

# Final Report: Inquiry on Country Water and Wastewater Pricing in Western Australia

23 June 2006

Economic Regulation Authority



WESTERN AUSTRALIA

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## Executive Summary

This inquiry represents the first independent review of country water and wastewater pricing in Western Australia.

The Economic Regulation Authority (the **Authority**) has undertaken the inquiry at the request of the Treasurer, in accordance with section 32(1) of the *Economic Regulation Authority Act 2003*, to conduct an inquiry into the prices of the Water Corporation's water and wastewater services in country Western Australia and make recommendations on, among other things, how prices are set and whether they should change.

The recommendations in this report have been informed by an extensive consultation process that included two opportunities for interested parties to provide written submissions. A total of 39 submissions were received in response to an issues paper and a draft report. The public consultation process included a series of public forums held in Albany, Geraldton, Kalgoorlie, Mandurah and Northam. In addition, a video conference was arranged with interested parties in Karratha, Port Hedland and Newman to express their views.

## Overview

Encouraging economic efficiency in water resource use is the central role of pricing for water and wastewater services. This requires that prices be set in a way that reflects the cost of supply. Prices set too low relative to the cost of supply encourage over-consumption whilst prices set too high relative to the cost of supply deny benefits to consumers. Although efficiency objectives must be central to a review of prices, in carrying out the current review, the Authority has been mindful of the history of the current system of prices for country water and wastewater services in Western Australia and of the range of relevant Government policy objectives, including the uniform pricing policy and demand management targets.

In developing its recommendations, the Authority has sought to recognise and balance various objectives, including: the use of prices to recover and reflect the costs of providing services and encourage efficiency in water use; the provision of affordable water for basic needs; the transparency and administrative costs of alternative pricing systems; the impact of price changes on customers, the Corporation and Government finances; and equity in pricing country water and wastewater as reflected in the uniform pricing policy. In balancing the various objectives, the Authority has had regard to the long-term interests of consumers.

## Uniform Pricing Policy

The uniform pricing policy is particularly significant as it has had a central role in country water pricing. Whilst recognising its importance in terms of equity, the Authority has noted that the cost implications of the policy have not been specifically addressed and its evolution over time has resulted in some cross-subsidies that may not be in the long-term interests of consumers or consistent with the Government's intentions. While the uniform pricing policy has never been formally documented, submissions to the Authority have indicated substantial support for uniform prices up to a certain level of water usage. Above that level, prices would be governed by the costs of providing water. On its consideration of these issues, the Authority has concluded that this is an appropriate interpretation. It has therefore made recommendations regarding the threshold up to

which uniform prices would apply and has focussed its recommendations with respect to above-threshold prices on efficiency and an appropriate level of cost recovery.

On the basis of the Authority's consideration of the issues involved, including those raised in public submissions, the Authority is of the view that there is little justification in providing subsidies to country commercial customers and has recommended that the application of the uniform pricing policy be limited to residential water pricing.

The Authority's approach to the uniform pricing policy is consistent with the submission from the Department of Premier and Cabinet, which stated that that the uniform pricing policy was intended to provide affordable water across the State at a consumption level considered to be the minimum for basic human needs, and subsidised water across the State at a consumption level considered to be the average consumption of a household.

## Residential Water

In written submissions and during public forums, there was substantial support for the principles embodied in the uniform pricing policy and the idea that the price of water in the country should be the same as that paid in Perth up to an average amount of water per household. Due to the uniform pricing policy, all country residential water customers are subsidised, to varying degrees.

The Authority has accepted this view and recommends that the price of water to residential customers should be uniform up to 300 kL per year per household in Group A towns (south of the State) and up to 500 kL per year per household in Group B towns (in the north). The higher threshold for northern towns reflects weather differences.

The 300 kL and 500 kL amounts are 50 kL lower than those presently applied but are still very generous in terms of the relevant benchmarks. For example, 300 kL is twice the amount of water considered by the World Health Organisation as appropriate to meet all essential consumption and hygiene needs for a four-person household. In 2004/05, the average water usage of Group A households was 317 kL/year, while the average water usage of Group B households was 525 kL/year. Setting the thresholds at 300 kL and 500 kL will result in 69 per cent of customers in Group A towns and 70 per cent of customers in Group B towns being below the threshold. These customers will only be subject to the uniform price and will be subsidised in accordance with the uniform pricing policy. In addition, the modest threshold reductions being recommended are consistent with the pattern of falling water use documented in recent years. The Authority considers that in future, if a greater emphasis on cost-reflective prices was required, it may be appropriate to review the threshold further.

