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Submission to IPART in response to Draft Report

Prices for Sydney Water from 1 July 2020

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Introduction

Thank you for the opportunity to make a submission.

The submission responds to tariff structures for water and wastewater services. We reiterate the important and long held (COAG 2008) national urban planning principle to

Use pricing and markets, where efficient and feasible, to help achieve planned urban water supply/demand balance.

Tariff structures for water supplies should be designed to signal the full value of finite water resources to end users to encourage efficient water use. The price charged for urban water services should be transparent and linked to the level of service provided. (Principle 7)

We congratulate IPART on the decision to provide a better price signal on the value of water through the drought pricing regime, recognising the spatial variation in the cost of treating wastewater, some attempt to include more of the service costs in the price of water and a commitment to further investigate the true long run marginal cost of water and the operation of the ELWC.

The IPART process continues to fall a very long way short of the fundamental economic principle that all costs must be considered to determine the actual long run marginal cost. Partial accounting that does not take into account all the capital, operational and administrative costs of water and sewage services creates the potential for bias and inefficient decision making. These full costs must be reflected in the variable price of water services to provide an accurate price signal of the full value of delivering finite water resources.

The draft report continues the ongoing confusion between water and wastewater costs and prices. The prices of services for Sydney Water are derived from partial and average, non spatial costs which is misleading when considering the actual costs of efficient service delivery.

Cost of Water

We are mystified by the IPART's proposition that the price of alternative water supply is $1.90/kL and the widespread confusion that this price somehow reflects the cost of water supply and the implications this has for more efficient portfolio strategies. This calculation appears to be a partial variable operating cost of the Sydney Desalination Plant and is an example of partial accounting and averages which does not consider the spatial variation in costs throughout the region.

The crucial issue is the full cost of delivering water and sewage services to specific areas throughout the Sydney Water network which can involve long transfer distances. That full cost is not the partial cost of operating a desalination plant, but the full capital and operational costs of the desalination plant, pumps, pipes, plants and administration of Sydney Water required to deliver water and sewage services to that household.

The utility water supply transfer distances from reservoirs to local government areas are shown in Figure 1 and the utility wastewater disposal transfer distances from local government areas to wastewater treatment plants are presented in Figure 2.

