Level 6, 655 Pacific Highway
ST Leonards NSW 2065
Tel +61 2 9467 8426 **Fax** +61 2 9436 0155
Email aspeera@awa.asn.au

Urban Water Inquiry
Productivity Commission
LB 2 Collins Street East
Melbourne Victoria 3165

Dear Sir/Madam

It is with pleasure that I make this submission on behalf of the Australian Water Association to the Productivity Commission's inquiry into Micro Economic Reform in the Urban Water Sector. This is an important area of investigation. AWA is grateful for the opportunity to provide input.

The urban water sector is important economically, socially and environmentally. It underpins much productive activity and is fundamental to the health and wellbeing of individuals. While it can be viewed solely as a commodity, it represents other important values that can't be commodified, including spiritual, aesthetic and cultural values. It is essential to all ecosystems, and its availability to non-human species is imperative.

The urban water sector has performed soundly over the past 15 years. Efficiency has improved very significantly and financial performance is generally sound. Australia is an acknowledged world leader in strategic asset management, sector governance, and system performance. Notwithstanding restrictions placed on water use in a number of jurisdictions for significant periods over the past decade, the sector has provided sufficient water at high quality in most circumstances in very trying conditions. These are significant achievements that should not go unacknowledged. There is room for improvement, but the reforms undertaken will need to be necessary, strategic and subtle; reform for reform's sake is to be avoided.

The Commission has raised a very wide range of questions in its *Issues Paper*. AWA has not attempted to address each of these, but has used them to prompt our thinking about the matters in which the Commission is most interested. Our response is structured to provide an Executive Summary and then comment on: Objective Setting; Competition, Structure and Equity; Supply Augmentation, Planning and Decision-Making; Pricing, Non-Price Demand Management; Regulation and Integrated Water Management.

AWA would be happy to speak to this submission further if required.

Yours sincerely

Tom Mollenkopf
Chief Executive
Australian Water Association

1

Contents

1 Executive Summary

The Australian Water Association (AWA) is the leading water sector body in Australia, representing over 10,000 water sector professionals across all disciplines. Formed in 1962, AWA is an independent and not for profit association, providing a voice for water professionals around Australia on a wide range of sector issues including skills shortages, climate change, water management and reform and regulation.

This submission outlines the Australian Water Association's views about the direction that should be taken with regard to micro-economic reform in the urban water sector. The Association is grateful for the opportunity to provide this input.

In making this submission, AWA has stressed a number of key points we believe are critical. Foremost among these is that the Australian urban water industry is seen as a global leader in urban water service delivery, having undergone substantial reform over the past decade and a half. In large measure the benefits of this reform have been realised through a very large improvement in the industry's efficiency. AWA believes that improvements can undoubtedly be made, and we make several suggestions as to how these might be achieved. However, we also believe that some of the reform proposals cited in the Commission's discussion paper will produce only marginal improvements in efficiency and may, in some instances, produce disbenefits. The following should be recognised:

- The sector displays strong natural monopoly characteristics in several key areas. It may be better to concentrate on effective regulation of monopoly power rather than introducing structural and reforms to foster competition in those areas. AWA would, nevertheless, support moves to ensure that new entrants can emerge where they are viable.
- A level playing field is essential if competition is to be fostered. Existing utilities and the private sector should be treated equally and be subject to the same regulatory environment. Thus, legislation covering existing utilities should not be a barrier to the entry of the private sector in to water markets, nor should unnecessary constraints be placed on corporatised utilities that might distort the market in favour of the private sector.
- Parallels between other utilities (e.g. energy; telecommunications) and the water sector are limited. For example, while the 'quality' of electricity remains the same regardless of the source, water quality varies from source to source and not all may satisfy consumer demands. Further, mixing of various sources within a distribution system may lead to water quality deterioration.
- Competition at the retail level is unlikely to produce substantial benefit. Retail utilities will not be able to make bulkwater purchases the way energy retailers can choose between generators because of supply and quality constraints

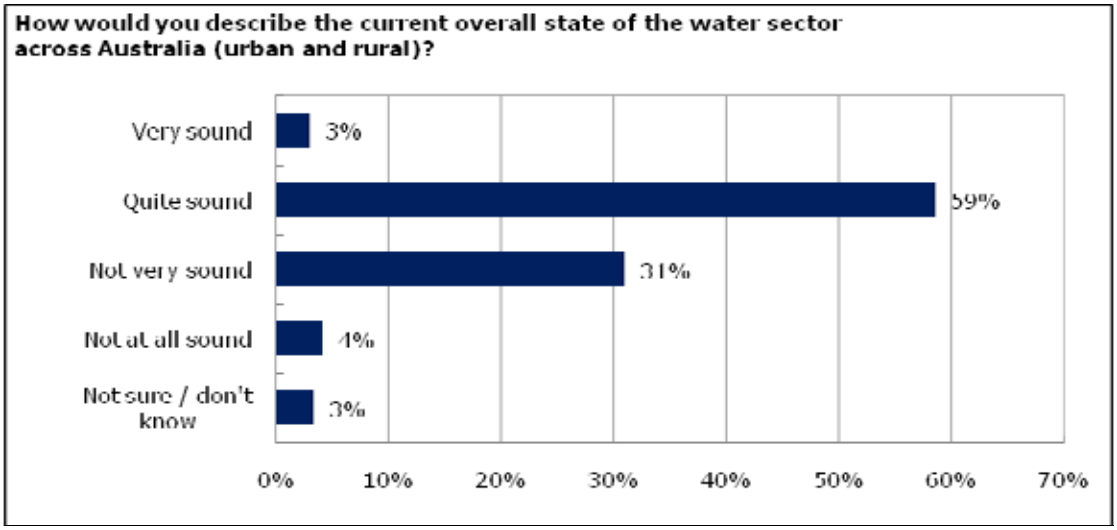
- Competition is not a replacement for over-arching planning and regulation. Water collection, distribution and disposal systems can have significant impact on the environment and this must be controlled. Further, there is a symbiotic relationship between water supply and urban form and servicing requirements, and health of ecosystems, urban and rural. Careful strategic planning is required.
- Vertical disaggregation of utilities may lead to planning 'friction' between organisations and lead to a lack of accountability. While AWA does not suggest that such approaches are inherently negative, they must be very carefully planned so as to not produce unintended consequences. Conversely, amalgamation of smaller utilities may produce economies of scale that are highly beneficial.
- The basic principles enunciated in the COAG Water Reform Agreement 1994 and carried forward to the National Water Initiative are sound and have produced important benefits. Not all of these principles have been fully achieved. There should be a renewed commitment to full implementation of these principles; if not before other reforms are contemplated, at least in parallel with them.
- Reform for reform's sake is to be avoided. The objective of any reform should be clearly articulated, quantified – taking into account all costs and benefits – and widely discussed.

2 State of the Water Sector

Australia is a recognised leader in a number of critical areas related to urban water management. The reform processes initiated since 1994 have improved the sustainability of the sector, its financial management and its efficiency, and secured high quality water supplies for domestic, industrial and commercial customers. Future reforms must preserve these gains and build on them.

