

Australian Water
Association

**AUSTRALIAN
WATER**

ASSOCIATION



*Promoting^{AWA}
investment
in the water sector*

Discussion Paper

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1. Introduction

Australian governments are the primary investors, infrastructure owners and operators in the Australian water sector. Population growth, historic underinvestment in water infrastructure,¹ water security, climate change and increasing environmental and public health regulation mean that considerable investment in the sector is needed in the future. Significant capital expenditure is required to renew ageing assets and expand networks.²

Given the challenging fiscal environment for governments in the short to medium term, now is an opportune time for governments to consider where public investment in the water sector is most needed, where efficiency gains can be made and whether additional private investment in the sector could usefully free up current public investment for application in other sectors such as health and education.

This paper examines a number of the regulatory barriers to greater private sector participation in the sector. It includes a set of recommendations to governments to facilitate increased private sector investment in the short term and broader reform in the medium to long term.

2. The role of regulatory frameworks in the water sector

For good reason, the water sector is highly regulated. The extraction, ownership, storage, trading, treatment, transportation, use, supply and discharge of water and wastewater is subject to predominantly state-based legislative regimes although the Commonwealth is starting to encroach on this with the regulation of the Murray Darling Basin in the *Water Act 2007* (Cth), and the water trigger for large mines and coal seam gas in the *Environmental Protection and Biodiversity Act 1999* (Cth). The overarching purpose of much of the legislation is to ensure that Australians have access to a safe, secure and environmentally sustainable water supply for human consumption as well as domestic, agricultural and industrial uses and maintaining environmental flows.

With some notable exceptions, the current regulatory frameworks were designed around a water sector in which governments are responsible for almost all aspects of water supply and wastewater collection, treatment and disposal.³

Over time there has been a move away from governments being solely responsible for policy formulation, regulation and monopoly service delivery in the water sector. Most of the states and territories now have discrete public health, environmental and economic regulatory frameworks that can readily be used to govern activities by a range of participants in the water sector. In many parts of the water sector, however, there is not a complete institutional separation of service providers from the regulatory and policy functions of governments. This can create barriers to the promotion of customer choice and community involvement, innovation, efficiency and private sector investment in the water sector.

The governance arrangements of most public water utilities (including those which are corporatised) still enable the government to exercise significant influence over their operations,

¹ PwC 2010, *Review of Urban Water Security Strategies*, Sydney, page 9.

² See by way of example Austrade, *Investment opportunities in Australian infrastructure*, June 2014 and the *Local Government Infrastructure Audit 2013* published by the NSW Division of Local Government, Department of Premier and Cabinet 2013 regarding the water supply, sewer network and stormwater drainage infrastructure backlogs.

³ The *Water Industry Competition Act 2006* in NSW is a serious attempt to provide a regulatory framework that enables both public and private participants.

including key decisions about major capital investment projects. It has been said that water sector decision makers are often bound by, or required to consider objectives, policies and principles that can be ambiguous, inconsistent or even unworkable.⁴ However, it is important that public water utilities have governance arrangements that enable them to deliver water services in an economically efficient manner that protects the public interest.

While there will always be a place for the use of Ministerial directions with respect to public utilities, strong governance arrangements that set clear and consistent objectives to guide the utility's operations as well as defined roles for the shareholding and portfolio Ministers, the Board and management of the utility, are all likely to enhance decision making.

Recommendation 1:

Governments should agree on the broad objective of water sector regulatory frameworks to ensure that Australians have access to a safe, secure and environmentally sustainable water supply for human consumption as well as domestic, agricultural and industrial uses.

Recommendation 2:

Governments to review the governance arrangements for water utilities to ensure that they have well defined roles for the shareholding and portfolio ministers, the Board and management of the utility so as to maximise their ability to meet their statutory objectives.

3. Competitive outsourcing and concessions

The private sector can usefully contribute expertise, innovation and capital to the water sector. To date, private sector investment in the water sector for the most part has been through outsourcing arrangements with water utilities for discrete water treatment facilities through Public Private Partnerships (PPPs), Build, Own, Operate and Transfer (BOOT) arrangements and joint ventures with utilities.⁵

This has enabled major water utilities to deliver greater efficiencies through competitive outsourcing and there is scope for more water utilities to take advantage of such arrangements.

In particular, there are hundreds of small to medium sized water utilities owned by local government. These smaller water utilities commonly face four challenges:

1. they do not have access to sufficient capital to carry out all of their functions such as maintaining the network and are reliant on state treasuries for capital funding;
2. they face the costs of complying with ever increasing regulatory obligations as technical, economic, environmental and service standards rise;
3. they have to compete with the private sector to recruit and retain the right people with the right expertise to operate the utility efficiently; and
4. they are burdened by regulatory oversight of pricing decisions and service standards.

⁴ Ruff and Swier, *Submission to the Productivity Commission Inquiry into examining the case for microeconomic reform in Australia's urban water sector*, 4 February 2011 at page 6.