In submissions and in public forums there was support for the view that the focus in setting prices above the threshold should be on cost-reflectivity. The Authority agrees with this view and has sought to develop a pricing regime that would make prices above the threshold more cost-reflective and consistent with the objective of encouraging efficiency in water use.

The Authority recommends an increasing block tariff with:

- prices based on the uniform pricing policy for the first 300 kL in Group A towns and the first 500 kL in Group B towns;
- prices based on the avoidable cost method for the next 250 kL of consumption above the threshold (between 300 kL and 550 kL in Group A and between 500 kL and 750 kL in Group B). Large households using an average amount of water

would usually be in this range (86 per cent of all households in Group A use less than 550 kL and 62 per cent of households in Group B use less than 750 kL);

- prices based on total cost less indirect overhead costs for consumption between 550 kL and 950 kL in Group A and between 750 kL and 1150 kL in Group B;
- prices set to cover total cost for consumption above 950 kL in Group A and above 1150 kL in Group B, and;
- prices set at least as high as in Perth for an equivalent amount of water.

In the interests of equity, the Authority is further recommending that:

- for Class 5 towns, a cap on prices be applied at \$2.50 per kL for second tier prices and at \$5 per kL for higher tier prices.

This approach incorporates a specific commitment to the uniform pricing policy in that all consumers up to the threshold would be charged a uniform price. A fully documented and transparent CSO would cover these subsidies (that is, the Water Corporation would be reimbursed by Government for any shortfall in revenue below its costs).

Prices above the uniform price threshold are cost-reflective. The upper bound charge is set by reference to total cost. The second tier is set in reference to the avoidable cost, which is consistent with economic efficiency principles. At a minimum, consumers should only be provided with additional water if they are prepared to pay at least the cost that could be avoided by not supplying the water. The third tier ensures an appropriate price signal is given in that consumers are required to contribute more to costs as they expand their consumption. At high consumption levels, the Authority recommends that consumers pay the full cost of the additional water they demand.

An increasing tariff under which consumers contribute more to costs as they consume more water incorporates an important incentive for increased efficiency in water use, both in terms of existing water use practices, and in making decisions which affect water usage over the long term, such as the choice of water-efficient appliances, establishment of waterwise gardens, or consideration of self-supply.

The specific price recommendations that follow from the adoption of this approach (\$ per kL) are shown in the following tables. The figures in brackets are the current average prices for the specified ranges of water usage.

Water Usage Prices (\$ per kL) for Group A Towns (Real Dollar Values of 2004/05)				
	1 – 300 kL	301 – 550 kL	551 – 950 kL	951+ kL
Class 1a	0.82 (0.57)	0.82 (0.81)	1.38 (1.32)	1.71 (1.93)
Class 2a	0.82 (0.57)	0.88 (0.90)	1.80 (1.50)	2.28 (2.65)
Class 3a	0.82 (0.57)	1.11 (0.93)	2.34 (1.70)	2.73 (2.95)
Class 4a	0.82 (0.57)	1.77 (0.96)	3.63 (1.94)	4.09 (3.83)
Class 5a	0.82 (0.56)	2.50 (0.97)	5.00 (2.13)	5.00 (4.29)

Water Usage Prices (\$ per kL) for Group B Towns (Real Dollar Values of 2004/05)												
	1 – 500 kL		501 – 550 kL		551 – 750 kL		751 – 950 kL		951 – 1150 kL		1151 <sup>+</sup> kL	
Class 1b	0.82	(0.62)	0.82	(0.71)	1.20	(1.01)	1.38	(1.57)	1.52	(1.57)	1.71	(2.32)
Class 2b	0.82	(0.62)	0.88	(0.71)	1.20	(1.02)	1.80	(2.12)	1.80	(2.12)	2.28	(3.26)
Class 3b	0.82	(0.62)	1.11	(0.71)	1.20	(1.11)	2.34	(2.37)	2.34	(2.37)	2.73	(3.82)
Class 4b	0.82	(0.62)	1.77	(0.71)	1.77	(1.18)	3.63	(2.70)	3.63	(2.70)	4.09	(5.10)
Class 5b	0.82	(0.62)	2.50	(0.71)	2.50	(1.25)	5.00	(3.02)	5.00	(3.02)	5.00	(6.23)

These price recommendations incorporate a uniform price of \$0.82 per kL up to the threshold. This is the price for Perth recommended by the Authority in its inquiry on urban water and wastewater pricing, which has been accepted by the Government and which would extend to country areas under the uniform pricing policy. The increase in the usage charge is offset by a reduction in the fixed charge.

