



Joanne Chong
Commissioner
Productivity Commission
4 National Circuit
BARTON ACT

Sydney Water's submission to the 2024 inquiry into Urban Water Reform

Dear Commissioner Chong

Thank you for providing Sydney Water the opportunity to comment on the 2024 inquiry into Urban Water Reform and the National Water Initiative (NWI).

Sydney Water welcomes the Australian Government's commitment to renew the NWI. We agree that the current goal for the NWI - to improve the productivity and efficiency of our water sources, provide service to communities while improving waterway and environmental health – is sound. We agree the goal should be updated to better capture the challenges of climate change, and the need to provide better outcomes to First Nations people. Given the challenges facing Australia's water sector, we believe that improved federal leadership and enhanced state buy-in is essential.

We agree that the Productivity Commission's 2021 recommendations provide a strong and comprehensive basis for reform.

Our submission focusses on areas where the 2021 recommendations can be strengthened to address new pressures on water management, and areas where we believe practical action by governments can improve the implementation of the NWI. Sydney Water's submission focusses on the following areas:

- Better support for purified recycled water and water conservation
- Enhanced responses to climate change at all scales of water planning
- Better urban planning that integrates water, land use and transport infrastructure
- Supply chain security and bolstering the skills the water sector's labour force
- Enhance the Urban Water Services element of the NWI
- Holistic waterway, catchment and environmental management
- Improved and re-energised NWI governance and reporting
- Improve outcomes for First Nations People in water planning

A summary of our recommendations is contained in **Attachment 1** and our detailed discussion is contained in **Attachment 2**.

Sydney Water's priorities are consistent with the submission we provided the Commission in 2020. However, the case for reform and renewal have intensified since then. Climate change is having undeniable impacts on our cities, our urban water services and our waterways. Urban utilities continue to serve more customers, while facing cost and supply chain pressures. Through our comprehensive "Our Water Our Voice" customer engagement

program, we have heard clear evidence from customers that they expect higher and broader levels of service, improved environmental outcomes and cost-effective operations.

Our submission is informed by our position as Australia's largest water utility with a significant influence across our region. We provide water and wastewater services to more than 20 percent of Australians and have a regulated asset base of over \$21 billion.

We supply services to customers across an area of nearly 13,000 km² and source water from catchments that span an area from Goulburn and southeast of Canberra, to Lithgow and to the top of the Illawarra escarpment. Our essential water services underpin a regional economy that accounts for at least a quarter of Australia's GDP.

Based on our long-term forecasting, we expect to invest \$34 billion in assets between 2024 and 2033. This is more than four times the capital expenditure we have made in recent times. Almost half of our investment will deliver new residential services in rapidly growing areas across Greater Sydney. Significant investment is also required to renew our existing assets, while building a new water supply source to close the growing gap between water supply and water demand. We will also be investing in stormwater services in Western Sydney to protect waterway health, create cooler and greener communities, and begin developing Australia's largest stormwater harvesting project.

In addition to our water and wastewater services, we provide trunk stormwater drainage to about 15 percent of urban Sydney. We purchase bulk water from WaterNSW and are also licenced for our own river extractions. We are responsible for supply augmentation planning in Sydney, and the delivery of water conservation and efficiency programs. We are partners in the development of NSW Government water sharing and urban water strategies, we work with government and developers to provide new residents with timely access to water services, and we partner with local governments and NGOs.

Despite the challenges our sector faces, we embrace the opportunity of collaborating with all stakeholders and all levels of government to deliver on our vision of a better life with world class water services.

We look forward to participating in the next steps of national water reform. Please contact me if you would like to further discuss any of the issues raised by Sydney Water in our submission.

Yours sincerely

Roch Cheroux

Managing Director

Attachment 1 – Summary of Sydney Water’s recommendations

Sydney Water recommendation	Relevant Productivity Commission Renewal Advice (2021)
Better support for purified recycled water and water conservation	
<p>Provide further support to improve the adoption of purified recycled water as a viable, safe option for supply augmentation.</p> <ul style="list-style-type: none"> • Develop national objectives for water supply security for urban areas, including measures of rainfall independent water supply. • Improve information sharing and analysis, including authoritative and government-endorsed guidance on costs and benefits of PRW and treatment effectiveness. • Provide foundational planning advice that builds on the learnings of PRW implementation by major utilities. • Provide clear national guidance to improve consistency of approach by state health regulators and drive a review of national recycled water guidelines. <p>Re-energise support for water conservation and drought resilience.</p> <ul style="list-style-type: none"> • NWI to support a baseline level of support for water conservation to build and maintain water conservation capability and capacity. • Harmonise water conservation related product standards to accelerate the adoption of proven overseas new technologies into the Australian market. • Elevate the importance of water efficiency in the built environment by mirroring existing energy efficiency regulation – for example in a NABERS water efficiency rating. • Require governments to lead by example, by including water efficiency requirements in procurement, and mandating water efficiency standards for government owned properties and business processes. • Provide awareness and appropriate incentives to businesses and public services to be prepared for drought. 	<p><i>NWI Renewal Advice 12.1: Best Practice Urban Water System Planning</i></p> <p><i>NWI Renewal Advice 16.1: Effective Knowledge Generation</i></p> <p><i>NWI Renewal Advice 14.1: A New Water Infrastructure Element</i></p>
Enhance response to climate change at all scales of water planning	

<p>NWI to improve consistent leadership and encourage collective action on carbon reductions and adaptation approaches in the water sector.</p> <ul style="list-style-type: none"> • Encourage consistent emission reductions targets (scope 1 and 2) for utilities. • Share best practice and expertise in emission reduction approaches. • Provide more practical support for the implementation of rainfall independent sources of urban water supply. • Provide national guidance on the interdependencies between different infrastructure types, such as water, energy and drainage. • Provide greater support for rainfall independent sources of water, and increased effort on water conservation. • Highlight the benefits of return flows and provide policy frameworks for the improved recognition of return flows in entitlements planning. 	<p><i>NWI Renewal advice 3.1: A Modernised Goal</i></p> <p><i>NWI Renewal advice 8.1: Best Practice Environmental Objectives and Outcomes</i></p> <p><i>NWI Renewal advice 8.2: Integrated Management</i></p>
<p>Better urban planning that integrates water, land use and transport infrastructure</p>	
<p>Promote place based integrated planning, as an effective model to drive collaboration between utilities, state governments, local government and other land and asset owners.</p> <ul style="list-style-type: none"> • Advocate for the importance of water infrastructure being considered at the same level as other forms of urban infrastructure, such as roads and rail. • A whole-of-water-infrastructure co-ordinator role be established in jurisdictions, so all forms of water management and infrastructure are considered when servicing rapid growth. 	<p><i>NWI Renewal advice 8.2: Integrated Management</i></p> <p><i>NWI Renewal Advice 12.1: Best Practice Urban Water System Planning</i></p> <p><i>NWI Renewal Advice 14.1: A New Water Infrastructure Element</i></p>
<p>Supply chain security and bolstering the skills the water sector’s labour force</p>	
<p>Promote action to improve supply chain security for urban water utilities.</p> <ul style="list-style-type: none"> • Support more proactive work by governments (particularly the Office of Supply Chain Resilience) to work with utilities to measure supply chain risk for key inputs and assess relevant impact and materiality. • Encourage government-led monitoring of critical supply chains for the urban water industry and proactive response to evidence of supply chain impacts. • Encourage management of inventories, based on the materiality of impacts and identified risks to supply chains. • Promote national action to improve quality assurance and quality control of products and their supply chains. 	<p><i>Renewal advice 16.1: Effective Knowledge Generation</i></p>