⁵ There is also some private sector investment in rural water trading and concession arrangements in place in South Australia and the ACT.

Private sector capital could usefully contribute to meeting these challenges provided regulatory frameworks that facilitate private investment are put in place, such as legislative regimes which:

- enable the amalgamation of a number of smaller water utilities into a larger water utility either through council amalgamations or the water functions of a number of councils; and
- establish a framework councils can rely upon when entering into outsourcing, concession or long-term lease arrangements with the private sector to avoid unnecessary legal uncertainty about matters such as:
 - the council's ability to enter into such an arrangement at all;
 - the state government approvals needed for the arrangement;
 - statutory powers the private sector operator may need to perform under the arrangements such as access rights necessary to carry out maintenance works on water infrastructure; and
 - a licensing regime that applies to the private sector participants' activities.

However, competitive outsourcing has limitations.

Outsourcing arrangements to build, own and operate water treatment facilities are attractive to operator investors that are equipped to evaluate and take on the risk associated with the construction and operation of water and wastewater treatment plants. However, it is not the type of investment that attracts passive investors such as a superannuation funds seeking long term returns and lower risk.

At present the private sector has no real ability to independently assess the potential demand for water projects and create a project to meet that demand. Water system planning is carried out by government agencies that liaise directly with government owned water utilities to decide what capital investments should be undertaken, and in some cases these decisions may be made within the utilities themselves. Private sector participants have little visibility into this process and must wait for the release of the next tender.

Public utilities are also often required to directly absorb the costs of community service obligations (CSO) in their budgets. This can result in non-transparent internal cross-subsidies, which lead agencies to overcharge for some services in order to subsidise the costs of the CSO. This can act as a barrier to competition because other suppliers are unable to compete to deliver those services because they do not have access to the CSO funding.⁶

Recommendation 3:

Governments should specifically consider the long-term efficiency of multiple local government owned and operated regional and rural water utilities and the benefits of legislative frameworks that enable:

- the amalgamation of a number of smaller water utilities into a larger water utility either through the amalgamation of councils themselves or the water functions of a number of councils; and
- those utilities individually or collectively to enter into outsourcing, concession or long-term lease arrangements with the private sector with respect to the water supply.

⁶ IPART's submission to the Harper Review 2014.

Recommendation 4:

State and territory governments to identify ways in which the private sector could participate in the delivery of CSOs such as flood mitigation works.

Recommendation 5:

State and Territory governments regularly publish a Water Planning Report which:

- highlights opportunities for supply and demand-side investment;
- identifies a range of network infrastructure and non-network investment opportunities in the short, medium and long term; and
- reports on the monitoring and forecast of environmental flows for key water systems to facilitate better management of environmental flows

4. Extending competition beyond outsourcing arrangements

While competitive procurement is a means of driving efficiency it is not a substitute for competitive reform,⁷ which can realise consumer choice and pricing benefits.⁸ The current lack of competition in the water sector means that there are fewer incentives for participants to innovate to give consumers greater choice.

The Harper Review proposed that its new National Competition Principles be subject to a public interest test, so that legislation or government policy should not restrict competition unless:⁹

- the benefits of the restriction to the community as a whole outweigh the costs; and
- the objectives of the legislation or government policy can only be achieved by restricting competition.

As a community, we need to consider whether the current restrictions on competition in the water sector across the jurisdictions can continue to be justified on a public interest basis, or whether there are alternative ways of achieving government policy objectives other than by restricting competition.

Competition can be introduced into a sector over time. For example, it may begin with a competitive outsourcing model, progress to one in which third party access to significant infrastructure is offered, and ultimately to one in which vertically integrated water utilities are unbundled, separating those parts in which there can be competition from those that are a natural monopoly.

For example, water distribution networks could be required to provide non-discriminatory access to all market participants and compete with new entrants such as bulk water suppliers, water treatment providers, wastewater, recycled water and potable water retailers.

Vertical unbundling has been successfully used in parts of the urban water industry in Australia, separating bulk water activities from water treatment, transportation and sale which has been assessed as resulting in a more efficient and productive industry.¹⁰ However, unbundling in South East Queensland, has since been reversed due to concerns about the risk of multiplying

⁷ IPART's submission to the Harper Review 2014.

⁸ *Competition Policy Review Final Report March 2015*, Canberra (Harper Review Final Report) pg 202.

⁹ Recommendation 1, Harper Review Final Report, pg 99,.

¹⁰ Page 387, *Modern Economic Regulation*, Christopher Decker, Cambridge University Press, 2015.

corporate overhead costs and reducing efficiency through less effective coordination of services.

Challenges to introducing competition in the market

While competition has successfully been introduced into the supply of a number of essential services in Australia (including electricity), water has a number of characteristics that differentiate it from other essential services:

- the supply of water and wastewater services are intimately connected to human health and survival;
- there are considerable externalities associated with the water sector;¹¹
- the composition and quality of raw water varies considerably depending on its source as opposed to electricity which is fairly consistent once generated;
- the need to maintain environmental flows; and
- there are very few substitution possibilities.