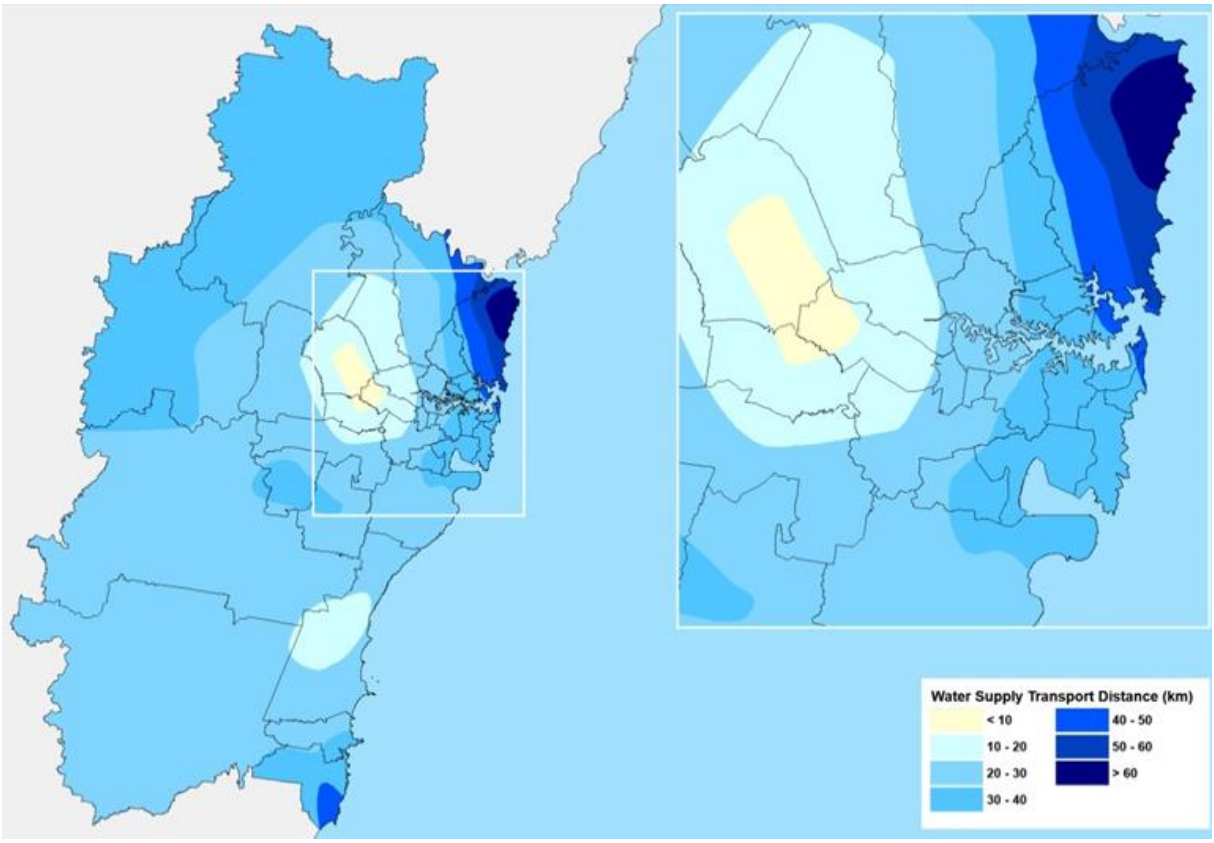

Figure 1: Utility water supply transfer distances across greater Sydney

Figure 1 reveals that utility water transfer distances range from less than 10 km to greater than 60 km across the region.