<ul style="list-style-type: none"> • Promote research into innovative and novel alternative sources for critical risk areas that would have a material impact on the Australian Economy. <p>Provide leadership to ensure the water sector has the trained, skilled staff required for the future.</p> <ul style="list-style-type: none"> • Link to the Australian Government’s skills and training investments programs. 	
<p>Enhance the Urban Water Services element of the NWI</p>	
<p>Continue to provide leadership to enable implementation of integrated water cycle management</p> <ul style="list-style-type: none"> • Ensure the urban water services element embedded in a renewed NWI identifies system objectives including environmental protection and waterway health, and liveability outcomes such as urban cooling and access to maintained green space. • Support precinct scale planning activities that meet regional or catchment scale objectives and targets, and within jurisdictions, encourage consistency in applying joined up land, infrastructure and water planning approaches. • NWI provide enhanced federal guidance on consistent approaches to urban stormwater management and harvesting and share best practice approaches from other jurisdictions.’ <p>Pricing, cost recovery and infrastructure contributions</p> <ul style="list-style-type: none"> • NWI policy and guidance on infrastructure contributions should include frameworks or principles that explicitly balance the needs of different stakeholders. • Ensure updates to the NWI don’t limit the ability of utilities to address equity issues. • Review policy approaches to regulation and trade in urban areas, where trade is being used to address deficiencies in regulated approaches, but markets are small and immature. The combination of regulation that is not fit for purpose and limited markets are hampering improved water outcomes. <p>Improved approaches to control pollution at source to improve resource recovery for urban water resources</p> <ul style="list-style-type: none"> • NWI provide leadership to improve regulation and management of chemicals that hinder resource recovery in the urban water sector. • NWI provide enhanced leadership and co-ordination for research and improvements in screening techniques. <p>Trade and urban water management</p>	<p><i>NWI Renewal Advice 12.1: Best-practice urban water system planning</i></p> <p><i>NWI Renewal Advice 7.3: Information to support efficient water markets</i></p>

<ul style="list-style-type: none"> NWI review approaches to regulation and trade in urban areas, and ensure they are achieving beneficial outcomes, and are proportionate to the impact being addressed. 	
<p>Holistic waterway, catchment and environmental management</p>	
<ul style="list-style-type: none"> The renewed NWI should establish clear environmental outcomes for water managers, and embed the value of holistic water, catchment and environmental management. Governments to take supporting action to clarify institutional responsibility for waterway management, including improving models within existing institutional settings, such as appointing a waterway coordinator to formalise collaboration. Governments to accelerate completion of water quality and flow objectives, so they can guide water planning at all scales. Clear urban waterway policy embedded in the NWI could guide funding. 	<p><i>NWI Renewal Advice 8.3: Waterway oversight</i></p> <p><i>NWI Renewal Advice 12.1: Best-practice urban water system planning</i></p>
<p>Improved and re-energised NWI governance and reporting</p>	
<ul style="list-style-type: none"> A refreshed NWI must be accompanied by more effective structures and organisational capability to implement the NWI. Renewed governance structures should reflect the role that urban utilities play in delivering upon the NWI. Commitments to implementing the NWI must be accompanied by funding from all levels of government. Enhance the data reporting component of the NWI and improve analysis, reporting and communication. 	<p><i>NWI Renewal Advice 4.1: Governance arrangements for a renewed NWI</i></p>
<p>Improve outcomes for First Nations People in water planning</p>	
<ul style="list-style-type: none"> NWI to promote effective and coordinated action to improve access to water entitlements in coastal catchments for First Nations people. Develop a state-wide Aboriginal water strategy, and the consultation that's occurring with Aboriginal communities to inform the update of NSW Water Quality Objectives. 	<p><i>NWI Renewal Advice 3.2: Modernised overarching objectives.</i></p> <p><i>NWI Renewal Advice 9.1: A new co-designed element</i></p> <p><i>NWI Renewal Advice 9.3: Improving access for economic development</i></p>

Attachment 2 – Sydney Water’s detailed discussion

1. Better support for purified recycled water and water conservation

The Commission’s terms of reference note that this 2024 inquiry provide an opportunity for the Commission to examine in more detail the issue of water security, as a key driver of national water reform. The Commission’s 2020 recommendations reiterate the importance of ensuring all options are considered when planning for water supply security.

We note the fundamental connection between the NWI objectives of water planning and urban water because most Australian urban centres are still largely reliant on rainfall and dams.

Further support required to improve adoption of purified recycled water

Purified recycled water (PRW) is the only option that enables principles for overall water planning and river outcomes to be met, provides supply security for our growing cities, and enables cost effective future management of large wastewater systems. PRW can cost effectively improve water security for both coastal and non-coastal urban communities.

We agree that an “all options approach” which diversifies water sources and embeds effective water conservation can help resolve the tension between achieving water supply security for growing cities, and the environmental and extraction objectives of the NWI.

We have made good progress on planning for PRW in Sydney. Some improvements to an “all options” approach to water planning that have occurred since our 2020 submission are listed below.

- The Greater Sydney Water Strategy (GSWS) has identified the need to plan for rainfall independent water supplied, including PRW and desalination as new supply sources, to enable Sydney to meet the challenges of population growth, climate change and drought. Under the Sydney Urban Water Framework, Sydney Water has responsibility for augmentation planning, and our [Long Term Capital and Operational Plan](#) (LTCOP) identifies PRW as a key mechanism to provide water supply security, bolster rainfall independent supply, and cost-effectively provide services for a rapidly growing customer base.
- Future investments have been identified in our LTCOP include PRW schemes at Liverpool and Glenfield, and Quakers Hill, as well as a new Water Resource Recovery Facility at Camellia. We are currently delivering a new Advanced Water Recycling Centre at Upper South Creek that will provide highly treated return flows to the Nepean River. We are planning for an Upper Nepean Advanced Water Resource Recovery Facility to be built before 2033.
- We recognise the need for engagement and consultation with customers and communities about PRW for drinking. Sydney Water has recently opened its Purified Recycled Water Demonstration Plant at Quakers Hill. Since late November 2023, over 500 stakeholders have visited the plant, and community visits are set to begin later in 2024. This plant reflects best practice as pioneered by our peers in other Australian utilities and it will help build acceptance for PRW as a supply source and improve water literacy. We know our customers think a secure water supply is the most important priority for Sydney Water, closely followed by priorities for environmental protection. However, many customers are still more comfortable with “status quo” water supplies; some question the effectiveness and reliability of PRW treatment processes; and the need for augmentation of our water supply is not fully understood by all customers.