The water sector is sometimes regarded as a natural monopoly industry "par excellence" where the potential for competition amongst different suppliers is assessed to be limited. Regulation is viewed as a permanent requirement of the water and wastewater industry, not a temporary stage in the transition to a competitive supply structure.¹²

As a consequence, the most common structure is the integration of all or some water supply activities within a single operator or company with three basic models:

- public operator model, where the state owns and operates -the model used in Australia;
- the French model, in which assets are publicly owned, but management and operation of the assets is undertaken by private entities under medium to long term concession contracts awarded by a competitive bidding process; and
- the UK model in which there is private ownership and operation of the assets associated with water and wastewater supply.

Water transportation networks, and in particular distribution networks, are almost always natural monopolies. In theory, an access regime should enable a third party to be responsible for the procurement, treatment and retail supply of water but use the network of the incumbent supplier to transport the water from its source to the point of delivery. However in practice, third party access regimes alone have not been sufficient to drive new entry into the sector. The one water industry specific access regime in Australia¹³ has only resulted in small rather than material increases in private sector participation in the sector so far.¹⁴ Similarly, the generic third party access regime under the *Competition and Consumer Act 2010* (Cth) which applies to services

¹¹ For example, poor maintenance of distribution systems can have public health implications and the quality of water abstracted at specific points in a river basin can be affected by the level of abstraction that occurs further upstream, as well as any effluent or waste introduced into the river system upstream.

¹² Page 360, *Modern Economic Regulation*, Christopher Decker, Cambridge University Press, 2015. See also the comment at page 386 that restructuring policies in the UK are generally not seen as having been successful in relation to the development of competition.

¹³ The *Water Industry (Third Party Access) Amendment Bill 2015* is currently before the South Australian Parliament to introduce a third party access regime into the *Water Act 2012* (SA).

¹⁴ For a list of the type of investments that have been undertaken pursuant to the regime, see page 5 of *'Embracing Competition: The Sydney Experience'*, IWA/AWA Conference – *Enhancing Water Sector Productivity – Melbourne- 21 June 2013'*.

provided by facilities of national significance has not produced any meaningful new entry in the sector.¹⁵

Potential opportunities for competition

There is the potential for competition in the supply of bulk water, water treatment and wastewater treatment. For example:

- multiple bulk water suppliers in a given area or region, which compete to sell water to a distribution company, whether that takes the form of separate operators of different catchments or other sources, or in the form of bulk water supply entitlements in the same sources, each bidding to supply distributors in a competitive market; or
- competition between different operators as well as private sector provision of water and wastewater treatment by way of outsourcing contracts or longer-term concession agreements with public water utilities.

There are already multiple wastewater treatment facilities being operated by private entities on behalf of government owned water utilities, and private entities have been involved in their design and construction and finance. There is the potential to move from the current competitive outsourcing model to one in which these assets are separated from water utilities.

Taking the further step of putting the facilities in private hands, and removing the cost of their construction and maintenance from government balance sheets, may have several benefits:

- Transferring to the private sector the risk of increasing environmental standards for discharge wastewater quality also requires more expensive technology, which is both difficult to fund and technologically challenging to install and operate.¹⁶
- Private sector owner/operators could be contracted to provide wastewater treatment facilities, and the contracts themselves can be used as a means of regulating the operation of the facilities, including discharge standards meaning that the separation of existing wastewater treatment facilities could potentially be undertaken in a manner that requires minimal regulatory reform.
- The initial sale of existing wastewater facilities would generate cash for debt repayment or capital recycling opportunities.
- The need to pay an arm's length contract rate to private owner/operators for the provision of wastewater services would represent a step towards the NWI objective of achieving water service pricing that transparently reflects the full cost of water service provision.
- Contract arrangements with private owner/operators could be structured so as to achieve cost savings through efficiency and innovation. For example, even under a cost-plus service contract that limits the ultimate cost of service to the customer, contractual 'gain-share/pain-share' mechanisms could be used to encourage private owner/operators to adopt new technologies and methodologies with assurance that they will participate in any long run cost reductions.
- The incentives for efficiency and innovation are stronger for businesses operating in a competitive environment. The ability to own multiple wastewater treatment facilities may

¹⁵ Under Part IIIA of *the Competition and Consumer Act 2010* (Cth), access to sewage transmission and interconnection service provided by infrastructure owned by Sydney Water were declared subject to access regulation, and a separate application to declare water storage and transport services provided by Snowy Hydro Ltd and State Water was rejected, following the recommendation of the National Competition Council. See www.ncc.gov.au for the applications and final determinations.

¹⁶ *Infrastructure Report Card 2010*, Engineers Australia, page. 29.

mean that reduced operations and maintenance costs can be achieved, particularly where those facilities are acquired by large institutional water businesses that are able to achieve economies of scale across their operations and maintenance businesses.

