

Department of Treasury and Finance
Government of **Western Australia**

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Inquiry on Competition in the Water and Wastewater
Services Sector

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Executive Summary

Economic Nature of Water

Water is viewed by some as different from other commodities and not suited to reform and competition. However the components of the water industry are water source or supply, transmission pipes and distribution networks (which have natural monopoly characteristics), and retail. These components are the same as for electricity and gas for which competition and reform is now the norm in most jurisdictions, and it is feasible to consider the benefits of competition in all but the provision of natural monopoly infrastructure.

Water is different in some important respects - it is heavy and more expensive to transport, relatively inexpensive to store and a relatively inexpensive commodity. These characteristics mean that water trading over distances is less attractive than for gas and that water markets are simpler, but not that reform and competition cannot occur.

Competition

Competition in the water industry is feasible and already realising benefits through the Water Corporation's (WC's) extensive outsourcing program, including its competitive alliance approach to the purchase of desalination plants. However, competition in the contestable part of the industry between the WC and the private sector can provide further benefits. This does not require privatisation, which is against Government policy, but the opportunity exists, through tender processes for new privately funded infrastructure.

Competition and private sector entry in the water industry is supported because it would likely result in more efficient prices, a drive towards greater efficiency to win or maintain market share (also providing a 'benchmark' against which public sector providers can be assessed) and potentially advances in technology through new entrants. Also, private sector funding can reduce the impact of the State's net debt constraint, increasing the capacity of Government to fund other social infrastructure (including health and education).

A 'big bang' approach of full vertical disaggregation of the WC and the building of a sophisticated market in the short term is not supported. Phasing in reform starting with private sector entry is preferable as it allows accumulation of information and experience. There is limited experience in the world of rapid and radical reform for water. It is also recognised that benefits from competition are already being partly realised by the WC through its comprehensive outsourcing program and its competitive alliance contracts. If a phasing in approach is taken it is important that it does not lose impetus. While the WC views on reform should always be sought they cannot be the key agency influencing reform in the State's water industry. Private sector involvement will still allow Government to impose necessary environmental and social regulations on all participants.

Private Sector Entry

Competition cannot occur without businesses entering the industry to compete with the WC.

Bulk Water

Private sector entry should be phased in for the contestable areas of water supply and wastewater services. Bulk water supply by a private provider selected through a tender process which offers a Build, Own and Operate (BOO) contract is preferred. Some advantages of this contract over an Alliance contract include potentially development of a deeper market, better alignment of interests and up front planning. In particular there is the potential for the private provider to compete with the WC for customers, to avoid any risk bearing by the Government and to remove the net debt impact from the Governments 'books'.

A challenge is that the 'take-or-pay' contract tender, which would likely attract the largest number of tenderers, would not have the competition or debt reduction benefits. Contracts could be take-or-pay for an initial period with take or pay phased out over time. Some power procurement contracts in Western Australia do this.

It is noted that the recent decision for a competitive alliance contract for a second expandable desalination plant, may mean it is many years before there is the opportunity for a BOO tender for major bulk water supply.

Retail

Water retailing competition is supported. Retailing is contestable and it could be attractive to utilities such as Synergy or Alinta to exploit the economies of scope that there may be from adding water retailing to electricity and gas trading. Also, any bulk water supplier who enters the market may seek to retail water as well. Retail entry would not be encouraged if entrants can purchase water only from the WC, which is itself a retailer.

A key issue is who retail entrants will be able to market to. In the case of electricity reforms, retailers have access to business customers, but not yet the residential market given the costs and benefits of extending retailer choice to small consumers. Access to business clients only could be applied initially to new retailers. Some may argue that there is more profit in the business market and having access to this without an obligation to service the residential market would be 'cherry picking'. A consequence of competition would be lower prices as entrants win market share through the bilateral market. While this would be good for the economy, it is recognised that WC's profits and payments to Government would be lower.

Facilitating Competition

In itself, entry is not enough. There need to be other changes to make it attractive to enter a market, and for competition to be effective.

Access

An access arrangement is needed so entrants can use the WC's natural monopoly infrastructure such as existing transmission pipes to transport bulk water to a retailer or direct to consumers is important in facilitating competition. Access regimes should be developed in the short to medium term.

Structural Reform

Structural reform should have a role in facilitating competition. Examples include:

- The WC conducting a tender process for a new bulk water supply may have a conflict of interest if it puts in a bid. This can be addressed by not allowing the WC to bid, or removing bulk water source tendering from the WC. This tendering role could be given to an organization similar to the State's Independent Market Operator (IMO) in electricity.
- In addition to the suggested bulk water procurement role, an IMO like independent organization would have a planning and demand forecasting function, particularly in relation to deciding on the timing of development of new sources. It could also operate markets, however it is not envisaged that sophisticated markets, of the kind operating in the electricity sector, would exist in the short term.
- Potential retail entrants may be concerned that they have to use the WC's pipes and compete with the WC's own retail function. As with electricity, this concern could be addressed by separating retail from the natural monopoly pipes business, although not necessarily separating it from the WC's bulk water supply.

Pricing and contestable Community Service Obligations

Underpinning any competitive market is the need for sound pricing principles. In order to provide an incentive for the private sector to invest in an industry that is typically characterised by large, lumpy and sunk costs, it is imperative that prices reflect the true economic cost of providing a service (thereby ensuring an appropriate return on assets). For example, underpricing could discourage investment in water saving devices and new technologies such as water recycling.

Competitive neutrality requires that Government businesses have no advantage over private sector competitors by virtue of its Government ownership. While the WC is already subject to competitive neutrality, competition would bring into focus that only the WC can receive Community Service Obligations (CSOs) from Government to pay for services it is not commercial to do otherwise. A better solution than simply giving the service to the WC to deliver would be to put it out to tender and give the service to the tenderer requesting the lowest CSO payment. This would require Government to introduce a policy of contestable CSOs.