Over the past 3 months, AWA in conjunction with Deloitte has carried out a survey of almost 1200 industry participants as to the attitude of the industry itself toward critical issues. Findings from this survey are used liberally in this report. At the outset, however, it is worth presenting two key findings: the overall soundness of the water sector (urban and rural) and the priorities for institutional reform in the urban water sector:

Figure 1 – Soundness of the Water Sector



It can be seen that the predominant view of those intimately involved in the water sector is that the sector is sound. The sector is not homogenous nationally, however, and it is anticipated that breaking down this aggregate result by region will indicate those jurisdictions or regions (urban and rural) where the greatest prospect for improvement resides. Reforms to be undertaken must be targeted and carefully implemented least the gains already made are diminished.

Figure 2 - Priorities for Institutional Reform in the Water Sector

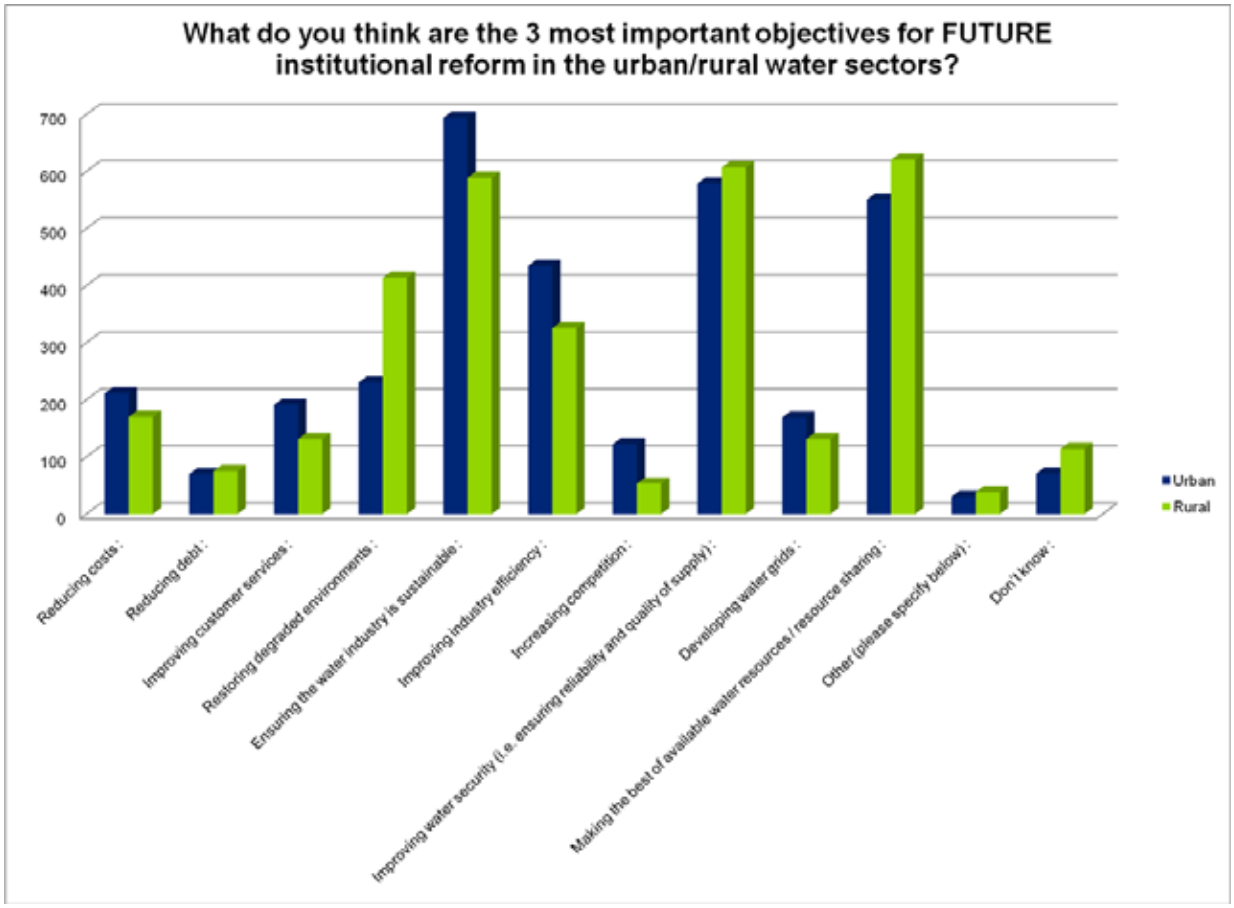


Figure 2 shows priorities for institutional reform. This data has been broken down into rural and urban responses and presented as the total number of times an issue was nominated by the respondents[1] Generally there is a strong correlation between urban and rural respondents with sustainability, water security and making the best of available resources being the issues to which respondents feel reform should be directed, followed closely be improvements in efficiency. Whereas opening the sector to greater competition

AWA, with support from the National Water Commission, has also conducted research into community attitudes to key aspects of water management. Findings from that research are also included in this report.

3 Setting Objectives

Most, if not all, of Australia's urban water utilities are required to operate their systems in conformity with the principles of sustainability. These principles are, at times, incorporated in operating licences and similar instruments held by utilities (e.g. Sydney Water's Operating

[1] Each respondent could nominate three priority issues. Thus, the total number of possible responses was 3 times the number of people who completed the survey, minus those who selected 'don't know'. (3 * 1162 - 71 = 3415)

Licence) and at others are over-arching principles set out in legislation. Sustainability requires the integration of economic social and environmental factors to ensure the wellbeing of this and future generations and the ecosystems on which we depend. Sustainability should be the overarching goal to which water reform is directed.

In that sense, the reform objectives are the same in every instance; to achieve sustainable water systems[2]. However, as sustainability can only be realised through the tailoring of solutions to particular circumstances, the way in which sustainability is achieved will be different from jurisdiction to jurisdiction, system to system.

Practically speaking, AWA believes this means that:

- Water systems should be sustainable financially. Unmanageable debt burdens should not be passed down to future generations, or impact unreasonably on this generation[3]. As water and sewerage services are not public goods and consumers at least have a substantial degree of control over how much of the service they consume, there is justification for ensuring consumers meet the full cost of their use of the systems. There is also justification for ensuring that demands for dividend payments by government owners of utilities and the influence of governments on prices are transparent so that distortion does not occur.
- Water systems must be made available equitably. All parties should have sufficient access to the systems to ensure their basic health and hygiene needs are met and none should bear an inequitable financial or amenity cost of the systems. There is a particular need to ensure that subsidies to less well-off consumers are transparent and well targeted.
- Water systems must not degrade ecosystems. Sufficient water will need to be made available at the right time to sustain ecosystems and controls must be in place to prevent pollution. The legacy of existing systems means that effort must not be directed solely to the preventing future impacts, but to rectifying past mistakes. AWA believes that externalities, that are frequently borne by the environment, should be incorporated into the price charged for water services

It is axiomatic that environmental, social and economic objectives must all be treated equally if sustainability is to be achieved. There are a number of methodologies available that allow comparison of these objectives. While none are perfect, they are practiced with increasing sophistication. Regrettably, such analyses are frequently undermined by subsidisation of supply options or the imposition of policy bans, obscurity in the objectives and implementation of social safety nets and subsidies, and ineffective valuing of

[2] Unless explicitly stated, or made clear by the context, the terms 'water systems' or 'water services' should be taken to mean water, wastewater and stormwater systems and related infrastructure and institutions.

