

Our Environment Plan 2019–20

Sydney Water's environmental actions to
bring our lifestream strategy to life

1 Introduction

This plan outlines the actions we will take in 2019–20 to meet our environmental objectives and our targets by 2020 and 2030.

We update our Environment Plan every year to remain resilient against emerging environmental risks and to ensure that it reflects our business focus. The plan addresses recent challenges and identifies actions to be undertaken to improve our environmental performance.

The plan aligns to our Environment Strategy. Our strategic approach will let us anticipate and respond to the environmental expectations of our customers and prepare for environmental challenges in the future. It also aligns our environmental commitments to our corporate strategy.

We have a vision to transform Sydney Water into a customer-centric, future-focused organisation that delivers great customer experiences and sustainable shareholder value. This reflects our core purpose to protect public health and the environment by providing essential water and wastewater services while remaining a successful business.

To meet this vision, we have the following environmental objectives:

- 1) We'll contribute to healthy waterways and clean beaches in delivering our services to safeguard ecosystems that our communities can continue to enjoy.
- 2) We'll increase our resilience to a changing climate, connect with customers and use water in the landscape to shape liveable places.
- 3) We'll protect and restore valuable biodiversity and share the natural spaces, land and heritage in our care with the community.
- 4) We'll use our resources wisely, work with customers to save water and increase our recovery of energy towards net-zero emissions.

1.1 Reporting progress on our plan

Each year, we report on the results and outcomes of our actions as part of this plan. To provide a year-to-year comparison of performance, we also report against a set of environmental performance indicators determined by the Independent Pricing and Regulatory Tribunal (IPART). Both reports can be found in our [Environment Compliance and Performance Report](#). This plan aligns with Sydney Water's objectives as outlined in the *Sydney Water Act 1994* and reported in our [Annual Report](#). We are also benchmarked against other Australian water utilities through the National Water Initiative.

≈ Healthy waterways and clean beaches

OBJECTIVE 1: We'll contribute to healthy waterways and clean beaches in delivering our services to safeguard ecosystems that our communities can continue to enjoy

We aim to meet this objective through establishing priority outcomes and targets. Aspirational short and long-term targets are listed below. We will implement the following actions in 2019–20.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	1.1 Balance the needs for healthy rivers and a growing city by managing water cycle outcomes.	Contribute to developing a new framework for licensing of nutrients to maintain and protect the health of the Hawkesbury-Nepean River system.	<ul style="list-style-type: none"> • Support the Environmental Protection Authority (EPA) in developing a new regulatory framework for the Hawkesbury Nepean. • Ensure new environmental management approaches are appropriately funded and regulated.
	1.2 Collaborate to improve waterway health and amenity and manage access.	Establish a new framework to plan, deliver and evaluate water sensitive urban design projects in collaboration with local government and catchment groups.	<ul style="list-style-type: none"> • Complete relevant integrated water management (IWM) (adaptive pathway) planning projects (including water sensitive urban design considerations): <ul style="list-style-type: none"> ○ Epping to St Leonards ○ Wilton ○ Menangle. • Progress planning for waterway health improvement projects. • Build capability to plan IWM (adaptive pathways).

Timeframe	Priority outcome	Target	Actions
	1.3 Reduce environmental impacts of our discharges.	See our work contribute to over 90% of coastal and estuarine beaches classified as having 'very good' or 'good' recreational water quality (as measured by Beachwatch).	<ul style="list-style-type: none"> • Finalise stage 1 planning work for identified wet weather overflow abatement (WWOA) projects: <ul style="list-style-type: none"> ○ Upper Parramatta catchment assessment ○ Mid Parramatta catchment assessment ○ Lane Cove catchment assessment ○ Lower Middle Harbour and Mosman Peninsular catchment assessment ○ Prospect catchment assessment. • Commence stage 2 planning work for identified WWOA projects: <ul style="list-style-type: none"> ○ Source control works on Sydney Water assets for Upper Parramatta, Mid Parramatta, Lane Cove, Prospect, Lower Middle Harbour and Mosman Peninsular catchments ○ Emergency Relief Structure (ERS) rationalisation for Lower Middle Harbour and Mosman catchment ○ Georges River Effluent Diversion Scheme (GREDS) optimisation for Prospect catchment. • Continue Malabar system planning to evaluate different servicing concepts for the Malabar Wastewater System with an applied adaptive planning approach.
	1.4 Use leading edge science and research to benefit waterways.	Develop and share our capability in innovation monitoring and modelling to protect aquatic environment and public health outcomes for major Sydney waterways.	<ul style="list-style-type: none"> • Develop and commence a position statement as part of the Waterways masterplan. • Sample and analyse data for the monitoring approach for wet weather overflows. • Continue to develop online and analytic monitoring of water and wastewater systems to enable proactive management of our networks to reduce impacts to our customers.