Water Trading

Water trading markets are critical to establish the efficient spatial and temporal allocation of water. In the short term it is envisaged that markets will operate mainly through relatively simple bilateral contracts (even in the electricity market these are still by far the largest part of trading). It is important that the legislation governing this trading is not too narrow and restrictive.

It is important that the legislation governing this trading is not too narrow and restrictive. There is a need at least for both permanent and temporary trades (which could vary in term). The scope of trading should not be limited without good cause, as the full opportunities it can bring are not always anticipated. For example, a plantation owner located on a groundwater source currently has a de facto water allocation. Including this as a formal entitlement, which could be traded, would provide an incentive to trade the water to a higher value use if the price is right, whereas without a tradable entitlement, there is none. A 'barter trade' (irrigation farm piping for water) has seen 17 GL of water provided to the WC by Harvey Water.

As with all trades, this was mutually beneficial to irrigators and Perth consumers, since the WC has large unfilled dams there may be other trading opportunities, such as purchasing additional water from Harvey in seasons in which they have water excess to their needs. Irrigators with a high value vineyard have the option of short term trades to avoid loss of vines in a drought year, the short term trade effectively helping them manage risks. Other more sophisticated approaches can provide better, but more complex, risk management tools.

A sophisticated market such as eastern Australia's National Electricity Market (NEM) and Western Australia's combination of electricity markets (Retail Trading Market, Capacity Market and Balancing Market as well as bilateral trading) would seem to be premature as the benefits at this time would be unclear and these markets would be expensive to establish and run.

Recommendations

Recommendation 1

That Government progress the development of a water industry IMO, charged with planning and tendering for the provision of new water sources.

Recommendation 2

That the identification and development of the next major new water source be progressed via a BOO process (with a competitive closed tender).

Recommendation 3 T

That Government progress a third party access regime for the WC's natural monopoly infrastructure.

Recommendation 4

That Government consider the partial disaggregation of the WC (that is, separation of the WC's bulk water source division).

Recommendation 5

That Government approve the introduction of contestable CSOs to enable competitively neutral tenders.

Introduction

Extensive sunk costs and economies of scale and scope, and a view that water is the kind of commodity that Government should provide, have resulted in a water industry in Western Australia dominated by a vertically integrated, monopoly provider, with the WC providing water services for much of the State. There are some efficiencies provided by this structure, with the WC providing one-stop shop for all water provision matters, but there are also costs.

Indeed, water is viewed by some as different from other commodities and not suited to reform and competition. It is noted that water is different in some respects from other traditional Government-owned utilities such as electricity and gas as it is heavy and more expensive to transport, relatively inexpensive to store and a relatively inexpensive commodity. However, the water industry consists of water source or supply, transmission pipes and distribution networks, and retail services. These components are similar to the electricity and gas industries for which competition and reform is now the norm. Whilst the transmission, distribution and reticulation segments of the market display natural monopoly characteristics, retail and bulk water supply are contestable.

Commitments by the Western Australian Government to the National Water Initiative (NWI), the State's Water Plan and the Water Reform Implementation Committee's *A Blue Print for Water Reform in Western Australia*, have created a reform environment that provides an opportunity for the consideration of competition and increased private sector participation in Western Australia.

Furthermore, changes to the urban water supply industry, such as improvements in technology, shifting community expectations, and a drying climate, mean that now is the time to question whether the current structure is still the most appropriate or whether the industry could benefit from competition reforms similar to those which have radically changed other industries. However, opportunities to open up Western Australia's water and wastewater industry to competition do not necessitate the privatisation of existing Government-owned assets.

The Department of Treasury and Finance (DTF) has undertaken preliminary consideration of a number of measures aimed at encouraging private sector participation, particularly in the contestable areas of bulk water supply and retail services. Entry might occur via public private partnership (PPP) and/or competitive tendering. Entry will be facilitated by a number of mechanisms including third party access regimes, contestable (CSOs), and structural reform. Each of these issues will be discussed more fully in the following sections.

The Benefits of Competition

In considering the scope for private sector participation in the Western Australian water and wastewater markets, it is important to understand the benefits of competition.

Competition benefits consumers by creating an incentive for service providers to provide a service at a lower cost and at a higher level of quality. Competitors are able to achieve these objectives through innovation and efficiency gains as they look for the best ways to win and retain customers.

The introduction of competition into the water industry is desirable because competition provides its own economic discipline and is often referred to as the best outcome for consumers in regards to maximizing total welfare. For example, it is very difficult to achieve a significant efficiency dividend from a monopoly provider. Competition requires that organizations continually increase productivity.

However a 'big bang' approach of full vertical desegregation and the building of a sophisticated market in the short term is not supported. There are few examples in the world of water industries operating with this level of reform. Given uncertainty, it is important to reform by taking sensible steps which are low risk and beneficial. Phasing-in reform starting with private sector participation is preferable.

It is also recognised that benefits from competition are already being partly realised by the WC through its comprehensive outsourcing program in effect benefiting from competition in the markets they outsource from, and its competitive alliance contracts. If a phasing-in approach is taken it is important that this reform does not lose impetus. While the WC views on reform should always be sought, it cannot be the Government agency responsible for reform.

It is also important that any reform is introduced in such a way that it ensures:

- public health and water quality is not diminished;
- water supplied remains acceptable to consumers;
- the Government's social and environmental objectives continue to be met;
- the operations of private and government-owned service providers are competitively neutral; and
- guarantees of supply are safeguarded.

Current Western Australian Industry Structure

There are 31 licensed water service providers in Western Australia. The WC, established as a statutory corporation under the *Water Corporation Act 1995*, is the State's largest water service provider, providing potable water, wastewater and drainage services to about 95 per cent of all properties serviced in Western Australia. The WC is a vertically integrated organisation involved in all stages of the water product cycle including abstraction, treatment, distribution, drainage, retail and wastewater management.