For Group A towns, prices generally increase across the board. In Group B towns, compared to current prices, the Authority's recommendations result in lower unit prices for higher levels of water usage, which reflects that currently the highest prices charged exceed the associated costs of supply.

It is important to note that whilst some unit prices would fall, this generally does not translate to smaller water bills. Under these recommendations average bills increase at all consumption levels. At the lower end this reflects the price increase that arises from the consistent application of the uniform pricing policy (due to increases in the price of water in Perth). Above the threshold it reflects the increasing block tariff which results in price increases as consumption expands above the threshold. Consumers using twice the average consumption or more would experience substantial increases in charges under the proposed prices.

Under the Authority's recommended prices, approximately 70 per cent of all water used by residential customers in the country would be sold at the uniform price. The higher cost-reflective prices would apply to approximately 30 percent of the volume used by country residential customers. This might be considered a high proportion of customers that receive no price signals based on cost-reflective pricing. However, under these price recommendations, there is an increase in the percentage of consumers facing cost-reflective prices (up from 25 per cent in Group A and 22 per cent in Group B). The Authority considers it important to increase the proportion of consumers experiencing some degree of cost-reflective pricing, in the interests of encouraging greater efficiency in water use and when making decisions which affect water usage patterns over the long term.

## Allocation of Towns to Classes

There was general support (in submissions and at the public forums) for the idea that towns should continue to be grouped based on the costs of supplying water. Allocation of towns to cost classes is consistent with more cost-reflective pricing in that it allows above-threshold prices to be higher in higher cost towns.



Currently there are five cost classes. The Authority supports the allocation of towns to cost classes as a way to achieve greater cost-reflectivity and considers that the use of five cost classes is appropriate. Although it is recognised that having more classes and finer cost distinctions would further enhance cost-reflective pricing, it is the view of the Authority that the additional administrative costs do not warrant adding additional classes.

While the Authority supports the use of five cost classes, it recommends that the approach used to allocate towns to classes be changed. Currently towns are spread relatively evenly across the classes. The Authority is of the view that this approach does not adequately reflect the underlying costs of supply and that to achieve more cost-reflective pricing above the uniform pricing threshold, it is preferable to base the allocation of towns to classes on spreading customers, rather than towns, relatively evenly across the five cost classes.

The Authority recognises that under this approach some customers in towns allocated to the highest cost class will be paying a higher price than they would if there were a finer breakdown of costs with more classes. The Authority recommends that this issue be addressed by capping the charge that applies to Class 5.

Some contributors to the inquiry supported the view that towns with lesser quality water (for example, Esperance and Albany, which suffer from hard water) should be compensated, by placing them in a lower class or by reducing their fixed charge. The Authority believes this idea merits further investigation but it would first require the relevant agencies to develop a commonly accepted measure of aesthetic water quality.

## Impacts

The Authority recognises that a phase-in period will be needed for the implementation of its price recommendations and is recommending a period of seven years. Seven years has been chosen to coincide with the phasing in of the Authority's recommendations from the Inquiry on Urban Water and Wastewater Pricing. Over this period, annual bills would increase, with the full pricing recommendations being in place at the end of the seven year period (2013/14). The following tables show the average annual payment increases over the seven year phase-in period for customers in towns allocated to particular cost classes at different levels of water usage. The figures in brackets indicate the remaining average annual CSO for the relevant customers at the end of the phase-in period.

Proposed Class (Group A)	Average Annual Change in Water Payment for Seven Years (with Remaining Annual CSO Per Customer in Brackets)						
	(\$ per Year, Real Dollar Values of 2005/06)						
	300 kL	350 kL	450 kL	550 kL	650 kL	750 kL	950 kL
Class 1	7 (176)	8 (201)	7 (246)	3 (282)	2 (279)	2 (232)	-10 (231)
Class 2	7 (391)	9 (448)	9 (559)	5 (669)	10 (700)	16 (694)	9 (765)
Class 3	7 (513)	10 (580)	14 (703)	13 (813)	26 (817)	40 (762)	42 (777)
Class 4	7 (1015)	15 (1129)	28 (1357)	36 (1582)	66 (1642)	97 (1668)	115 (1786)
Class 5	7 (2168)	20 (2446)	43 (3013)	62 (3564)	112 (3899)	162 (4189)	200 (4882)

