Introduction

Thank you for providing Sydney Water with the opportunity to comment on the NSW Productivity Commission's discussion paper. Sydney represents more than a quarter of Australia's GDP, and this economic activity is supported by Sydney Water's services.

Additionally, Sydney Water's principal objectives align with some of the key themes identified in the paper: to protect public health, protect the environment and be a successful business.

Our response to chapters, themes and discussion questions within the paper are set out below.

Contents

Chapter 3: Prioritising productivity reforms

3.1 Productivity principles

We agree with the productivity priorities identified by the commission, and the principles of

- improving resource utilisation
- effective and sustainable government, and
- no one left behind.

We also support the ongoing discussion on improving natural resource utilisation on page 33.

It is worth noting limitations of some basic productivity metrics of urban water, which may simply measure cost of production or overall volume of water produced. While these metrics are appropriate for some processes (such as treatment or pumping) the sector's overall productivity must be measured on the customer or community service that is delivered.

This is particularly important when considering water efficiency improvements and leak reduction measure. These initiatives may maintain or improve customer outcomes, while reducing the total amount of water delivered to customers. Very basic productivity metrics may also be limited during times of water scarcity, when more costly sources of water must be used, and additional drought supply measures developed to maintain essential services for our customers.

Chapter 5: Reliable, sustainable and productive use of our water and energy

We agree with the Issues Analysis in the Discussion Paper. Ensuring the security and efficiency of water services is vital to a productive Sydney.

A safe and efficient supply of water, and a reliable wastewater service, are key elements in productivity, because such essential services allow people to enjoy healthy and productive lives, and participate fully in education, employment and community activities. Utilities such as Sydney Water were established to protect communities from the threats of water scarcity and water borne diseases.

In the context of climate change, new public health (and productivity) threats are emerging. They include increasing urban heat, heightened flood risk and water quality impacts. The cooling properties of water – for personal comfort, and in the design of towns and places – will be increasingly important. Urban design that embeds effective local flood management – including fully functioning flood plains, and retention and detention of water in urban design and the landscape – will also be a vital element in responding to these Issues. Water management is a key enabler of the vision of Sydney as a cool, green, liveable and productive city.

NSW has a very sound basis for effective metropolitan water planning. Iterations of Sydney's metropolitan water plan, which was first developed in response to the millennium drought, have ensured an orderly approach to supply/demand planning, drought response and community awareness of water issues. NSW's metropolitan planning process has largely followed Australia's National Urban Water Planning Principles.

Sydney Water is working with the NSW Government to develop the next iteration of Sydney's metropolitan water plan and state-based strategy.

5.3 Improving governance in the rural and urban water sectors

Q: How could New South Wales improve governance and institutional arrangements for water management?

Issue	Potential improved approach to governance and institutional arrangement
Lack of integrated water cycle management in Sydney	Developing new water plans that consider management of all water resources in an integrated way, including: • integrated planning for water entitlements, river flow, water needed for urban water services, wastewater and stormwater, and flood management. • identification of all water demands (including for cooling, greening and open space demands), and fit-for-purpose water sources to meet demands • catchment co-ordination (potentially using mechanisms in the Water Management Act)
No single body responsible for waterway health and management	Waterway managers to be established, with responsibility for: • setting a vision and targets for waterway health (that recognise their social, economic and green infrastructure roles), identifying stormwater management requirements, and good design standards • managing stormwater and wastewater quality and quantity (or co-ordinating the actions of others) • addressing cumulative impacts of development and land management on waterways • comprehensive monitoring and reporting on waterways, to input to planning and management • enhancing public recreation and access, environmental quality and enabling compatible private benefits • applying a range of approaches required to improve disturbed natural waterways, while protecting water resources with high conservation values.
Lack of integration in outcomes required by environmental, water management, land use and economic regulation This "disconnected approach" may hinder productivity if it causes over investment in some area, and under investment in others. It is also ineffective if decisions made in one area undermine outcomes in others, or require expensive remediation to address. For example, waterway regulation is not optimal because a range of separate approaches for water extraction and entitlements, wastewater management,	Co-ordinated, integrated regulation can support outcomes of integrated water resource plans. • A regulatory system, that more effectively links water quality and river flow objectives, wastewater management, stormwater and flood management and holistic economic regulation may enable the community's needs to be met with more efficient approaches. An example of regulation which is seeking more integrated outcomes is the Hawkesbury Nepean Nutrient Framework. • More co-ordinated regulation may provide greater incentives for innovation and effective resource use, including water recycling, stormwater harvesting, and recovery of energy, nutrients and other resources.