[3] This is a general position. It should not be taken to suggest that debt burdens are currently unreasonably high, or that a utility should not be appropriately leveraged.

environmental goods and services (including amenity values) and management of environmental externalities.

Despite our highlighting of the sustainability objective, other sub-objectives require comment given their importance. Foremost among these is the need to maintain water quality and the levels of protection afforded to the community through an effective sewerage system. There is the potential for these objectives to be negatively affected as a result of misdirected but well-intentioned reform. As the maintenance of drinking water quality is essential, reform proposals must be tested against their potential to place our achievements in human health and environmental protection at risk.

The Commission's *Issues Paper* discusses water security in some detail. While AWA believes that water security is an essential goal, maintenance of water quality also must not be compromised. A complementary objective of reform must also be to ensure water quality standards are not compromised.

AWA believes that achievement of the 'economically efficient' level of security should be a key determinant of the security objective, but it is not the only one. Regard will need to be had to customer preferences in particular. For example, AWA's recent community attitudinal research showed that 59% of respondents believe that water restrictions should remain in place permanently[4]. The fact that consumers are quite keen to continue with water restrictions even when they are not strictly needed, suggests that they would prefer that economic efficiency not be the only factor taken into account.

4 Competition, Structure and Equity

4.1 Competition in the Sector

The imposition of water restrictions over lengthy periods has led to suggestions that the urban water sector is not planning well for its future. These suggestions have led to calls for greater competition to be introduced, presumably on the grounds that the private sector will be more responsive to market demands than are corporatised urban water utilities. AWA does not accept this premise. For example:

- Restrictions have been an accepted tool to ration water during times of scarcity for generations
- The depth and duration of the recent drought is unprecedented
- Key decisions have, in many cases been the subject of political input beyond the control of water sector participants

[4] This research was carried out in June/July 2010. Since that time, heavy rain has been experienced over much of the eastern states and the ACT. It may be that the value that people perceive may be derived from permanent water restrictions may fall during wetter periods. This is an issue that will be explored in future attitudinal research.

Nevertheless, AWA supports evaluation of opportunities for increased competition. There are, however, there are particular characteristics of the urban water sector that, while not militating against increased competition, suggest prudence is necessary. These are:

- Cherry-picking must be avoided. Private firms will, naturally, seek to manage the most profitable parts of any system. There is the potential under such circumstances for assets to be stranded and the more expensive to serve areas to be left to government to manage as a provider of last resort. Fragmented systems may work against social, equity, health and environmental considerations and may reduce the community's economic efficiency overall, even if the economic efficiency of some water services improves.

- Water is expensive to transport and to store. Water systems display strong natural monopoly characteristics that may work against competition in some circumstances. Practically, this means private investors may face increase risk the costs of which may not easily be passed on. Further, even if the cost of risk is not passed on to consumers, consumers will shoulder an increased risk burden as failure by a private provider would have profound impacts on wellbeing. While governments would undoubtedly act as providers of last resort, the community generally is negatively impacted.

- Urban water service provision requires awareness of and responsiveness to complex chemistry. While the quality of, say, energy supplied is not affected by it source, the quality of water delivered to a distribution network can cause different impacts in different circumstances, or may deteriorate when blended with other potable sources. Where a diversity of bulkwater suppliers (who may provide water from surface water, groundwater, desalinated, recycled and stormwater sources) are encouraged, particular regard will need to be had to the maintenance of water quality. AWA specifically does *not* suggest that this is a barrier to competition, but an important issue to be managed.

With these considerations in mind, AWA submits that before reform proceeds, the benefits and disbenefits of proposed reforms should be quantified. Questions such as whether the benefits in terms of reduced costs to consumers are more highly valued than the risks of water quality deterioration or of negative social impacts should be carefully considered.

Notwithstanding these limitations AWA sees some scope for increasing competition in the urban water industry. Options might include the following (most of which have been utilised in jurisdictions overseas or by other utilities domestically or internationally):

- Expand the notion of competition by comparison. The National Water Commission releases each year a *National Performance Report* for Urban Water Utilities and Rural Water Service Providers. These documents provide measures of activity by utilities and service providers against a range of metrics. They can potentially be used to compare performance, although this is not their main purpose. Similar

'performance benchmarking' can be carried out to enable comparisons among organisations operating in geographically distinct areas as a substitute for direct competition. The idea of 'competition by comparison' lies in part behind the division of Melbourne in to three separate but comparable water retailers and in the UK Government's decision to create a multitude of utilities to service various parts of England when that country's services were privatised.

- Further development of water markets. This approach is more advanced in rural areas, but the potential exists to extend the operation of tradable entitlements urban areas. Further, while we tend to think of 'urban' areas as being the capital cities – most of which are remote from 'rural' catchments – major regional towns exist within largely rural catchments and often depend on the same source of water. Trade in these circumstances is very possible.

- Contracting out of water services (including management, construction, operation and maintenance) through a range of approaches (BOO, BOOT, Alliance contracting, etc). Such approaches are widely practiced within the industry. In Victoria, for example, in-house provision of services is regularly tested against the market. Similar approaches could be encouraged in other jurisdictions. [5]

- The provision of different qualities of water for different purposes. Non-potable supplies may be suitable for industrial purposes, open space watering and the like. These supplies can compete with potable supplies in as much as they will be substitutes for it. Obsolete infrastructure (e.g. gas pipelines) can been used in some jurisdictions (e.g. in Sydney Water's area of operations) to can be used to convey flows from, say, a recycling facility to industrial areas. Recent legislative reforms in NSW have encouraged such developments and this approach could be extended to other jurisdictions.

- Provision of water at different levels of security. Most capital cities now have a portion of their needs met from climate-independent sources such as desalination plants. It may be appropriate to provide consumers with the opportunity to pay a premium for such supplies in exchange for greater supply security during dry times. Customers choosing to pay less for climate-dependent supplies (e.g. dam water) would suffer restrictions earlier than those paying the premium. This is akin to the high- and low-security entitlements available for agricultural use. This approach may encourage private providers to enter a market as a premium price could be charged.

- Competition between bulkwater systems. The establishment of water grids in Queensland and, potentially, Melbourne provides opportunity for purchasers to

[5] It should be noted that AWA does not endorse the notion that utilities should be 'forced' to contract out services, but should have the freedom to do so when it is in the commercial and social best interests of the contracting utility.

choose from the most efficient supplier (e.g. surface water operators, desalination plants and the like)[6].

- Competition between the providers of sewage treatment facilities. While there would be geographic limits on such practices (e.g. it may be uneconomic to pump sewage large distances; most flow takes advantage of gravity) private providers could service particular sub-catchments, or could install 'sewer mining' facilities to capture and treat sewage and sell the resulting product to industry for non-potable usage.

