

Our Environment Plan 2018–19

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

1 Introduction

This plan outlines the actions we will take in 2018–19 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.

This year the plan aligns to our newly developed 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 2018–19.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	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.	<p>Support the Environment Protection Authority (EPA) in developing a new regulatory framework for nutrient management in the Hawkesbury-Nepean River System. Continue investigating a suite of measures including nutrient offsets to protect the river.</p> <p>Support the EPA in the development of the operational protocol for nutrient offsets in the Hawkesbury-Nepean River system.</p> <p>Work with IPART to determine an appropriate approach for the regulatory treatment of expenditure on various forms of nutrient offset projects.</p>
	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.	<p>Build our capability to plan and deliver integrated water cycle management and water-sensitive urban design solutions that our communities value.</p> <p>Progress waterway health improvement projects, consistent with the Waterway Improvement Strategy.</p>

Timeframe	Priority outcome	Target	Actions
	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).	<p>Assess the following six catchment areas to verify the risk of wet weather overflow impacts to the environment and community and identify works to reduce risk:</p> <ul style="list-style-type: none"> • Lane Cove River • Upper Parramatta River • Mid-Parramatta River • Prospect Creek • Lower Middle Harbour • Mosman Peninsula
	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.	<p>Continue scientific pilot studies to inform a new monitoring approach for wet weather overflows. Pilot studies are required to obtain statistically valid data to determine the sensitivity of proposed methodologies.</p> <p>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.</p>
	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%).	<p>Develop and apply a planning framework to inform the capital works optimisation process, including an assessment of lifecycle costs, environmental factors and wider economic values and benefits.</p> <p>Implement a tertiary nitrogen removal process unit and wetland treatment pilot project at Picton Water Recycling Plant.</p>

Timeframe	Priority outcome	Target	Actions
	Incorporate environmental safeguards more effectively to reduce risks and communicate incidents impacting waterways.	Enhance our prevention and response to dry weather overflows.	Introduce new approaches to detecting, predicting and improving prevention and response to dry weather overflows.
By 2030 we aspire to:	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.	Collaborate with State government and local councils to integrate Parramatta River Masterplan outcomes (swimmability) into our servicing strategies.
	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 .	Review and update the Sewage Treatment System Impact Monitoring Program (STSIMP) to better target the impact of wastewater discharge on the environment.
	Collaborate to integrate water services with city planning.	Enhance integrated water planning by working collaboratively to deliver the WaterSmart Cities program ² .	Apply integrated water management principles to regional water supply planning, to identify and realise financial, environmental and social opportunities.

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

² WaterSmart Cities program detailed in 2017 Metropolitan Water Plan, Metropolitan Water Directorate

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 2018–19.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	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.	Continue to implement the Climate Change Adaptation Implementation Plan including incorporating outcomes from the AdaptWater™ tool to embed climate change preparedness within Sydney Water.
	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.	Implement customer engagement plan.
	Build sustainable water and wastewater behaviours through our education programs.	Measure increased customer satisfaction (positive environmental responses), awareness and behavior with our customer research.	<p>Develop a communications program to increase community understanding of their role in keeping Sydney's wastewater system healthy.</p> <p>Educate the community about the environmental, health and financial benefits of tap water.</p> <p>Work with industry, associations, retailers and other stakeholders to reduce pollutants affecting waterways and beaches.</p>

Timeframe	Priority outcome	Target	Actions
			Run community engagement programs supporting Sydney Water projects focused on improving waterway health.
	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.	Support and influence the Infrastructure NSW (INSW) South Creek Corridor Sector Review. Prepare a strategic business case for a different approach to greenfield urban development and water services.
	Improve local amenity to support safe, healthy and inclusive communities.	Deliver programs that manage the odour, noise and visual impacts of our operations.	Complete the strategic management plans for Sydney Water's odour management strategy to proactively address odour issues for Wollongong, Bondi, Cronulla, Shellharbour, Glenfield and Malabar systems.
By 2030 we aspire to:	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.	Determine opportunities for Sydney Water to support the delivery of priorities identified in the Greater Sydney Region and District Plans and engage with planning authorities such as Councils on strategic planning decisions related to water sensitive cities.
	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 ³ .	Partner with the NSW Office of Environment and Heritage and other NSW government agencies on the Cross-Dependency Initiative (XDI) to identify interdependency risks to critical city infrastructure from extreme weather events and climate change.