stormwater management and land use planning do not work to one consistent vision for land and water outcomes.	
Absence of Aboriginal voices in water planning – water planning may not represent all community needs and may not encompass all viable management approaches.	Aboriginal people in Sydney to be engaged and provide leadership on: • Aboriginal water values • river flows and conditions required for cultural practice, landscape and water values that can be revealed within urban area and landscape design, • place meanings and dual naming • opportunities for cultural mapping.

Q: How could the State improve water planning, and what are some possible ways to:

i. clarify the roles and responsibilities of State-Owned Corporations (SOCs), government, and regulators in water planning?

Water planning

We agree the State Government should continue overall responsibility for metropolitan and state water planning. We strongly support a whole-of-government approach that can bring together organisations with the appropriate expertise required for effective planning. This can include planning and allocation of groundwater and surface waters, urban water planning (including demand analysis) as well as waterway health.

An effective and experienced SOC utility is an essential partner in water planning, as it brings together broad expertise in managing water, wastewater, and stormwater services, services to enable a growing and more liveable city, and close connection with customer views and insights.

We agree that Government should retain a policy setting function, while acknowledging that good policy is informed by the experience of Sydney Water and other water utilities in service delivery, network and environmental management. Sydney Water's advocacy of customers' needs in water planning and policy is essential. Similarly, water planning will be strengthened if it continues to create strong connections with organisations with expertise in water quality, stormwater and land use and demographic planning. Water planning must put an emphasis on infrastructure and climate resilience planning and preparedness.

Governance of water planning must emphasise monitoring against plan outcomes and adaptive planning approaches that help ensure a timely and orderly response to water quantity or quality threats and clearly identify accountabilities.

Sydney Water's Operating Licence requires us to implement any action that we are responsible for delivering under the Metropolitan Water Plan.

Augmentation planning

In Sydney, utilities should retain responsibility for supply, treatment and network augmentation planning, because of utilities' expertise, in treatment and network asset knowledge, and responsibilities to maintain supply to customers. We recommend augmentation planning should continue to be guided by overall policy set by Government that is in accordance with National Water Planning Principles

Sydney Water's Operating Licence requirements to develop a joint long-term capital plan with Water NSW will help codify these accountabilities.

As discussed elsewhere in this paper, climate change is likely to increase the severity and frequency of climate events, such as droughts. It is also likely to change the distribution and intensity of rainfall and increase urban flood threats. The current drought has demonstrated how even a robust supply system like Sydney's can quickly move to water scarcity.

Environmental regulation and water sharing
As noted above, there are significant opportunities for regulation, that attempts to achieve consistent water and land use planning outcomes and considers the relative public benefit and costs from different elements of environmental management.

The review of metropolitan water sharing plans and upcoming reviews the metropolitan water plan provides a good opportunity to consider river flow, water allocation and urban water supply needs together. When stormwater and wastewater plans are considered together opportunities for more innovative whole of water cycle management solutions can be assessed. This approach is in line with the National Urban Water Planning Principles.

Stormwater and waterway management
In Sydney, there have been clear roles established for traditional water and wastewater servicing, but there is an absence of strong governance and integrated management of stormwater and waterways. There is a lack of alignment between land use planning processes and desired waterway health outcomes.

Catchment-based waterway managers could set a vision and targets for waterway health, identify stormwater management requirements for development (along with related goals, such as stormwater retention and greening), manage stormwater and wastewater quality and quantity (or co-ordinate the actions of others), and pursue adaptive management. Establishment of waterway managers would enable their expertise to be more effectively included in whole-of-government water planning.

As noted above, more integrated environmental planning and regulation would enable utilities and regulators to better consider the total costs and benefits, and potential complementary effects, of a range of integrated water management approaches.

Economic regulation
Independent regulation is appropriate for a monopoly services provider.

The current system of regulation provides opportunities for Sydney Water, our customers and other industry member to have a say. We believe there are good opportunities to extend and enhance the participation of customers in the process of identifying service outcomes and the water prices needed to deliver these. We consider the utility is best placed to lead engagement processes with its customers to inform the regulatory process.