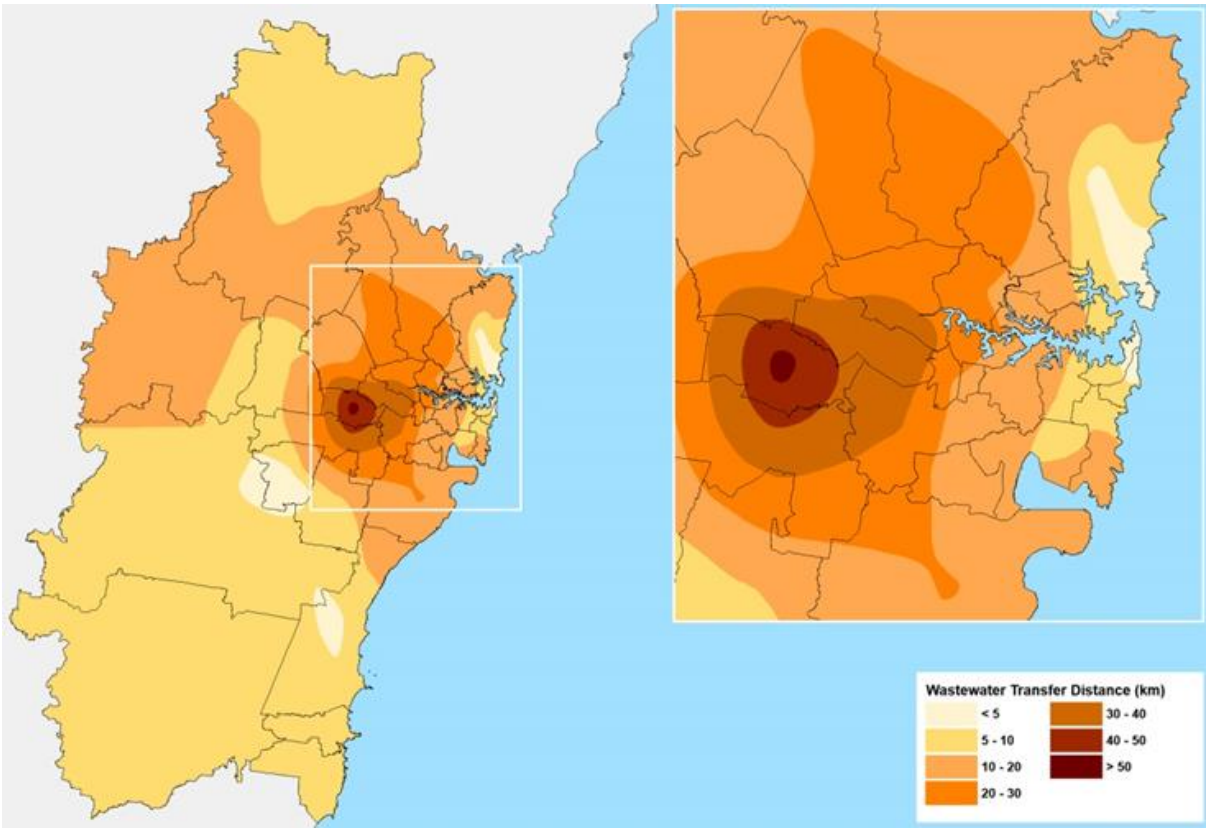

Figure 2: Utility wastewater disposal transfer distances across greater Sydney

Figure 2 shows that utility wastewater disposal distances range from less than 5 km to greater than 50 km. The spatial costs of water and sewage services are shown in Figure 5. The Coombes analysis presented at OzWater19 shows that this cost can exceed $20/kL in parts of Greater Sydney (see Figure 3).

This analysis is fundamental to considering the viability of water conservation measures, alternative water sources and competitive service delivery options. A claimed committed to postage stamp pricing does not mean either Sydney Water or IPART are bound to assume postage stamp costs. As documented below there is a risk that Sydney Water uses its postage stamp pricing to subsidise the cost of delivery to fringe areas and eliminate competitive alternatives with all Sydney Water customers bearing the increased cost.

Whilst IPART may feel constrained by a policy that requires postage stamp pricing this does not justify ignoring the spatial variability of water and sewage service costs and applying the important precedent set for consideration of the spatial variability of water and wastewater costs.