³ Objective identified in NSW Climate Change Policy Framework, 2016, Office of Environment and Heritage

Timeframe	Priority outcome	Target	Actions
	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 Grid⁴ priority opportunities and future connections.</p> <p>Deliver programs that provide multiple benefits from flood planning and management.</p>	Investigate alternative supply of water and wastewater services in the Greater Parramatta to Olympic Peninsula (GPOP) area.

⁴ 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 2018–19.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	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).	Routine grounds maintenance incorporating the protection and enhancement of environmentally sensitive sites. Revision of Sydney Water's Strategic Heritage Asset Management Program (SHAMP); prioritised projects aligned to IPART determination periods.
	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.	Progressing the naturalisation of stormwater channels at Powells Creek, Homebush; Johnson Creek, Glebe; Whites Creek, Annandale; Muddy Creek, Rockdale, St Lukes Park, Canada Bay and Iron Cove Creek.
	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.	Further develop technology to capture and access hazardous building material information for our properties. Undertake a Contaminated Land Risk Ranking of our property portfolio. Assess all potentially high-risk sites (detailed site investigations) in FY 18-19.

Timeframe	Priority outcome	Target	Actions
	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.	Roll out refreshed Environmental Accountabilities eLearning, and further develop our environmental communications program.
By 2030 we aspire to:	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.	Identify opportunities to develop community assets on our land and form land-use agreements for priority sites with local councils, developers and government. Potential community assets on our land include bike paths, greenspace, urban gardens, bush care and public walkways. Identify sites that may be of value to local community.
	Look to create value from our green infrastructure ⁵ to maintain ecological health.	Identify and where feasible, create biobanking, green offset or other opportunities to fund green infrastructure.	Develop Sydney Water's biodiversity offset portfolio.
	Identify and prepare for emerging contaminants of concern	Collaborate on shared responses, as needed, to risks to land and waterways from microplastics and emerging chemicals of concern.	Identify and prepare for contaminants of emerging concern to protect Sydney's waterways. Assess and identify risks from emerging contaminants (PFOS / PFAS) to our sites - risks to site users.

⁵ Green infrastructure principles identified in the draft Greener Places, 2017, Office of the Government Architect NSW

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 2018–19.

Timeframe	Priority outcome	Target	Actions
By 2020 we will:	Work with customers and invest in economically efficient water conservation.	Develop and implement a Water Conservation Program.	<ul style="list-style-type: none"> Implement Water Conservation Plan initiatives. Introduce new technologies to improve leak detection in our water network.
	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"> Update the National Australian Built Environment Rating System (NABERS) energy ratings for our offices. Develop cost-effective energy efficiency and renewable energy projects.
	Beneficially recover and re-use resources and reduce waste to landfill.	<ul style="list-style-type: none"> Identify alternative uses for biosolids recovered from wastewater treatment to maintain 100% beneficial use of biosolids. Improve our overall solid waste recycling rate by responsible re-use of our recoverable resources. 	<ul style="list-style-type: none"> Increase re-use of different types of waste collected from Sydney Water activities, excluding biosolids. Develop a Resource Master Plan to define our approach to recovery, re-use and disposal of resources to meet Sydney Water's strategic objectives.

Timeframe	Priority outcome	Target	Actions
	Work with suppliers and contractors towards a smaller ecological footprint.	Obtain sustainability benchmark ratings for all major infrastructure projects. Reduce our ecological footprint per customer year on year.	Progress an independent sustainability rating using the Infrastructure Sustainability (IS) 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 Water Filtration Plant upgrade project.
By 2030 we aspire to:	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.	Develop our Water Masterplan. Deliver Sydney Water's actions in the Metropolitan Water Plan.
	Reduce our carbon emissions to help meet NSW's aspirational objective of net-zero emissions by 2050 ⁶ .	Provide 75% of our electricity demand from net-zero emissions sources, and 100% by 2050.	Implement our Energy Masterplan initiatives.
	Harness research and innovation to increase our use of renewable energy.	Achieve 35% of our electricity demand from self-generated renewable electricity.	Develop knowledge in innovative renewable energy storage to operate critical assets off the grid in extreme weather events.

⁶ Objective identified in NSW Climate Change Policy Framework, 2016, Office of Environment and Heritage

Timeframe	Priority outcome	Target	Actions
		Support precinct-based initiatives to increase renewable energy, and energy and water efficiency.	
	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>	Improve scientific knowledge of food waste co-digestion by continuing the food waste research program and commencing research into improving biogas quality