Proposed Class (Group B)	Average Annual Change in Water Payment for Seven Years (with Remaining Annual CSO Per Customer in Brackets)						
	(\$ per Year, Real Dollar Values of 2005/06)						
	300 kL	350 kL	450 kL	550 kL	650 kL	750 kL	950 kL
Class 1	7 (244)	8 (281)	10 (348)	11 (423)	17 (438)	16 (443)	9 (420)
Class 2	7 (497)	8 (570)	9 (717)	8 (874)	12 (981)	11 (1084)	5 (1183)
Class 3	7 (527)	8 (620)	10 (802)	13 (982)	19 (1112)	16 (1235)	22 (1267)
Class 4	7 (1038)	10 (1219)	14 (1576)	22 (1892)	38 (2144)	48 (2387)	64 (2499)
Class 5	7 (2337)	11 (2724)	18 (3496)	32 (4196)	62 (4794)	84 (5385)	119 (6078)

The tables show that even with the higher payment increases for customers using more than twice the average amount of water (e.g. \$112 per year, or \$784 over seven years for customers using 650 kL per year in Group A, Class 5) a large Government subsidy remains (around \$3,900 per customer per year) at the end of the phase-in period.

If the residential country water pricing recommendations are adopted, it is estimated that residential water tariffs will account for 34 per cent of the Water Corporation's total costs of servicing country customers by the end of the seven year phase-in period (up from 28 per cent in 2006/07).

If it is assumed there is no reduction in water use, the recommendations mean a \$7.1 million increase in annual tariff revenue by the end of the phase-in period. This means that net payments to Government would increase by \$7.1 million per year once the residential water pricing recommendations are fully phased in. This arises from a combination of lower CSO payments (\$7.7 million), higher dividends (\$0.4 million) and higher tax equivalent payments (\$0.2 million). If water usage is reduced, for example, in response to higher prices above the threshold, net payments to Government would be less than \$7.1 million.

## Residential Wastewater

Residential wastewater charges are currently set on a town-by-town basis according to the average historical costs of providing the service and the average gross rental value (GRV) in the town. Wastewater prices are capped in two respects – first, there is a cap on the maximum charge per dollar of GRV that can be applied to a town (currently \$0.12 per dollar of GRV); and second, there is a cap on individual wastewater bills (\$612.40 in 2005/06). The \$0.12 cap benefits households in low-valued properties while the \$612.40 cap benefits households in high-valued properties.

In submissions and public forums, the Authority was presented with a variety of views relating to the equity issues associated with basing wastewater charges on GRV. A key element raised was the existence and strength of the relationship between property values and income. The Authority was not presented with any compelling evidence that this relationship is sufficiently strong to justify staying with the GRV-based system and forgoing the efficiency and administrative benefits of moving to a fixed charge.

The Authority considers that GRV-based prices for wastewater services are not cost-reflective, lack transparency, and are an imperfect form of income redistribution. Most

other States have moved away from GRV-based prices for wastewater services to either fixed uniform charges or charges based on estimated discharge to the sewer.

The Authority recommends moving away from GRV-based pricing and the introduction of a fixed charge for each town set either on the basis of total costs or total costs less indirect overheads. Moving to the fixed charge being set in this way will result in a system that is simple and transparent for customers and significantly easier to administer. It has advantages of:

- retaining different charges across towns;
- spreading the CSO for each town evenly across households; and
- having a greater proportion of customers paying at least the direct cost of the wastewater service they receive.

In the interests of equity, the Authority supports the retention of the concept of the cap on wastewater charges to ensure that customers in high-cost towns do not suffer unreasonably high charges. It is recommended therefore that the charge for each town be subject to a uniform maximum charge and the Authority considers that the current maximum charge (\$612.40) is appropriate.

## Impacts

The Authority is of the view that a phase-in period of seven years is also appropriate for a move to the new wastewater pricing system.

Currently, the Corporation is aiming to achieve total cost recovery for each scheme within the GRV-based charging system (subject to the cap on charges). If implemented over the period to 2013/14, this approach would result in an increase in the average household bill from \$485 to \$593 (in real 2004/05 dollars).

In comparison, the Authority's Option A (setting flat charges in relation to total costs) would lead to an increase in the average household bill from \$485 to \$585 over the period to 2013/14, while Option B (setting flat charges in relation to total costs less indirect overheads) would lead to an increase from \$485 to \$538.

The average charge is similar under the Corporation's approach and Option A but lower under Option B. The major difference between the Corporation's approach and the options recommended by the Authority is that under the Corporation's approach 71 per cent of households would face the maximum charge of \$612.40, compared to 48 per cent under the Authority's Option A and 24 per cent under Option B.