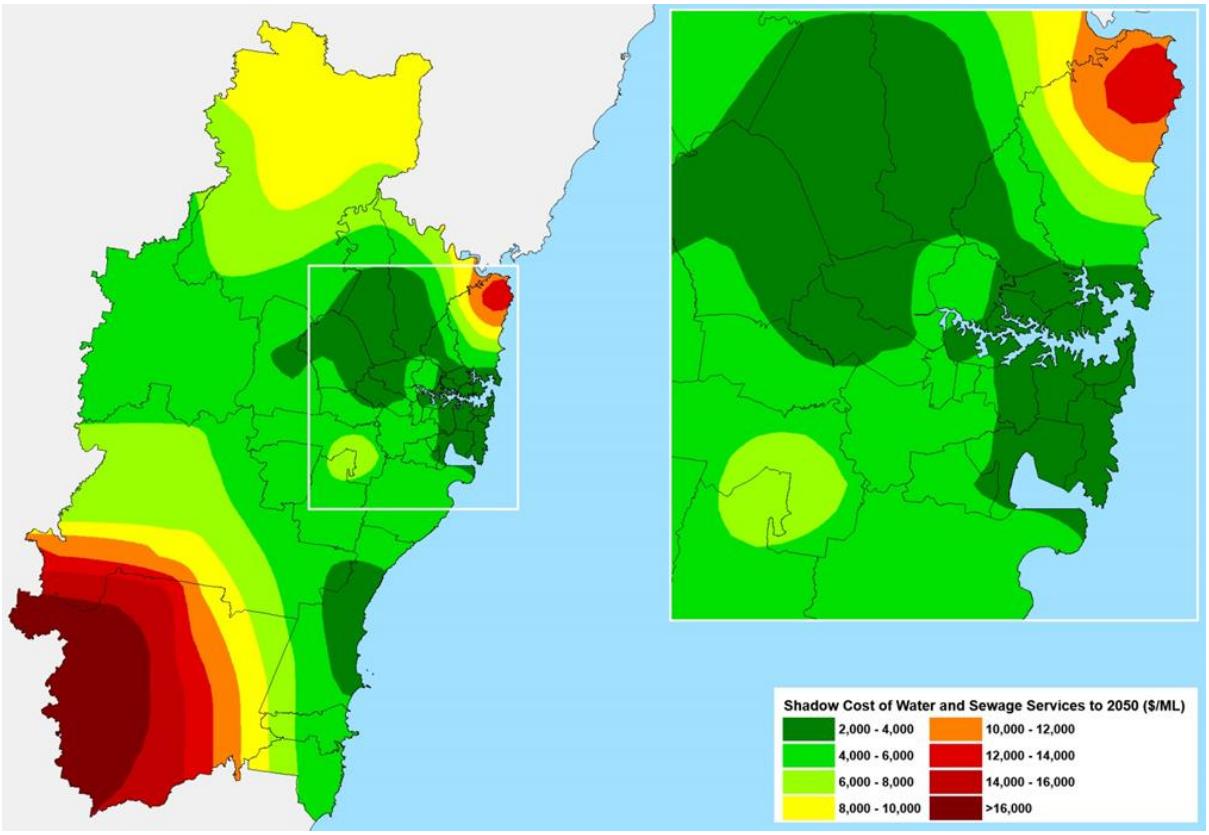

Figure 3: Spatial variability of water and sewage costs to 2050

Postage Stamp Pricing and Fairness

There is a suggestion that postage stamp pricing is fairer for household welfare. Research by Coombes (2018) suggests this is not correct.[1,2] Postage stamp pricing creates inequities and cross subsidies because it does not reflect true costs and increases the price of water services for those in our community who are least able to pay increased charges. Postage stamp pricing transfers a greater proportion of water and sewage costs to households with less ability to pay the price.

Emphasis on Asset Base (re)valuation drives bias and inefficiencies

The ongoing emphasis in the IPART assessment on the revaluation of the asset base as a major determinant of the price of water acts as an incentive to increase infrastructure, and therefore long-term revenue, at the expense of alternative service delivery options. Increasing operational expenditure on water efficiency behaviours, efficient appliances and alternative water sources can be more cost effective than capital infrastructure but this analysis is not provided when assessing capital investment proposals. A focus on capital valuation does not appear to incentivise efficient or equitable outcomes.

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[1] Coombes P. J., Barry, M. E., Smit, M., Systems analysis and big data reveals economic efficiency of solutions at multiple scales, OzWater 2018, Australian Water Association, Brisbane, Australia, 2018

[2] Coombes P. J., Barry, M. E., Smit, M., Bottom up systems analysis of urban water resources and market mechanisms for pricing water and sewage services. Hydrology and Water Resources Symposium (HWRS 2018): Water and Communities, Engineers Australia, Melbourne, Australia, 2018

This is despite the strong recommendation set by COAG in 2008 on the subject

Consider the full portfolio of water supply and demand options.

Selection of options for the portfolio should be made through a robust and transparent comparison of all demand and supply options, examining the social, environment and economic costs and benefits and taking into account the specific water system characteristics. Options should include optimising the use of existing infrastructure through efficiency measures; residential, commercial and industrial demand management initiatives… and the development of additional centralised and/or decentralised water supply options. (Principle 5).

Price Signals for Wastewater

We not agree with the Productivity Commission commentary on not needing to send residential price signals for wastewater at a number of levels.

- The price signal for wastewater is the price of indoor water use and the price of indoor water use should reflect the cost of treating wastewater. Wastewater is indoor household use, every kilolitre of indoor water use has to be treated and the cost of treating wastewater should be transparent in the price signal to households.
- The relationship between utility water supply and outdoor household use may need to be reconsidered. Using high quality utility water for outdoor uses is recognised as a potentially inefficient allocation. Accurately reflecting the cost of wastewater treatment in utility water could encourage alternative water sources for outdoor water use resulting in a more efficient use of water use and increased water security for our cities.
- The assumption that householder have less scope to adjust their use of indoor water than outdoor water is challenged. Report by Coombes et al (2011, 2012, 2014, 2018) demonstrates that reductions in indoor water use can be considerable in response to drought, water restrictions, media signals and price.[3]
- It appears that in a drought the volumetric reduction of indoor household use could be greater than outdoor household use because major drivers of reduced water use were indoor uses, such as showers, toilets and washing machines. While the opportunities for irrigation are reduced in a drought it is important to understand that the demand for irrigation water may not be reduced. So households may have reduced hours in which they are allowed to water but are more likely to use that time for watering their dry gardens in response to messaging about water restrictions. On