To support utilities' implementation of PRW, the NWI can reduce planning and delivery risk via:

- driving common policy support by all Ministers, re-affirming support for PRW as a viable, safe option for supply augmentation.
- developing national objectives for water supply security for urban areas. This should include a measure of the percent of rainfall independent water sources (including PRW and desalination) used by each utility.
- improved commitment and improved processes for information sharing and analysis.
- the development of authoritative and government-endorsed guidance on costs and benefits of PRW and treatment effectiveness, and consistent guidance on how to conduct risk-based assessment.
- working to close gaps in information, risk assessment and planning practice that can inhibit adoption of PRW. This can be done by providing foundational planning advice that builds on the learnings of major utilities. This will also improve the efficiency of PRW implementation.
- providing clear national guidance that can improve consistency of approach by state health regulators (as discussed below).

Sydney Water has conducted detailed planning work to ensure that our proposals for future PRW schemes meet current guidelines and satisfy the risk-based approach of current recycled water guidelines. Sydney Water considers that this is a sensible investment in foundational planning, and that it will need to be repeated for future schemes.

We are aware that under current arrangements and according to current guidelines, each water utility has to re-address technical arguments and create substantial technical evidence to demonstrate safety. We are conscious that the complexity and depth of planning might be prohibitive for smaller and regional utilities, and this may hamper the adoption of cost-effective water supply options in centres, even those with critical water supply shortfalls. This may be particularly an issue for those towns who lack access to robust dam supplies and require more rainfall independent water supplies.

Therefore, we recommend that the NWI improve knowledge sharing, and build upon the foundational planning work that major utilities have already conducted. The NWI can improve ease of adoption nationally by improving consistency of approach by state-based regulators. Reducing planning and regulatory rework will reduce these barriers to adoption and improve the cost effectiveness of PRW planning.

Sydney Water is also aware that Australia's national recycled water guidelines must be refreshed to update the guidelines to recognise new science and align with international good practice, in light of Australia's increasing need for supply augmentation:

- Phase 1 guidelines (managing health and environmental risks) were last updated in 2006. Consultation was conducted in 2020, but the updates have not been completed. The water sector needs more regular, and timely updates with transparent timeframes and processes.
- Phase 2 guidelines (augmentation of drinking water guidelines) also contain documents dating from 2006 and 2009. Key gaps include the range of new approaches to augment drinking water supplies, and current technologies and approaches. As the guidelines are out of date, and responsibility for maintaining them and updating them has been unclear, industry and research organisations are stepping into the breach. Sydney Water supports the work that Water Research Australia has recently conducted to inform future reviews of the Phase 2 stormwater

guidelines, identifying gaps in the guidelines and providing contemporary information on source quality.

Responsibility for the update and maintenance of the guidelines must rest with the Australian Government, with suitable funding allocated. Given the importance of PRW as a supply source and increasing use of stormwater harvesting as a place-based approach to supply resilience, the national recycled water guidelines must be reviewed urgently and updated in step with changes to the drinking water guidelines.

We also note that in 2015, a senate enquiry into Stormwater Management in Australia recommended a “National Stormwater Initiative” be developed, and that the Australian Government restore funding for stormwater research. The inability to deliver on these recommendations provides further evidence of the need for greater leadership via a refreshed NWI and new governing organisation.

Re-energising support for water conservation and drought resilience

We strongly advocate for renewed leadership and practical support for water conservation and efficiency.

Sydney Water’s LTCOP acknowledges the role investment in water conservation has played in avoiding the need to build new drinking water supplies since the end of the Millennium Drought. On average, every person in Sydney uses around 36% less water than they did in the early 2000s. Investment in water conservation has also avoided the need for augmentation of our wastewater assets, as a result of reduced dry weather flows.

The NSW State Water Strategy and the GSWS have also highlighted the importance of water conservation to make the most of the resources and assets we have. In the GSWS, a joint action for Sydney Water and NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) is the delivery of 38GL of drinking water savings by 2030, growing to 49GL by 2040. Given the scale of savings identified, we believe that government support for policy and market transitions that will have long lasting public benefits is warranted.

The Commonwealth’s Water Efficiency Labelling and Standards scheme (WELS) is a key mechanism to deliver cost-effective water savings to our communities. There is an opportunity to increase the voice of water managers, such as water utilities, and product end users in WELS. This may drive further improvements and water savings from the scheme through the provision of on-ground insights and consideration of the associated costs and/or benefits of changes to WELS may have on future customer bills.

The National Australian Built Environment Rating Scheme (NABERS) provides another opportunity to improve water efficiency of buildings and increase the drought resilience of our non-residential customers. We acknowledge the recent efforts to expand the scope and uptake of NABERS. Unlike energy efficiency ratings, water efficiency ratings continue to be optional, not mandatory. The Building Energy Efficiency Certificate (BEEC) mandates a NABERS energy rating as part of certification. There is an opportunity for BEEC to also mandate the uptake of NABERS water efficiency rating.

More generally, there is a need to provide leadership and ongoing support to maintain and grow water conservation activities delivered by government, utilities and the market. A baseline level of activity and investment is required to ensure that continual improvements in efficiency levels and minimum standards, and to build and maintain the capacity and capability of professionals in relevant industries, such as plumbing, to embed water conservation. Doing so, will build greater community resilience to drought, reducing social and economic impacts of drought.

Greater Sydney contributes to around one quarter of Australia’s economic Gross Domestic Product. Over the last 20 years Sydney has been in drought almost 50% of the time.

Restricting water use in drought, particularly to our business and public service customers, can come at significant economic and social costs.

Building the resilience in our water supply, and the drought resilience of our customers will help our communities to manage future droughts and reduce the need for severe water restrictions. Our experience from previous droughts has shown that business customers may be prepared to invest to make the necessary operational changes, however, they need more time and for some support to implement. There is an opportunity to build awareness of drought risk and provide appropriate support to businesses and the public service sector to plan ahead for drought making our communities and economy more resilient.

There are significant opportunities to expand and improve water conservation in urban communities through the adoption of innovative, yet proven, technologies available for use in overseas markets. Harmonising specific requirements of our local standards to similar European (EU) or United States of America (USA) standards which are non-material to core-design or capability concerns would reduce the barriers and accelerate adoption locally. For example, greywater treatment products must meet local water quality standards within allowable ranges, these values have tiny differences across jurisdictions. This issue is overcome in Europe and the United States through reciprocal acceptance of each other's water quality values and conformity assessments. This does not occur in Australia. As a result, Sydney Water has invested in product trials, such as Hydraloop, to build the required evidence base to support the introduction of new technologies into the Australian market.

In summary, our recommendations for water conservation and efficiency are:

- NWI to support a baseline level of support for water conservation, building and maintaining water conservation market capability and capacity no matter the weather conditions.
- Harmonise water conservation related product standards to accelerate the adoption of proven overseas new technologies into the Australian market.
- Elevate the importance of water efficiency in the built environment by mirroring existing energy efficiency regulation.
- Require governments to lead by example, by including water efficiency requirements in procurement, and mandating water efficiency standards for government owned properties and business processes.
- Provide awareness and appropriate incentives to businesses and public services to be prepared for drought.

Case study – Hydraloop technology trial

Since 2020, there has been an unprecedented rate of change within the domestic wastewater recycling market. Three entirely new approaches to small, domestic household scale grey water and whole of house water recycling solutions have been established, certified and deployed in sophisticated foreign markets (EU, USA and Japan, respectively).