**Average Household Wastewater Bills (2004/05 Dollars)**

	Corporation's Policy Implemented over 7 Years	Authority's Proposal (Option A)	Authority's Proposal (Option B)
2006	\$485	\$485	\$485
2014	\$590	\$585	\$538
Annualised bill increase	\$15.00	\$14.29	\$7.57

The table below compares the Authority's proposal with the Corporation's approach for "low", "middle" and "high" GRV households. Moving to a flat charge would increase bills for low-GRV households. Higher-GRV households in high-cost towns would generally see no change in their bill whilst those in low-cost towns would see a reduction.

**Average 2014 Household Wastewater Bills for Low, Middle and High GRV Households (2004/05 Dollars)**

GRV band	Corporation's Policy Implemented over 7 Years	Authority's Proposal (Option A)	Authority's Proposal (Option B)
Low <sup>(1)</sup>	\$389	\$553	\$486
Middle <sup>(2)</sup>	\$610	\$478	\$434
High <sup>(3)</sup>	615	\$497	\$441

Notes: (1) defined as households with a GRV of up to \$4,000 (3.3% of customers); (2) defined as a GRV between \$6,000 and \$8,000 (40% of customers); (3) defined as a GRV above \$10,000 (12% of customers).

Around 83 per cent of customers would be either better off financially or indifferent under the Authority's Option A than under the Corporation's approach. Twelve per cent of customers would be worse off by up to \$100 (real in 2004/05 dollars) at the end of the transition period. Around five per cent would be worse off by between \$150 and \$372.

Under Option B, 90 per cent of households would be at least as well off as under the current approach. Seven per cent of customers would be worse off by up to \$100 (real in 2004/05 dollars) at the end of the transition period. Around three per cent would be worse off by between \$150 and \$372.

However, after the Authority's recommendations are fully phased in, the customers in the lowest GRV bands would still generally receive a subsidy from the Government, which would average around \$170 per year for Option A and around \$323 per year for Option B.

Annual tariff revenue would increase by \$11.9 million by 2013/14 under the Authority's Option A and \$6.4 million under Option B, compared with \$12.6 million under the Corporation's approach.

Once fully phased in, annual net payments to Government would increase by \$12 million per year under the Authority's Option A and \$6.5 million under Option B, compared with \$12.7 million under the Corporation's approach.

## Non-Residential Water

Non-residential water customers are, for regulated pricing purposes, commercial/industrial customers, farmland customers and charitable/other institutional customers (e.g. schools). The main issue the Authority focussed on in relation to non-residential water and wastewater pricing was whether the Government should continue to provide CSO payments for non-residential customers. The Authority has concluded that, in most cases, there is little justification in providing subsidies to country commercial customers. In particular, they should not be included within the uniform price policy. This approach is consistent with the submission by the Department of Premier and Cabinet.

## Commercial Customers

Currently, country commercial tariffs account for 68 per cent of the Water Corporation's total costs in servicing these customers, although this is projected to increase to 74 per cent by 2013/14 as a result of the projected increase in metropolitan commercial water fixed charges, which are applied uniformly across the State. The current CSO to country commercial customers is in the order of \$12 million per year. The view of the Authority is that continuing subsidies at this level cannot be justified in terms of equity and is inconsistent with economic efficiency through appropriate price incentives.

The Authority recognises that there is an issue regarding the importance of water prices in influencing business decisions to locate in country areas, which was raised in the public forums. The Authority considers that non-residential water prices are unlikely to be a factor in location decisions for two reasons: first, the subsidy going to the majority of businesses (an average of \$977 per business per year) is unlikely to be large enough to influence their location decisions; and second, major business customers (those expecting to use more than 49 kL/day) are treated as non-regulated customers who pay the full water costs associated with their investment decisions.

The Authority has considered two options for commercial and industrial customers: either provide a discount for the first 300 kL of annual water usage by not charging for overheads (Option A); or have all water usage charged at the total cost (Option B).

Commercial water charges are based on five cost classes. Currently the cost classes are the same as those used for residential water pricing. The Authority supports the continued use of the five cost classes and the continued use of the same cost classes for residential and commercial water pricing. The new commercial cost classes would be those proposed by the Authority as part of the review of residential water prices.

As was the case for residential pricing, allocating towns to cost classes allows for more cost-reflective pricing with higher-cost towns paying higher prices. The Authority recognises that its proposed approach to allocating towns to cost classes increases the likelihood of commercial customers in small towns paying a usage charge that is significantly higher than its costs. The Authority considers that the latter risk can be appropriately dealt with by capping the charge that applies to Class 5 commercial customers. The estimated cost to Government of this cap is around \$1.8 million per annum.