Q: How could the State improve water planning, and what are some possible ways to:

ii. increase integrated water cycle management approaches where they are cost-effective?
Given the relationship between water supply security, river health, stormwater management and wastewater management, water planning will be most effective when it takes a whole-of-water cycle approach and is linked with land use planning outcomes.

Integrated water planning is more likely to identify opportunities for cost effective integrated water cycle management approaches that can address several problems.

Given the broad scope we recommend for water planning, we believe it is important to develop clear objectives for what water systems should deliver. For example, we suggest that objectives for future metropolitan water planning could include:

- a secure, affordable essential supply for public health
- water in communities for liveability and safe recreation
- water in our landscape for thriving natural environments
- secure water supplies to support economic growth and infrastructure to support communities.

Sydney Water's strategic asset planning is demonstrating the benefits of water recycling in reducing wastewater costs, and the benefits that updated urban form can have for stormwater management. Our analysis is illustrating that options that feature high levels of water recycling and water in the landscape are cost competitive with "traditional" servicing approaches when assessment is done at a regional scale.

Sydney Water's strategic asset planning is demonstrating the benefits of water recycling in reducing wastewater costs. Planning is showing that options that feature high levels of water recycling and water in the landscape are cost competitive with "traditional" servicing approaches when assessment is done at a regional scale.

This strategic planning is also demonstrating that water issues must be integrated with land use planning at an early stage. This enables urban design approaches that facilitate high levels of retention and detention (enabling water way protection and flood management), pervious landscape areas, and space for canopy trees, while facilitating appropriate levels of housing density to support active and mass transport and viable centres.

5.4 Improving service delivery in regional areas

Sydney Water has a very large area of operations which includes rural and bushland areas. We have provided wastewater services to some rural villages and townships in the fringes of Sydney on behalf of the NSW Government's Priority Sewerage Program. When delivering the program, we have used a range of technologies and servicing approaches to deliver cost effective lifecycle servicing outcomes to areas with servicing challenges including remoteness from the existing network, steep or rocky terrain, and low property numbers.

There are opportunities for further knowledge exchange and capacity building between urban and regional utilities that may help improve servicing and network management for water and wastewater for regional and more remote communities.

5.5 Expanding the role of water recycling and greater efficiency

As noted in the introduction to the discussion paper, improving natural resource utilisation is a core component of improving productivity. This is particularly relevant to Sydney as severe drought conditions continue.

Recent conditions are showing how even Sydney's robust water supply system is vulnerable to scarcity, drought and climate change, especially when this coincides with increasing overall demand led by a growing population and rapid urban development.

Sydney has a higher per-capita water consumption than some other Australian capital cities. Sydney's residential water consumption was 193 litres per person per day in 2018/19. Reasons for differences in reported water consumption between Sydney and other capital cities such as Melbourne may include different pricing structures and penalties for misuse. Melbourne has greater uptake of water efficient fixtures such as dual flush toilets and has greater use of alternative water sources (for example, greywater

for gardens and rainwater to fill swimming pools). Differences in weather, rainfall patterns and the prevalence of swimming pools may also account for some of the difference.

Q: What are the barriers to New South Wales achieving larger scale and cost-effective water recycling?

Q: How can these be addressed?

Barriers

The size and relatively protected nature of Sydney's raw water storages has led to understandable pride in the quality and reliability of our city's drinking water.

Sydney's water supply and wastewater management system is very cost effective in times of water abundance. It requires relatively little energy to operate (compared to other utility networks). Water efficiencies embedded during the last drought expanded the effective capacity of many of our key water and wastewater assets, and this has been assisted by innovative management. This has helped Sydney's water system provide reliable services to an expanding population.

These factors have diminished general community discussion about the role of recycled water as one of our supply sources compared to other cities who have experienced critical supply or quality issues. The security of Sydney Water's water supply and extended capacity in core wastewater systems has also made it more difficult to justify a financial case for wide-scale recycled water investments.