[Hydraloop](#) is a lot scale wastewater recycling product available to the EU and USA markets. In Europe it has been shown to reduce drinking water demand of residential homes by 25-45% depending on household characteristics and behaviours. It is a small, enclosed system that collects and treats greywater for reuse and presents major opportunities in regional, outer metro and even inner-city areas across Australia.

Sydney Water has been investing in Hydraloop since 2021 and has been working with the manufacturer to build an evidence base to demonstrate practical and safe use in homes throughout Sydney. Due to minor differences in the Australian recycled water quality standard requirements compared to overseas standards a 6-month testing regime under local conditions to demonstrate compliance may still be required. This could cost over

\$100,000. The financial and time investment required presents a major barrier to many proponents of new technologies entering the Australian market. It is especially burdensome considering comparable testing has already been completed in other sophisticated jurisdictions.

We have learnt through this process that significant time and costs savings could be realised if local certification could be gained by default through harmonisation with appropriate international standards i.e., the introduction of a “mutual recognition agreement”.

2. Enhance responses to climate change at all scales of water planning and investment

Climate mitigation action

We strongly support the Commission’s 2021 recommendation that the NWI be refreshed to better consider climate change, with the addition of specific timely actions.

As highlighted by the Secretary-General of the United Nations, “Climate change is the defining issue of our time, and this is the defining time to act”. Proactive climate mitigation decisive actions made now will determine how the sector meets its initial commitments and influence its capacity to effectively address future obligations.

Sydney Water has a commitment of achieving Net Zero carbon emissions scope 1 & 2 (operational emissions) by 2030. Victorian utilities are also leading action, driven by Victoria’s Climate Change Act 2017.

Climate change is not boundary defined, and all water utilities will be impacted. Our sector is more vulnerable than most sectors due to energy intensive operations, the scale and intricacy of legacy infrastructure, the exposure of infrastructure to environmental impacts, and the need for rainfall independent water supplies. Water services is one of the largest contributors to government activity carbon emissions.

Customers are concerned about climate change. Evidence from Sydney Water’s recent customer engagement program is that customers want faster action than the current NSW Government target of net zero carbon emissions by 2050 and are willing to pay more for their water bills to achieve this.

As the NWI is a national blueprint for water reform, it provides an excellent opportunity to improve consistent leadership on carbon reductions in the water sector. In recent years, Australian Water Association (AWA) and WSAA (Water Services Association of Australia) have already supported climate mitigation actions amongst the water sectors. An amplified climate mitigation voice for water utilities is required.

To reflect the urgency of climate mitigation action, we recommend the NWI encourage consistent emission reduction targets scope 1 and 2 emissions for utilities of at least 2040, ideally sooner. Early sector-wide action to tackle scope 3 emissions (supply chain) will also accelerate water sector emissions reductions especially through the engagement of common tier 1 suppliers. This will have multiple benefits including accelerating the sector-wide substitution of low carbon materials, and low energy processes, and adopting consistent carbon reporting practice.

Many smaller, regional and remote utilities may not have the resources or expertise to invest in climate mitigation. The NWI has a vital role, along with other industry and advocacy organisations, in driving action by sharing best practice, and supporting smaller utilities with expertise, and potentially providing up-front-funding for cost effective investments.

Education is critical to driving action. NWI has an existing comprehensive dataset of historical emissions for the sector. There is an opportunity to analyse this dataset to drive insights and communication about the water sector's contribution to the government emissions profile, and further drive committed action. We further discuss opportunities to improve the analysis and communication of insights from NWI data in the governance section.

Climate change adaptation

As we noted in our 2020 submission, urban utilities have a key role in enabling our cities and our customers adapt to the impacts of climate change.

As discussed above, diversifying our city's water supply sources to include more purified recycled water, desalination and stormwater harvesting, is a vital adaptation that the NWI can better support.

However, the impacts of climate change on urban water services extend well beyond water supply variability. Sea level rise, storm surge and increasing intensity of rainfall are likely to have far reaching impacts on coastal water assets, including wastewater systems and stormwater systems. These assets provide essential services for a significant part of our customer base. Sydney Water is increasing our understanding of climate risk and prioritising our investment to address risks through our internal climate change adaptation position statement and guidebook, and climate change mitigation and adaptation plans as required by the NSW EPA, and likely new requirements in our Operating Licence.

Given that many water utilities will be facing the same challenges, and the long-term costs of mitigation will be high, we recommend this is an area where collective action driven by the NWI can improve the ability of Australia's water sector to understand risks and develop better decision making and investment frameworks to address them.

In our 2020 submission, we discussed the role that urban water management – including enhanced management of stormwater – can play in enabling communities to adapt to the local impacts of climate change and improving the resilience of urban environments.

We discuss practical ways a refreshed NWI can support more integrated water management in the Urban Water Services section of this submission.

We recommend the NWI provide national guidance on the interdependencies between different infrastructure types (for example, water, energy drainage). We also recommend the NWI promote place based integrated planning, as an effective model to drive collaboration between utilities, state governments, local government and other land and asset owners.

Improving consideration of climate change forecasts in all scales of water planning

Sydney Water believes the process of water allocation planning for Sydney's greater metropolitan area has improved. There has been better integration of climate change forecasts in both the Greater Sydney Water Strategy and the Greater Metropolitan Region Unregulated River Water Sources, for example.

We believe there are further opportunities to improve the integration of climate change forecasts in water sharing decisions. In Sydney Water's view, the review of Greater Metropolitan water sharing plans better assessed the risk to waterways of current and future extractions, compared to previous processes. However, we believe risk assessment processes can be improved to:

- formally include ongoing consideration of the impacts of climate change on water quantity and quality.
- the potential compounding impacts on changes to flow regimes.

- rising sea levels and their impacts on estuaries.

In water sources that also have significant urban areas, the risk assessment process should also include environmental risks arising from inputs of excessive urban stormwater, which will likely be exacerbated with urban growth and climate-change driven increases in rainfall intensity. This requires improvements to processes which have been focussed largely on extractions.

In NSW, there are adaptive management and amendment provisions that can be included in water sharing plans, and the Natural Resources Commission has responsibility for reviewing and auditing water sharing plans.

These provisions could be used to ensure plans reflect new data and growing understanding of the multiple impacts of climate change on water availability and waterway health in a more timely and effective way.

In Sydney, we believe a refresh of the NSW Water Advisory Panel could complement Commonwealth leadership on the NWI and ensure that key water planning processes have consistent projections for climate change and embed consistent customer service and waterway health objectives.

We are aware that in fully allocated river systems, rebalancing demands between the environment and consumptive users to address climate change impacts will be difficult, and in some cases costly.

We believe that greater national leadership via the NWI, and Ministerial commitment to a NWI that has a greater focus on climate change action will make NSW's water planning, review and auditing functions more timely, better resourced and more effective.

We also note that timely, practical action can help reduce adjustment issues and improve the ability of users to transition in an orderly way.

As discussed earlier in this submission, greater support for rainfall independent sources of water, and increased effort on water conservation, are fundamental actions required to balance the needs of our urban centres, adjust to climate change impacts, and provide for the flow needs of rivers.

As climate change increases demand for water in urban areas, and increases impacts on waterway health, the role of well managed return flows will become increasingly important.

