



**WATER SERVICES
ASSOCIATION OF AUSTRALIA**



WSAA SUBMISSION

Inquiry into the Australian Government's role
in the development of cities

July 2017



About WSAA

The Water Services Association of Australia (WSAA) is the peak body that supports the Australian urban water industry. Our members provide water and sewerage services to over 20 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises. WSAA facilitates collaboration, knowledge sharing, networking and cooperation within the urban water industry. The collegiate approach of its members has led to industrywide advances to national water issues.

WSAA welcomes the opportunity to provide a submission to the House of Representatives Standing Committee on Infrastructure, Transport and Cities Department of Communications and the Arts' inquiry into the Australian Government's role in the development of cities.

Key messages

- Efficient, financially stable and high performing water businesses are a key element of the liveability of our cities and regions. Water businesses have the potential to make an even greater contribution to liveable cities and regions, places where people want to work and play.
- There is an opportunity to build on the strong foundations of the water sector and further optimise the whole urban water cycle through greater integration of water, wastewater and stormwater within a built environment.
- An underlying shift to a holistic and collaborative approach is required to further enable water utilities to work with other stakeholders to create community and public or shared value in their cities.
- Greater flexibility in regulatory frameworks has the opportunity to improve resilience, economic, environmental and social outcomes. Through a more outcomes focused approach, benefits beyond the regulated responsibility of water and sewerage management can be better considered when making investment decisions.
- Given the scale of the future challenges facing the urban water sector, such as climate change and extreme events, urban growth, affordability, aging assets and liveability of our cities and regions, national government leadership will be the key to unlocking water reform.

How can the trajectories of existing cities can be directed towards a more sustainable urban form that enhances urban liveability and quality of life and reduces energy, water, and resource consumption?

Better urban water planning

Water and wastewater services are fundamental to the broader amenity, liveability, and productivity of Australia's cities and towns. There is an opportunity for the water industry to build on its strong foundations and optimise the whole urban water cycle. Greater integration of water, wastewater and stormwater within the built environment is required at an early stage in planning to reduce costs, and create and capture the value of urban water services.

WSAA recently released a paper entitled [Next Gen Urban Water: The role of urban water in vibrant and prosperous communities](#). This document brings together previous papers exploring the water industry's contribution to liveability, sustainability and productivity. It highlights that water businesses can play a greater role in creating value for communities. This involves a rethink within the water business, and policy makers in the operating environment, by engaging with customers and the community to determine expectations and to collaborate with other stakeholders.

Water businesses are proactively exploring how they can deliver greater community value through water sensitive cities. However, government owned water businesses operate in a highly regulated environment. While necessary and highly successful in terms of driving efficiency, this has resulted in a siloed approach from other infrastructure systems and loss of opportunity to create broader community value (see Box 1).

Box 1 – Greening the pipeline

The Greening the Pipeline initiative aims to transform the Main Outfall Sewer (MOS) pipeline reserve into a multi-use, natural and vibrant space that will connect communities and provide a unique place for neighbours to meet, play and relax.

This project is being undertaken in a partnership between Melbourne Water, Wyndham City Council, City West Water and VicRoads. Green shady spaces will support the Federation Trail bicycle path and local community needs, as well as counteract heat stress in the area. To showcase the potential of the reserve as a green linear parkland, a pilot project was initiated by Melbourne Water in Williams Landing, partly funded by a State Government grant supporting demonstration sites for integrated water management. The Williams Landing pilot captures and reuses local stormwater to irrigate grass, shrubs and trees in a new community parkland built along the reserve. Community consultation revealed strong support for the project. The pilot project at Williams Landing was launched on 29th of April 2017, with approximately 300 people in attendance to enjoy the green open space. The local community has provided feedback about what they want to see for the remainder of the Greening the Pipeline project. (www.greening the pipeline.com.au)

The Next Gen Urban Water paper includes a number of case studies that demonstrate the water sector's community value initiatives, however, the paper notes that these are more often than not opportunistic. A less than favourable view of this activity by an economic regulator, policy unit or shareholder will result in utilities having to retreat back to the provision of traditional water supply and sewerage products at the risk of missing

opportunities which generate greater value for communities. An underlying shift is required to move away from the current regulatory and governance model to one where water utilities are encouraged to also create community and public or shared value.