Investment in recycled water may also have been hampered by a historic lack of integration between water supply and wastewater management, stormwater management and land use planning at the macro or city scale. Low costs of wastewater treatment at Sydney's coastal wastewater treatment plants have helped keep costs for customers low but have made it difficult to justify more expensive treatment methods or recycling on financial grounds. Additionally, small schemes in infill areas do not typically provide significant benefits such as avoided costs or broad community benefits. These benefits become more visible with larger scales, cumulative analysis, and longer time frames.

Opportunities – addressing the barriers

The NSW Government's Greater Sydney Region Plan and supporting District Plans have identified a vision for Sydney, that includes healthy and accessible waterways and green, cool and connected places for communities to live. This vision is helping to highlight the additional customer benefits from integrated water management, and water demands arising from urban cooling and greening.

Emerging capacity constraints in Sydney's key wastewater assets provide a strong planning and financial incentive to consider recycling as a wastewater management tool, as well as a water supply solution. Capacity freed up by water efficiency is being absorbed by population growth.

The investments needed for Sydney's urban water systems over next 30 years and beyond are comparable to those made during the last century when large water infrastructure, such as Warragamba Dam and major coastal wastewater carriers, were built.

Drought conditions have increased public awareness on the need for diversity in Sydney's water supply, including recycled and desalinated water. The NSW Government is planning for the expansion of Sydney's desalination plant. The cost of new water supply augmentations encourages rigorous whole-of-system analysis to identify viable alternatives. Recycling can provide water in parts of Sydney's network where providing desalinated water is technically challenging.

Times of water scarcity also prompt awareness of Sydney's existing "one way" water system. More than 70 percent of water taken from our water supply dams is used once then discharged into the ocean.

Sydney Water's prices are set by the Independent Pricing and Regulatory Tribunal (IPART). In its most recent report on pricing arrangements for recycled water and related services, (effective from 1 July 2019) IPART clarified that the costs of recycled water schemes can be recovered from general water and wastewater prices where that scheme forms part of the least cost servicing solution. Sydney Water's strategic asset planning is showing that recycled water is cost effective on a regional scale, when water, wastewater and stormwater costs are considered over a 20 to 40-year timeframe.

IPART's report also recognises recycled water schemes can meet multiple objectives within an integrated urban water system beyond water supply, such as increasing liveability and improving environmental outcomes. If recycled water is not part of the least cost solution, but provides additional benefits, utilities may still be able to recover costs, if evidence from comprehensive, high quality customer research demonstrates customers are willing to pay for these benefits.

IPART has also advised that: "Our *framework recognises the system-wide benefits of recycled water, and ensures that recycling will be viable where the benefits it creates for customers exceeds its costs. This provides incentives to get the right solutions in place to meet the demands of customers and the broader community."*

Sydney Water has had always considered recycled water in all our servicing strategies. Better identification of avoided costs and a robust framework for valuing environmental and community benefits of water services will assist in the evaluation of all options.

Opportunities to provide recycled water may be further enhanced if utilities could justify the expenditure on achieving water-related benefits when it's directly aligned with outcomes explicitly identified in government policy and planning requirements (such as the Region and District Plans), or if a more certain mandate for water utilities to provide water-related liveability outcomes that align with policy were provided by Government.

Other elements that may improve opportunities for recycling and other water sources include:

- ongoing innovation in water treatment and evidence from other jurisdictions on the effectiveness and application of different recycling technologies
- improved integration of water cycle planning with land use planning. This could also require planning instruments to mandate recycled water connections in planning instruments in situations where a baseline level of customer demand is required to ensure recycled water benefits, such as avoided costs, can be achieved and maintained.
- growing community engagement with rivers and waterways will increase requirements for water quality and waterway health. More stringent wastewater treatment requirements may reduce cost barriers to providing recycled water by enabling higher avoided wastewater costs.
- emerging urban design challenges – including increasing risks of urban flooding and increasing urban heat - will also encourage investigation of stormwater retention and harvesting as an approach to address multiple water problems.

Q: How can the NSW Government encourage households and businesses to be more water efficient, particularly in metropolitan New South Wales?

During the Millennium drought, many jurisdictions ran highly effective water conservation and efficiency campaigns. While some water saving behaviours and technologies have been maintained by customers, new approaches to efficiency are now needed. Programs must address changes in demographics, customer behaviour, expectations of quality open spaces, and changes to dominant urban form in cities and regional centres.