Other industry participants in Western Australia include the Bunbury and Busselton Water Boards (both of which are statutory corporations, that service their regional communities with potable water services), irrigation scheme cooperatives, port authorities, the Rottnest Island Authority and various mining companies. In addition, a number of small local councils supply community areas with potable water and drainage services.

Persons or organisations wanting to provide a water service (either potable water, non-potable water, wastewater treatment, irrigation and drainage) are required to have a water service licence under the *Water Services Licensing Act 1995*. These licences are issued by the Economic Regulation Authority (ERA) unless the service provider is granted an exemption. A water service licence applies to services in a defined operating area. There is no exclusivity applying to operating areas, but there are natural barriers to entry such as economies of scale, access to water and infrastructure provision.

Most water resources in Western Australia are vested in the State through the *Rights in Water and Irrigation Act 1914*.¹ Persons or organisations wanting to access water resources are required to have a water allocation licence issued under this Act and managed by the Department of Water. The licence requirements do not apply to the use of seawater, although there are various other approvals and requirements that need to be met before seawater can be accessed as a source of potable or non-potable water supply.

Current forms of competition in Western Australia

Although the WC is a vertically integrated monopoly, there already exist a number of examples of private sector participation in the provision of water and wastewater services which enhance competition in some markets.

For example, for some time now, the WC has been outsourcing (by competitive tendering) a substantial number of services to the private sector, exploiting market expertise and the benefits of competition. Previously, the outsourced services were conducted in-house, but with outsourcing, lower costs are realised, as companies compete to win the tender to provide the service.

¹ The DTF notes that this Act is being reviewed, along with other water-related acts, as part of the State's water reform commitments.

The types of competitive tendering contracts in which the WC engages in are wide ranging, including:

- design and construction contracts;
- supply and procurement contracts;
- consultancy contracts;
- service contracts;
- agency contracts;
- manned plant hire contracts; and
- information and technology contracts.

In theory, it is possible for virtually all activities in the water production cycle to be outsourced and provided on a competitive basis. However, in outsourcing activities, it is important that environmental and health standards be maintained by the new service provider. Consideration must also be given to ensure CSOs continue to be met in rural and remote areas.

Furthermore, in April 2007, the State formally opened the Kwinana Seawater Desalination Project at Kwinana (a major new bulk water supply). The Desalination plant uses PPP principles, with funding responsibility and ownership retained by the WC.

The Multiplex-Degremont Joint Venture was responsible for the design, construction and operation of the Desalination Project under an alliance contract with the WC, with financial incentives for performance. The project was executed in two phases covered by separate Design/Construct and Operate/Maintain contracts. Degremont will operate the facility under a 25-year contract.

There were several benefits of the WC's involvement with the private sector on this project. Namely the execution and financial strengths of Multiplex combined with the technology, procurement and delivery expertise of Degremont. The WC shared some of the construction and operating risk with the private sector, but the State retains 'demand' risk (that is, the risk that future demand for water from the Desalination Plant will not be sufficient to justify its costs).

Opportunities for Private Sector Entry

The previous section set out a number of current and recent examples of private sector participation in the Western Australian water and wastewater sectors, demonstrating that there is already a significant degree of competition.

While advantages from competition and private sector involvement are being realised, opportunities for enhanced private sector participation exist, and need to be considered. For example, the introduction of a stand-alone large-scale competitor to the WC for bulk water supply and retail services.

Bulk water supply

Unlike the distribution and reticulation networks, the bulk water source sector is not a natural monopoly. Indeed, bulk water supply has been structurally segregated from other water services in many jurisdictions, including Victoria and New South Wales. A particular advantage of entry in the bulk water market is that there are likely to be many interested participants including highly experienced companies. A competitor entering as a bulk water supplier may then also seek to compete more widely – for example through tendering for regional supplies or development.

The following sections on PPPs provide further detail about how private sector entry for the supply of bulk water could be achieved in practice and its potential benefits.

Retail services

Similarly, the retail sector is also not a natural monopoly and hence is contestable. Retail competition can take a number of forms.

In a fully contestable market, consumers are able to choose between two or more retailers for the provision of services (in this case services related to the provision of water and wastewater). The success of such a model will depend on a number of variables, including population and population density, demand, product and price, as well as access pricing.

Retail services might be offered by either a fully vertically integrated water service provider (that is a third party with its own water source and access to infrastructure), or alternatively a provider who specialises purely in retail operations.

A second option is for more limited retail competition – in this case, retail services are provided by a product or geographic monopoly (for example, a competitor enters the market to provide billing and metering services only for the Perth CBD). Such a model can still produce the desired competitive pressures via competition at the boundaries and also price and quality of service benchmarking (undertaken by a regulator). However, for the most part, consumers will not be able to choose between alternative retailers as competition is for the market rather than in the market. Competition as in Melbourne where there are three retailers selling to three different areas would seem to offer little more than competition by benchmarking.

Commercial companies have expressed interest in entering the Western Australian retail market. The viability of such entrance would seem dependent on their ability to achieve an appropriate return on their investment over time. In turn, their ability to do so might be dependent on their ability to achieve economies of scope and scale in the provision of retail services.

Mechanisms for competition

Public Private Partnerships

PPPs involve the procurement of public infrastructure and ancillary services through a joint arrangement between the public and private sectors. PPPs fall along a spectrum of public and private arrangements.

The WA Government's position on PPPs is outlined under the policy *Partnerships for Growth – Policies and Guidelines for Public Private Partnerships in Western Australia* released by the DTF in December 2002.

Infrastructure for water and wastewater major projects have the characteristics of scale and duration that suit PPPs. Key features of water and wastewater infrastructure PPPs could include the WA Government and private party working together under long-term arrangements, whereby payments to the private sector partly depend upon continuance in delivering specified services to agreed performance standards.

However risks and low early returns could deter private participation. Risks include inexperience of the private sector in the successful delivery of assets and ancillary services in the water industry, and the public sector withholding payment if the private sector does not meet specified performance targets. Low early returns may result, particularly in rural settings, due to the up-front costs of large-scale infrastructure.

