Appendix A – What is competition in the urban water sector?

At a general level, it is clear that competition in the provision of services can lead to significant benefits. As observed by IPART in its Discussion Paper, "increasing competition in the supply of water and sewerage services should encourage greater efficiency in the supply of these services, thus reducing costs for the benefit of consumers".

In WSAA's view, however, a key policy question is precisely what forms of competition are likely to be effective in delivering these benefits in the supply of urban water and sewerage services and how to best design policy and regulatory frameworks to support these forms of competition.

1 Potential forms of competition

Competition can take a number of forms. It is important to distinguish between:

- Competitive sourcing arrangements: competition for specific services which can be introduced through arrangements such as service contracts or, for larger capital works, more complex arrangements such as build own operate (BOO), or build own operate transfer (BOOT) arrangements.
- Competition in the market: when consumers can choose between a range of competing providers for the supply of a good or service.
- Competition for the market: allowing firms to compete for the right to provide services to customers in a defined geographic area/market (e.g. a franchise).

There is already widespread use of competitive sourcing arrangements in the urban water sector in Australia and has been for many years. The water industry has made extensive use of the benefits of competitive pressure to efficiently source services and capital through tendering and contracting arrangements. Nearly all capital expenditure by major water utilities is delivered by the private sector, and a significant proportion of operating expenditure is also outsourced. This type of competition is likely to be an ongoing feature of the industry under any conceivable form of industry structure into the future.

In recent years, attention has increasingly turned to forms of competition which would create a market for service provision to end users. Such forms of competition are distinguished from competitive sourcing in that they involve new suppliers having a direct relationship with end customers, rather than simply supplying services to public water utilities as inputs to these end services.

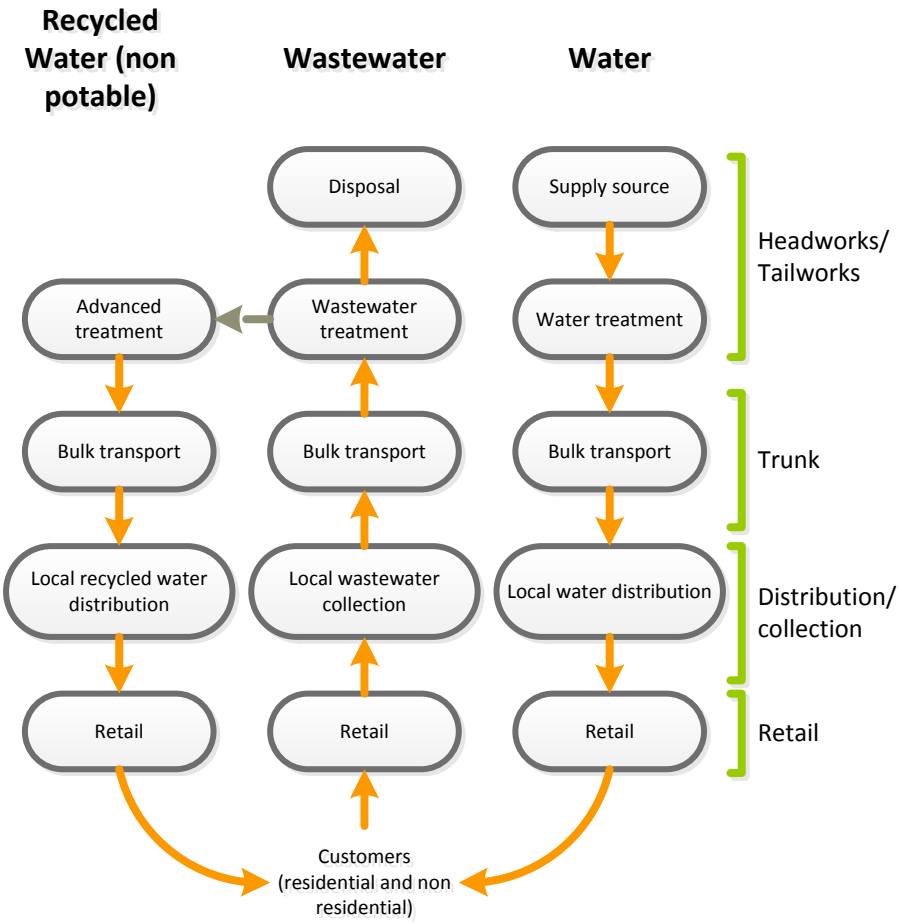
To date however, there has been little clarity about the type of competition which policymakers are seeking to encourage in the urban water sector and the policy and regulatory frameworks which will best support this.

2 Competition in the market

In other utility sectors, models of competition have focussed on competition in the market. For example, in electricity and gas where there are competitive markets in wholesale and retail supply. In order to enable competition in these contestable activities, third party access regimes have been established to enable access to the natural monopoly networks needed to deliver services.