The usage charges under each option are shown in the following table.

Town Class	Commercial Water Usage Charges (\$ per kL, Real Dollar Values 2005/06)		
	Current	Option A	Option B
Class 1	0.85 – 1.48	1.02 – 1.30	1.30
Class 2	1.13 – 2.01	1.34 – 1.71	1.71
Class 3	1.24 – 2.24	1.63 – 2.08	2.08
Class 4	1.35 – 2.55	2.46 – 3.14	3.14
Class 5	1.39 – 2.85	3.92 – 5.00	5.00

## Impacts

Although some of the usage charges for classes one to three are less than the current charges, the fixed charges increase significantly, which in general results in overall payment increases.

The Option A pricing changes result in payment increases ranging from 6.4 per cent per year (approximately \$60) for customers with a 20mm meter using 300 kL of water to 4.3 per cent per year (approximately \$1014) for customers with a 50mm meter using 5 ML of water. Alternatively, under Option B, the pricing changes result in annual payment increases ranging from 8.3 per cent to 4.4 per cent, respectively.

Within these overall impacts there will be variations depending on the class of town. For example, under Option A the payment increases for customers with a 20 mm meter and 300 kL of water usage range from \$7 per year for customers in the 12 towns remaining in Class 1 to \$132 per year for the customers in the one town reallocated from Class 1 to Class 5.

Under the current system, only one per cent of commercial customers (by volume) are allocated to Class 5. Under the Authority's recommendation, approximately 13 per cent of commercial water volume is allocated to Class 5.

The Authority's recommendations for commercial water customers result in a \$9.1 million increase in tariff revenue under Option A and a \$10.9 million increase under Option B. The impacts on net payments to Government are \$9.2 million and \$11.0 million, respectively.

## Farmland Customers

Farmland customers cannot be viewed simply as commercial customers. The Authority has been advised by the Corporation that farmland customers use water for a variety of purposes. This includes significant domestic use as well as back-up supply and stock watering. The average usage is 547 kL per year (compared to 317 kL per year for Group A residential customers).

Farmland customers are currently charged a flat usage charge and pay the same fixed charge as residential customers. The Authority has estimated that the cost of servicing farmland customers is in the order of \$23 million while tariff revenue is around \$6 million.

The Authority recommends that farmland tariffs be set by maintaining the current relativity between farmland and residential tariffs. Currently, the contribution to total costs by



farmland customers is approximately 24 per cent, compared to 27 per cent for residential customers (i.e. a ratio of 0.88). Maintaining this relativity would require the charge to farmland customers to increase from \$0.951/kL in 2006/07 to \$1.182/kL in 2013/14 (in real dollar values of 2005/06). For an average farmland customer, the total bill would increase by \$16 per year for seven years.

The Corporation's tariff revenue would increase by \$1.6 million per year and net payments to Government would increase by \$1.7 million per year once this recommendation is fully phased in.

## Other Non-Residential Customers

Other non-residential customers include charitable and institutional organisations (e.g. non-government schools, churches and community facilities) and local government businesses. These customers are currently charged at Class 1 rates and do not pay a fixed charge.

The main issue here is that some of these customers operate in commercial environments and some could be regarded as significant commercial enterprises. The Authority estimates that subsidies to this group of customers cost \$19 million per year based on the estimated costs associated with servicing them (approximately \$30 million per year) and the estimated tariff revenue (approximately \$11 million per year).

The view of the Authority is that where the Government wishes to support these enterprises and institutions (for example, charities), subsidising their water is an inefficient mechanism compared to alternatives such as direct grants.

The Authority is therefore of the view that, at a minimum, where customers in this group are operating in a commercial environment they should be treated as commercial customers and have their water charges set accordingly.

Where these customers are not operating in a commercial environment, the tariffs should be set by maintaining their relativity with commercial tariffs. Currently, the contribution to total costs by charitable/institutional customers is approximately 38 per cent, compared to 68 per cent for commercial customers (i.e. a ratio of 0.56). Maintaining this relativity would require the average charge to charitable/institutional customers to increase from \$1.487/kL in 2006/07 to \$2.001/kL in 2013/14 (in real dollar values of 2005/06).

Under this recommendation, it is expected that the Corporation's tariff revenue and net payments to Government would each increase by around \$5 million.