Regardless of whether the current drought continues, we will need to continue to implement water efficiency campaigns and programs to engage our community to improve long term water saving behaviours.

Sydney Water is offering new and revamped water efficiency programs for customers. There is now a reduced cost for customers who participate in Sydney Water's WaterFix residential and WaterFix Strata customer water efficiency programs. We are also undertaking studies to understand how customers use water, which will help us design and target programs.

We are working with Councils to reach small and medium businesses and undertake rainwater repair programs. We are working with schools to run a water audit, repair and awareness program.

We are also working with other utilities to develop benchmarks for business and industry water use. During the millennium drought, Sydney Water's business programs demonstrated that water saving audits and improvements often helped businesses reduce waste and improve production because they improved business processes and supported efforts to monitor and control other business inputs.

Sydney Water is also working on a collaborative Smart Bathroom of the Future project to implement technology to control flow rates, detect leaks, adjust water pressure and manage cooling towers.

Sydney Water prepares an annual water conservation report and has an economic level of water conservation investment framework. Sydney Water's current operating licence requires Sydney Water to implement water conservation measures that have been assessed as economic. This means that we will conserve more water as dam levels fall. Sydney Water is required to review its economic level of water conservation to inform its Water Conservation Plan every year, while updating it every month for publication. The economic level of water conservation includes an assessment of external costs and benefits. We will also review our economic level of water conservation methodology, as we want to ensure our investment in water conservation meets community expectations and reflects the full value of water conservation.

We are conducting studies to increase our understanding of the performance of water efficiency initiatives, including BASIX. A review of Building Sustainability Index (BASIX) requirements relating to water efficiency (and potential new stormwater and catchment provisions) would provide an improved impetus for water efficiency. It would allow the development market to choose from the greater range of opportunities now provided by very water efficient devices and fittings, recycled water availability and optimised rainwater tank operation.

A review could consider a BASIX 60 target for all properties in urban areas (or at least where recycled water is available). It should also review targets for multi-unit dwellings. It should also consider stormwater and catchment management opportunities.

We note that the *NSW Water Management Act 2000* has provisions to improve and promote water efficiency, that have been little used for urban water management. We recommend the full suite of tools and approaches identified in the Water Management Act be deployed to improve water management, governance and innovation in metropolitan Sydney.

Efficient price signals are another important way to ensure households and business efficiently use resources and invest in water infrastructure.

IPART is responsible for setting Sydney Water's water price. It uses long-run marginal cost (LRMC) as a basis for the usage price. A usage price based on LRMC per kilolitre signals to users the opportunity cost of using water before triggering the next supply augmentation. It may also act as the benchmark against

which households and businesses assess the costs of investing in long-term efficiency technologies. The LRMC does not take into consideration short-term shocks to the water supply, such as from drought.

A potential solution to help manage short-term supply shocks and help households and businesses be more water efficient during times of short-term supply shortages is to consider introducing a short-run price alongside a stable LRMC. In this way, prices would increase above LRMC during times of shortage and signal to households and businesses the short-term value of the water they are consuming, providing incentives for them to use less in the short-run.

The impacts of such a pricing strategy on various households would need to be carefully considered before being implemented. Ideally, it would also be informed by robust customer engagement.

5.6 Problem definition: Energy

Discussion on water and energy relationship

There is a strong water and energy nexus in Sydney Water's operations. In general, higher wastewater treatment quality, additional recycling and greater use of climate independent supplies such as desalination will increase our operational energy demands.

As a large energy user, we recognise the need for a secure, reliable and low carbon energy grid. Sydney Water is also improving its energy efficiency, energy self-sufficiency and generation and storage of renewable energy.

We produce about a fifth of our operational energy needs through renewable energy. The remainder is supplied by grid-electricity.

We've installed hydro power generation at some of our water and wastewater pipes, use co-digestion and co-generation at our wastewater treatment plants to produce energy, heat and bio-solids, and have installed solar PV systems.

We are conducting research to understand low energy treatment options (such as wetlands), and novel treatment technologies (such as graphene) and ongoing generation of renewable energy can reduce our external energy demand.

Chapter 6: Smart ways to get more from our infrastructure

More than 80 percent of Sydney Water customers rely on water supplies from Warragamba Dam and Prospect Water Filtration Plant and this system underpins approximately 25 percent of Australia's GDP. While this is an efficient and low-cost system, it means many customers rely on a single water source, bulk water connection and treatment plant.