[3] Coombes P.J., et al., Systems Analysis of Water Cycle Systems: economic analysis of Options and Scenarios for the Living Ballarat project. Report by Victorian Chief Water Scientist, Urban Water Cycle Solutions, 2014;

Coombes P.J., et al., Living Melbourne, Living Victoria: Greater Melbourne Systems Model – Modelling in support of Living Victoria Ministerial Advisory Council, Report by Victorian Chief Water Scientist, Urban Water Cycle Solutions, 2012;

Coombes P.J., et al., Sydney Water Alternative Water Strategy – A vision of what is possible and a road map to get there, Bonacci Water and Urban Water Cycle Solutions, 2011

the other hand the social responsibility for drought response can be very strong and customers will choose to modify their indoor behaviour and appliance choice to reduce water use. This suggests that changes in indoor household use in the drought response may have been much greater than is widely recognised.

- It is important to understand the demand benefits of changed behaviour and water efficient appliances. More efficient showerheads, toilets and washing machines combined with more efficient behaviour can generate very significant indoor household savings as shown by Roberts in Figure 2.

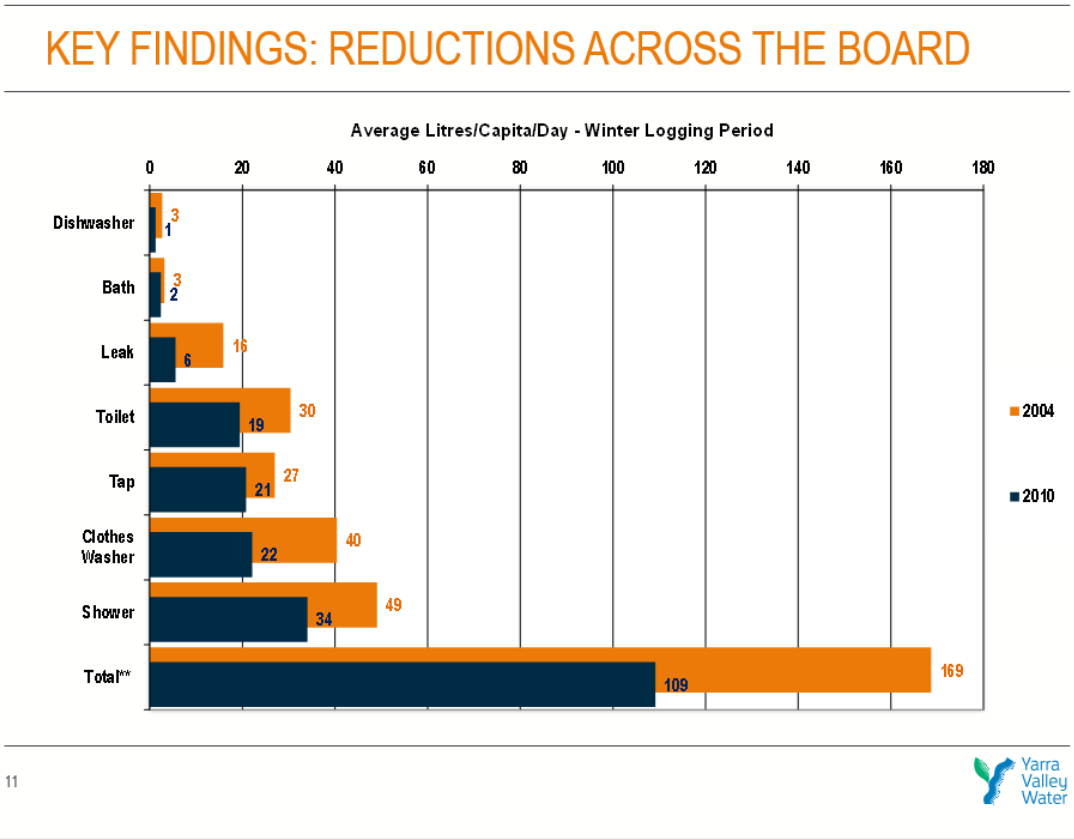

Figure 2: Changes in indoor water use

<u>Competition Responsibilities and Postage Stamp Pricing</u>

We draw your attention to the IPART commentary on the anti-competitive nature of postage stamp pricing below and the IPART responsibility to challenge that policy.