The DTF considers that two models of PPP are most likely to encourage a large private sector participant to enter into the Western Australian water and wastewater markets. These are an Alliance contract, and a Build Own Operate (BOO) with take-or-pay arrangement.

Alliance

An alliance contract is a procurement strategy that aligns the private sector's profit motivation with achieving overall whole-of-life costs and service outcomes for the project. An integrated management team and intensive relationship facilitation enables the project to be delivered more flexibly, with the private sector sharing both risk and rewards. A "competitive" alliance procurement model was used for the Kwinana desalination plant.

The benefits of an Alliance contract include that contractors in a build and operate alliance are focused on the long-term delivery of services and the whole of life costs rather than simply being up-front asset builders. Furthermore, Alliance contracts allow some potential for innovation, improved design and quality outcomes, reduced project costs, incentives for cost savings and earlier completion over more traditional forms of infrastructure procurement.

However, when compared to a BOO, Alliance contracts provide less incentive for private sector innovation in project development and risk transfer than privately financed projects (e.g. BOOs). Furthermore, Government funding is required from the start of the construction period, while under BOO arrangements, payments start only when water is supplied (or a take-or-pay agreement commences). Under an Alliance Contract, capital costs are retained on the State's books and constrain the State's capital program. From a competition perspective, a key difference between an Alliance and a BOO is that the former does not provide for competition in the market.

Private Finance Initiative/BOO (with Take-or-Pay arrangement)

Under this PPP model, the private sector is offered a long-term contract to build, own and operate major infrastructure. It is likely that a take-or-pay arrangement would be required by the private sector to secure project funding.

Like a build and operate alliance, contractors become the long-term providers of services rather than simply upfront asset builders, but now combine all of the responsibilities for the design, construction, finance, and facilities management and service delivery. The addition of private sector financing can provide a greater incentive for innovation and risk management.

Furthermore, a Private Finance Initiative (PFI)/BOO may allow for a more competitive tender process as international water companies with little or no experience in the Australian water market may be willing to enter a process in conjunction with a major Australian bank. This will 'deepen' the market of potential bidders. Similarly, bundling financing with all the services (design, construction, facilities management and service delivery) in a single transaction can enhance risk management, efficiency and value for money through the banker's greater focus on risk management and project delivery prior to commencement of the project.

A BOO ensures alignment of interests between the owner and operator and mitigates against cost overruns as the proponent bears all the downside, not just some of the downside as with an alliance. (Cost and time overruns or operational shortcomings (as defined in the contract) result in penalties against the private sector consortium, which provides a powerful motivational force).

From the State's perspective, a BOO requires it to conduct a degree of upfront planning (in relation to the level of risk it wishes to share). With regards to the recent commissioning of a second desalination plant, the DTF understands that the WC received a large number of requests for more information from private sector parties interested in considering a BOO proposal.

Furthermore, a BOO does not require Government funding during the construction period; under BOO arrangements payments start when water is supplied. Moreover, a BOO arrangement for a new water source would establish in Western Australia another major water provider which, given its presence, could compete for other smaller projects.

However, it is arguable that Western Australia's water markets have not yet achieved a level of depth that would allow for a BOO arrangement to proceed, without the State committing to a take-or-pay arrangement. In this case, the BOO still remains on the State's books via payments made under the take-or-pay arrangement.

However, in the longer term, it is conceivable that a take-or-pay arrangement could be phased out as the successful BOO operator embeds itself as a major water supplier in Western Australia. For example, future BOO with take-or-pay arrangements could be set for a finite period (say 10, 15 or 20 years), allowing the successful bidder the surety of a foundation customer but also allowing it to find its own markets over time. The removal of the take-or-pay arrangement can be a phased process or a one-step process.

Alternatively, the State could commit to a long-term take-or-pay arrangement with a BOO operator based on its current capacity, leaving the operator free to expand over time if it identifies new, additional markets.

The DTF notes that a BOO might result in potentially higher financing costs given the Government's relatively low cost of funds, although the cost of funds can be offset by the transfer of risk (i.e. design, construction, facilities management and service delivery) or from future benefits of possibly increasing competition in the water supply market.

Competitive tendering for bulk water

Tender models could be used to identify prospective service providers under an Alliance or BOO arrangement.

Two options by which a tender process could be set out: an open request for proposals, with the WC eligible to tender; and a closed request for proposals with the WC ineligible to tender.

Under an open request model, the WC would be eligible to submit proposals for consideration. An open tender would ensure that all possible water source developments are available for consideration. It would also allow for cost and technical benchmarking.

However, the WC would have some advantage over other tenderers given its level of detailed local knowledge of water sources and the integrated water system. Furthermore, in an open tender, it is not apparent who would assess prospective tenders if the WC was restricted from doing so, nor who would provide information about the tender, including the specifications for bulk water supply to the integrated system. One approach would be for the group responsible for tender selection to be able to request information and advice from the WC, but to ring-fence the WC's bulk water supply group from involvement in the provision of technical information. This would mean bulk water supply advice would be sourced from elsewhere within the WC.

Under a closed tender model, a new water source might be identified via a closed request for proposal. Under this option, the WC would not be eligible to compete in any tender for the supply of a water source. Such an option is preferred by the DTF as it best allows for the introduction of a new major water source provider into Western Australia. The following box provides an example of how a closed tender could be developed and administered.

Box 1: An Example of a Closed-Tender Model

In a closed tender model, major considerations might include: the extent to which the WC would be involved in the assessment of proposals and making decisions; the scope of the process; and selection criteria for assessment.

In assessing proposals, selection criteria could include consideration of the:

- total cost and cost per unit of water;
- risk borne by the WC and the Government (for example, is there a take-or-pay arrangement sought or are there construction risks?);
- amount of water to be supplied;
- climate independence of the proposed water source;
- time to completion;
- environmental impact; and
- tangible social impacts.