## Non-Residential Wastewater Pricing

Country commercial wastewater charges are made up of a State-wide fixed charge based on the number of fixtures and a State-wide discharge rate. There is a 200 kL free discharge allowance for each property before the discharge rate is applied. The Authority estimates that the uniform commercial wastewater pricing policy currently costs \$21 million per year in CSO payments. The Authority has concluded that subsidies of this magnitude to commercial customers cannot be justified on equity or efficiency grounds. The Authority recognises that there are administrative savings associated with having a uniform pricing policy, but has concluded that these savings are unlikely to warrant the CSO expenditure.

The uniform commercial wastewater prices are an issue because residential wastewater prices are determined on a town-by-town basis. Without consistent treatment between residential and commercial wastewater customers, there is a risk that residential customers would pay more than their share of the town's total wastewater costs and that efficiency objectives would be compromised.

The Authority recommends that the uniform commercial wastewater pricing policy be replaced by a pricing structure under which country commercial wastewater service charges in each town reflect the full costs of providing wastewater services to the town. However, given that the Water Corporation is currently moving customers off GRV-based pricing, it is recommended that this process be largely completed before prices are adjusted to be more cost-reflective.

The impacts on customers would depend on the location of customers and their estimated wastewater discharge. However, average charges would need to increase by around 75 per cent if the CSO were to be removed. Tariff revenue to the Corporation would be expected to increase by around \$29 million from removing the subsidy to non-residential customers. Net payments to Government would increase by around \$29 million per year once the pricing changes are fully phased in, largely due to lower CSO payments.

## Concluding Comments

Examining country water and wastewater pricing involves analysing a large number of diverse individual schemes with different cost and climate attributes, environmental considerations, along with a mix of equity objectives that result in the requirement to subsidise most consumers through CSO payments. The system has evolved over time so that it now involves a complex mix of pricing, environmental and equity measures.

Improving the approach to country water and wastewater pricing requires a clear understanding of the balance to be struck between pricing to cover costs, pricing to encourage water efficiency and pricing to achieve equity objectives. Making the appropriate choices requires that Government and the public are fully informed about the implications of the current system and of the alternative approaches that might be adopted. The reports of this inquiry inform this process by systematically presenting the issues relating to cost recovery, equity and water efficiency as they impact on country water and wastewater pricing in Western Australia. The Authority considers that its recommendations to Government adopt a measured approach to the trade-offs that must be made, and are in the long-term interests of country consumers and businesses and Western Australians generally.

The Authority recognises the inherent complexity in these issues and is able to provide the Government with further information on the implications of considering assumptions that differ from those made by the Authority.



## Summary of Recommendations

### Residential Water

- 1 For country water pricing, retain the categories of Group A and Group B towns, based on differences in climate and household water needs.
- 2 For country water pricing, continue to allocate towns to Group A and Group B as occurs presently.
- 3 Lower the uniform pricing policy threshold to 300 kL per household per year in Group A and 500 kL per household per year in Group B.
- 4 Within the climate categories (Group A and Group B), group towns into five classes according to their direct costs of water service provision with a relatively even spread of water usage per class.
- 5 Treat Mandurah as part of the metropolitan area for water (and wastewater) pricing purposes.
- 6 Index for inflation the direct cost per kilolitre ranges used to allocate towns to cost classes and average the direct costs over the preceding three years.
- 7 Undertake further analysis to develop a measure of aesthetic water quality that could potentially be used for the allocation to cost classes of towns with lower aesthetic water quality.
- 8 Consider reviewing headworks charges to establish an effective approach for sending appropriate water pricing signals to country towns on the costs of meeting towns' future infrastructure and water resource needs.
- 9 For residential water prices, set an inclining tariff structure for each class, with usage charges:
  - for the first tier set at the Perth rates;
  - for the second tier set in relation to avoidable costs (i.e. direct operating costs plus an allowance for the estimated future capital expenditure);
  - for the third tier set in relation to direct costs (i.e. total costs less indirect overheads); and
  - for the fourth tier set in relation to total costs.
- 10 Set residential water prices above the uniform pricing threshold that are no less than the prices that apply in Perth for equivalent amounts of water (with the implication that Group B towns will have two sub-tiers within the second tier and two sub-tiers within the third tier).
- 11 For residential water prices, set the threshold between the second and third tiers at 550 kL per household per year in Group A and at 750 kL per household per year in Group B.
- 12 For residential water prices, set the threshold between the third and fourth tiers at 950 kL in Group A and 1150 kL in Group B.
- 13 For Class 5 towns, cap residential water prices above the uniform pricing threshold at \$2.50/kL in the second tier and at \$5.00/kL above the second tier.
- 14 The Government, via CSO payments, pay the cost of the uniform pricing policy, the cost of indirect overheads for residential water usage in the second and third tiers, the indirect return on assets for residential water usage in the third tier, and the cost of the caps for residential water customers in Class 5.