With respect to the NSW policy of postage stamp pricing IPART has a specific responsibility relating to s15 (i) of the IPART Act to have regard to the need to promote competition in the supply of the services concerned.

We draw your attention to the 2014 IPART Submission to the Competition Policy Review as follows:

Postage stamp pricing for water is a major barrier to competition

Postage stamp pricing reflects the average cost of servicing a given area (eg, Sydney Water's area of operations). The National Water Initiative (NWI) pricing principles allow postage stamp pricing, but state a preference for differentiated prices in specific areas.36 However, postage stamp pricing remains NSW government policy.37 Postage stamp pricing impedes competitive entry into the water and sewerage markets. Most growth areas are on the urban fringe, which is higher than average cost to service.38 As such, the incumbent business is able to service the growth area at the postage stamp price, using its large customer base to subsidise growth expenditure, while new entrants must recoup all costs through charges to its new customers. This creates a barrier to competitive entry. This issue is exacerbated in the absence of cost-reflective developer charges.39 Postage stamp pricing also distorts location based investment decisions. The postage stamp price removes price signals to customers about the costs of servicing locations. Individual inefficient decisions, such as increasing density in areas that require highly treated river outflows instead of primary treated ocean outflows, will increase the costs of sewerage services to all customers. This creates an element of moral hazard.

And

There are a number of impediments to more extensive competition for water markets, which could be removed. These include, for example:

- *The ability of large, government owned incumbent water utilities to cross subsidise their provision of services to new development areas. Large incumbents are better positioned than smaller suppliers to run the necessary cross-subsidies, such as postage stamp pricing.*
- *The tendency for government strategic land-use planners to rely on information from the incumbent public water utility to inform their decisions (eg, in relation to the location and sequencing of land release), rather than also seek information or expressions of interest from the market.*
- *Inconsistent rights or regulatory requirements of existing state-owned utilities relative to potential new entrants. In Europe and South America, concessions are a popular method of creating competition for the market. However, outside of South Australia, they have been rarely used in Australia. Concessions allow the private sector to bid to operate water and wastewater systems for extended periods of 10 to 30 years. Concessions involve competitive tendering for the operation and provision of services. This forces a utility to seek efficiency gains to outbid competitors, creating competitive pressures in monopoly markets.29 Whole of system concessions may prove particularly valuable for small water utilities, such as the water and wastewater systems operated by local councils in NSW.*

We also consider there should be competition for the market for providing non commercial services or community service obligations related to water (eg, universal service obligations). That is, governments should seek to competitively procure these services by calling for bids or expressions of interest from the market, rather than requiring (or granting the right to) public water utilities to provide these services. In such circumstances, the public water utility could be a bidder or a public sector comparator (and default supplier).

Appendix 1 – COAG Urban Water Principles as supported by Productivity Commission, National Water Commission and Infrastructure Australia

National Urban Water Planning Principles

National principles for urban water planning should be universally applicable when developing plans to manage the supply/demand balance of a reticulated supply for an urban population.

Key principles to achieve optimal urban water planning outcomes are:

1. Deliver urban water supplies in accordance with agreed levels of service.

   The service level for each water supply system should specify the minimum service in terms of water quantity, water quality and service provision (such as reliability and safety).

   Levels of service should not apply uniformly, but rather should be set for each supply system and potentially for different parts of an individual supply system. Agreement on levels of service will allow the community to understand how seasonal variability and climate change will impact on supply into the future and how different levels of service relate to costs. Measures undertaken to minimise risk and maximise efficiency in supplying water should be in accordance with agreed levels of service.

2. Base urban water planning on the best information available at the time and invest in acquiring information on an ongoing basis to continually improve the knowledge base.

   Up-to-date information on current and future water resources, water supplies and water demand is critical for effective urban water planning. Information on possible future changes, such as population growth and climate change, is also important in understanding the ongoing water supply/demand balance and to determine an acceptable level of risk due to uncertainty.

   Knowledge of existing customers (including who is using water, how much and for what end uses and an understanding of the differences between customers and geographic locations) is important when forecasting future water demands by end users in a particular category of use and the impact of possible demand management measures under consideration.