WSAA's view is that to address this, a holistic and collaborative approach is required. An integrated approach that focuses on optimising outcomes across the whole of the urban water cycle, in addition to across all sectors involved in urban planning and development will have overall long-term benefit to customers, communities and regions. Facilitating integrated planning and encouraging organisations to think outside their silos to address issues and realise opportunities will be an important step into unlocking shared value. WSAA is calling for:

- integrated planning across all city infrastructure;
- government leadership to enable collaboration between stakeholders; and
- greater engagement with customers and community.

Box 2 – Aurora food to waste energy plant

Yarra Valley Water recently launched a waste to energy facility next to the Aurora Sewage and Recycled Water Treatment Plant in Melbourne's north. The plant, which will be operational in 2017, will provide an environmentally friendly disposal solution to divert 33,000 tonnes of organic waste per year from landfill. Businesses will also have access to an easier and more affordable way of recycling commercial organic waste. Commercial organic waste from local food markets and manufacturers will be processed into biogas via anaerobic digestion.

It is expected that enough energy will be generated to run the facility and the neighbouring treatment plants. Any surplus energy will be exported to the electricity grid, helping to reduce greenhouse gas emissions, and Yarra Valley Water's reliance on traditional sources of electricity. While using food waste made co-digestion economically viable, the initiative was sparked by a paradigm shift: Yarra Valley Water already processed 75% of the regions waste – so why not expand into other waste streams? Instead of treating organics as waste, they are treated as a product with value. There was also strong community support to construct the plant which was achieved through strong community engagement throughout the project. The township of Aurora was built as an 'environmental showpiece' and providing recycled water via a renewable energy source contributed to this vision.

The aim is to achieve lower long-term costs to communities while increasing the resilience and liveability of cities.

Urban water needs to be part of strategic and long-term regional plans for all cities and regions around Australia, as does energy, transport, waste and health. Government frameworks and processes that support collaboration between sectors will lead to co-investment, lower costs and better value outcomes for businesses and the community.

State Governments can lead the integrated planning process by giving the water businesses a role in strategic economic development and land use planning activities. Federal Government can facilitate integrated planning through implementing and building on Infrastructure Australia's National Infrastructure Plan.

In addition, the reinvigoration of the National Water Initiative (NWI) should be a core component of the Federal Government's plans. Recently the Council of Australian Governments (COAG) signed the International Agreement on Competition and Productivity – Enhancing Reforms. This agreement includes sections specifically on urban water and is in line with both the NWI and the reforms WSAA recommends in its 'Doing the important as well as the urgent report' and other key submissions.

It is not the intent of the water industry to usurp the responsibilities of local government or other agencies. Instead it is WSAA's suggestion that this broader role incorporates a collaborative approach to planning, and supporting other agencies in the delivery of services valued by the community. This collaboration is critical for the resilience of our cities, building on the interdependencies between industries to strengthen our networks through integrated planning. WSAA recommends:

- systemic change in policy and regulation to encourage collaboration with other agencies and communities to respond to a broader spectrum of customer needs and expectations
- integration of the urban water cycle, including stormwater and flood management planning into the urban water governance, institutional and physical structures together with a sustainable funding and pricing framework
- integration of water cycle planning with land use planning
- recognition of the role of water in strategic or early planning of cities and regions and inclusion of water businesses in integrated planning

What regulation and barriers exist that the Commonwealth could influence, and what are the opportunities to cut red tape?

Outcomes based regulation

The regulatory frameworks across Australia vary from state to state. While health-based regulation for protecting public health is necessary and generally consistent, WSAA sees possibilities to improve environmental and social outcomes through a more outcomes-focused approach to regulation. Inflexible regulatory frameworks mean that the water businesses are not required, and in most cases discouraged, from considering benefits beyond their regulated responsibility of water and sewerage service provision when making investment decisions.

Regulation can force a water business to only consider managing their particular activities rather than looking at a whole of urban water cycle approach. For example, when upgrading a sewage treatment plant, should success be measured as achieving licence compliance, or as achieving environmental outcomes such as a healthy waterway?

While an outcomes-based approach may be more difficult to measure and attribute, it can lead to significant innovation in the industry. It can also deliver solutions that are both more cost effective and beneficial to the environment, such as using nutrient offsets to improve the biodiversity and health of a waterway (see Box 3 and 4). A more integrated approach to planning and regulation would mean water and wastewater infrastructure would be planned alongside other major services, maximising benefits and reducing unwanted impacts, leading to overall better outcomes for customers and the community.