Timeframe	Priority outcome	Target	Actions
	1.5 Maintain reliability of our infrastructure to ensure we meet environmental obligations.	Continue to work towards 100% of wastewater volume treated that is compliant with our environment protection licences (from current performance of over 99%).	<ul style="list-style-type: none"> Investigate the cause and effect of increased oil and grease inflow to Bondi, Malabar and North Head wastewater treatment plants. Implement the pollution reduction program (PRP) study for the trial pilot-scale wetland project at Picton. Finalise Picton effluent management strategy. Continue Malabar system planning to maintain reliability of North Georges River Submain (NGRS) and Southern & Western Suburbs Ocean Outfall Sewer (SWSOOS).
	1.6 Incorporate environmental safeguards more effectively to reduce risks and communicate incidents impacting waterways.	Improve our prevention and response to dry weather overflows.	<ul style="list-style-type: none"> Continue rolling out new approaches to detecting, predicting, and improving prevention and response to dry weather overflows. Review strategies and plans to support the achievement of our desired outcomes for dry weather overflow to waterways. Implement the Environment Performance Improvement Program to address dry weather overflows
By 2030 we aspire to:	1.7 Support a risk-based approach to manage cumulative impacts of development and improve catchment and waterway health.	Work collaboratively to support the swimmability goals for the Parramatta River by 2025.	<ul style="list-style-type: none"> Act as the lead coordinating agency to drive delivery of the Parramatta River Masterplan. Continue to integrate Parramatta River Masterplan outcomes (swimmability) into our servicing strategies.

Timeframe	Priority outcome	Target	Actions
	1.8 Understand impacts and prioritise improvements considering all discharge sources to waterways.	See our work contribute to increased proportion of waterways meeting community expectations and environmental objectives ¹ .	<ul style="list-style-type: none"> • Complete trial stormwater ingress source control project to meet the Wolli Creek pollution reduction program (PRP). • Execute Final Waterways Masterplan Implementation Plan. • Invest in monitoring and modelling tools to predict environmental impacts, enabling us to be more proactive in our management decisions.
	1.9 Collaborate to integrate water services with city planning.	Enhance integrated water planning by working collaboratively with government agencies and stakeholders.	<ul style="list-style-type: none"> • Continue applying integrated water management principles to help identify optimal and adaptable servicing pathway(s) in the regional servicing master plans.

¹ Key indicators in Sydney Water's Sewage Treatment System Impact Monitoring Program

Create resilient and liveable places

OBJECTIVE 2: We'll increase our resilience to a changing climate, connect with customers and use water in the landscape to shape liveable places

We aim to meet this objective through establishing priority outcomes and targets. Aspirational short and long-term targets are listed below. We will implement the following actions in 2019–20.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	2.1 Enhance our resilience to ensure continuity of services in a changing and variable climate.	Assess 100% of our climate risk interdependencies with transport, power and other services.	<ul style="list-style-type: none"> Ongoing implementation of Cross-Dependency Initiative (XDI) including identify initiatives for potential cost sharing solutions with other critical infrastructure providers.
	2.2 Incorporate customers' environmental needs and values into our decisions and regulatory submissions.	Engage with our customers to understand what they need and value, including environmental considerations, from across our services.	<ul style="list-style-type: none"> Develop an ongoing customer engagement program.
	2.3 Build sustainable water and wastewater behaviours through our education programs.	Measure increased customer satisfaction (positive environmental responses), awareness and behavior with our customer research.	<ul style="list-style-type: none"> Continue customer research to measure increased customer satisfaction, awareness and behaviour. Continue to roll out community awareness programs to increase understanding of roles in keeping our wastewater system healthy. Working with media and industry stakeholders to encourage informed coverage of environmental related issues. Continue to educate the community on water efficiency and the importance of valuing water as a precious resource.

Timeframe	Priority outcome	Target	Actions
	2.4 Play a leading role in urban water infrastructure strategy and reforms.	Work closely with agencies to include an integrated water management cycled approach in the infrastructure strategy for the South Creek corridor.	<ul style="list-style-type: none"> Support Infrastructure NSW to complete Stage 2 of the strategic options business case to implement Cabinet recommendations. Work with WaterNSW and Department of Planning & Environment to include an integrated water cycle management approach in the Greater Sydney Water Strategy and supporting plans.
	2.5 Improve local amenity to support safe, healthy and inclusive communities.	Deliver programs that manage the odour, noise and visual impacts of our operations.	<ul style="list-style-type: none"> Continue to implement odour management plans.
By 2030 we aspire to:	2.6 Collaborate and share knowledge to enable water sensitive cities of the future.	Be recognised by our stakeholders as working in partnership with them, as measured by our annual corporate stakeholder perception audit.	<ul style="list-style-type: none"> Support the delivery of water-related priorities identified in the District and Regional Plans in collaboration with the Greater Sydney Commission (GSC), and using our joint 'Water in Western Sydney' forum. Engage with Western City Councils, communities/developers, and the Western Sydney Planning Partnership to be Master Planners (collaborate, improve knowledge, make integrated cost effective decisions) in the delivering of water infrastructure that aligns with the vision for the Western Parkland City.