In a closed tender, the WC might be involved in the evaluation of tender proposals. The State recently pursued a similar closed tendering model in the procurement of power for the South West Interconnected System (SWIS), in which Western Power's generation division (now Verve) was not involved. Using this as a model, a Steering Group could be formed, responsible for developing the tender processes and terms of reference as well as overseeing the operation of the tender. This Steering Group would require its own terms of reference.

Given its deep understanding of water supply management issues, the Steering Committee would include a senior appointment from the WC.

The Steering Committee would be responsible for reviewing and monitoring the WC's evaluation of bids and providing feedback on the consistency of the process with the best outcomes for the State as a whole, accounting for the commercial objectives of Government.

That area of the WC assigned with developing State water sources (bulk water supply) would need to be ring-fenced from the tender process in order to promote competitive outcomes, ensure commercial in-confidence and remove any issues of conflicts of interest (such as a conflict of interest between the WC's commercial obligations and best tendering outcomes).

Alternatively, in the closed model the WC could be excluded from active participation in the evaluation of proposals, and instead would provide technical information to the Steering Committee on request and inform prospective tenderers. The tender evaluation would be conducted by an expert panel which could include someone experienced with procurement experience (e.g. power procurement), bulk water supply, and contracts and risks.

Another issue to be considered is how prescriptive the State should be. An outcome-based approach which outlines quantity, quality and timing but leaves details to the tenderer is preferred by the DTF. For example, the State could be less prescriptive and allow tenderers to submit proposals for any number of sites/concepts.

Facilitating Competition

In itself, entry is not enough. There need to be other policy and institutional changes to make it attractive for private sector participants to enter, and for competition to be effective.

Third Party Access

A key reform required to enhance competition is an effective access regime. An access regime allows third parties to enter a market by 'connecting to' or seeking access to certain, essential infrastructure, as set out by Part IIIA of the *Trade Practices Act 1974* (TPA). Third party access could be the means by which a bulk water supplier can enter the industry and provide water to the WC or retail services to other consumers.

Access to an essential facility may be sought via three avenues under the TPA:

- Access seekers may apply to the National Competition Council (NCC) for declaration of a service.
- Alternatively, facility owners such as the WC may give a written undertaking to the Australian Competition and Consumer Commission (ACCC) in connection with the provision of access to the service.

- A state may also apply to the NCC to certify that an existing state access regime is considered an 'effective access regime' as set out in the TPA.² State-based regimes provide the benefit of a more regionally focussed agreement, typically with a local regulator, as apposed to the ACCC, having responsibility for regulation.

An access regime to the clearly natural monopoly infrastructure is a key reform, which needs to be undertaken in the short to medium term. Box 2: Applications of Third Party Access, considers a number of applications for a third party access regime in the State's water and wastewater markets.

Box 2: Applications of Third Party Access

Third party access regimes for water and wastewater markets in Western Australia might include access to wastewater infrastructure (such as pipelines carrying refuse and also treatment plants) and/or access to water pipelines (for subsequent movement of treated water) in order to provide treated wastewater to industry or agriculture. Third parties might also seek access to water treatment plants in order to on-sell wastewater by-products, for example to the agricultural industry. Indeed, any future third party access regimes are likely to most easily be realised in the areas of wastewater collection and treatment services, where the treated product is not for human consumption.

There has recently been a successful application in New South Wales for sewerage infrastructure to be declared under a third party access arrangement. In this application for declaration by Services Sydney, access was sought to the service for the transmission of sewerage via Sydney Water's reticulation network, and for the service for a connection of a new trunk sewer main (owned by Services Sydney) to the existing Sydney Sewage Reticulation Network at interconnection points. DTF will continue to monitor progress in this area.

Also of interest, the WC Kwinana Water Recycling Plan (KWRP) provides recycled water for industrial purposes to industrial customers in the Kwinana area. In this case, the WC sources wastewater from the Woodman Point Pipeline. This initiative illustrates the opportunity for prospective new parties to enter into access arrangements to transport wastewater from State-owned pipelines to processing units for later use as a water source.

² State based regimes are developed with regards to criteria set out in the TPA and the Competition Principles Agreement (CPA). In 2006, Western Australia committed itself, along with other COAG members to the new Competition and Infrastructure Reform Agreement (CIRA). Under the CIRA, all state-based regimes will now have to be submitted for 'certification' to the NCC by 2010. This commitment is to ensure national consistency of regimes as well as to assess their 'effectiveness' against the CPA principles.

Separation of irrigation and potable water supply networks, where viable, may also serve to facilitate the development of an access arrangement for irrigation services. In this case, separation of the two supply networks (potable and non-potable) would enable third parties to seek access to non-potable pipelines for the purpose of transferring lower quality water to agricultural users. Indeed, efficiency may be improved by reducing water treatment costs, as the water supply to irrigation networks would not need to be treated to the standard required for potable networks (thereby reducing more stringent health and safety concerns which may act as a barrier to entry).

This separation of networks is already occurring in some areas of Western Australia. In February 2004, work began on a 4.2km stretch of water main in the Gascoyne. Construction of the new main gives the town of Carnarvon completely separate and dedicated supply mains, one to deliver potable supplies to town residents and the other to carry water for the irrigation distribution system.

To a more limited extent, third party access might also allow for the provision of water to individual households or alternatively to large commercial users although thus far, environmental concerns and supply constraints have limited the development of third party competition in the supply of drinkable water in Western Australia.

In this case, access could be sought to the water network in order to provide individual customers with water (spread out across a geographical area). Costs of supplying individual households in Western Australia with drinking quality water are likely to include access to/or development of transmission and distribution pipelines, or alternatively to transportation vehicles and storage devices.

Providing water at a standard suitable for drinking has implications for costs. Furthermore, the geographical and population characteristics of Western Australia mean that the costs of any such third party access regime will be high and it will be difficult for a third party to realise appropriate economies of scale in order to justify such an investment.

Alternatively, a third party might seek an exclusive right to supply a particular area (via inset appointment). Inset appointments allow a competing supplier to replace the existing regulated water (or sewage) supplier at a specific site. Competing suppliers are then able to establish their own distribution system and purchase bulk water supplies from the incumbent.