   Urban water planning should be based on scenario planning, incorporating uncertainty in supply and demand, as well as integrated with future economic development and land use planning to ensure full knowledge of the availability of water supplies and water savings opportunities.

   Where possible, information should be gathered in such a way that it enables improved information-sharing and research coordination between jurisdictions.

3. Adopt a partnership approach so that stakeholders are able to make an informed contribution to urban water planning, including consideration of the appropriate supply/demand balance.

   Stakeholder input is essential to ensure that the proposed levels of service and the supply and demand management options required to deliver that level of service are considered in terms of consumers' attitudes, including willingness and ability to pay.

   Community information and education programs should be an integrated part of urban water planning and should be designed appropriately, based on community input, to increase knowledge, understanding and informed participation in urban water planning, as well as increase water efficient behaviours.

   Urban water planning should be based on a process that is transparent and inclusive, recognising different consultation approaches are appropriate in different circumstances.

4. Manage water in the urban context on a whole-of-water-cycle basis.

   The management of potable water supplies should be integrated with other aspects of the urban water cycle, including stormwater management, wastewater treatment and re-use, groundwater management and the protection of public and waterway health.

   The risks associated with different parts of the urban water cycle (such as trade waste, stormwater, etc.) should be considered and managed. Water quality of potable supplies should be protected through appropriate catchment management practices and management of wastewater. This will involve a range of activities, from land use planning and management that protects the quality of natural water resources, through to addressing the disposal, treatment and reuse phases of the water cycle.

   Such an approach should result in delivery of diverse water supplies which are fit-for-purpose and optimise the use of water at different stages of the urban water cycle.

5. Consider the full portfolio of water supply and demand options.

   Selection of options for the portfolio should be made through a robust and transparent comparison of all demand and supply options, examining the social, environmental and economic costs and benefits and taking into account the specific water system characteristics. The aim is to optimise the economic, social and environmental outcomes and reduce system reliability risks, recognising that in most cases there is no one option that will provide a total solution. Readiness options should also be identified as part of contingency planning.

   Options considered could include the following: optimising the use of existing infrastructure through efficiency measures; residential, commercial and industrial demand management initiatives; purchasing or trading water entitlements from other sectors; and the development of additional centralised and/or decentralised water supply options, including manufactured water sources (such as recycling and/or desalination), where appropriate.

By considering the full range of options, access to a range of sources should be able to be optimised dynamically (even on a short term basis) through the availability of diverse infrastructures that may include both centralised and decentralised water supply schemes. These sources would be drawn upon in differing combinations depending on the local and regional climatic conditions and the mix of sources selected would be those resulting in the lowest environmental, social and economic costs over the long term.

6. Develop and manage urban water supplies within sustainable limits.

   Ensuring the ongoing protection of the environment and waterway health is an integral part of urban water planning. Natural water sources for all water supplies, such as surface and groundwater supplies, should only be developed within the limits of sustainable levels of extraction for watercourses and aquifers.

   Sustainable levels of extraction should be established through publicly available water plans prepared at a catchment and/or basin scale for all water use, including environmental requirements. In determining the sustainable extraction levels, regard should be had to the inter-relationships of different water sources.

   To ensure sustainability, extraction levels should also be monitored over time and periodically re-assessed to reflect changes in scientific knowledge and climate variability.

7. Use pricing and markets, where efficient and feasible, to help achieve planned urban water supply/demand balance.

   Tariff structures for water supplies should be designed to signal the full value of finite water resources to end users to encourage efficient water use. The price charged for urban water services should be transparent and linked to the level of service provided.

   Rights to urban water supply should be clearly defined to the extent that it is economically efficient, cost-effective and feasible to do so, at the various levels of the supply chain. This in turn will facilitate the use of markets and trading where appropriate. This could include developing bulk water and wastewater markets, removing barriers to competition and institutional, structural and governance reforms.

8. Periodically review urban water plans.

   Recognise that there is a need for periodic review of urban water plans and their underpinning assumptions. All parties involved in the development of an urban water plan should be committed to ensuring that the plan can adapt as necessary to reflect additional information/knowledge and changing circumstances.

   Planning should recognise that some demand/supply responses are short-term and are required to be adaptive, while other responses such as water infrastructure planning and investment have a longer planning horizon because the assets have a considerable lifespan.