Timeframe	Priority outcome	Target	Actions
	2.7 Collaborate on climate adaptation to create shared solutions for our communities.	Be a benchmark leader for climate readiness and service continuity to contribute to our communities being more resilient to a changing climate ² .	<ul style="list-style-type: none"> Continue to implement the Climate Change Adaptation Implementation Plan including incorporating outcomes from the AdaptWater™ tool to embed climate change preparedness within Sydney Water. Participate in the NSW Government's Sustainability Bonds Programme to contribute to a low carbon economy and meet broader environmental and sustainability goals.
	2.8 Enhance liveability through the use of water in the landscape to help connect, cool and green our places.	<p>Deliver servicing strategies that support the Green Grid³ priority opportunities and future connections.</p> <p>Deliver programs that provide multiple benefits from flood planning and management.</p>	<ul style="list-style-type: none"> Continue project investigating alternative provision of water and wastewater services in the Greater Parramatta to Olympic Peninsula (GPOP) area. Complete adaptive pathway planning for the Western Sydney sub-region.

² Objective identified in NSW Climate Change Policy Framework, 2016, Office of Environment and Heritage

³ Green Grid for Greater Sydney in the draft Greater Sydney Region Plan and District Plans, 2017, Greater Sydney Commission

Care for nature, land and heritage

OBJECTIVE 3: We'll protect and restore valuable biodiversity and share the natural spaces, land and heritage in our care with the community.

We aim to meet this objective through establishing priority outcomes and targets. Aspirational short and long-term targets are listed below. We will implement the following actions in 2019–20.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	3.1 Conserve natural environments and cultural heritage in our care.	Consolidate and renew our strategic plans of management for cultural heritage and natural environments (including riparian lands and wetlands).	<ul style="list-style-type: none"> Routine grounds maintenance incorporating the protection and enhancement of environmentally sensitive sites. Renew Plan of Management for Rouse Hill Trunk Drainage Lands. Deliver prioritised projects in line with Sydney Water's Strategic Heritage Asset Management Program (SHAMP).
	3.2 Reveal and restore natural waterways and landscapes.	Implement programs to reinstate more natural conditions in highly modified waterways. Achieve net gain in area of native vegetation restored year on year.	<ul style="list-style-type: none"> Progress the naturalisation of stormwater channels at Johnson Creek, Glebe; Whites Creek, Annandale; Muddy Creek, Rockdale, St Lukes Park, Canada Bay and Iron Cove Creek, Haberfield.
	3.3 Responsibly manage land contamination and hazardous building materials to prevent risk of harm.	Have clear outcomes and milestones for site clean-up or management established for all declared contaminated sites on our land.	<ul style="list-style-type: none"> Continue risk ranking and investigation of all land lots to manage contaminated land risk. Continue assessment and remediation of hazardous building materials across property portfolio.

Timeframe	Priority outcome	Target	Actions
	3.4 Support our people to live our environmental values every day.	Have over 90% of staff complete environmental awareness training and communicate how we care for the environment.	<ul style="list-style-type: none"> Continue to encourage completion of Environmental Accountabilities eLearning, and further develop our environmental communications program. Deliver a tailored environmental awareness training program for wastewater operational staff.
By 2030 we aspire to:	3.5 Include learnings from Aboriginal knowledge of Country in our programs to improve conservation outcomes and build relationships	Enhance our strategic engagement with recognised knowledge holders to inform our planning and community projects	<ul style="list-style-type: none"> Use the Aboriginal Places Decision Tool for proposed activities. Develop a framework for strategic engagement with Local Aboriginal Land Councils (LALCs) and Indigenous Land Use Agreements (ILUAs) to inform strategic/regional planning. Incorporate knowledge of Country in the design of the Port Kembla seawall project.
	3.6 Share our land and heritage in our care with the community to support liveable places.	Increase the availability of our land for agreed community use or public open space year on year.	<ul style="list-style-type: none"> Continue identifying opportunities to develop community assets on our land and form land-use agreements for priority sites with local councils, developers and government.
	3.7 Look to create value from our green infrastructure ⁴ to maintain ecological health.	Identify and where feasible, create biobanking, green offset or other opportunities to fund green infrastructure.	<ul style="list-style-type: none"> Continue to develop Sydney Water's biodiversity offset portfolio.