However, given the cost of investing in transmission and distribution pipelines, insets are usually limited to supplying large users, those not on main supplies, or where the incumbent agrees to change its boundaries.

Third party access pricing

Access pricing (that is, the price at which a third party is able to access an incumbent's network) is an essential component of any third party access regime. A full discussion of access pricing is beyond the scope of this paper. However, the DTF notes the Economic Regulation Authority (ERA) Issues Paper sets out a number of alternatives including Short Run Marginal Cost (SRMC), Long Run Marginal Cost (LRMC), the building block approach, retail minus, and the Efficient Component Pricing Rule (ECPR).

The DTF acknowledges the recent ACCC and IPART rulings in favour of ECPR (with regards to the Sydney Services application), and notes that such a methodology may be the most 'pro-competitive' by using the current retail price as a starting block and encouraging competition where third parties are able to provide a service at less than the avoidable cost³ of the incumbent. However, the DTF cautions that such a pricing methodology can also lock in monopoly rents established by Government in its pricing policy, and so might result in less than efficient pricing outcomes.

On the other hand, the building block approach may better protect against monopoly rents. However, in an environment of uniform pricing, it may allow for cherry picking where access pricing is location/customer specific.

While marginal cost pricing is commonplace when determining and setting consumer prices, the DTF is not aware of regimes which make use of SRMC and LRMC pricing in setting access prices.

Certainly, the DTF would caution against third party access prices based on SRMC. SRMC allows for recovery of day-to-day costs, but does not allow for the recovery of capital expenditure – an obvious disincentive for the incumbent to engage in ongoing expenditure on new and more efficient technologies and infrastructure as well as replacement infrastructure.

When used as a method for determining access prices, the LRMC may also lead to an under recovery of the common costs of providing access and the sunk costs made by the incumbent service provider. It is the view of the DTF that LRMC pricing would act as an effective subsidy to market entrants, at the expense of the incumbent service provider.

Water pricing

A prospective third party's decision to enter a market will not only be determined by the price they pay for access to an infrastructure owner, such as the WC, but also the price that they can reasonably expect to charge consumers (and hence the degree to which they can earn a return on their investment).

³ The avoidable cost is that cost that would be avoided if an operation ceased or was closed down. Where an operation was not already being undertaken, the avoidable cost is the cost associated with establishing and maintaining the additional operation.

The ERA recently completed reviews of both urban and country water and wastewater pricing and recommended in both cases that lower and upper bound pricing be introduced.⁴

The current urban tariff structure is now gradually being modified and volumetric charges are being increased over an eight-year price path to reflect the LRMC of sources for Perth. LRMC pricing provides for the incremental costs of expanding supply to meet future water demand and hence appropriately signals future costs to consumers. Future sources are generally more expensive than current supplies so consumers' responses may be to reduce consumption or adopt water saving devices.

Prices in country areas are moving towards a cost reflective approach within the same timeframe. Uniform prices up to a level of 300kL/yr will remain commensurate with the price of water in the metropolitan area. It is the DTF's understanding that consumption levels above this threshold will be adjusted to better reflect the true cost of providing water.

Restructuring to facilitate competition

Structural reform should also have a role in facilitating competition.

Progress towards competitive markets is typically characterised firstly by restructuring and disaggregation of former legislated monopolies into contestable and non-contestable businesses. Indeed, in progressing electricity reform in Western Australia, the former monopoly of Western Power has been disaggregated into generation, transmission and distribution, and retail businesses as a precursor to introducing more competitive markets (at least for retail and generation).

With private sector entry to the industry, consideration will need to be given to the structure of the WC, as the State's largest provider of water and wastewater services. It is recognised that in its current form, the WC is able to enjoy certain economies of scale. Indeed, the DTF does not consider that the wholesale disaggregation of the WC would be a feasible option at this point in time and does not advocate any such action.

⁴ Lower bound pricing is defined in the NWI as the level at which to be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome. Upper bound pricing is defined as the level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.

In considering whether competition is likely in the water market, consideration needs to be given to what aspects of Western Australia's water and wastewater markets the private sector is most likely to seek access to. As already discussed, the DTF considers that the provision of bulk potable water and bulk wastewater services to be inherently contestable.

If such competition is introduced, segregation or ring-fencing of WC's bulk water division might be needed to promote competition in the provision of bulk water services by removing any real or perceived conflicts of interest and/or bias where tenders for bulk water are called for. The newly segregated bulk water provider could then be free to tender along side the private sector for the provision of a new water source. Alternatively, a tender process could exclude bids from the WC's bulk water supply area.

Retail markets are also contestable. While this is not seen as a first step in reform, it is recognised that potential entrants could find alternative economies of scope. If retail competition is further developed, separation of retail may need to be considered.

An Independent Market Operator for water

The ERA's Issues Paper's questions whether an agency similar to the Independent Market Operator (IMO) for electricity be set up in Western Australia, with the express role of making decisions regarding competitive supply of specified works and operations as well as the need for additional water sources.

Further consideration of this matter is supported. The DTF remains concerned about the extent of the WC's involvement in policy (in particular, it should be consulted for advice on competition issues but not be the lead agency in these matters). Planning is also an area which could potentially be, in part, undertaken by an IMO.

The WA Wholesale Electricity IMO provides a relevant independent model. The electricity IMO is responsible for the administration of market rules, operation of the Wholesale Electricity Market, and facilitating the provision of sufficient generation capacity and demand side management to meet expected load.

As a first step, a water industry IMO could have responsibility for planning and tendering, in place of the WC. A further development could be market operation, but an initial electricity-style market would not be envisaged as appropriate in the short to medium term although it could operate simpler water markets. Instead, a water industry IMO could be responsible for the administration of Western Australia's bulk water tender process and would be responsible for determining when new water sources were required and also for the assessment of source proposals. The IMO would act independently of the WC.⁵

⁵ Under the *Electricity Industry Act 2004*, the electricity IMO reports are tabled directly to parliament.