Additionally, some smaller scale alternatives to traditional potable mains supply are emerging. Examples include:

Council led stormwater harvesting and effluent recycling

- Salisbury Council
- Onkaparinga Council

Irrigator led sewage Effluent reuse (non-potable)

- Willunga Basin Water Company
- Barossa Infrastructure Ltd
- Mining company led reuse (non-potable)

Aquifer storage and recovery

- Some small scale schemes (e.g. Adelaide, South Australia) but potential for larger scale developments exist

To an extent, these are driven be a desire on behalf of their proponents (often local councils) to conserve water, rather than any efficiency gains. However, there is also information emerging that the costs of some of these systems may be already competitive with traditional supplies, or may become competitive once 'proven up'. For example:

Cost to consumer seeking non-potable water supply:

- $2.50 - $3.00 per kilolitre for potable mains supply
- $$0.75 - $2.00 per kilolitre for reclaimed stormwater or effluent
- $2.00 per kilolitre for desalinated sea water (marginal cost)[7]

4.2 Industry Structure

There are two notable trends in reform of institutional arrangements in urban water. These are:

[6] Quality concerns may militate against this practice as not all sources are of identical quality and the mixing of several otherwise potable sources may lead to delivery of poorer quality water in some instances. Presently grids are operate more to source supply from the 'best' sources (against a range of criteria) rather than merely the most efficient

[7] Pers Comm, Graham Dooley, Director AWA and Osmaflow P/L

- Disaggregation of utilities along functional lines (e.g. bulkwater supplier, retailer, grid manager, wastewater service provider). Melbourne's water sector, for example, includes a bulkwater supplier (Melbourne Water), and three retailers, covering different parts of the city.
- Amalgamation of smaller utilities to obtain economies of scale and other efficiencies. Recent reforms in Tasmania are an example

Disaggregation may encourage competition and may clarify the objectives of those with responsibility for particular parts of the system. However, disaggregation also means that managers will need to ensure the interfaces between utilities work well and it means that accountability needs to be very clear. For example, the quality of raw water and the management of the distribution system both impact on water quality at the customer's tap. Where two different agencies can affect a single outcome, the potential exists for buck-passing and obscurity. It is essential that these risks be taken into account in designing any changes to the structure of the sector and the benefits gained through restructuring must be quantified. The sector performs very well in many jurisdictions; further reforms may produce marginal benefit and may produce unforeseen costs unless very carefully planned.

The *AWA/Deloitte State of the Water Sector Survey* recently completed, included a number of questions related to the recent trend toward disaggregation. 54% felt that disaggregation along functional lines was either '*not very beneficial*' or '*not at all beneficial*' as opposed to 30% who felt disaggregation was '*very beneficial*' or '*quite beneficial*'. (16% answered *'don't know'*.) The three most significant risks associated with disaggregation were that *'no one will be able to see the 'big picture''* (22%) and *'reduced planning efficiency*' (19.4%) and *'inefficiency'* (14%). *'Improved accountability'* was seen as the most significant benefit (15%), but 25% answered that that there were *'very few benefits [and that] it would be better if utilities remained integrated'*.

What may be concluded from this is significant effort should be put into making sure that inefficiencies, loss of accountability and planning 'friction' do not arise as a result of disaggregation (e.g. that confusion in accountability does not lead to servicing delays or a reduction in customer trust) and that benefits outweigh costs. For example, additional costs may arise if substantial quality monitoring has to be carried out at network interface points and, of potentially greater significance, if the costs of government and management of interfaces proves costly. AWA believes the Commission should be very mindful of these costs and risks.

Amalgamation of smaller utilities, on the other hand, may produce significant benefit. Most smaller utilities are owned by local governments and almost all of these are located in regional areas. Lack of economies of scale and difficulty in attracting capital and staff are particular problems for these entities. Figure 3 below shows the industry's own perspective of the difficulties facing smaller utilities in the AWA/Deloitte *AWA/Deloitte State of the Water Sector Survey*. Figure 4 shows the extent to which respondents believe that amalgamation of smaller utilities would be beneficial.

Figure 3 – Difficulties facing smaller utilities

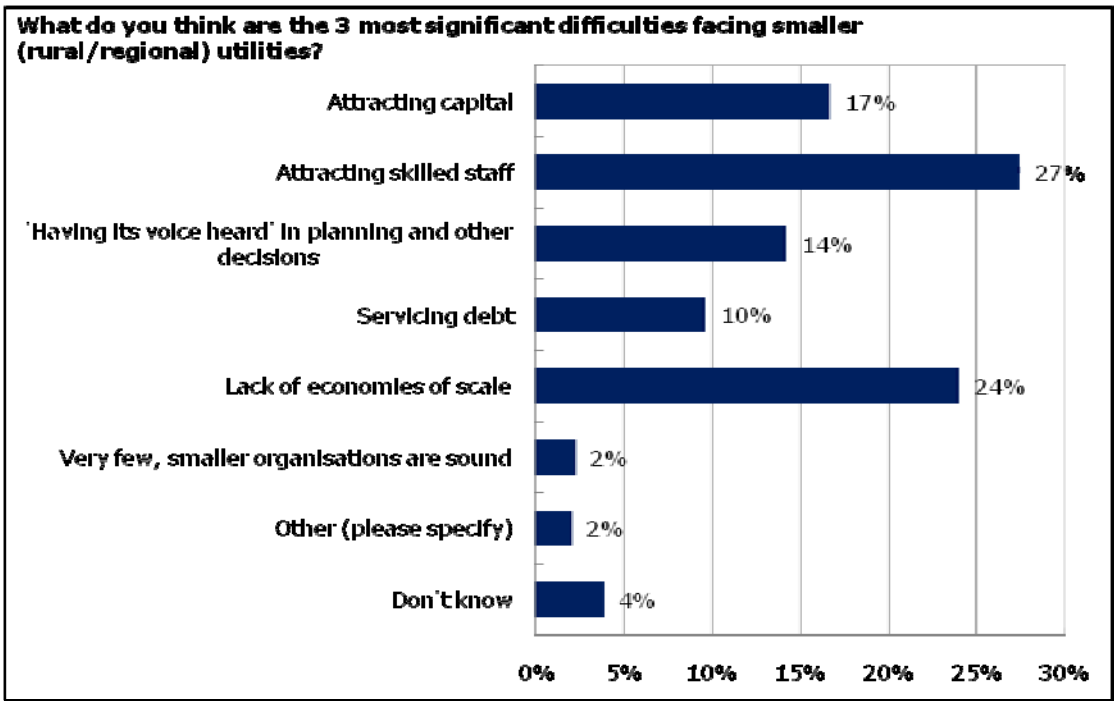
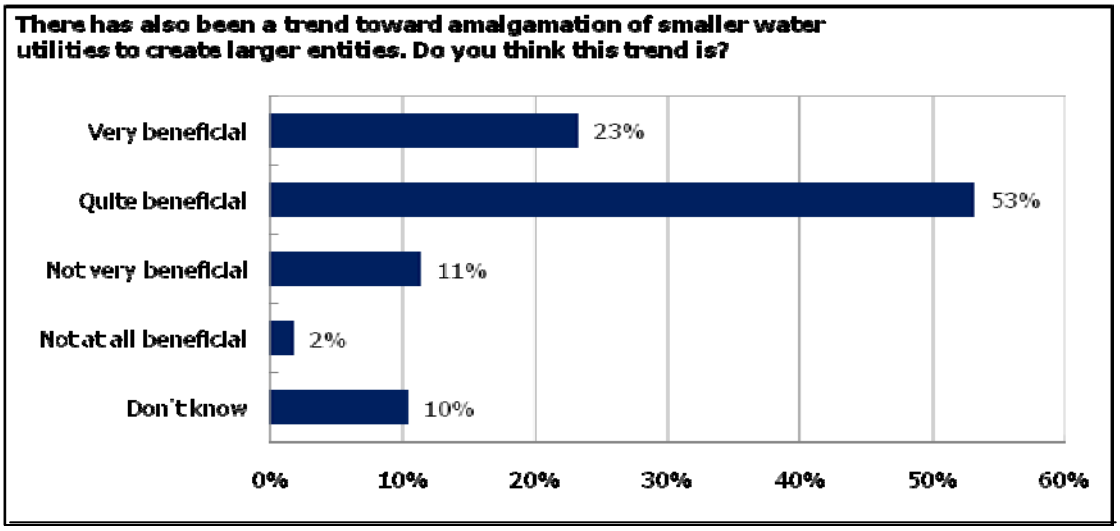