- Finally, the entrepreneurial and business development skills of private owner/operators may be better suited than government to develop or expand services to supply recycled water for non-potable reuse or for replacement environmental flows.

There may also be the potential for governments to introduce competition in respect of:

- augmentations to publicly owned water networks - for example, to supply new developments and operate the infrastructure;
- the retail supply of water - given the small value-add of retailing activities to the final price of water, however, there is ongoing debate about the benefits of retail competition. The UK has limited retail competition for non-household customers.¹⁷ One possible approach to this problem is to set a regulated price that specifically includes a retail margin to promote competition because in its absence there is no incentive for entry; and
- potential for private sector management of environmental water.

Increasing competition in the water sector has the potential to deliver public benefits by driving the delivery of water and wastewater services which are specifically tailored to meet different consumer use needs in as cost effective manner as possible.

There are four critical pre-requisites for further competition in the water sector – stand-alone environmental and public health regulation which applies to public and private sector participants, independent economic regulation and a competitively neutral licensing regime and a third party-access regime.¹⁸ While each of these areas warrants further detailed discussion, this paper focuses on two of these areas - independent economic regulation, and a competitively neutral licensing regime.

Recommendation 6:

- Governments should:
- identify the restrictions on competition in the water sector and the objectives those restrictions are designed to meet;
- consider how else those objectives could be met other than by imposing the restrictions on competition e.g. by imposing a fit for purpose regulatory framework;
- determine whether the benefits to the community from restricting competition outweigh the benefits that could be gained from enabling competition; and
- determine whether any of the existing restrictions on competition could usefully be removed.

¹⁷ Page 375, *Modern Economic Regulation*, Christopher Decker, Cambridge University Press, 2015. .

¹⁸ Third party access regimes are widely used across Australia and there is broad agreement upon their main elements (see the Competition Principles Agreement 11 April 1995). The relatively new legislative frameworks in NSW and the proposed regime in SA provide useful examples of access regimes specifically for water infrastructure. See the *Water Industry Competition Act 2006* (NSW) and the *Water Industry (Third Party Access) Amendment Bill 2015*.

5. Independent Economic Regulation

Every state and territory in Australia has an independent economic regulator.¹⁹ Each of those regulators has some level of responsibility for the regulation of the water sector in its own jurisdiction. However, the existence of an independent economic regulator and independent economic regulation are not the same thing.

Water prices are still determined by Government Ministers in Western Australia and the Northern Territory. In Queensland they are determined by the public water utilities with the Queensland Competition Authority undertaking price monitoring. In South Australia, ESCOSA must comply with any direction of the Treasurer in making a price determination,²⁰ and in NSW the Minister can set the terms of reference for certain IPART price determinations.²¹ In Victoria, the Minister sets the method of regulation by way of pricing order.

It is critical that participants in the water sector can have confidence in the independence of economic regulatory decisions given their importance to an entity's operation and the governments' position as the incumbent infrastructure owners, operators and policy makers in the water sector.

In the absence of competition, economic regulation should provide incentives such that the owner of the assets delivers water at an efficient cost and price that allows it to stay in business, make a reasonable profit and keep investing. That regulation must also provide a degree of assurance that permits investors to commit to projects with limited risk of a significant change in the regulatory environment with changes in governments or their policies.

An independent regulatory agency is one that has a degree of autonomy from government, is not under the direct control of politicians or the government and is responsible for pursuing specific goals and objectives.²² It is regarded as evidence of a government's commitment to restrict interference in the regulated sector. The regulator makes decisions based on defined objectives and goals and not the short term objectives of the government of the day.

Private sector participants need to have confidence in the rules of regulation, and that these rules are and will be consistently applied to all participants, whether publicly or privately owned.

One way to ensure the regulator is independent from state and territory governments is to have a national regulator applying a national economic regulatory framework. Such an approach would be consistent with the recommendations of the Harper Review. The review recommended that a new Access and Pricing Regulator be established if a national approach were to be adopted.²³ A national regulator could also be in a better position to obtain information to implement forms of economic regulation which compared the performance of water utilities across the country such as benchmarking.

¹⁹ Independent Pricing and Regulatory Tribunal (NSW), Essential Services Commission (Victoria), the Queensland Competition Authority, Essential Services Commission of South Australia (SA), the Utilities Commission (Northern Territory), the Economic Regulation Authority (WA), the Independent Competition and Regulatory Commission (ACT) and the Office of the Tasmanian Economic Regulator (Tas).

²⁰ Section 35 of the *Water Industry Act 2012* (SA).

²¹ See for example, the Minister's terms of reference to IPART with respect to the Sydney Desalination Plant pursuant to section 52 of the *Water Industry Competition Act 2006* (NSW).

²² Page 189, *Modern Economic Regulation*, Christopher Decker, Cambridge University Press, 2015. .

²³ Harper Review Final Report, pages 204-5.