Box 3 – Maleny Sewerage Treatment Plant upgrade

The Maleny Sewerage Treatment Plant (STP) needed a capacity upgrade to cater for increased population growth in the region and improve treatment standards. In a region with strong community spirit, Unitywater were well aware that successful delivery of the upgraded STP would require taking a partnership approach with the Sunshine Coast Council, the Maleny community and local indigenous groups.

Through close consultation and collaboration over several years a preferred approach was delivered. This involved an STP upgrade in addition to planting an adjacent forest and wetland on a former dairy farm site which further treats the effluent from the STP.

This preferred approach to the \$17 million project won on both cost and non-cost criteria. It also brought numerous benefits for the community including positive impact on water quality of the nearby creek, biodiversity benefits, heritage protection and development of community spaces such as walking tracks, in alignment with the Maleny Community Precinct Master Plan.

Box 4 – Using nutrient offsets to improve the Logan River

The provision of a voluntary offset mechanism under the Queensland Environmental Protection Act 1994 has allowed Queensland Urban Utilities (QUU) to find an innovative solution to nutrient discharge limits at Beaudesert Sewerage Treatment Plant. Instead of a plant upgrade, they completed riverbank restoration works at Logan River to reduce sediment and nutrient loads. The 500 metre, re-engineered bank of the Logan River prevents more than 11,000 tonnes of sediment, 5 tonnes total nitrogen and 8 tonnes of total phosphorous from entering the waterway every year due to natural channel erosion. The \$800,000 water quality project was more cost-effective than the \$8 million alternative to upgrade the Beaudesert Sewerage Treatment Plant. This approach has led to significant benefits such as lower greenhouse gas emissions, improved biodiversity, stream cooling and reduced erosion for landholders.

Another avenue for reform is stronger and more flexible economic regulation that would allow water businesses to work with community agencies to respond to a broader spectrum of community needs and preferences. This flexibility could assist in overcoming the competing interests between different and often competing areas of regulation, for example more stringent environmental requirements that increase bills for customers.

WSAA does not recommend any particular structure but advocates that any changes need to be in the long-term interests of the customers. Regulatory and policy frameworks should adequately support any changes in industry structure or ownership. Regulation should to allow water businesses the flexibility to respond to their customers' needs and preferences, particularly in regard to providing 'value add' services.

Best practice economic regulation

The urban water sector requires a modern regulatory framework to facilitate better value for customers. Economic regulation has played an important role in the industry's development and it needs to continue to evolve to meet future challenges (see Box 5).

Box 5 – Victorian Essential Services Commission’s (ESC) new customer model

In 2014, the Victorian Government reviewed and revised the Water Industry Regulatory Order (WIRO), providing the Commission greater flexibility in the manner, approach and method used to deliver efficient pricing and service outcomes for Victorian water and sewerage customers. Following extensive consultation, the Commission has made a number of changes to the water pricing framework and approach. These changes include a greater focus on customer engagement in price setting.

The new approach places a greater emphasis on the role of customer engagement to influence price submissions and requires water businesses to directly own the relationship with the customer through extensive customer engagement including on service levels and investment programs. It also includes a new incentive mechanism called PREMO that links the returns earned by a water business to the ambition expressed in their price submission and successful delivery on that ambition.

Independent economic regulation in urban water should be supported by national standards. The requirement to meet minimum standards would raise the bar on economic regulation across jurisdictions. However, unlike harmonisation of regulations, minimum standards would not constrain best practice. WSAA recommends revised national pricing and regulatory standards that:

- enshrine the long-term interests of customers as their overriding objective
- include strong incentives for water utilities to find efficiencies in operating and capital expenditures, and encourage innovation
- consider the long-term viability of water businesses, when making pricing determinations
- promote strong and transparent customer engagement in the regulatory process
- have in place merit review and appeal mechanisms for water businesses and other stakeholders
- provide greater certainty and predictability, for both existing utilities and potential private investment in the industry
- capture the true efficient costs of service provision

Improved governance

A review of the path of national urban water reform demonstrates there is a need to revisit governance within the water sector. WSAA’s view is that for the most part there is a good level of accountability and responsibility between governments and utilities. However, it recognises that arrangements are not always resilient. When put under pressure through challenges such as water security or concerns about affordability, the roles of government, utilities, regulators and shareholders can become blurred. There needs to be clarity around the roles of utilities, regulators, shareholders, system planners, urban planners, catchment managers and policy makers. This would benefit existing utilities, new private suppliers and ultimately result in improved outcomes for customers and the sustainable development of our cities.