Figure 4 – Benefits of Amalgamation



AWA's view is that in a market in which competition for capital and skilled staff is increasing, the small size of some utilities is a negative. We would recommend that, were possible, smaller utilities be amalgamated. In this context it would likely make sense to create regional utilities (essentially the model followed in Victoria and more recently Tasmania). AWA is not, however, recommending a particular approach to such amalgamation. Models range from the formal (e.g. Victoria) to the informal (e.g. Cairns, Townsville and MacKay which have see advantages in cooperation in capital purchasing)

Principles

AWA developed a number of principles we believe should be applied to any institutional reform process for urban water. These are reproduced in Table 1, below

Table 1 – Principles for Reform

AWA would urge governments to bear the following principles in mind in designing reforms to institutional arrangements in the water sector:

Interfaces between agencies must be maintained. Historically, a single organisation provided bulkwater (supply), distribution, retail and wastewater services in each jurisdiction. This is still the case in some circumstances (e.g. WA), but increasingly, these services are being placed in different agencies. Disaggregation of functions (and amalgamation of smaller entities, principally local government water retail functions, may provide a number of significant benefits. However, in creating new and possibly more complex structures it will be vital that the interfaces between agencies can be maintained. The examples of the consequences of not giving due regard to this need may include:

- Poor feedback between agencies such that management becomes more complex and inexact
- Conflicting objectives (e.g. the need to sell more water to improve financial performance versus the need to conserve water to avoid increases in capital expenditure)*
- Lack of accountability (e.g. if, in future, a third party were to gain access to a distribution network for a new water source, accountability for water quality across numerous agencies may become unclear)

Efficiency must not be diminished. Efficiency improvements in the Australian urban water industry are world's best practice. The efficiency of operations must not be diminished as a result of the disaggregation of functions or the amalgamation of smaller entities.

Prices charged must continue to be based on the principle of full cost recovery. The 1994 COAG Water Reform Agreement enshrined the principle of full cost reflective pricing. Each state and territory has followed this principle over the past 15 years and in large measure it's been achieved. Future reforms should maintain this principle and extend it.

Water Quality must be maintained. Each water utility currently has as its core responsibility the provision of safe drinking water. An extensive regulatory framework exists to ensure that all water quality objectives are achieved and the Australian urban water industry performs well in this regard. This objective must be maintained. Further, as cited above, accountability for water quality outcomes must be clear, particularly as the diversity of water utilities increases and participation by the private sector is increased.

Security of supply must be maintained. The existing industry has put considerable effort into diversifying supply sources and managing demand. Each of these outcomes must be maintained under any new structure and accountability for these outcomes must remain clear.

Social Safety Nets should be provided by Government, not industry. Governments are best positioned to determine the social safety nets that should be made available. Where payments are to be made, they should be transparent. Utilities could implement such schemes but must be compensated in a fully transparent manner.

**It is recognised that this tension exists in single entities, but reconciliation may become more difficult if the potentially conflicting objectives are pursued by different agencies without there being good interfaces between them)*

6 Supply Augmentation, Planning and Decision-making

Certain characteristics of the water industry will affect the way in which a decision to augment is made. In particular, there are constraints not normally faced by industry seeking to expand capacity. These constraints reduce the impact of price signals and promote central planning as the preferred model of decision-making. The characteristics referred to include:

- The capital cost of augmentation is generally very significant and rising steeply under a range of influences. These costs are difficult to recoup
- The range of options for supply augmentation is constrained. The opportunities to build new surface water storages and to access new groundwater supplies are limited because suitable sites have been utilised and resources have been fully utilised (or over-utilised). Recycling is an option, but there has been resistance by communities and political interference. Desalination, while energy intensive compared to other sources of water, has expanded significantly, but is largely limited to coastal areas. The purchasing of water from rural areas to supply urban developments is controversial.
- Prices are regulated centrally due to the sector's natural monopoly characteristics and do not fluctuate in response to supply and demand. Accordingly, price is a poor means of determining when additional investment in supply is efficient. (i.e. supply might be short in a drought but demand high, yet prices would largely remain stable)
- The exploitation of climate dependent sources is not necessarily a guarantor of supply, due to drought and, potentially, climate change
- Wastewater and stormwater services are often matched to local catchments to take advantage of gravity flows. The cost of pumping and other factors may militate against competitors entering the market. However, correct signalling of trade waste prices has promoted various industrial customer 'point-of-discharge' wastewater systems. Small site-based wastewater systems may become more viable in the future and generate other sustainable water objectives.

It is unlikely that these characteristics will change significantly in future. Under these conditions, it is likely that some central planning will continue to be necessary in deciding to augment supply. AWA believes strongly that the provision of competition in the supply of water services is not a substitute for over-arching planning. Rather, any market-based approaches must be implemented within a framework that takes into account a range of social, environmental and other considerations and this is the domain of governments.

We acknowledge that if central planning is required for the short- to medium-term future, it is sensible to ask what the goal of such planning might be. AWA believes that the setting of a water security objective as a basis for supply augmentation is a sound approach, and one which has generally been followed, formally or informally, for decades. There are a number

of factors, however, that have made such planning difficult or limited the transparency with which decisions are made. These include:

- **Persistent drought and/or climate change**. The recent drought – which despite healthy rainfall in the east, persists over much of the country and notably in Perth – has been unusually severe. While serious drought is not unprecedented, it has placed significant pressure on water services and undermined water security expectations in a number of areas. Furthermore, there is increasing evidence that at least the south east and south west of Australia have experienced a step change in surface water flows over the past twenty years. While there may be relief from drought at present, the underlying drying trend and uncertainty about the extent of climate change in future will make the setting of a water security objective difficult
- **Policy bans[8].** The introduction of policy bans by some governments – for example on indirect potable reuse or water trades – works against the rational setting of a water security objectives. While a ban may merely direct attention to other sources, there is the risk that water security will be lower that it might otherwise be if it banned sources had been available
- **Subsidisation.** Sustainable urban water management demands that all sources of water be considered equally. Governments have tended, however, to subsidise some water supplies over others. Rainwater tanks have commonly been subsidised and more recently major infrastructure projects have been subsidised, notably the desalination plant in South Australia and various other desalination and stormwater reuse initiatives. Where this occurs, a water source may be brought on line earlier than necessary, building unnecessary supply into a system at considerable cost to the community.