However, regardless of whether the relevant regulator is national or state-based, real independent economic regulation of water requires the state and territory governments to agree to relinquish the right to directly influence water pricing determinations other than through determining the form of economic regulation. This is an absolutely critical first step to promoting further private investment in the sector.

The Water Services Association of Australia (WSAA) has proposed a national urban water agreement be put in place through COAG to provide clear minimum and agreed standards for economic regulation to be met in all jurisdictions, including the need for regulation which is independent from governments.²⁴

To be effective, any such minimum standards regarding independence should at least require that:

- the economic regulatory framework is a statutory one put in place by government that clearly articulates:
 - the basis upon which the independent economic regulator will make its decision; and
 - the overarching objective of the regulation to promote economically efficient water use and service provision in the long term interests of end user;
- the economic regulatory framework should be designed to promote consistent and predictable decision-making over time by the independent economic regulator;
- an independent economic regulator determines prices (as opposed to a government agency or Minister) in accordance with a statutory framework that does not enable the government on an ad hoc basis to confine the scope of the independent economic regulator's ability to make a determination (for example by prescribing terms of reference, maximum prices, the rate of return, mandate that the full cost of an inefficient capital investment be included in a regulated entity's regulatory asset base or give other directions that constrain the regulator's discretion to make a decision); and
- the independent economic regulator's price determination should be subject to review by a competent independent body, such as the Australian Competition Tribunal.

Similar principles should apply to the oversight of prices in non-metropolitan and rural systems, which should not be determined by local councils or government without adequate oversight by an independent economic regulator (although a more light-handed form of regulation may be more appropriate).

This is such an important reform that it may be one which the Commonwealth Government would consider worthy of an incentive funding scheme for state and territory governments that adopt it. Strengthening economic regulation in urban water and creating incentives for increased private participation in the sector through improved pricing practices was one of the Harper Review's recommendations for the water sector.²⁵

Closely linked to independent regulation, is the reform of water pricing. Again, this is an area in which state and territory governments need to decide whether the current approaches to pricing are in the long term interest of consumers, or whether consumers' interests may be better served by pricing methodologies that focus on promoting consumer choice, promoting infrastructure investment and avoiding long-term price shocks rather than focusing solely on uniform low prices.

²⁴ WSAA, *Better Regulation for Customers*, August 2014.

²⁵ Harper Review Final Report, pages 204-5.

Recommendation 7:

State and Territory Governments should commit to a minimum standard of independent economic regulation for water under which:

- the economic regulatory framework is a statutory one put in place by government that clearly articulates:
 - the basis upon which the independent economic regulator will make its decision; and
 - the overarching objective of the regulation to promote economically efficient water use and service provision in the long term interests of the end user;
- the economic regulatory framework is designed to promote consistent and predictable decision-making over time by the independent economic regulator;
- an independent economic regulator determines prices or maximum allowable revenue in accordance with a statutory framework for a defined period of time that:
 - enables new entry; and
 - does not otherwise allow the government to constrain the scope of the independent economic regulator's ability to make a determination; and
- the independent economic regulator's price determination is subject to review by a competent independent body such as the Australian Competition Tribunal.

6. Licensing frameworks

Licensing frameworks provide governments with a transparent means of implementing policy as to who is able to undertake activities in the water sector, the terms and conditions on which they can undertake them, and the government's residual power to intervene in the operation of the licensed activity in the public interest. Similarly, they can provide licensed entities, whether they be publicly or privately owned, with certainty as to their rights (the nature of the benefit granted to them), and the duties and obligations placed upon them in exchange for the benefit of being granted a licence.

Licensing regimes are used extensively in the water sector both with respect to access and use rights as well as for the operation of water and wastewater infrastructure and the provision of water and wastewater services.

While licensing frameworks can open up participation in the water sector, they can also be the source of barriers to entry.

A robust licensing framework:

- enables a licensed entity (whether public or private) to carry out a range of specified activities in the water sector including the supply of water and wastewater services;
- clearly identifies what types of activities require a licence;
- prohibits anyone, including government owned utilities, from undertaking those activities without a licence;
- clearly identifies the basis upon which an application for a licence will be evaluated and determined, which may include factors such as:
 - the protection of public health, the environment, public safety and consumers;

- the promotion of competition in the supply of water and the provision of sewerage services;
- ensuring the sustainability of water resources;
- the promotion of water recycling and water re-use; and
- the potential for adverse financial implications for small retail customers generally arising from the activities proposed to be covered by the licence;
- provides the licence holder with any necessary statutory rights to carry out the licensed activities such as powers of entry and land acquisition;
- provides the ability to impose conditions on the licensee:
 - to give and maintain security;
 - regarding the maintenance of specified insurance cover;
 - to implement a government policy with respect to social programs for the supply of water and the provision of sewerage services, and make provision for the funding and payment of such programs;
 - to impose limits on the quantity of water that a licensee which supplies water can obtain from a public water utility;
 - to promote the equitable sharing among relevant licensed entities of the costs of water infrastructure that significantly contributes to the services they deliver; and
 - to be a service provider of last resort;
- provides for regulatory oversight of compliance with licensing conditions;
- includes enforcement provisions including monetary penalties, ability to direct the licensee to take certain remedial action, the power to suspend and cancel a licence, and to disqualify certain persons from being involved in a licence;
- provides government with the power to cancel a licence in the public interest; and
- provides government with the power to step-in and issue directions to a licensed entity in an emergency to undertake and refrain from undertaking specified activities, provide the government with required information and co-operate with any emergency response plan put in place by the government.