In considering the potential applicability of a similar model for urban water, it is helpful to consider the supply chain (see Figure 1).

Figure 1: Water and wastewater supply chain



Source: Frontier Economics

In recognition of the benefits that competitive markets can provide, pro-competitive reforms in a range of utility sectors have focused on:

- separating the monopoly and potentially competitive industry segments
- deregulating those sectors that are capable of being competitive
- providing open access to, and regulation of, the monopoly transport networks where competition is not feasible or economic

As a result of these reforms competitive markets have been established for upstream production and wholesale supply of the utility commodities (e.g. in electricity and gas) and retailing to end users.

Similar market-based reforms could be envisaged in the urban water sector, with the potential for market-based competition in a number of elements of the water cycle including bulk water supply (i.e. storage based, extractive and manufactured bulk water), water and wastewater treatment, local water supply based on smaller scale solutions or technologies and retail supply of water and wastewater services.

However, competition in the market is arguably more difficult to introduce in the water industry than in most industry sectors and is challenging even by infrastructure sector standards. For example, in 2011 the Productivity Commission (PC) conducted a major review of the urban water sector. As part of this the PC examined the role of competition in urban water, concentrating on the bulk water sector. While the PC saw a case to 'introduce greater competition and promote innovation where cost effective', it noted:

The potential gains in urban water are likely to be more modest [than other utility industries] because:

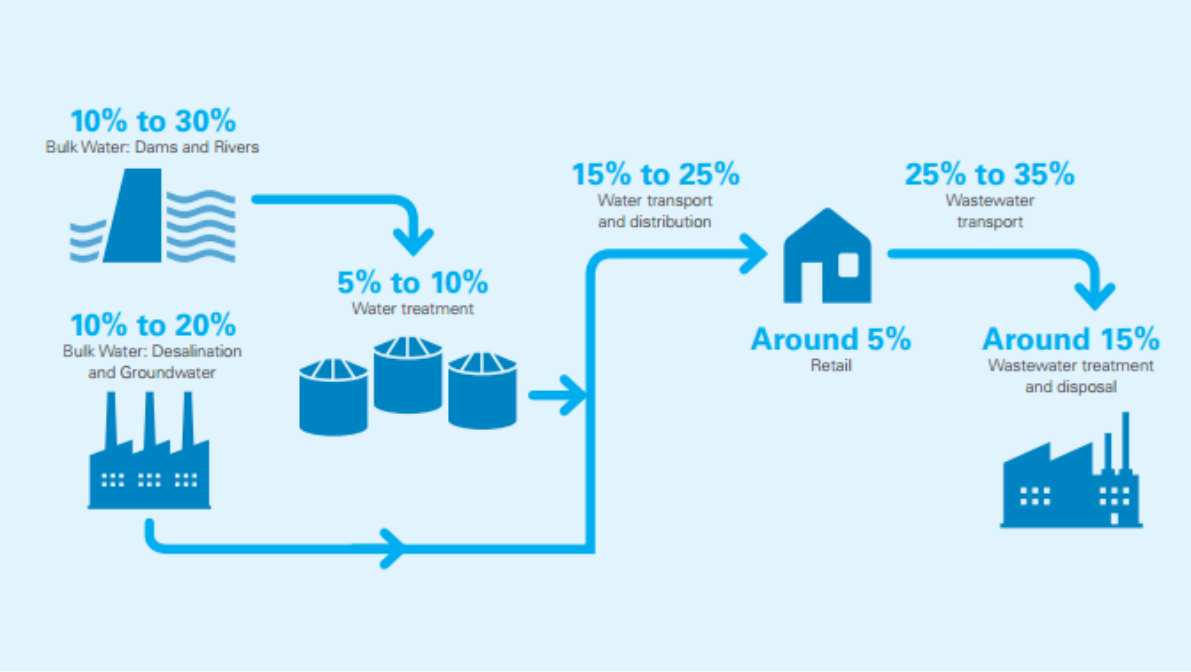
- *limited forms of competition have already been introduced through contracting out and build, own and operate arrangements*
- *compared with other utility sectors, a greater proportion of costs are in natural monopoly elements of the supply chain (for which competition in the market would be inefficient). (p. 245)*

Thus, the question is not just whether competition in the market can be introduced, but whether the costs of creating such a market are justified by the potential benefits.

A generalised value chain is presented in figure 2. It shows the percentage of costs of each major component of the water industry. The water and wastewater bulk transport and distribution networks comprise over 50 per cent of the costs of the industry and are widely regarded as natural monopolies. It would be uneconomic and wasteful to duplicate elements of these networks – analogous to transmission and distribution networks in electricity.