AWA believes there is scope for promotion of national principles for the setting of water security objectives. The principles should at least encourage proponents to address:

- The relative economic, social and environmental costs and benefits of each supply augmentation option (including demand management options)
- Risk of supply restriction under the various scenarios, taking into account potential climate change impacts, the risk of drought, expected population increase and demographic change, changes in housing types and appliance efficiency, land use and expected increases in water-demanding economic activity among other factors.
- Consumer willingness-to-pay to avoid restrictions (which may also take into account the extent to which consumers opt to purchase climate-independent supplies over those that are climate dependent)

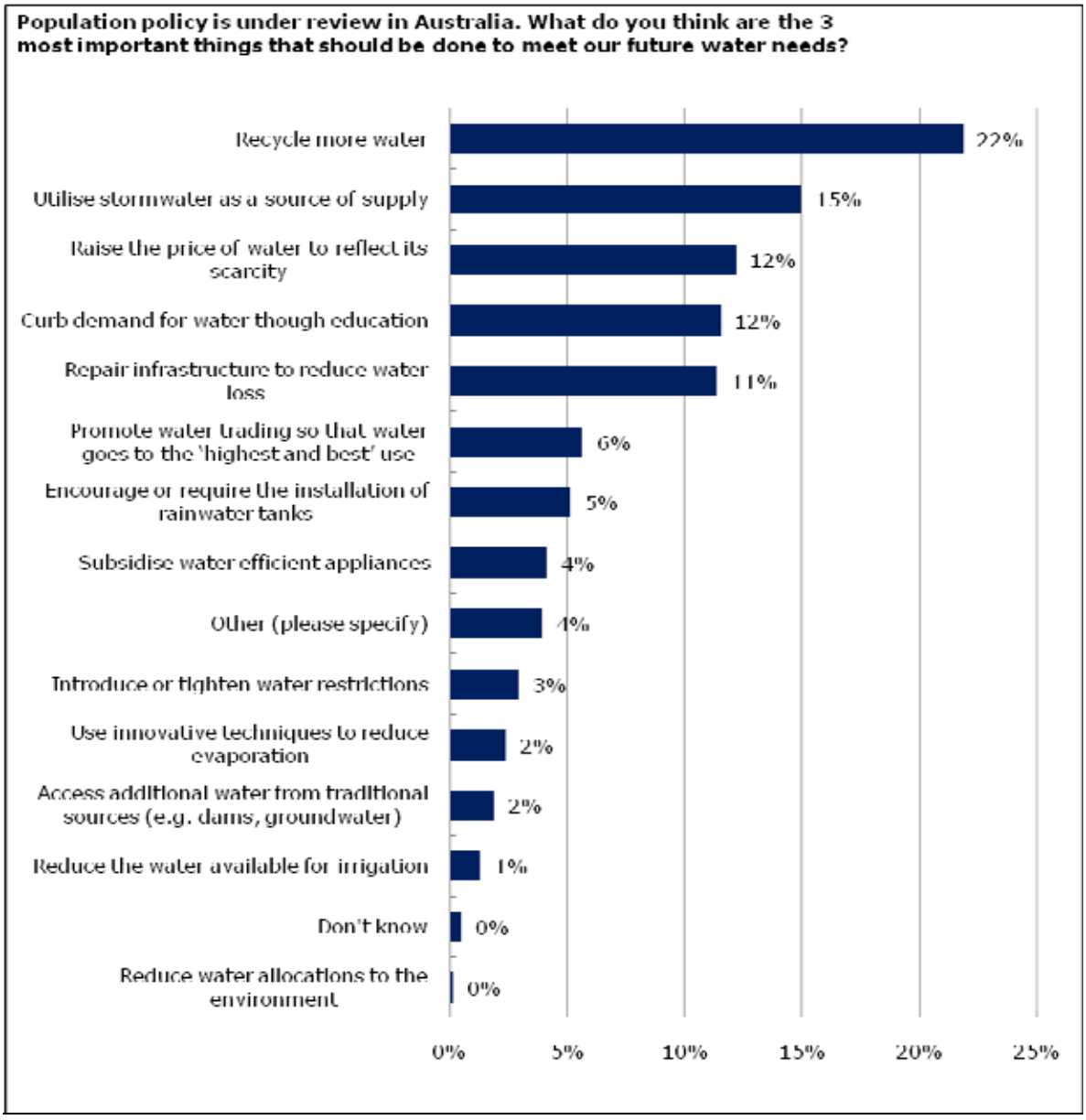
[8] This term refers to decisions by governments to limit or restrict consideration of a particular option. For example, some governments have restricted the amount of water that can be traded from a catchment or have banned use of recycled water in some circumstances.

These principles would establish an overarching framework. AWA believes there is no reason they should not be implemented by utilities themselves.

6.1 Community and Industry Preferences.

AWA/Deloitte's *AWA/Deloitte State of the Water Sector Survey* included questions related to industry preferences for future water sources. Data gathered in response is displayed below. It is notable that the sector itself feels that recycled water should feature in future augmentations, yet this option has been limited by government decree in a number of circumstances. This is disappointing as there is the potential for recycled water to be an efficient source of supply particularly where the off-take point for water is the flow from a wastewater treatment plan that has already been treated to a high standard.

Figure 5 – Future Water Need Preferences



7 Pricing

The Australian Water Association is of the view that pricing should be transparent, reflect customer demand and willingness to pay, and should cover fully the cost of service provision. To these ends:

- Social objectives (e.g. the need to ensure that all in society are able to meet their basic health and hygiene requirements) are a matter for governments, not water utilities. Water utilities are poorly positioned to determine what a socially-optimal level of support might be. While the water sector can be the vehicle through which subsidies and other support might be distributed, determination of social policy is a matter for government.
- Postage stamp pricing is likely to be inefficient (as at least some will be paying more than the cost of supply) and to promote unjustifiable cross-subsidies (as it is not clear that those who benefit from postage stamp pricing are those least able to pay; it is highly likely that in some locations the privileged are being subsidised by the poor). On these grounds there is at least the case for re-examining the postage stamp pricing approach, quantifying the level and direction of cross-subsidises and improving pricing signals in the light of these investigations. (That said, it is acknowledged that postage stamp pricing leads to complex outcomes; a consumer may benefit from postage stamp pricing for water supply, but may subsidise the wastewater services used by others.)
- The appropriateness of imposing both fixed and variable charges should be reviewed. The imposition of a fixed charge produces some perverse outcomes whereby the total cost per kilolitre of water consumed by high water users is lower than that faced by conservative users (i.e. the more water one uses, the lower the cost per kilolitre). While it is recognised that the water industry faces high capital costs in water supply the solution to this circumstance (fixed and variable charges) may not be as efficient as desirable.
- The external costs of water supply and wastewater disposal should be incorporated in the price charged. Inclusion of externalities in the prices charged for services was identified as a priority in the 1994 COAG Water Reform Agreement a priority that has been carried forward to the National Water Initiative, yet there has been little progress made. Allowing externalities to exist leads to over-consumption of the resource.
- The principle of transparency and cost recovery demand that wherever possible all consumers pay for the water they use. This suggests that the standard approach should be to have renters pay for the cost of water used, rather than landlords, and that metering should be as close to universal as possible.
- Dividend payments demanded by government utility owners should be in line with commercial practice. For political reasons, generally, governments will have an

interest in ensuring water prices are kept low. There is also anecdotal evidence of governments demanding dividend payments of such magnitude that the utility in question needs to take on additional debt or reduce service quality (maintenance). If such demands are made, prices will be distorted and customers will face unnecessary risks.