Recommendation 8:

Each State and Territory should have a licensing regime which enables both public and private sector participation in the water sector in a way which protects the public interest and does not create unnecessary barriers to private sector investment.

7. Harmonisation

A consistent set of laws, regulations, standards and practices across jurisdictions would assist investors and sector participants operating in more than one jurisdiction by reducing the costly compliance and regulatory burden they face complying with different legal frameworks to undertake the same activity in different locations across the country. These benefits can be realised by adopting general principles to make a consistent legal framework without the jurisdictions having to necessarily commit to uniformity.

Set out below are some examples of areas of water regulation which could benefit from harmonisation:

- public health and environmental approvals required to test and adopt new technology and innovations;²⁶
- planning regimes that assess and approve developments which use water or may impact water resources and the tests applied in respect of impact e.g. should it be to maintain or improve;
- licensing regimes which control water pollution;
- licensing regimes which regulate all water use and re-use (including effective takes such as inflows to mines) so that governments have a more accurate idea of water take and use within the jurisdiction rather than only with respect to specific areas;
- the different terminology used to describe water products, dealings and restrictions in water markets to facilitate trading across multiple water markets;
- across government agencies within a jurisdiction to co-ordinate a whole regulatory response to avoid the problem of industry participants being held to different standards by different agencies with respect to common issues.

Recommendation 9:

State and Territory Governments consult with the water industry to identify priority areas of regulation for harmonisation and agree to progress the harmonisation of those areas.

8. Water trading

Water trading markets have developed over time, in response to demand and as state governments have implemented the National Water Initiative (NWI) objective of converting licenses to tradable allocations. Markets are now an established feature of water policy in Australia and have produced positive economic gains at the community, regional and national levels. Water trading is an essential business tool (particularly for irrigators) as it allows water users to adapt and respond to variable water availability and other market factors.

There seems to be general agreement that water trading optimises the economic, social and environmental value of water. Of particular interest for the purpose of this paper is the potential for water trading to:

- promote economic activity in a region, bringing increased employment and investment, by allowing new industries to acquire water without affecting other users or impacting existing water entitlements, and without requiring a reassessment or reconfiguration of existing allocation of available water or sustainable environment flow regimes; and
- create more stable and attractive business environments by improving the bankability of new enterprises.

The ability to trade water entitlements has improved the financial viability of existing industries and promoted the development of new horticultural ventures by giving water users greater flexibility in making decisions about their priorities for water use, and by offering a means of managing risk and cash flow. The recent takeover offer for Tandou by Australia's biggest walnut grower, Webster Limited, is a good example. That transaction is as much about the water as it is about the crops. Tandou's Chairman, Rob Wolley, stated that his company was '*...attracted*

²⁶ Owners of new technology need to seek approval from each state and territory and even sometimes local councils. This can expose significant costs on new entrants especially small ones. The [Australian Water Recycling Centre of Excellence](http://www.australianwaterrecycling.com.au/current-projects.html) has promoted harmonisation with respect to water recycling for this reason. One of the Centre's goals is to establish a national validation framework for water recycling – see goal 2 <http://www.australianwaterrecycling.com.au/current-projects.html>

*by the fact that in addition to our water, Webster had acquired some 60 million worth of water when they bought the Cooper property near Griffith. That makes it a bigger water investment, gives us much more flexibility when it comes to usage and puts the whole business into a stronger position.*²⁷

Each Australian jurisdiction has in place legislative and administrative arrangements to facilitate water trading to some extent. Approximately 95% (by volume) of all water traded in Australia occurs in the southern Murray-Darling Basin, although trading markets operate to a limited extent in those parts of Queensland, New South Wales, Victoria and South Australia outside of the Murray-Darling Basin, as well as in Western Australia and Tasmania.²⁸

National water register

As a result of the NWI, water access entitlements are recorded in publically-accessible and reliable water registers. Registers underpin public confidence by showing ownership, encumbrances and trading activity. However, a significant barrier to increased water trading is a lack of a central, real-time trading registry.

The states excel at processing trades when benchmarked against the COAG service standards, which recommend trades be processed in five days for intrastate trades, and 10 days for interstate.²⁹ However, there are delays between the time a trade occurs and when that trade is reflected on the relevant registers.