In principle, however, it may be feasible to facilitate competition in upstream or downstream activities – bulk water supply and treatment, wastewater treatment, and retail services.

Figure 2: Urban water cost structure



Source: WSAA

3 Competition in supply of bulk water/wastewater treatment

Australia leads the world in developing bulk water markets for trading rural (mainly irrigation) water and the ACCC has recently developed water charging rules for rural water. These rules recognise the interaction between water charges and water trading. However, there are only limited arrangements in place for rural to urban trading and no effective competition between different sources of bulk water for human consumption in major cities.

Urban water bulk water costs represent around one quarter of costs, but are likely to vary significantly among utilities, depending on the sources available to each community and the level of treatment required. Wastewater treatment comprises 14 to 25 per cent of costs depending on the level of treatment required.

The extent to which these activities are contestable is likely to vary depend on specific circumstances and the particular urban supply system in question. For example, competition in bulk supply might be conceivable in systems where there are multiple independent supply sources, but may be less so in systems dominated by a single supply source.

An essential element to establishing a functioning market in urban bulk water supply is to have multiple, competing bulk water entities. To ensure effective competition in a bulk water market, it would be necessary to ensure that there are no bulk water suppliers that are capable of exercising market power (e.g. through their dominant size); there are no artificial barriers to market entry and exit; and competing bulk suppliers are able to get access to their customers on an equal basis (i.e. equal access to the services of the transportation networks and on equal terms).

It would appear to be much more difficult to achieve a competitive urban bulk water market than, say, a competitive generation sector in electricity. Some urban water systems are dominated by one or two major supply sources. There are also more complex interactions in managing different bulk water sources in a way which optimises security of supply for the overall system. For example, in Sydney and Melbourne customers pay for water they use but also an effective insurance premium to ensure that the city will not run out of water in a drought. Insurance is provided by desalination and recycling. In particular desalination plants can be cycled down when water is plentiful and produce more water when it is scarce.

While these issues are not necessarily insurmountable, they do mean that a number of complex issues need to be resolved – and potentially significant structural reforms adopted – before effective bulk water markets could be established.

IPART has effectively concluded that bulk water supply is not readily contestable – at least in the supply regions of Hunter Water and Sydney Water (Discussion Paper, p.16):

Sydney Water and Hunter Water are monopoly suppliers of water and sewerage services in their areas of operations. Most of their wholesale water and sewerage customers have no alternative supplier of these services. This gives Sydney Water and Hunter Water a dominant wholesale market position and potential bargaining power, which could be used to create a barrier to retail entry in the absence of price regulation.[1]

Perhaps the most practicable form of competition for traditional bulk water supply comes from alternative water supplies (e.g. recycled water) in non-potable uses. This simultaneously represents competition in wastewater treatment. This competition however is typically limited in scale and location.

4 Retail competition

In principle, the retail segment of the industry could also be competitive. Retail competition allows end customers to choose their retail supplier. Competition may be extended to all customers (full retail competition) or smaller groups of customers (e.g. only large users if they are likely to reap most of the benefits of retail competition).

Full retail competition (to all customers including households) has been introduced in the gas and electricity industries in many jurisdictions, starting with the largest customers and moving to the smallest customers. However, significant effort was required in these industries to develop the regulatory framework and systems to support retail competition for all customers and ongoing expenditure and effort is required to monitor compliance with these arrangements.

There is little experience with full retail competition in the water industry. The UK are working through a retail competition model, where from April 2017 most businesses and organisations in England will be able to choose which company will supply their retail water services. After this, they will no longer be restricted to buying retail water services from their regional water company. Extension to domestic customers is now under consideration, the Consumer Council for Water (May 2016) and Ofwat (Sept 2016) have done research to understand the views of household customers and the costs and benefits of this model to inform this decision.

In Australia, retail margins tend to represent a small proportion of a utility's total costs, raising questions about the cost-effectiveness of full retail competition in this industry. WSAA also notes that no State Government has yet endorsed full retail competition in urban water as a policy objective. Indeed, in NSW, recent legislative amendments to WICA have limited the right of WICA licensees to provide retail services only in connection with a scheme approved under the WIC Act, so that they could not simply purchase water from a public utility and on-sell it without providing any investment in physical infrastructure. The NSW Government's concerns with retail contestability were that it may provide incentives to sell more water, thereby compromising water security. The amendments do however allow for 'competition in the market' to service industrial and larger commercial customers. The NSW Government has indicated that more analysis and consultation would be required before a decision could be made to move to a full retail contestability model.

As discussed below, introducing full retail competition into the urban water sector would require complementary reforms such as a customer protection framework and supplier of last resort arrangements.