There is an opportunity to maximise the value of Sydney's infrastructure by improving the interconnectedness of water supply systems and improving resilience by increasing redundancy. This is in line with international best practice. It reduces the risk that failure or operational difficulty at one asset will have a significant impact on customer service.

For example, Sydney Water's Prospect to Macarthur link project will create a two-way link between Prospect South and Macarthur water distribution systems. This provides system balancing capability and it will also improve long term system resilience.

Q: How can infrastructure investment governance and transparency be further strengthened

Sydney Water has a transparent investment governance framework. Our investment plans and prices are reviewed every four years by IPART. IPART seeks comment on our price proposals, facilitates Issues Papers and holds public hearings. The inclusion of a merits review in the price setting process could increase transparency.

Sydney Water has prepared a long-term capital and investment plan, in response to Recommendation 91 of Infrastructure NSW's State Infrastructure Strategy. The Plan looks at a range of different pathways we can follow to offer water and wastewater services 25 years in the future.

Sydney Water is also preparing a range of long-term plans, guided by stakeholder values. These include

- Regional Masterplans, that assess the water products and services needed in each of the three cities, plus the Illawarra. The vision for each region is informed by our stakeholders
- Product Masterplans.

In addition, we produce a Growth Servicing Plan, and will publish a servicing information report for each of our major water and wastewater systems. We are also preparing a system limitation report to show 10 years of servicing information on:

a) current and projected demand;

b) current and projected capacity constraints;

c) indicative costs of alleviating or deferring capacity constraints;

d) locations where further investigation is needed; and

e) key sources of information used to develop the servicing information where those sources are publicly available.

Collaborative planning exercises, such as Greater Sydney Commission's (GSC's) Place Based Infrastructure Compacts, are demonstrating how agencies and SOCs can do more aligned infrastructure planning, with more consistent appraisal of costs, benefits and sequencing of development at the precinct level.

Q: What types of targeted service improvements and demand management solutions could be considered to maximise value from our infrastructure?

As noted earlier, significant investments in water conservation during the Millennium drought ensured ongoing capacity in some of Sydney Water's key wastewater assets, while allowing new growth to be serviced in a cost-effective manner.

Q: How could agencies use data and smart infrastructure to improve asset management?

Options for data and smart infrastructure to improve management of water assets include:

- leak detection and leak reduction programs
- smart sensors
- customer efficiency and demand management programs
- innovations in pipe and network management to expand the life of existing assets
- pro-active management of service faults.

Sydney Water has been conducting trials of smart sensors to assess how they enable early detection of wastewater blockages, and how they perform in the harsh environment of our sewers.

Q: How can we improve strategic land use planning and coordination with major infrastructure delivery?

Sydney Water has been participating in several of GSC's collaborative place and infrastructure processes, including Collaboration Areas and the GPOP Place Infrastructure Compact. We are also a member of the Planning Partnership.

These processes have helped illustrate several of the good practice elements identified in the discussion paper, including planning from a place-based perspective, adopting place-based outcomes and enabling greater visibility of staging and sequencing decisions.

This approach has also demonstrated how some water management approaches – such as recycling and integrated water cycle management – are most cost effective when embedded with land use and implemented at a broad scale.

Governments and utilities can also realise more benefits from integrating infrastructure and land use planning by collaborating more deeply with Councils and working with planners to see place objectives embedded into land use planning instruments.

This approach may help avoid some of the unintended costs of existing planning and development processes, including degradation and removal of waterways, lack of public access to waterways and riparian areas, and poor downstream water quality. We agree with the need for effective strategic planning before the rezoning process, to enable effective staging of infrastructure, corridor protection, and enabling land to be acquired for cost effective provision of infrastructure.

Q: How can existing innovative service delivery models be further leveraged to improve productivity and customer outcomes?

Technical innovations can help improve network management, enable more targeted maintenance, and can help customers manage their water use. Innovation opportunities may include:

- sensors and early detection systems to improve management of stormwater and wastewater systems, and allow early detection of leaks, breaks or unusual flows.
- machine learning approaches to enable computerised analysis of pipes and equipment and to detect potential faults
- innovative treatment materials (such as graphene) can improve the efficiency of water treatment.
- use of robotics for inspection, maintenance and repairs in dangerous and hard-to-reach-places can improve maintenance, enhance asset life and reduce waste.