In its Australian Water Markets Report 2012-13³⁰, the National Water Commission reported that delays in processing water trade applications can impose significant costs on water users, delays in the registration of water allocation trades (ie, seasonal trades) can lead to lost opportunities for water use at critical decision points, and delays in entitlement trades can lead to deferred investment or excessive risk through exposure to water allocation markets.

COAG's agreement in November 2008 to develop a National Water Market System (NWMS) was intended to address these issues by developing high-performance state and territory water registers and enabling seamless data transfer between water registers as part of a common registry system.³¹

To date, the NWMS initiative seems not to have progressed, with the result that we still lack a central, real-time registry that provides accurate and timely price information, a single market clearing mechanism. Greater transparency and information symmetry would assist in the efficient operation of the market by facilitating a single price being achieved for the same good at any one point in time.

Recommendation 10:

Continue the work to develop a National Water Market System that provides a central, accurate and real-time registry for all water trades in Australia, regardless of location in which they are undertaken.

²⁷ *Walnut giant Webster Limited plans to expand water and cotton assets in New South Wales with Tandou offer*, ABC Rural, 4 March 2015.

²⁸ National Water Commission, *Water Markets Report 2012-13 at 41* (http://www.nwc.gov.au/_data/assets/pdf_file/0003/36291/WaterMarketsReport2012-13-2.pdf)

²⁹ National Water Commission, *Water Market Reports – Trading Processing Times*, (<http://www.nationalwatermarket.gov.au/water-market-reports/trade-processing.html>)

³⁰ National Water Commission, *Water Markets Report 2012-13* (<http://www.nwc.gov.au/publications/topic/water-industry/australian-water-markets-report-2012-13/5-market-performance>)

³¹ National Water Commission, *Strengthening Australia's Water Markets 2011* (http://archive.nwc.gov.au/_data/assets/pdf_file/0011/11243/SAWM_Part_1.pdf)

Broadening water markets

There may also be merit in considering opportunities to increase the range of products that are able to be traded to include storage and transport capacity. Generally in Australia, water storage is state-planned and is not open to market forces. Unbundling use rights from access and delivery rights allows for more transparent valuations of assets, enables more flexible trading and contributes to an efficient market.³² A system of property rights in storage capacity would allow for the development of a storage market where capacity could be traded in a similar way to water entitlements.³³

Opportunities may also exist for greater trade between catchments and between water sources (between surface and groundwater, for example).

The NWI included the objective of removing barriers to trade and facilitating the broadening and deepening of the water market. Further work is now required to encourage water planning processes and resource assessments to enable trade to be carried out in areas where this work has not yet been done. The experience of implementing the reforms that enabled trading in the Murray-Darling Basin can be drawn upon in developing and implementing change in other water markets.³⁴

Even if trading doesn't take hold once the regulatory reform to provide for trading has been implemented, the exercise should still be valuable. As the National Water Commission has observed: *'Most of the fundamental elements of an effective water market coincide with the principles of good water management, so there is value in pursuing reforms even if water trading is not the sole objective. ... Investing in sound practices for water resource assessment, planning and management will generate substantial benefits, and water trading becomes an additional feature.'*³⁵

The National Water Commission (NWC) also observed that water resource planning and unbundling are not only important reforms for water market facilitation but also yield wider benefits in entitlement security for users, administrative efficiencies in licensing assessment and trade approvals, and - in the case of unbundling - improvements in the operation of water business functions such as billing.³⁶

Recommendation 11:

Explore possible opportunities to broaden water markets, by such initiatives as:

- unbundling water use rights from access and delivery rights;
- creating tradeable rights in water storage and water transport capacity; allowing for greater trade between water sources.

³² *ibid* at 149.

³³ Brennan, D. 2007, *Missing markets for storage and their implications for spatial water markets*, 51st Annual Conference of the Australian Agricultural and Resource Economics Society, Queenstown, New Zealand, 14–16 February 2007.

³⁴ National Water Commission, *Strengthening Australia's Water Markets 2011*

(http://nwc.gov.au/_data/assets/pdf_file/0008/11240/StrengtheningAustraliasWaterMarketsReport.pdf) at 135.

³⁵ *ibid* at 135.

³⁶ *ibid* at 142.

Other impediments to water trading

Water markets are increasingly viewed as an attractive opportunity for investors, and specialised funds and other sophisticated investors are now focussing on water markets as a unique opportunity and as an alternative to trade in traditional agricultural commodities. However, the ability for investors to trade in water is limited by the accounting treatment and investment rating of water entitlements, the participation in the market by state agencies with regulatory power or influence that gives rise to real or perceived conflicts of interest, and a general lack of understanding of the market and trading process by institutional investors. Further work by governments to address these issues is necessary to strengthen and legitimise water markets.