Another aspect of governance exists at the planning level. The Productivity Commission (PC) and NWC have both referred to the limitations that policy bans place on the water industry innovation.

PC 2011 “...*the largest gains to the community are likely to arise from achieving water security at a lower expected cost. This can be achieved by governments removing ‘policy bans’ on supply augmentation from certain sources, such as rural-urban trade and indirect potable reuse.*” (pg. XXXII)

Removal of these impediments would allow water planners to properly explore all their options on merit, considering the economic, public health, environmental, and customer value. For example, a number of jurisdictions are yet to discuss options for direct and indirect potable reuse.

Reinvigorated National Water Initiative (NWI)

The urban water industry has always been able to provide safe, reliable water and wastewater services. Despite its importance, Australia’s urban water sector faces significant unresolved challenges to its operation and long-term financial viability. Given the scale of the future challenges facing the urban water sector, such as climate change and extreme events, urban growth, aging assets and liveability of our cities and regions, WSAA considers that national government leadership will be the key to unlocking water utility reform.

The NWI, currently under review by the Productivity Commission, needs to include a focus on urban water and recognise these future challenges across the urban water cycle. The Sustainable Development Goals could provide a useful framework. Urban water is a state responsibility; but it is also a national economic and social challenge. Australia’s economic history suggests that national policy leadership, backed by financial incentives for reforming states, is a proven way to drive national good practice and better regulation, across utility markets which are owned, operated and regulated by states.

New national arrangements should reflect the role stormwater management can play in the overall urban water cycle. This can be through harvesting, reuse, creating green spaces in Australian cities, and improving waterway health. Without a nationally consistent funding and pricing framework, stormwater will remain the ‘poor relation’ in the broader urban water environment. There is an opportunity to review the value of stormwater services, and recover the costs for services delivered to the community and have broader liveability benefits.

WSAA considers that the 2016 COAG agreement provides the right framework to progress the national agenda and the PC should consider framing its recommendations to feed into this process. WSAA recommends that the Productivity Commission frames its recommendations for urban water to align with and give impetus to this framework. Good national reform could provide each individual utility and their customers with the right framework and adequate financial resources to accommodate the task ahead.

The national benefits of being a global 'best practice' leader in sustainable urban development

Cities in Australia consistently rank as some of the most liveable in the world, providing us with a core competitive advantage in attracting talent and investment as we transition to the knowledge economy. Much of our economic growth in cities is fuelled by our knowledge workers.

Attracting the best human capital is crucial when competing with international cities like London, Hong Kong and New York. Retaining a competitive advantage, and continuing to attract talent in the face of emerging challenges will require innovative solutions and collaborative planning, particularly around essential services and infrastructure. The Australian urban water industry, which employs approximately 30,000 people across Australia, has a key role to play in this.

Box 6 – The value of clean beaches

Sydney Water has made a number of key infrastructure investments over the years to improve water quality. Twenty-five years ago, they replaced the old cliff-face outfalls at Malabar, Bondi and Manly with Deepwater Ocean Outfalls (DOO) along with a range of other improvements.

A study by Deloitte Access Economics considered the potential benefits and contributions, and estimated that:

- the value attributable to coastal beach water quality – for Sydney residents alone – is in the order of \$137 million per year or a lifetime value of around \$2 billion.
- the net value added associated with beach water quality is worth around \$332 million per year to the NSW economy through domestic and international tourism
- the health benefits associated with beach water quality due to the avoidance of illness for beach users is estimated at \$140 million per year from avoided absenteeism

Efficient, financially stable and high performing water businesses are a key element of the liveability of our cities and regions. The industry directly accounts for 0.75% of Australia's Gross Domestic Product (GDP) serving over 10 million properties. Their core business of water and sewerage provision delivers liveability and economic development. An aspect of this value can be seen a recent study by Deloitte Access Economics (2016). This report demonstrates the value of coastal beach water quality is in the order of \$137 million per annum for Sydney residents and an additional \$332 million to the economy due to tourism (see Box 6). Beyond essential services, water is part of the fabric of a liveable city.