⁴ Green infrastructure principles identified in the draft Greener Places, 2017, Office of the Government Architect NSW

Timeframe	Priority outcome	Target	Actions
	<p>3.8 Identify and prepare for emerging contaminants of concern</p>	<p>Collaborate on shared responses, as needed, to risks to land and waterways from microplastics and emerging chemicals of concern.</p>	<ul style="list-style-type: none"> • Implement Research and Innovation strategy initiatives related to emerging contaminants. • Continue to assess and identify risks from emerging contaminants to our sites - risks to site users.

Efficient and sustainable resource use

OBJECTIVE 4: We'll use our resources wisely, work with customers to save water and increase our recovery of energy towards net-zero emissions.

We aim to meet this objective through establishing priority outcomes and targets. Aspirational short and long-term targets are listed below. We will implement the following actions in 2019–20.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	4.1 Work with customers and invest in economically efficient water conservation.	Develop and implement a Water Conservation Program.	<ul style="list-style-type: none"> Annually update and report on our Water Conservation Plan. Establish a Water Efficiency Program with a focus on improving and developing customer products, services and communications to help reduce potable water usage in prioritised areas. Continue introducing new approaches to improve leak detection from our water network.
	4.2 Drive low-carbon, energy efficient and demand responsive water infrastructure and services.	Maintain our grid-sourced electricity demand below 1998 levels.	<ul style="list-style-type: none"> Develop cost-effective energy efficiency and renewable energy projects. Develop energy performance standards for planning and design of facility projects. Continue to update the National Australian Built Environment Rating System (NABERS) energy rating for our offices.
	4.3 Beneficially recover and re-use resources and reduce waste to landfill.	Identify alternative uses for biosolids recovered from wastewater treatment to maintain 100% beneficial use of biosolids.	<ul style="list-style-type: none"> Implementation of the Bioresources Master Plan. Characterise material that has potential resource value. Engage with EPA to overcome regulatory barriers for new products entering re-use markets.

Timeframe	Priority outcome	Target	Actions
		Improve our overall solid waste recycling rate by responsible re-use of our recoverable resources.	<ul style="list-style-type: none"> Engage with industry to identify potential markets. Continue to investigate alternate beneficial use markets (mine rehabilitation & forestry) for biosolids with key suppliers. Continue to increase the re-use of different types of waste collected from Sydney Water activities, excluding biosolids.
	4.4 Work with suppliers and contractors towards a smaller ecological footprint.	<p>Obtain sustainability benchmark ratings for all major infrastructure projects.</p> <p>Reduce our ecological footprint per customer year on year.</p>	<ul style="list-style-type: none"> Continue to progress an independent sustainability 'as built' rating using the Infrastructure Sustainability (IS) Rating Tool administered by the Infrastructure Sustainability Council of Australia (ISCA) for St Marys and Quakers Hill Water Recycling Plants PARR project, part of the Lower South Creek treatment program. Progress preliminary ISCA scorecard containing indicative credit weightings and target performance levels for the proposed Prospect WFP upgrade project.
By 2030 we aspire to:	4.5 Contribute to future sustainable and resilient water supplies.	Develop innovative servicing solutions that make the best use of water for priority growth areas, considering recycled water, stormwater and decentralised approaches.	<ul style="list-style-type: none"> Continue to develop and implement Water Master Plan to feed into 2020 Greater Sydney Water Strategy. Develop a long term capital and operational plan jointly with WaterNSW. Implement Sydney Water's responsibilities under the Greater Sydney Urban Water Framework, including contributing to developing the Greater Sydney Water Strategy in collaboration with Department of Planning and Environment and through the Water Coalition. Deliver drought response management measures under with the Metropolitan Water Plan, if the drought continues.

Timeframe	Priority outcome	Target	Actions
	4.6 Reduce our carbon emissions to help meet NSW's aspirational objective of net-zero emissions by 2050 ⁵ .	Provide 75% of our electricity demand from net-zero emissions sources, and 100% by 2050.	<ul style="list-style-type: none"> Implement Energy Master Plan Initiatives.
	4.7 Harness research and innovation to increase our use of renewable energy.	<p>Achieve 35% of our electricity demand from self-generated renewable electricity.</p> <p>Support precinct-based initiatives to increase renewable energy, and energy and water efficiency.</p>	<ul style="list-style-type: none"> Implement Research and Innovation Strategy initiatives to continue to identify potential opportunities for innovative renewable energy applications.
	4.8 Explore innovative waste management to support the development of a circular economy.	<p>Increase our recovery of energy using externally-sourced organic wastes</p> <p>Move towards energy self-sufficiency at our major wastewater treatment plants.</p>	<ul style="list-style-type: none"> Implement circular economy process. Continue improving scientific knowledge of food waste co-digestion by continuing the food waste research program and research into improving biogas quality.

⁵ Objective identified in NSW Climate Change Policy Framework, 2016, Office of Environment and Heritage