As discussed elsewhere in our submission, water planning frameworks are focussed on extractions. In Sydney, about half our wastewater treatment plants are located on the Hawkesbury/Dyarubbin Nepean River, and they provide world-class levels of nutrient removal. In some cases, irrigators downstream of our wastewater treatment plants receive very high levels of water security. However, the private benefit of our wastewater flows is not formally identified anywhere. Sydney Water currently has one Advanced Water Treatment Plant (St Marys AWTP) - that provides replacement flows downstream of water supply dams. Our Upper South Creek Advanced Recycled Water Centre (AWRC) is being constructed, and it will also provide RO-treated water to the Nepean River.

We believe a refreshed NWI can highlight the benefits of return flows and provide policy frameworks for the improved recognition of return flows in entitlements planning.

3. Better urban planning that integrates water, land use and transport infrastructure planning

The NSW Government is focussing on improving housing supply in Sydney. A key role of Sydney Water is to provide essential water services to new customers, and we support government efforts in this area. We strongly advocate for the importance of water

infrastructure being considered at the same level as other forms of urban infrastructure, such as roads and rail.

There is a risk that current accelerated housing planning intensifies planning silos. A sole focus on transit-oriented development means that growth impacts on water, wastewater, stormwater and waterway health may not be appropriately considered, or other constraints to timely delivery of housing identified. Other vital forms of urban infrastructure such as open space, canopy cover, urban cooling potential and walkability may not be adequately integrated into planning.

In NSW, we strongly support the role that Infrastructure NSW - through its Coordinator General function - will have in reviewing essential water and sewerage infrastructure to meet the proposed Housing Accord targets and locations in Greater Sydney and Illawarra.

We recommend an increase in the scope of the Coordinator General role, so that all forms of water management are considered, and the most cost-effective, highest benefit approaches identified.

In NSW, INSW played a vital role coordinating all infrastructure investments and outcomes – including water, transport, land use during the South Creek Sector review. INSW's role also enabled holistic consideration of waterway and urban outcomes, and it embedded the role of green infrastructure in land use and water planning.

This whole of government infrastructure oversight resulted in effective, joined up planning. The approach is broadly recognised as good practice for the implementation of regional IWCM.

We urgently recommend that this whole-of-water-infrastructure assessment role continues in central government. We believe there would be benefits in adopting this approach in other jurisdictions, as it can assist the cost-effective delivery of improved outcomes for future communities.

4. Supply chain security and bolstering the skills and availability of our labour force.

We believe the NWI could promote action to improve supply chain security for urban water and provide leadership to ensure the water sector has the trained, skilled staff required for the future.

Supply chain security - essential chemicals and other critical inputs

Sydney Water is a critical infrastructure operator. We have critical inputs to enable continuous supply of safe water services to our customers, and protection of public health and the environment.

- For example, we use chlorine to treat our filtered water and disinfect wastewater. Our largest water filtration plants use chlorine gas, because they are too big for alternative dosing methods. This presents a potential single point of failure in our water treatment process.
- There is only one local manufacturer of chlorine gas in Australia. Over the last few years, we have observed how transport interruptions have potentially affected chlorine supply chains. Given that there is only one local manufacturer, changes to market demand and pressures on manufacturing sites could pose threats to the continuation of local manufacture.

Sydney Water's strong preference is for continuation of resilient local manufacture, given that offshoring of supply chains has been identified as a vulnerability for critical infrastructure providers. Internationally, we have observed significant disruptions to manufacture and supply chains of chlorine, further exacerbated by concentration of competition and destructive weather patterns.

Like other utilities, Sydney Water is also reliant on suppliers of potassium permanganate, ferric, alum, coagulants, lime and CO₂. There is only one international supplier of potassium

permanganate, and a single domestic producer of aluminium compound-based flocculants precursors.

We also have critical inputs of electricity, fuel, specialist operational technology componentry, and support services.

We have been assessing material risks to our critical supply chains, documenting their management, and implementing strategies to reduce risks.

Greater support for utilities in managing supply chain risks, and enhanced implementation of the NWI's urban water services element could be supported by:

- more proactive work by governments (particularly the Office of Supply Chain Resilience) to work with utilities to measure supply chain risk for key inputs and assess relevant impact and materiality.
- government-led monitoring of critical supply chains for the urban water industry and proactive response to evidence of supply chain impacts.
- management of inventories, based on the materiality of impacts and identified risks to supply chains.
- promoting national action to improve quality assurance and quality control of products and their supply chains.

Improving the skills pipeline to maintain industry capability.

Sydney Water's capital expenditure will be nearly four times larger than in the recent past. We are seeing significant pressures on cost and deliverability, due to the cost and availability of construction materials and skilled labour.

The unprecedented level of investment Sydney Water will be making will deliver a diverse asset base that's more complex to deliver, operate and maintain. Our assets must meet higher, and more consistent standards of performance.

- For example, we will be expanding our asset base to include more desalination and purified recycled water plants, higher performance wastewater treatment capabilities, and a greatly expanded asset base of green infrastructure, including natural and rehabilitated waterways, wetlands, riparian areas and stormwater harvesting schemes.
- We will have more complex water and wastewater networks, which will have higher levels of performance – such as reduced leak performance.
- We will require a larger and more skilled workforce to design, deliver and manage these assets effectively and productively. We will need more staff with technical and digital skills. continuous improvement across our entire workforce.

With an ageing workforce, we are looking to increase our involvement in VET to build the skilled trades segment of our workforce and replenish our talent pool. We will look to leverage our older employees as coaches and offer more flexible work patterns to support transition to retirement.

Concurrently we will invest for the future in disciplines such as automation, engineering, science, and city shaping which brings together our skills in water and land use planning, customer needs and long-term planning.

We agree that further clarity on future roles of urban utility, driven by the water services element of the NWI, would help improve our long-term planning, better enable early identification of investments required, and provide early signals and long-term commitment to our suppliers, the labour market and to the market on the skills required.

We also appreciate how water planning and management can be improved by better integration of Aboriginal knowledge about water management.

Finally, we anticipate exploration of technology and innovation in other industries will create opportunity for us; for example, quantum sensing technology used in mining can be adapted to our operations to detect leaks.

We also need to address digital skills uplift. Suggest that water industry needs to be a focus for skills uplift in federal policy, too, and link with the Digital Federal Strategy. Note the importance of maintaining skilled employment and skills and training pathways.

We recommend the NWI link to the Australian Government's skills and training investments programs.

5. Enhance the Urban Water Services element of the NWI

We strongly support the renewal of the NWI, with the enhancement of an urban water services element.

More clear objectives for urban water, waterways and communities

We strongly support the need to link urban water objectives for enhanced urban water services with waterway, environmental and public health outcomes. It must be recognised that only the integration of water and land planning can achieve these multiple objectives.

The renewed NWI must more clearly identify that "system objectives" for urban water include objectives for environmental protection and waterway health, and liveability outcomes such as urban cooling, green space, accessibility and walkability.

Our customers and our regulators are increasingly demanding higher levels of performance against environmental outcomes. For example, Sydney Water has regulated levels of performance for network wet weather overflows, dry weather overflows, and increasingly rigorous requirements for wastewater treatment. We support improvements in levels of service, but we are also aware of the additional costs and effort required to operate a large, aging network to higher standards.