Chapter 7: Modernising our tax system to help our economy grow

7.3 Reducing inefficiency in property taxes

Land tax discussion

Unlike local Councils, State Owned Corporations (SOCs) such as Sydney Water pay land tax on their land holdings.

This is a potential discrepancy in situations when SOCs and Councils undertake similar functions. For example, both Sydney Water and local Councils have stormwater management functions.

It poses a potential financial disincentive to moving towards more holistic, whole of catchment stormwater management approaches. It may reduce community benefit by preventing realisation of more effective models for waterway and flood management.

Transfer tax is also incurred when land is transferred between entities such as local councils and SOCs.

Chapter 8: Planning for the housing we want and the jobs we need

8.6 Making the most of our public spaces and green spaces

The NSW Government's Greater Sydney Region Plan has identified a vision for parkland style development, that combines high levels of liveability, connectivity and celebration of water in the landscape.

Water has a role in creating safe, green and pleasant places in our city. Integrated urban water management can help cities reap the benefits of agglomeration because water, good urban design and green space can make dense urban environments desirable, ensuring they are places people choose to live, work and invest in.

The role of water in cooling our cities is an essential component to improving the equity and productivity of Sydney, across each of its three cities. Temperatures in the west of Sydney can be 6-10 degrees higher than the Eastern City in heat waves, with up to three times as many heat-related deaths. There is a growing body of evidence about the impact of heat on health and productivity.

At a suburb scale, 'cool and green' design approaches will reduce peak temperatures by up to 2.5 degrees and cut peak energy demand by nearly 10 percent (as demand for air conditioning is reduced).[1]

Analysis conducted by Sydney Water shows water planning that features high levels of recycled water for cooling and greening, and that is integrated with urban design and land use planning can have similar costs to 'business as usual, one-way water' approaches, but delivers significantly more benefits for communities. Research recently conducted by WSAA has demonstrated the health benefits associated with integrated water cycle management approaches that improve liveability.[2]

Q: Are there other innovative ways of providing new public space, particularly on underutilised land?

As population density increases, there will be demand for more high quality, well maintained areas of green space, that can provide more opportunities for recreation for more people doing a broader range of activities. Water has a role in cooling and greening streets and other parts of the public domain, as well as creating attractive green spaces, and maintaining durable active sports fields with appropriate irrigation.

Analysis by the NSW Government Architect has demonstrated how creating blue green grid corridors and improving connections between existing green spaces can improve the overall amount of open space and increase its useability.

Sydney Water has been involved in collaborative planning exercises that consider the role our operational lands could have in improving blue green grid connections. For example, the Liverpool Place Strategy, facilitated by GSC, commits to investigate opportunities to increase public access through Sydney Water's water recycling facility as part of a network of high-quality open space.

Some of Sydney Water's land is already leased for recreational activities. The Eastern City District Plan identifies priority open space corridors, including Mill Stream and Botany Wetlands. This corridor traverses Botany Wetlands and Sydney Water-owned land that's currently leased to golf clubs, to improve public access, enable active transport while improving water quality and enhancing biodiversity.

Sydney Water also owns stormwater or 'trunk drainage' land in parts of Sydney that's currently available for public recreational use. We own drainage land in Rouse Hill that's used for playing fields, walking and

[1] For example, see Sydney Water's Cooling Western Sydney report, available at https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mty4/~edisp/dd_168965.pdf

[2] Health Benefits from water centric liveable communities, available at https://www.wsaa.asn.au/publication/health-benefits-water-centric-liveable-communities

cycling paths, and bushland and riparian conservation. These drainage lands play a key role in flood management. We are also naturalising stormwater canals we own in other parts of Sydney, to improve their condition and improve biodiversity and water quality.

Ongoing development in the Central and Western Districts poses an opportunity for integrated stormwater and catchment management to provide these community benefits.

8.7 Moving towards more efficient and equitable developer contributions.

The Sydney Water Act allows Sydney Water to levy charges on developments that will make use of the services it provides. In the past, these developer charges have been one avenue by which Sydney Water has recovered the cost of providing infrastructure to service urban development. As noted in the Discussion Paper, water, wastewater and stormwater facilities that service a new development are "development dependent" costs.

