
Water continuity: Percentage of customers affected by an unplanned water interruption for more than five hours	Maintain the reliability of our water services and minimise the impact of interruptions to customers	1.7%	<2%	<2%	<2%	<2%


Rationale and historical context

This measure responds to customer expectations to “Minimising the impact of outages both planned and unplanned” and to maintain current levels of service. We will maintain our minimum standard for water continuity in our operating licence, aligned to our five year historical average performance and adopt this as our performance target. The measure captures unplanned interruptions, which are defined as “an event where the supply for drinking water at a property is interrupted without the customer having received 48 hours’ prior notice”.



Customers accept that supply disruptions do happen. When they do, they want us to provide quality repairs first time and resolve the issue within an appropriate timeframe. Traditionally, maintaining continuity of water supply has been our top priority in how we allocate our field workforce, however customer feedback has also underscored the importance of also responding to water leakage and wastewater incidents.

Each water continuity event is unique and depending on where it occurs in the network, a single interruption may affect thousands of customers. Increasing weather variability increases the challenges for the continuity of our water services, for example, likelihood of watermain failure increases with drier weather conditions. Sydney Water was within the tolerance bands for water continuity performance throughout the current period. This was a return to compliance after non-compliances in in 2018-19 and 2019-20 at the height of drought. Since then, continuity risk has been proactively managed to reduce customer impacts through early escalation to manage the impact of unplanned outages and improved planning for shutdowns. However the size and age of our network has made it difficult to maintain a sustainable level of maintenance backlog to



meet customers' expected performance. A concentrated focus is required to reduce our backlog and focus on work delivery on the underperforming assets which will help us address those that frequently and/or repeatedly fail.

Strategy for improvement

We will maintain our water continuity standards by:

- **Managing continuity risk** by setting internal performance targets and escalation triggers and use our Water Continuity Management Plan to avoid under performance.
- **Improving the maintenance and renewal of our aging water distribution network** to manage deteriorating asset health, supported by the delivery of the Service Excellence Roadmap. Including investment in targeted corrective maintenance and planned renewals of watermain assets, we will aim to reduce breakdown rates, helping sustain current asset performance improvements. We will focus our attention on managing reoccurring failures of pumping stations and reservoirs that have shown deterioration in health and performance in the recent past.
- **Optimising field resource allocation** to respond to around a 19% increase in reactive jobs (water and wastewater) to manage potential increases resulting from drier than average conditions based on historical data.
- **Enhancing our understanding of our network** through improved metering of flows within the network and enhanced monitoring and control of infrastructure as well as initiatives described in the Customer Experience SIP such as FLOW and Smart Metering. This will enable us to better manage our assets proactively and respond more effectively to asset failures, reducing the risk of failure and ensuring reliable water services.

Success factors

- Stable and manageable water continuity risk.
- Effective delivery of water asset maintenance and renewals program that ensure service continuity with happy customers.
- Delivery of the Service Excellence roadmap, FLOW and metering programs.
- Delivery of Enhanced Monitoring and Control of Infrastructure.

Risks

- Asset maintenance and renewal backlog presents challenges to meeting water continuity target.
- Sufficient resources to respond to increased demand for water / wastewater reactive jobs simultaneously under an increasingly variable climate.
- Delays or deferral in water network renewals and maintenance will increase breaks and leaks.
- Ability to recruit, maintain and deploy field staff in a timely manner to respond to leaks and complete maintenance.