As our cities grow, and climate change results in significant changes to our environment, land planning can't assume that essential environmental services, such as cooling, shading, clean waterways and green space can be provided by the surrounding landscape, without explicit planning and investment. The benefit of clear planning for such outcomes has been demonstrated by the South Creek Sector Review, and the innovations in regional stormwater management and best practice land use typologies that followed.

Once clear, measurable objectives for urban waterway health, water service delivery and environmental services have been identified, utilities have a key role in delivering upon them. This includes an increasing role in stormwater management – both for traditional stormwater assets, and green infrastructure and waterway assets.

That is because utilities are generally set up with a transparent, regulated cost recovery mechanisms and have expertise in managing large, long lived asset base across a large area. This provides utilities with benefits compared to many local Councils, who have traditionally been tasked with many parts of stormwater management.

We provide further discussion on the benefits of clear environmental objectives in the holistic water, catchment and environmental management section below.

Improve the consistency of IWCM delivery in Sydney

We agree that clear identification of roles and clearly articulated objectives have improved the ability of Sydney Water to plan and invest in Integrated Water Cycle Management (IWCM) solutions in some growth areas in Western Sydney.

A refreshed NWI can provide national guidance on the range of benefits from water service delivery, so these can be embedded in pricing frameworks.

We strongly support the NSW Government's development of a state-wide best practice IWCM framework, and guidance on integrating land use and water management, as required by the State Water Strategy.

It is imperative that government policy supports precinct scale planning activities that meet regional or catchment scale objectives and targets. This can only be addressed through clear governance structures, capacity building, the consideration of climate change scenarios and development of adaptive implementation plans.

As we discuss elsewhere in this submission, joined up, top-down planning in Wianamatta South Creek growth areas has enabled effective implementation of IWCM. However, this approach is not repeated elsewhere. Approaches to integrated land, infrastructure and water planning are still ad hoc, and different approaches are taken, even in adjacent growth areas.

There is a clear opportunity for governments to improve consistency of approaches and apply models that have been proven to be effective.

Pricing, cost recovery and the role of infrastructure contributions

We agree that the key NWI principles of water servicing pricing remain sound.

We draw the attention of the Commission to the NSW Independent Pricing and Regulatory Tribunal's (IPART's) new 3Cs model of water regulation. Sydney Water's next price determination will be made against the 3Cs model, which aims to better promote the delivery of customer value and provide more flexibility for regulated businesses to deliver on outcomes that are most valuable to customers. The framework maintains a very strong focus on cost efficiency and promotes credibility by improved transparency of reporting, reputational and financial outcome delivery incentives.

In Sydney, we have seen that customers' priorities align strongly with the overarching principles of the NWI. In general, our customers value the outcomes that the Commission's 2021 recommendations aim to achieve. We also note that the current NWI principles enables pricing and cost recovery that aligns with customer preferences. Customers have also demonstrated a strong willingness to pay for outcomes including:

- waterway health improvements,
- a reduction in the incidence of severe water restrictions
- the maintenance of green, cool public places with intelligent use of recycled water
- a reduction in time taken to achieve net zero emissions.

At the same time, we are conscious of the amount of investment that will be required to maintain Sydney Water's existing levels of service and maintain our assets. We must balance the bill impacts on customers, while still modernising our business to deliver additional customer value.

Updates to the NWI should not limit the ability of utilities to address equity issues in relation to the provision of urban water services.

Sydney Water strongly supports the role of independent price regulation. We acknowledge how this has driven long term reductions in customer bills (in real terms), and efficiency in service provision. However, given the challenges the urban water industry must face and the evidence from our customers about the holistic water services they want delivered, Sydney Water is aware that the long-term interests of customers will be undermined, and service levels will decline if we don't re-baseline our expectations of fair and affordable utility bills. We also recognise that in many cases, the environmental degradation caused by urban growth and urban water servicing has been externalised, and this has not been fully reflected in pricing. Now that utilities are provided more holistic levels of service, we are effectively internalising costs.

Since our 2020 submission to the commission, Sydney Water has continued its planning of integrated water, wastewater and stormwater servicing for Wianamatta South Creek in

Western Sydney. We are delivering an Advanced Water Recycling Centre at Upper South Creek and building the wastewater network to connect customers. We are delivering stormwater services for Mamre Rd and Aerotropolis precincts, in a stormwater scheme that will provide drainage services for customers, meet ambitious targets for waterway health, and supporting best practice land use planning to enable effective retention of stormwater in the landscape and mitigation of urban heat island effects.

Our experience planning and delivering integrated stormwater servicing in Wianamatta South Creek, and nearly 30 years' experience of delivering integrated servicing through our Rouse Hill scheme has demonstrated the benefits that can be gained when regional-level stormwater servicing is provided by major utilities. Benefits include:

- ability to plan and deliver at a genuinely regional scale and deliver upon high level waterway health objectives.
- ability to integrate stormwater management and harvesting with wastewater servicing and recycled water provision, to provide core customer services and environmental benefits.
- better integrate the yield benefits of stormwater harvesting and local recycled water schemes into overall metropolitan supply demand planning.
- the ability of the stormwater service provider to improve collaborative catchment management and enable long term waterway outcomes by working with Councils, developers, other land managers and customers.
- large scale delivery of green infrastructure solutions, with a long-term operational budget to ensure maintenance of these assets.

However, our experience has also revealed challenges in the delivery of integrated stormwater servicing by a major utility:

- differences in tax treatment of major utilities compared to Councils, and potentially, third party suppliers.
- inconsistent pricing and cost recovery approaches
- the potential for different health regulations and approvals processes to be applied to large utilities compared to smaller regional utilities.
- the need for greater understanding of the role of riparian land in effective stormwater servicing, which requires early land acquisition at the strategic land use planning stage.
- because the major pressures on Australia's water systems have been caused by over-allocation and over extractions, water entitlements planning is justifiably focussed on managing extractions. Sydney Water has experienced first-hand how existing planning and regulatory frameworks have struggled to support beneficial harvesting of excess urban stormwater flows in a way that prevents waterway degradation. Sydney Water has been working with the NSW Government to identify existing approaches to support stormwater harvesting within a large complex catchment. However, lack of fit-for-purpose licencing frameworks will hamper the broader uptake and adoption of stormwater harvesting.

Therefore, we recommend the NWI provide enhanced federal guidance on consistent approaches to urban stormwater harvesting and share best practice approaches from other jurisdictions.

Infrastructure contributions

We consider that developer infrastructure contributions are a key part of the solution to enable outcome-focussed stormwater servicing and cost reflective pricing.

We have been working with the NSW Government to re-introduce infrastructure contributions in Sydney for water, wastewater and stormwater services. This has been a result of the NSW

Government's own Productivity Commission's review and modernisation of NSW policy. While NWI pricing principles are embedded into IPART's infrastructure contributions frameworks, we consider there could be a stronger emphasis in the NWI on explicitly balancing the needs of different stakeholders when setting policy and pricing methods with respect to developer infrastructure contributions.

The work of the NSW Productivity Commission in relation to infrastructure contributions is a good example of how federal leadership and recommendations relating to the NWI could help drive better outcomes at the state and utility level.

However, existing developer infrastructure contributions frameworks across Australia adopt a variety of different approaches, with differing levels of complexity and coverage. For example, many jurisdictions include exemptions or differential prices for certain development types and/or locations, while others may use simple broad-based charges with no exemptions.