AWA is strongly of the view that recovery of capital costs should be borne by water users. This is a scarce resource. Subsidisation through the tax system will increase demand on water and distort consumer behaviour.

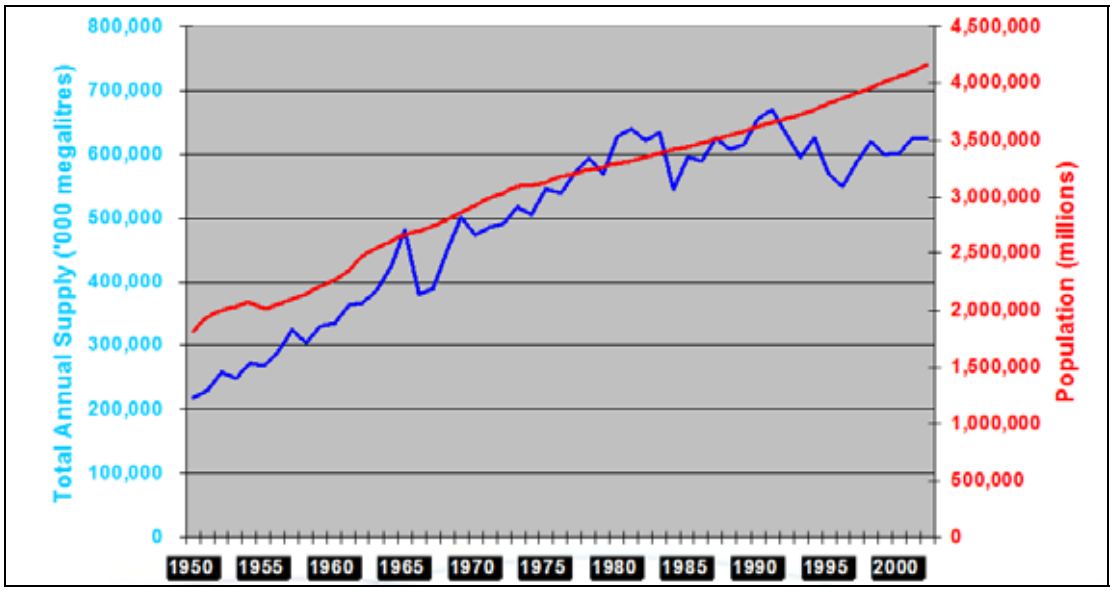
7.1 Equity Considerations

AWA takes from the context of the Commission's question on 'minimum service levels' that the Commission is concerned here with extent to which social security nets or free (or close to free) water allowances should be made available to ensure that less advantaged individuals are not deprived of water to meet basic health requirements. If so, AWA's view is that it should not be to the water industry to determine social policy, as it is poorly equipped to do so; properly, this is the domain of governments. AWA further believes that in fulfilling its role governments would be better to rely on the social security and taxation systems than water pricing. This is because water price in this context is a blunt instrument. A free or close to free allocation of water does not reflect a consumer's ability to pay. It would be better that all consumers pay equally for all water consumed at a price that covers at least the long-run marginal cost of supply with governments subsidising the less well off where necessary. Where such subsidies are provided they should be explicit and transparent, in line with the 1994 COAG *Water Reform Agreement*.

8 Non-price Demand Management

Demand management initiatives can be highly cost effective. It is to be regretted that they are too often seen as the poor relation to supply-side augmentation. In fact, demand management has been highly effective and enabled many urban areas to extend their supply security significantly at far less cost than constructing new facilities. Figure 6, below, is a graph showing the decline in water consumption per capita in Sydney over the past 50 years.

Figure 6 – Sydney: Water Consumption Relative to Population Growth



Source: Sydney Water Corporation

While the above data do not differentiate between the effect of the introduction of user-pays pricing regimes and of non-price demand management initiatives, it would seem highly likely that the non-price initiatives have played a very important part, unless the price elasticity of demand is far higher than anyone has previously suggested. Evidence from Queensland where particularly tight restrictions were imposed is that a significant reduction in demand was achieved which has lingered following the lifting of restrictions

Water restrictions are equitable in the sense that all face the same consequences, but may have perverse outcomes to both individuals and society. Water restrictions may limit a consumer or a group of consumers from making choices that they may value more highly. For example, water restrictions may prevent enjoyment of a local playing field. It is not clear that a consumer would not prefer to pay a higher water price to be provided with a climate-independent source of water than to forgo the use of the park.

That said, it must be acknowledged that generally speaking consumers and water sector participants themselves are supportive of water restrictions. Figure 7, shows the results of an AWA survey of community attitudes to water. In this case, those living in areas in which water restrictions were in place at the time the survey was done (June/July 2010) were asked whether water restrictions should remain in place indefinitely or be relaxed over time. These results suggest that while restrictions may not be economically efficient, they enjoy widespread and on-going support. Figure 8 shows the industry's own assessment of the future of water restrictions, which is similarly supportive.

Figure 7 – Community attitudes to water restrictions

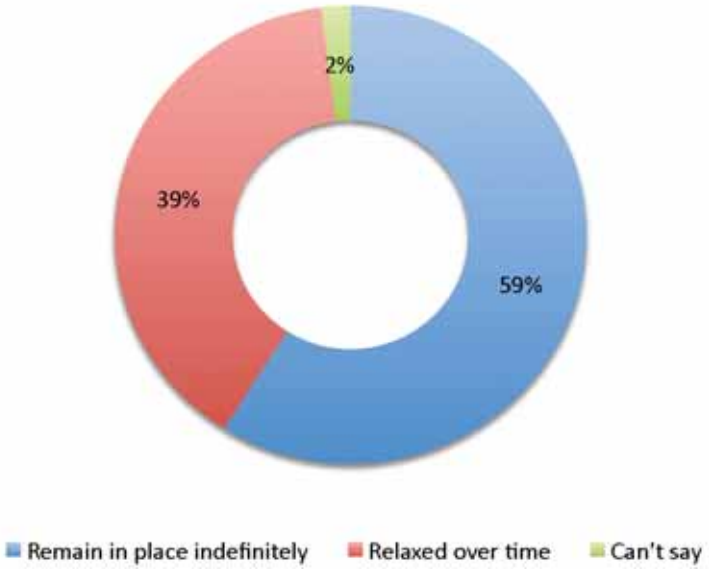
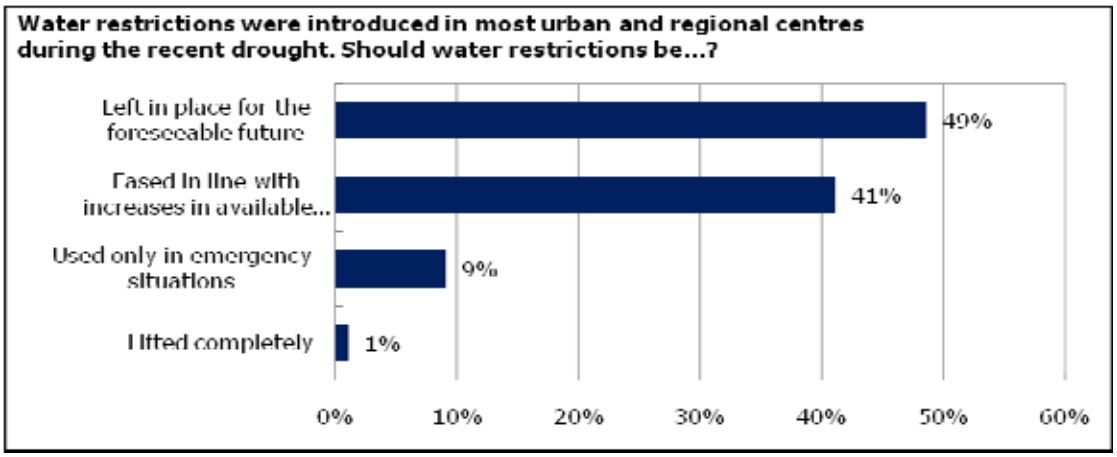