Box 7 – Greening the West

Urban greening has been recognised as a low-cost strategy that will bring high impact results – environmentally, economically and crucially, for the health and wellbeing of the residents who live there.

Following a think tank organised by City West Water in 2011, an alliance of the many stakeholders with an interest in urban greening was formed to share knowledge, promote and implement solutions together. Goals include: joint advocacy for better planning outcomes, community education, new opportunities through collaboration. Through collaboration the following targets are set to be achieved:

- 25% increase in alternative water for green space by 2030
- Double tree canopy cover in the west by 2050
- Green space to be increased by 25% by 2030

Urban water businesses are in a unique position to contribute to green space, amenity, and recreation. These are key contributors to the health, sustainability and liveability of a city. “Urban green space interventions can deliver positive health social and environmental outcomes for all population groups, particularly amongst lower socioeconomic status groups.” WHO (2017). During the most urgent water restrictions of the Millennium Drought, when water could no longer be allocated for maintaining community infrastructure such as sports fields, some estimates costed the damage to ‘welfare in the community’ of no longer having such communal outdoor recreation facilities between \$400 million and \$1,500 million (Productivity Commission, 2011). The Greening the West initiative (see Box 7) has also demonstrated that connecting people through green parks, open space and urban habitat creates opportunities to improve physical and mental health of our communities. Areas surrounding green spaces have also been observed to experience economic benefits in the construction of hotels and residences and increased tourism (Box 8).

Box 8 – Millennium Park, Chicago – an opportunity for value capture

A 2005 study found that buildings located in proximity to the park generated over \$10 million more in annual taxes than pre-park amounts, and \$24 million more in sales taxes.

The park attracted an estimated 3 million visitors in 2005 and helped propel Chicago to America’s #1 most popular destination in 2006 according to Priceline.com

Source: <http://www.cityparksalliance.org/issues-a-resources/publicprivate-partnerships/case-studies/millennium-park>

Box 9 – Water Utility Renewable Energy

The Australian water sector is a large energy user during the supply, treatment and distribution of water. Many utilities are looking for renewable energy sources to meet their energy demands.

Sydney Water has built a diverse renewable energy portfolio made up of cogeneration, hydroelectricity and solar, which now accounts for approximately 20% of total energy demand of the utility. AS part of this they are trialling co-digestion of sewage sludge and organic food wastes; reflecting a changing mindset that Sydney Water could provide broader benefits as a 'waste services' provider by expanding its current capability treating one significant stream of waste.

Melbourne Water also have a significant renewable energy program. Nine mini hydros across Melbourne's water supply system generate 61,000 Megawatt hours of electricity each year – enough to power 9,000 households. In all, the water supply network generates more electricity than it uses. On the wastewater side, Melbourne Water captures biogas from the waste treatment processes at both treatment plants, and uses it to power 40% of the electricity required for treatment processes. The Western Treatment Plant is on track to become energy self-sufficient (utilising its own biogas) in 2016/17. As part of its continued commitment to reduce it emissions, Melbourne Water also has a pipeline of R&D and commercialisation. These projects include algae for treatment and biofuel production, advanced biogas recovery and small scale hydro and solar generation.

- Water businesses have the potential to make an even greater contribution to a liveable city, where people want to work and play through activities such as:
- making assets like easements available for conversion into bike paths and walking tracks
- boosting the generation of renewable energy, as in Box 9, through
- cogeneration where local food manufacturers supply their waste
- installing micro-hydro schemes on large pressurised systems
- assisting local councils to provide green, cool spaces by supplying alternative water supplies for parks, sporting fields and trees
- improving amenity, biodiversity and environmental health by working with councils to:
- naturalise urban waterway banks
- developing wetlands to reduce erosion and pollutants
- supporting healthy hydration programs in schools and promoting tap water

Developing liveable, vibrant and prosperous cities is an objective with support across governments and industries. Vibrant and productive cities are the key to Australia and our economic growth. Over 80% of our population lives in a city and 80% of our GDP is produced on just 0.2% of our land mass.

Contact details

WSAA welcomes the opportunity to discuss this submission further. If there are any details you wish to follow up on please contact:

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