While these different arrangements may suit the needs of each jurisdiction, they have tended to evolve organically rather than systematically via a framework or set of principles developed federally (such as under the NWI). This can create uncertainty and confusion amongst the development industry, water utilities and their customers, and could be leading to inefficient investment decisions and servicing outcomes.

Improved government regulation to control pollution at source and improve recovery of urban water resources

Sydney Water treats wastewater at more than 30 wastewater treatment plants. Wastewater is resource rich, containing water, energy, nutrients, and biosolids. However, our wastewater treatment plants receive a wide array of contaminants in wastewater from residential, commercial and industrial customers. We are responsible for managing contaminants at end of pipe, to ensure recovered resources meet the regulated standards and are safe and fit for purpose.

Removing contaminants is becoming increasingly complex and costly due to the need to treat and remove an ever-expanding list of contaminants of concern, and subsequent change in our ability of recovering resources. The cost is ultimately born by the community.

Hazardous chemicals can also pose significant risks to our wastewater systems – for example, by damaging our pipes through corrosive reactions and disrupting our biological wastewater treatment processes. They can also create significant risks for our workers' health and safety.

Residential customers generate 70 percent of the wastewater we manage. It is likely that many of the contaminants that pose risks to the quality of our wastewater come from household use. Examples include PFAS on Teflon frypans and on school uniforms/clothing, triclosan in toothpaste and bodywash, and galaxolide in washing powder and cleaning products. Conventional wastewater treatment plants are not designed to remove the wide range of contaminants now present in wastewater. It is costly to remove contaminants from end of pipe, and in many cases, this may not be feasible.

It is unfeasible for a water utility to impose restrictions on domestic customers. There is an urgent need to improve producer responsibility and reduce their impact on wastewater through increased and timely national product stewardship programs. The Industrial Chemicals Environmental Management Standard's (IChEMS) list of banned chemicals for scheduling is limited, especially considering the number of new chemicals produced every day.

An example of slow action: Since 2015, Sydney Water has been working with WaterNSW and NSW Health to review the risks from PFAS, mainly on drinking water quality. The focus has recently turned to biosolids and the output of wastewater. One of the common PFAS chemicals, PFOS was listed in the Stockholm Convention in 2009 yet implementation of scheduling PFOS in IChEMS is proposed for 2025.

We support changes to NSW legislation to adopt the federal IChEMS Register and improve a more harmonious federal system. However, we believe the regulation of contaminants of concern could be quicker, simplified and harmonised nationally, and improvements made to the reviews and approvals of chemicals.

We believe the NWI can also provide enhanced leadership and enable improve co-ordination and investment in research to enable faster decision making and enable continuous improvement in wastewater screening techniques for new chemicals.

Where downstream removal is still required, water utilities also need clear and early signals on future regulated limits of contaminants in recovered resources. Removing contaminants of concern requires significant investment. Water utilities need significant regulatory certainty before investing in significant infrastructure to offer the required additional treatment methods.

Regulation and trade in the urban context

Because water planning and associated licencing and regulation is generally concerned with water extractions in stressed rivers, it is proving to be inadequate for much urban water management.

While we strongly support effective licencing, regulation and enforcement, it must be appropriate for the context and proportional to the impact of the activity.

Trade generally has not been effective in Sydney Water's experience. For example, as a utility conducting excavations to enable delivery of essential infrastructure, Sydney Water's activities are covered by groundwater regulations and licencing frameworks. Groundwater take for temporary short term construction purposes generally has low risk of environmental impact. However, if our groundwater take is going to be over an allowable threshold, we have to seek controlled allocations or buy entitlements on the market.

The groundwater market in Sydney is small and immature, with infrequent transactions. Additionally, Sydney Water sometimes experiences delays of up to 18 months in water entitlement administration, and in some years, controlled allocations have not been made. These issues are creating a substantial compliance risk for Sydney Water, and a real barrier to on-time public infrastructure delivery to support housing developments, including in new growth areas.

We have discussed the issue of licencing and regulation elsewhere in this document. Sydney Water has encountered similar issues in purchasing surface water entitlements because trade volumes in Sydney are low, and transactions infrequent.

We note the Productivity Commission's position that trade is a means to an end, not an end in itself.

We would recommend the NWI could review of policy approaches to regulation and trade in urban areas, where trade is being used to address deficiencies in regulated approaches, but markets are small and immature. The combination of regulation that is not fit for purpose and limited markets are hampering improved water outcomes.

We also believe the NWI can reiterate the importance of regulation that is proportionate to the impact being addressed. This can improve the efficiency of water infrastructure delivery, and ensure policy, regulatory and compliance resources are directed to areas of greatest need.

6. Holistic water, catchment and environmental management

We support the Commission's 2021 findings that significant enhancements should be made to the NWI's environmental management element, including the need to establish clear environmental outcomes, and clarifying institutional responsibility for waterway management.

These findings complement Commission's recommendations regarding urban water services, including the need to integrate water supply, wastewater and stormwater management in a way that aligns with community preferences.

We support the Commission's definition of the roles of a waterway manager. We strongly support the renewed NWI embedding the value of holistic water, catchment and environmental management, and believe this is an area where governments can take supporting action.

The Commission's 2021 recommendations around the need for co-ordinated management of water supply, wastewater, and regional, outcomes-focussed stormwater management highlights the role that utilities can play in supporting more effective waterway management.

Clearly identified institutional responsibility for waterway management

In many cases, NSW lacks clearly identified institutional responsibility for waterway management.

For example, there is no unified, government-led management of Sydney's two major water supply rivers: the Hawkesbury/Dyarubbin Nepean River and the Georges River, despite the importance of these rivers for Sydney's water supply, their cultural significance and their environmental and recreational attributes. Both waterways are also experiencing rapid population growth, while still supporting agricultural industry.

We believe that clear governance is likely to enable more cost effective and fit for purpose supply, wastewater management and stormwater management options, and natural resource management options to be identified.

Individual collaborative organisations advocate for the health of the river but have limited ability to fully influence water sharing decisions, government strategy and investment decisions. There are limited structures to fully involve First Nations people in formal planning processes.

We support the observation made in the Commission's 2021 [Supporting Paper F: Urban Water Services](#) that improved models can be adopted within existing institutional settings, such as appointing a waterway coordinator to formalise collaboration between planning and delivery entities. We recommend that this finding be embedded in the urban water services element of a renewed NWI. We note the effectiveness of the Melbourne Water model.

A 2022 Sydney Water Innovation Festival design sprint, with a range of diverse stakeholders, concluded that a single "voice" for the river was required to highlight its cultural and environmental values, and underpin decisions about extractions, wastewater and stormwater management, environmental management, and improved recreation.

Development of clear waterway and environmental outcomes, and greater co-ordination of waterway management effort can improve cost effective natural restoration activities. For example, Sydney Water has been trialling nutrient offset projects such as riverbank restoration and raingarden installations. These are proving to be a cost-effective way to reduce nutrient discharges into waterway, while delivering other environmental benefits to communities. The development of nature positive markets could potentially accelerate implementation of such offsetting activities and provide incentives to private landholders to contribute to overall community and environmental benefits.