The NWC recommended that formal public disclosure of conflicts of interest should be made by all organisations with combined water market and other water management roles, together with disclosure of the arrangements for managing these conflicts. Compliance with steps to manage conflicts should be monitored, and structural separation considered if compliance is not adequate. While some operators have codes of conduct or ring fencing guidelines in place, there is no wider water sector commitment to managing conflicts and there is a lack of monitoring by regulators.³⁷

In relation to price information, the NWC recommended that price disclosure needs to be mandatory and the data monitored and verified. Accurate pricing information will increase the ability of traders to appraise the value of water under a range of market conditions, increase participation in the market and promote better detection of market irregularity.

Recommendation 12:

Investigate the possibility of broadening the investor appeal of water markets through such initiatives as a review of how water entitlements are treated under accounting standards, the adoption of a mandatory disclosure regime (as exists in the Murray-Darling Basin) and verification, and a code of conduct for managing conflicts of interest.

9. Obtaining a public mandate for reform

As a community and as individuals we are entirely reliant on a ready supply of potable water. However, most people are probably unaware of the complexity of the resource planning and infrastructure networks that deliver water to where it is needed, and what we pay for water is not reflective of the true cost of supply. As a result, the public is concerned with paying more than they expect for their water, but their expectations may be unfounded.

Improved customer engagement in the water sector has the potential to capture significant opportunities for innovation and economic efficiency, and ensure the Australian water sector has an engaged customer base whose values and willingness to pay for services and individual preferences for risk, reliability and affordability inform how services are delivered.

Customer engagement includes both individual choice - a situation where individual customers can choose between alternative tariffs, services or providers; and collective choice - where it may not be possible for a provider to offer individual customers choice through a differentiated product, but where customers as a group can have an impact into the choice between the costs

³⁷ See, for example, the voluntary practices adopted by SunWater in Queensland.

and benefits of different levels of service, e.g. via surveys, willingness to pay studies, customer panels or other forms of customer engagement.

Water utilities can generate capital from their operations, but this may be limited (particularly in smaller centres) and its use may be constrained by the government, as owner of the utility. Debt from local or state government borrowing facilities may also be available, but this is typically very limited and its allocation to specific projects requires government approval, which may turn on the policies and priorities of the government of the day instead of sound commercial investment principles. Finally, Commonwealth Government grants may be available, but the availability of such funds is irregular and, like government debt, their allocation to specific projects is likely to reflect government policies and priorities.

To date private sector participation in the water sector has been focussed primarily on discrete wastewater treatment, recycling and desalination assets. Government has largely not implemented the reforms required to create a water sector that accommodates broader private sector participation including by owning and operating assets. Until we see a change in government policy, it is unlikely that there will be a proliferation in private investment.

If that is the case, then driving greater private sector investment in the water sector might need to begin with a focus on public education. In the short term, a public awareness program might simply result in a better appreciation for the extent of the operations conducted by water utilities and the value of the water infrastructure that is hidden from view. In the longer term, such a program could be used to:

1. help governments foster greater appreciation for their investment decisions;
2. gain acceptance of direct and indirect potable reuse;
3. gain wider acceptance of the efficiencies and benefits of environmental use of water and the need to protect water entitlements for environmental purposes;
4. promote appropriate water use and conservation ethics;
5. communicate the need for capital to be made available for new infrastructure and the options available for accessing capital; and
6. ultimately, should government policy shift, assist in gaining public acceptance of water sector reform to accommodate privatisation of water utilities.

Recommendation 13:

- A common customer regulatory framework be developed which governs the relationship between customers and water utilities
- Governments and water industry participants should all take action to raise public awareness about water supply and the provision of wastewater services.

10. Recommendation and conclusion

This paper contains a number of discrete recommendations. However, the overarching conclusion is that there is considerable scope to promote additional investment in the water sector by reforming existing regulatory frameworks to consciously enable private sector participation in the industry and adopt a consistent approach across the jurisdictions to key aspects of those frameworks such as licensing, independent regulation, consumer protection, environmental protection and management and public health.

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Chambers Asia Pacific Guide to Leading Lawyers 2015 ranks Katrina as a leading lawyer in Australia for competition and antitrust and states "Sources praise her 'strong legal knowledge' and 'clear, unambiguous advice'."



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Brendan is recognised by *Best Lawyers* as a leading lawyer in each of the Water Law (2010-14), Energy Law (2014) and Natural Resources Law (2014) categories, and he is noted as 'very service-oriented' and 'technically capable' in the *2014 Asia Pacific Legal 500*.

About this paper

This paper was prepared at the request of the Australian Water Association. It focuses on the regulation of the water sector and identifies potential issues arising out of variations and discrepancies across economic, health and environment regulation of the water sector across Australian jurisdictions.

Katrina and Brendan met with many interested participants in the water sector for their input, and overlaid their own perspective and experience to provide a platform for further discussions about the future of the water industry in Australia, including suggested areas that require harmonisation, the potential role of a national regulator and potential changes needed to facilitate investments into the water sector by private investors.

They look forward to presenting their findings at Ozwater'15, and being part of the continuing discussions.