The DTF notes that a number of water transactions are likely to continue to occur via bilateral negotiations (such as the Harvey Water Piping trade negotiated between Harvey Water and the WC).

Given the potential for a limited market only, unlike the electricity market, a water industry IMO may be unable to generate its own income via fees and charges levied on market participants (as is the case for the electricity IMO). Instead, it may require appropriation via the budget process.

The water industry IMO could be an independent body in its own right. Given that there are some synergies, it could be combined with the electricity IMO.

Contestable CSOs

The current CSO policy in Western Australia, which only allows the Government to make CSO payments to Government owned businesses, is a significant barrier to competition in water and wastewater services.

Competitive neutrality requires that Government businesses have no advantage over private sector competitors by virtue of its Government ownership. While the WC is already subject to competitive neutrality, competition would bring into focus that the WC can receive CSOs from Government to pay for services it is not commercial to do otherwise. A better solution than simply giving the service to the WC to deliver would be to put it out to tender and give the service to the tenderer requesting the lowest CSO payment. This would require Government to introduce a policy of contestable CSOs.

The Western Australian Government has adopted the following definition of a CSO, as proposed by the Industry Commission (now the Productivity Commission) in conjunction with the Steering Committee on National Performance Monitoring of GTEs in 1994:

“A CSO arises when a government specifically requires a public enterprise to carry out activities relating to outputs or inputs which it would not elect to do on a commercial basis, and which the government does not require other businesses in the public or private sectors to generally undertake, or which it would only do commercially at higher prices.”

The WC gets paid CSOs for performing non-commercial services such as providing water and wastewater services to many country towns, upgrading dam safety, infill sewerage and pensioner and senior concessions. Due to the non-commercial nature of these services, private businesses would have no incentive to provide them, and they would not be able to compete with the WC unless they could be compensated as well.

For example, consideration could be given to provide CSOs to non-government organisations providing water or wastewater services to a country town, where it is not in the commercial interest of a private business to provide these services otherwise. The benefits of this might be that a private business is more efficient in delivering the services, resulting in lower costs and therefore a reduction in CSOs over time.

Payment of CSOs to private businesses, that do not pay dividends or income tax equivalents to the State Government, would therefore result in lower net payments to the Government from Government owned businesses. However, the benefits of competition that have been outlined earlier in this paper (such as an improvement in the allocative efficiency of government funding of essential community services) should compensate for this reduction in net payments to Government.

In addition, the current policy does not allow the payment of CSOs to private retailers for providing pensioner and senior concessions, which acts as a barrier to the potential introduction of competition in the water retail market.

Consequently, to facilitate the introduction of competition in water and wastewater services in Western Australia, the current CSO policy would have to be revised by the DTF to allow payment of CSOs to private businesses on a case-by-case basis. This revised CSO policy could be similar to the policy that operates in Queensland.

In Queensland, CSOs can be paid to private businesses as well as government owned commercial businesses. The Queensland Treasury prepared a paper in 1999 *Community Service Obligations: A Policy Framework*, which provides guidance on the broad aspects of the CSO policy.

To qualify as a CSO, a product or service must be purchased by the Queensland Government, through the relevant Department(s) from an appropriate commercial business entity. While, in many instances, CSOs will be provided by Government-owned entities (e.g. Government Owned Corporations, Commercialised Business Units), there is also scope for such products or services to be provided by entities owned by other governments or private sector suppliers. However, this is ultimately a matter for the Government and it should be considered on a case-by-case basis, consistent with achieving the key objectives of the Queensland Government's CSO policy guidelines.

In New South Wales, the *Social Program Policy for NSW Government Trading Enterprises* focuses on the social programs which historically have been delivered by Government owned businesses and addresses the means by which the Government may continue to deliver (or enhance) social benefits while pursuing its policies of commercialisation, which aim to give Government business managers a profit motive.

However, from the New South Wales Government's perspective, the focus should be on achieving desired social objectives, regardless of whether the Government owned business is the preferred delivery vehicle or not. This view is consistent with its approach to separating the roles of purchaser and producer of services to the public.

Water Trading

Water trading markets are critical to establish the efficient spatial and temporal allocation of water. In the short term it is envisaged that markets will operate mainly through relatively simple 'bilateral' contracts (even in the electricity market these are still by far the largest part of trading).

It is important that the legislation governing this trading is not too narrow and restrictive. There is a need at least for both permanent and temporary trades (which could vary in term). The scope of trading should not be limited without good cause as the full opportunities it can bring are not always anticipated. For example a plantation owner located on a groundwater source currently has a de facto water allocation. Including this as a formal entitlement which could be traded, would provide an incentive to trade the water to a higher value use if the price is right, whereas without a tradable entitlement, there is none. A 'barter trade' (irrigation farm piping for water) has seen 17 GL of water provided to the WC by Harvey Water. As with all trades, this was mutually beneficial to irrigators and Perth consumers.

Since the WC has large unfilled dams there may be other trading opportunities, such as purchasing additional water from Harvey in seasons in which they have water excess to their needs. Irrigators with a high value vineyard have the option of short-term trades to avoid loss of vines in a drought year, the short term trade effectively helping them manage risks. On the other hand, low value irrigators may have an opportunity to sell their water allocation to receive better incomes. Other more sophisticated approaches can provide better but more complex risk management tools.

A sophisticated market such as the eastern Australia's National Electricity Market (NEM) and Western Australia's combination of electricity markets (Retail Trading Market, Capacity Market and Balancing Market as well as bilateral trading) would seem to be premature as the benefits at this time are unclear and these markets would be expensive to establish and run.