There are also clear gaps in the co-ordinated management of Sydney's urban rivers. The many local Councils in Sydney Water's operating area have responsibility for local stormwater management, and Sydney Water has a role providing trunk stormwater services in some areas.

Sydney Water is working with many catchment partners, including the Parramatta River Catchment Group, the Cooks River Alliance, Georges Riverkeeper, and the Hawkesbury Nepean Riverkeepers Alliance. These alliances are providing effective advocacy for river health and improved water management but are somewhat constrained by lack of resources.

More centralised coordination would improve consistency, enhance capability and deliver efficiencies.

Sydney Water is pursuing options to improve the role we play in coordination of waterway planning. This would be enhanced by clear identification of roles and responsibilities by all levels of government. There are some positive signs of progress more broadly in Sydney – for example, the Greater Sydney Water Strategy has identified the need for more effective planning controls and governance, and drafted updates to Sydney Water’s Operating Licence modernise the definition of stormwater assets and broaden the understanding of activities required to operate modern stormwater systems and services.

Sydney Water believes that further positive change can be further accelerated with improved federal and state government leadership and action. The Australian Government has provided much-needed funding for urban waterway improvement, and this would be even more effective when aligned to clear urban waterway policy embedded in the NWI.

Clearly specified environmental objectives

We agree that clearly specified environmental outcomes are essential to guide effective water planning and investment, measure progress and improve transparency.

We strongly support NSW Government updates to Water Quality objectives in coastal catchments and urge focused funding and completion of this work.

Up-to-date water quality and flow objectives, which included objectives for ecosystem protection, and that were accompanied by numerical limits for both quality and stormwater inputs – were essential to underpin the integrated water planning that occurred in Wianamatta South Creek.

We believe that robust water quality objectives can provide more guidance to water sharing processes in NSW coastal catchments. In particular, they can inform decisions about changes to environmental flows and replacement flows and help inform understanding about adequate low flow provisions.

7. Improved, re-energised NWI governance and reporting

We strongly agree that the NWI should be refreshed. We welcome Australian Government efforts to do so.

We strongly recommend that the Government’s commitment to improving the NWI must be accompanied by more effective structures – and organisational capability - to implement the NWI, embed and act upon the recommendations of the Productivity Commissions’ review, and improve the effectiveness of public reporting.

We believe both the Productivity Commission and the Bureau of Meteorology have conducted their NWI roles well. However, lack of centralised, consistent leadership of the NWI has hampered its true potential to drive meaningful reform.

A new governing NWI organisation will be able to more rapidly consider and act upon advice arising from periodic reviews and will be able to collaborate with states and utilities to improve implementation.

A clear benefit of a renewed NWI supported by a new governing organisation will be enhanced accountability of Ministers for implementing NWI within their jurisdictions.

We believe that renewed governance structures must be expanded to reflect the role that urban utilities play in delivering the NWI and enabling the states to meet their commitments under the NWI. Utilities are increasingly engaging deeply with their customers and can ensure community expectations are clearly considered by policymakers.

As noted elsewhere in this submission, better co-ordination and alignment between utilities on shared objectives, customer preferences and benefits realisation can help utilities use resources better and improve coordination.

Currently urban utilities do this voluntarily through industry groups without federal support. While we strongly support the effective advocacy and capacity building that member-based organisations such as AWA and WSAA have conducted, the lack of federal policy support has limited the benefits of collaboration and co-ordination.

Ministerial accountability should be accompanied by assured funding for planning, implementation of state strategies, review and transparent reporting.

At the state level, this would help address the issue where forward-looking policy and strategy is released, but funding for implementation is short term and variable. For example, historically there has been great focus on implementation of water conservation in drought, but to manage supply demand balance cost effectively, we need baseline level of water conservation.

Better governance includes data, reporting and analysis

Sydney Water also suggests that the data reporting component of the NWI be enhanced. More value can be gained from data currently collected, with greater analysis, communication and stakeholder engagement.

This is essential to build better literacy and build buy in for reform and create awareness of the benefits of better performance. We believe it is also useful in building buy in, so states appreciate the value of monitoring and evaluating their own reforms.

We are generally supportive of changes made to the National Performance Report. We have recommended additional changes to reporting throughout this document. For example:

- the historical carbon emissions dataset has great value. It would be even more insightful if there were interactive charts similar to the BOM Water Market Summary to profile the historical progress of the overall water sector, and individual states and utilities as a minimum. A correction is required on the unit for the carbon emissions, currently incorrectly reported as “ML” to “tonnes of emissions (CO₂-equivalent)”. To increase the transparency and accountability of water sector emission reporting, data should be analysed against national greenhouse accounts.
- rainfall independent supply for urban water provision.
- overall measures of supply security.
- enhanced data on environmental water and environmental outcomes. This could also relieve the need for individual research and advocacy organisations to collect and report on subsets of water industry performance (such as coastal wastewater performance), improve data governance, and improve public awareness of data.
- information about First Nations water allocations.

8. Enhanced processes to improve involvement of First Nations People in water planning

Sydney Water acknowledges that our city’s waterways have been managed and nurtured by First Nations people for more than 60,000 years. Water is an integral part of First Nation People’s knowledge, community, and culture.

In recent in-depth customer engagement, we heard that “First Nations cultural knowledge and land practices should also be a focus of any water management planning and decisions”. First Nations customers “advocated strongly for dual signage at publicly accessed waterways, including use of First Nations place names”.

Our Reconciliation Action Plan commits Sydney Water to improving our management of waterways using First Nations knowledge and by learning traditional practices, by engaging

in deep listening with Aboriginal and Torres Strait Islander stakeholders and organisations for knowledge sharing and best practice advice on caring for waterways and Country.

We continue to commit to improving the management of our waterways by learning from the knowledge and traditional practices used by Aboriginal and Torres Strait Islander peoples. We will provide opportunities for our employees, partners and customers to learn about local First Nations peoples culture and connection to Country in our operating area. By creating the time and space to listen and learn from Aboriginal and Torres Strait Islander peoples, we aim to continue the work of our First Nations peoples to protect the water in our environment and communities.

We have learned the value of meaningful, place-based engagement. At Warragamba, we have worked with First Nations elders to improve management of bushland through culturally appropriate cool burns. We are also supporting community use of the site with the establishment of a yarning circle.

We note the work the NSW Government is doing to develop a state-wide Aboriginal water strategy, and the consultation that's occurring with Aboriginal communities to inform the update of NSW Water Quality Objectives. This is positive work, and we look forward to its completion and implementation.

We agree that renewal of the NWI with a specific focus on First Nations outcomes will provide important leadership to continue the progress in these areas.

We acknowledge that the water we provide to Sydney's customers comes from the Hawkesbury/Dyarubbin Nepean river, and that the way water has been allocated has neglected the interests of First Nations people and perpetuated impacts of colonisation.

We acknowledge that NSW has signed up to the Closing the Gap principles to improve water entitlements in inland rivers for First Nations people, to improve access to cultural flows, water for economic self-determination and development, and we also recognise the Australian Government's commitment to purchase entitlements in the Murray Darling basin to purchase water for First Nations people.

While coastal waterways are not generally as critically over allocated, we believe the NWI could promote effective and coordinated action to improve access to water entitlements in major coastal catchments.