Sydney Water (and Hunter Water) developer charges for regulated water, wastewater and stormwater services were set to zero by the NSW Government in 2008 in response to the global financial crisis, and in a bid to bolster housing affordability. This means Sydney Water customers fund expansion of the water and wastewater network that's required to provide services to new growth, except for recycled water. Costs are recovered from customer bills over the life of the assets.

Sydney Water recycled water developer charges still apply, and they are calculated through a methodology set by IPART. Avoided costs for water or wastewater that result from the recycled water scheme are deducted from recycled water developer charges. If recycled water forms part of the least cost solution, the developer charge will be zero.

There may be benefit in considering the reintroduction of water and wastewater developer charges for Sydney Water's area of operations.

Sydney Water builds significant new infrastructure to support Sydney's growth. Sydney Water will invest approximately $2 billion in capital expenditure to service growth between 2020 and 2024.

Q: What principles could be applied to the developer contributions system to ensure transparent, consistent and efficient outcomes

Our suggested principles for effective developer charges are that they:

- apply to development dependent costs
- be calculated by a methodology that is simple to understand
- strike the right balance between location specific charges and ease-of-use.

Q: How might developer contributions be improved to support growth in new areas and service growing community needs.

The overall level of developer contributions across water, Special Infrastructure Contribution levies and section 7.11 local contributions could be reviewed to ensure charges are reasonable and consistent and fund the optimal mix and amount of infrastructure.

Chapter 9: Forward looking regulation that supports competition and innovation.

Sydney Water promotes private sector involvement through our contracted activities: Approximately 80c of every $1 of our expenditure is spent on contracts which are sourced from competitive markets.

We appreciate that while competitive tendering can promote efficiency and innovation, it is different to granting the private sector more opportunity to serve customers directly. Both types of competition have a role in improving productivity.

9.2 Forward looking competition that supports competition and innovation

Q: What new tools can be harnessed to enable an adaptive, iterative and outcomes-based approach? Is there scope for greater uptake of these tools in New South Wales?

Given the nature of water and wastewater services, established postage stamp pricing structures that apply in Sydney, and the efficiencies gained from competitive tendering, there are challenges in further stimulating a vibrant competitive retail market for customers in Sydney region.

The Productivity Commission's inquiry into the Australian Water Sector in 2011, noted (page 245) that the potential gains from competition were likely to be modest because: "…compared with other utility sectors, a greater proportion of costs are in natural monopoly elements of the supply chain (for which competition in the market would be inefficient)."

Policy changes to increase the amount of competition in the urban water market should be carefully assessed to ensure they don't diminish outcomes for customers.

Despite these limitations, there are some measures that may enable competitors to provide water services to customers and improve overall outcomes for the broader community. These include:

- publication of servicing information about major water and wastewater systems. This was a recommendation of Infrastructure NSW's review into the barriers to cost effective recycling. It is now a requirement of Sydney Water's Operating Licence. We will publish information on current and projected capacity constraints and indicative costs (or savings) of alleviating (or deferring) constraints in each water and wastewater system in a consistent, timely and accessible way over time. The objective of this document is to illustrate where there may be opportunities for private utilities to service customers more effectively than Sydney Water can now, or to develop technology and approaches to enable constraints and limitations to be addressed.
- water efficiency opportunities – the private sector can propose water efficiency projects that align with our current or projected ELWC. BASIX requirements also allow the private sector to meet customer and community water efficiency needs at the lot scale. Expansion of the performance requirements in BASIX (for example, to include stormwater) may provide more opportunities for the private sector to meet customers' needs.
- likelihood of increasing severity and re-occurrence of drought creates opportunities for novel approaches and technologies for water supply, that can meet the needs of customers, utilities and Councils.
- access arrangements to monopoly assets – the collection and transport systems for Bondi, Malabar and North Head wastewater networks are "declared" assets under national competition law. Regulated price of access offered has not currently proven attractive.
- ongoing growth in Sydney provides ongoing opportunities for private sector entrants under the WIC Act. Some private utilities are bundling a range of utility services. The need for renewals and augmentations to Sydney's water networks provides the opportunity for innovation in the delivery of these significant infrastructure projects, especially when they involve heavy works in populated areas.