Bilateral contracts still provide the bulk of the electricity trading in Western Australia. The low costs of water storage means that a real time balancing market is not as critical and may mean that a capacity market is not necessary if there is sufficient stored water to meet peak demand. Nevertheless, there is a research project being undertaken by the Water Services Association of Australia (industry body for the major water service providers in Australia) to investigate whether a water market with function similar to electricity markets would facilitate dynamic competition between different sources of bulk water supply. The outcome of the research will be of interest, but the sophisticated market would not seem relevant in the short term.

Other issues

Governance

The National Institute for Governance has defined corporate governance as:

“...the way in which decisions important for the future of organisations are taken, communicated, monitored and assessed. It includes the processes an organisation has for holding managers accountable and measuring performance.”

To improve corporate governance of Government owned business in Western Australia, a Government Enterprises portfolio was created in June 2001. The purpose of the portfolio is to support the Minister for Government Enterprises in exercising the Government’s shareholder, owner and investor role in relation to Government business enterprises.

The objective of the portfolio was also to enhance accountability and performance monitoring of Government owned businesses. This recognises the potential financial, budgetary and political risks arising from such activities and the significant influence these agencies can have on the State’s economy and finances.

Although the Minister for Government Enterprises is solely responsible and accountable for the operational and financial performance of public sector agencies engaged in significant commercial activities, there will need to be an active relationship with the Minister for Industry. The Minister for Industry is the Minister whose portfolio responsibilities span the industry sector within which a Government enterprise operates.

The Minister for Government Enterprises is responsible for a single participant within the industry, whereas the Minister for Industry is responsible for the entire industry sector. It would be inappropriate for the Minister for Government Enterprises to also assume the role of Minister for Industry, in view of the potential for conflicts of interest to arise between the Minister for Government Enterprises’s shareholder/owner/investor role and the broader responsibilities of the Minister for Industry.

Indeed, this could have an impact on the accountability, corporate governance and performance monitoring of the Government owned water service providers in Western Australia. It would therefore be desirable if the Minister for Government Enterprises became responsible for these Government businesses again.

Concluding Remarks

The DTF supports further consideration of opportunities for increased private sector participation in Western Australia’s water and wastewater markets and welcomes the ERA’s current review.

In summary, a more efficient water market will be achieved by competition.

- Opportunities for private sector entry include in the supply of bulk water and also the provision of retail services. Both bulk water supply and retail services are contestable.
- Entry might be via a PPP process, with a competitive tender used to identify prospective service providers.
- Competition will be facilitated by policy and institutional change including the development of a third party access regime; structural reform; and the introduction of contestable CSOs.

The DTF also recommends the clear delineation of roles within government, with the creation of a water industry Independent Market Operator, responsible for source planning and tendering of new bulk water sources. It is not expected that a water IMO would be as sophisticated as the current electricity IMO. However, given that there are some synergies, it could be combined with the electricity IMO.

The WC plays, and will continue to play, a central role in the State's water industry. While the DTF is keen to consider some initial structural reforms, privatisation is not considered or advocated.

Underpinning any competitive market is the need for sound pricing principles. In order to provide an incentive for the private sector to invest in an industry that is typically characterised by large lumpy and sunk costs, it is imperative that prices reflect the true economic cost of providing a service (thereby ensuring an appropriate return on assets). Underpricing could discourage investment in water saving devices and new technologies such as water recycling.

With the recent announcement of the development of a second desalination plant, the DTF recognises that it might be some time before a new major water source is needed. However, in preparation for future demand, the DTF considers that work needs to continue on the development of a third party access regime in the short term (covering all natural monopoly water-related infrastructure).

Furthermore, the DTF would strongly support use of a competitive (closed) tender via a BOO process in the identification and development of the next major water source. Such a model allows for the entrance of a large-scale private sector participant into the State's water markets. Over time, it is hoped that the provider would cement its place as an alternative water source provider – its presence in the State would allow it to tender for new opportunities such as water infrastructure in regional areas.

The DTF also notes the potential for retail competition. Other retailers such as those in the State's energy markets, might be able to achieve sufficient economies of scale and scope in order to justify market entry.

As a summary, based on the table on page 22 of the ERA's Issues Paper, the following sets out those segments of the water market in which the DTF considers competition to be conceivable (or not) and the mechanisms by which competition could be encouraged.

Supply Chain	Is competition conceivable?	Examples of competition
Water procurement	Yes	New major water sources procurement via: PPP and competitive tender . Additions to water supply likely to be aided via: third party access regime; water trading; market restructuring; implementation of an IMO; and contestable CSOs .
Water treatment	Yes	Third parties can seek access to the water network and provide a competing treatment service (for potable water). Stringent health and safety requirements will have to be met and may create a barrier to entry. Competitors might also seek access to existing water treatment plants to provide potable water to new markets (for examples via inset agreements). Not clear, it may be interpreted as a production process.
Water network	Not directly	A natural monopoly (e.g. uneconomic to duplicate). However, competitors in procurement, treatment and retail markets will require access to water network (via third party access arrangements).
Water and wastewater retailing	Yes	Geographical and service-level competition (for example, provision of billing and meter reading) possible (competition for the market). Competition in the retail market (i.e., consumers are able to choose between retailers) conceivable, but unlikely in short term.
Wastewater network	No	See Water Network.
Wastewater treatment	Yes	Third parties can seek access to the wastewater network and provide a competing wastewater treatment service. Competitors might also seek access to existing water treatment plants to provide treated wastewater to new markets (agriculture and industry).

Wastewater disposal	Yes	Third parties might seek access to the wastewater network in order to provide wastewater by-products to new markets.
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Summary of Recommendations

Recommendation 1: That Government progress the development of an water industry organisation, charged with planning and tendering for the provision of new water sources and potentially the running of markets.

Recommendation 2: That the identification and development of the next major new water source be progressed via a BOO process (with a competitive closed tender).

Recommendation 3: That Government progress a third party access regime for the WC's natural monopoly infrastructure.

Recommendation 4: That Government consider the partial disaggregation of the WC prior to the introduction of bulk water or retail competition.

Recommendation 5: That Government approve the introduction of contestable CSOs to enable competitively neutral tenders.

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