Nevertheless, with new bulk water players, such as the privately financed Sydney Desalination Plant, retail competition may occur at some point in the future. There is merit in emerging regulatory frameworks for competition in the sector having regard to such future possible policy developments, although they may not be the focus of attention at the current time.

5 Competition for the market

Competition for the market involves allowing firms to compete for the right to provide water and wastewater services to customers in a defined geographic area. This approach has been used by governments around the world to introduce competitive pressures into the provision of water and wastewater services. For example, France has made extensive use of concession contracts in water supply over a long period. In Australia, SA Water has contracted out the operation, maintenance and management of the entire Adelaide water supply and wastewater system under long-term contracts.

In the water sector, geographic contestability for the market is in fact the area of greatest recent activity. There is increasing interest from new players in servicing fringe areas of urban developments, not currently served by utilities, serving entire greenfield developments or servicing infill redevelopments. Such entry may offer benefits particularly on the urban fringe where local solutions may be more cost-effective than extending centralised networks.

Geographic contestability will often require physical access to an existing water utility's networks. For example, under the WICA in NSW, the majority of Hunter Water's interactions with private network operators have involved the provision of a bulk water supply to the boundary of a new development area (predominately residential developments). Under this model, the new entrant would on-sell drinking water to each customer in the development as well as provide self-contained sewerage and recycled water services.

6 Effectiveness of third party access regimes in promoting competition in urban water services

An access regime is a regulatory framework which provides an avenue for firms to use certain infrastructure services (most notably a transport service) provided by monopoly infrastructure owned and operated by others. In electricity, gas, and rail, industry-specific regimes governing access and competition have been established and subsequently authorised by the ACCC. Typically, the underlying objective of an access regime is expressed in terms of promoting the economically efficient operation of, use of, and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets.

To date, government initiatives to promote competition in the provision of urban water services to end users have - in common with other utility sectors such as electricity and gas – relied primarily on the application of third party access regimes. The urban water industry is already subject to the National Access Regime. Indeed, the urban water industry saw the first arbitration under the National Access Regime.

As it currently stands, New South Wales is the only jurisdiction which has implemented a state-based access regime to support the emergence of new suppliers and technologies for the provision of water and wastewater services. The Water Industry Competition Act (WICA) establishes an access regime for the storage and transportation of water and sewage using existing significant water and sewerage networks in the areas covered by Sydney Water and Hunter Water – the first access regime developed specifically for the water industry in Australia. Importantly, it also provides for a licensing regime to ensure appropriate regulatory obligations are placed on new suppliers to protect consumers and the public interest in relation to a range of factors, including: security of supply; ensuring water quality; protection of public health; environmental matters; and allocating responsibilities for managing emergencies and national security matters. This Act was developed by the NSW Government to promote innovative solutions to the water supply and demand balance, particularly the development of infrastructure for the production and reticulation of recycled water.

Legislation providing for a third-party access (TPA) regime for the water sector in South Australia is expected to come into effect as of 1 July 2016. The TPA regime provides a framework for the negotiation of access to certain water and sewerage infrastructure services, with the potential for arbitration should negotiations fail. This provides a formal path for access proposals. It requires SA Water to provide some information on application. It empowers the Essential Services Commission

of South Australia (ESCOSA) to oversee access arrangements. It also provides a conciliation and arbitration regime for the resolution of any disputes that may arise.

The NSW experience with WICA to date suggests that simply enacting an access regime is unlikely to unleash widespread competition. Notably, there have been no instances of access since WICA came into operation. Instead, as noted above, there has however been extensive use of the licensing regime and there are now 30 WICA licence holders in NSW (this includes both Network Operator licences and Retail Supplier licences). In some cases, new licensees have sought to negotiate supply of a wholesale service because that is the product they want for their business models (e.g. potable water delivered to boundary of a development, rather than having to secure their own water and negotiate access). IPART has suggested that the WICA access regime is too cumbersome and costly for new entrants to secure what they really want: a wholesale water or wastewater service to the boundary of their development.

This experience suggests that given the characteristics of urban water markets the role of purely access-based competition will be limited. Third party access regimes are predicated on the existence of vibrant upstream or downstream markets. But in the urban water industry, upstream and downstream markets are only now beginning to emerge. Removal of barriers to entry as provided by an access regime is a first step but is not sufficient in itself for effective competition to emerge.

While third party access regimes have the ability to cover a range of potential third party access scenarios (some of which may be difficult to predict in advance), it would appear that at least in the case of urban water, they may not necessarily be very effective in facilitating the types of competition which are actually emerging and which may offer the scope for most benefit in the short to medium term.

It would therefore seem more productive to put in place arrangements which focus on promoting effective competition in the activities where competition is most likely to occur and be beneficial.