Figure 8 – Industry view of the future of water restrictions



In a number of jurisdictions, 'restrictions' and 'conservation measures' are dealt with and communicated to the public as separate ideas. The former refers to those limits put in place during times of critical shortage; the latter is that suite of actions that is always practiced (e.g. not watering during the heat of the day) because they are wasteful under any conditions. There is some concern that restrictions will become less effective if they remain in place permanently as, over time, their gravity and import lessen in the minds of consumers. Separating 'restrictions' (emergency measures) from conservation measures may be an effective response to this concern.

9 Regulation

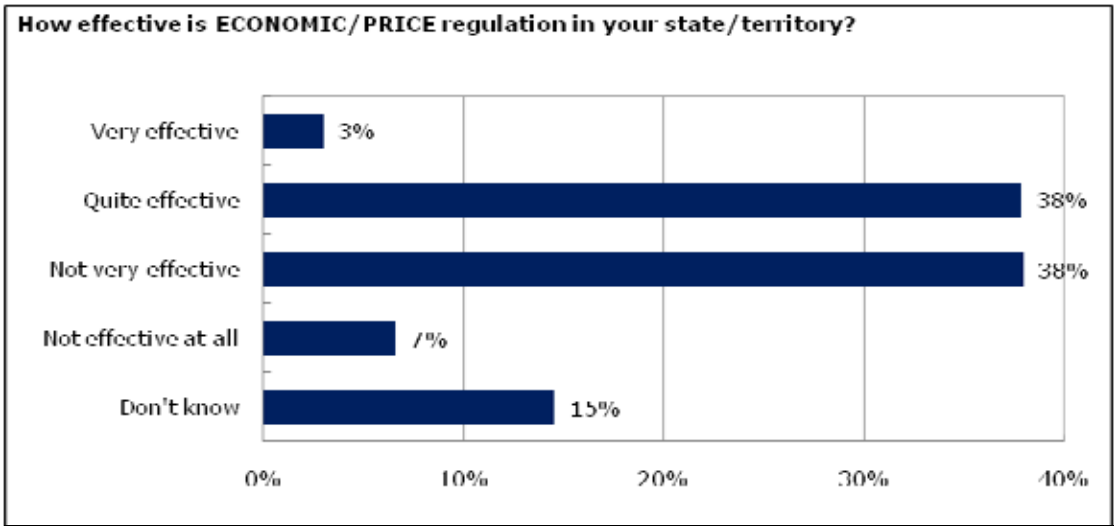
In an industry with natural monopoly characteristics and which has a critical role in protecting human and environmental health, regulation becomes vital. Generally speaking, AWA believes the quality of regulation in Australia is high. The *AWA/Deloitte State of the Water Sector Survey* disclosed that[9]:

- 62% of respondents felt that Environmental Regulation was 'quite effective' or 'very effective' (38% said it was 'not very effective' or 'not at all effective')
- A majority (52%) felt Economic Regulation was 'not very effective' or 'not at all effective' (48% said it was 'quite effective' or 'very effective')
- A very strong majority (84%) felt Water Quality regulation was 'quite effective' or 'very effective' (19% 'not very effective' or 'not at all effective')
- 57% felt that regulatory oversight of Corporate Performance was 'quite effective' or 'very effective' (43% 'not very effective' or 'not at all effective')
- 60% of respondents thought that regulation overall as 'about right'; 15% found it 'excessive' and 25% 'inadequate'.

The National Water Commission in its *2nd Biennial Assessment of Progress in Implementation of the National Water Initiative* noted that "the arrangements [for independent economic regulation of the urban water sector] could be usefully strengthened in several jurisdictions…" (National Water Commission, 2009 p.222). While further analysis is required AWA suspects that lack of rigour in some jurisdictions accounts for the Economic Regulation being the only category in which a majority of respondents feel that regulation is 'not every effective' or 'not at all effective'. It will be possible for AWA and Deloitte to break down responses state by state, but this work has not yet been completed. AWA believes strongly that effective and independent economic regulation is essential to ensure efficiency within the industry and to bolters community and investor confidence.

[9] Regulation is an area that not all survey respondents felt confident in assessing and a significant proportion answered 'don't know' for some categories of regulation. The graphs below show the raw data. However, to minimise the influence of the 'don't know' response a recalculation of responses was performed with the 'don't knows' eliminated. This was done for all of the regulatory questions, even when the 'don't knows' were a relatively small percentage of the total. The numbers in the dot points explaining the features of the responses are the recalculated figures.

Figure 9 – Effectiveness of Economic/Price regulation



While AWA believes the quality of regulation is generally high – notwithstanding the caveats referred to above – the Association does have concern that regulation be consistently applied, regardless of the scale or point at which water services are provided. This is particularly so if smaller, inset, 'micro-utilities' emerge. There is anecdotal evidence that regulation is less rigorously applied at smaller scales (possible because of lack of resources or a perception that the impacts will be less significant).

10 Integrated Water Management

Integrated water management has the potential to significantly reduce water consumption, to maximise reuse and to utilise all sources of water efficiently. Properly implemented, integrated water management should also reduce consumption of energy and materials use, conserve nutrients and minimise pollution.

Research in this area has been carried out over a number of decades. The technologies and systems that would enable more sustainable cities to be developed are understood. Governments, utilities and private philanthropists have invested in demonstration sites on a range of scales, ranging from single houses ('Sustainable House' Chippendale, NSW; 'Enviro-Cottage' Spring Hill, Queensland), through to small urban developments (Kogarah Town Square, NSW) to whole cities (Masdar, UAE). Each of these is successful in its own way. However, they are not frequently replicated with out additional government support. Legislative requirements (e.g. BASIX, NSW) can force compliance and have their place, as does planning legislation and other requirements. It is unlikely, however, that the private sector will naturally invest in sustainable developments until it becomes profitable for it to do so. Presently, it is difficult for developers to capture the benefits arising from sustainable building and the costs are poorly apportioned. For example, the infrastructure needed to make an urban development more water sensitive may be more expensive, initially, than traditional approaches. These costs would normally be incurred by developers and at least a proportion of these costs passed on to purchasers. However, saving arising from improved

sustainability are usually made over time by local governments (reduced servicing), householders (reduced water costs; reduced hot water heating costs) or are external (improved environments). Reconsideration of the way in which developer charges are levied, and costs and benefits apportioned, may be worth while. Figure 10 shows the water industry's own view of barriers to the implementation of more water sensitive cities.

In addition to the above, consideration needs to be given to improving the relationship between planning and other agencies. Achievement of sustainability will require close cooperation between many levels of government and between planning and servicing agencies.

Figure 10 – Barriers to Water Sensitive Cities