- 15 Phase in the recommended charges for residential water services over a period of seven years.
- 16 If the Government would like to treat pensioners across the State in a consistent manner, consider setting the threshold for concessions at the average level of water consumption in each area, i.e. at 300 kL for Perth and Group A and 500 kL for Group B.
- 17 Give further consideration to making CSO funds available to all water service providers in Western Australia.

## Residential Wastewater

- 18 For wastewater services for residential customers, de-couple prices from property values and apply a flat charge (subject to a maximum) for each town set in relation to either:
  - the total cost of providing the service in each town (Option A); or
  - the total cost less indirect overheads (Option B).
- 19 Set the maximum flat charge for residential wastewater services at the current maximum.
- 20 Treat Mandurah as part of the metropolitan area for wastewater (and water) pricing purposes.
- 21 Phase in the recommended prices for residential wastewater services over a period of seven years.

## Non-Residential Water

- 22 Group country towns into Groups A and B in the same manner for commercial water pricing as for residential water pricing.
- 23 In general, CSO payments should not be provided to country commercial customers, or if they are, such payments should be made transparent.
- 24 Retain the State-wide uniform fixed charge for commercial water customers.
- 25 For commercial water, either:
  - a) continue a two-block inclining tariff structure for each class, with usage charges for the first block set in relation to total direct costs (i.e. total costs less indirect overheads) and usage charges for the second block set in relation to total costs; and keep the threshold at 300 kL per customer per year; or
  - b) apply a single usage charge to commercial customers to recover total costs.
- 26 Under either approach, cap the commercial water usage charge for Class 5 customers at \$5/kL.
- 27 Continue to set country commercial water fixed service charges uniformly across the State.
- 28 Phase in the recommended commercial water prices over a period of seven years.
- 29 Set the flat usage charge for water for farmland customers by maintaining the current water price relativity with residential customers.
- 30 Continue to set the fixed charge for water for farmland customers at the same amount as the residential fixed charge.

- 31 Phase in the recommended water prices for farmland customers over a period of seven years.
- 32 For water pricing, treat local government businesses in the same manner as commercial customers.
- 33 For water pricing, treat charitable and institutional customers as commercial customers where they are operating as a commercial business and where they are not, set the charge to maintain the current relativity with commercial charges.
- 34 Phase in the recommended water prices for charitable and institutional customers over a period of seven years.

### **Non-Residential Wastewater**

- 35 Replace the uniform commercial wastewater pricing policy by a more cost-reflective structure once the current non-residential wastewater pricing reforms are largely completed.

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# 1 Introduction

On 20 October 2005, the State Government of Western Australia gave written notice to the Economic Regulation Authority (**Authority**) to undertake an inquiry into the Water Corporation's (**Corporation's**) country potable water and wastewater prices.

The inquiry is the first independent evaluation of Western Australian country water and wastewater prices and provides an opportunity for Western Australians to have direct input into determining such prices.

The final report on an earlier inquiry carried out by the Authority on urban water and wastewater pricing, which focussed on Perth, Bunbury and Busselton, was provided to the State Government on 4 November 2005. The earlier inquiry resulted in decisions by Government on urban water and wastewater prices which have had an impact on prices in country areas.

## 1.1 Terms of Reference

The current inquiry has been referred to the Authority under Section 32 of the *Economic Regulation Authority Act 2003 (Act)*, which provides for the State Government to refer to the Authority inquiries on matters related to regulated and non-regulated industries.

The Terms of Reference issued by the Treasurer on 20 October 2005 is provided in Appendix 1. The Treasurer amended the Terms of Reference on 24 May 2006 to extend the date of completion of the final report to 23 June 2006.

In accordance with the Terms of Reference, the Authority has examined the current approach to country water and wastewater pricing, and the merits of potential alternative approaches, in the following areas:

- *the appropriate consumption threshold for the application of uniform residential charges;*
  - currently, the threshold is set in most cases at 350 kilolitres per year (kL/year), with customers using less than this amount paying the same as customers in Perth with equivalent water usage. The actual threshold above which country customers pay more than customers in Perth for an equivalent amount of water can also be either 450 kL/year or 650 kL/year depending on the class that the town is assigned to;
- *the effectiveness and efficiency of the Water Corporation's five town class charges for residential and business customers in country towns and the merits of any alternative charging structure for country towns;*
  - currently, towns are allocated to five groups according to the costs of providing the service; in addition there are lower charges for some towns, such as those north of the 26<sup>th</sup> parallel;
  - currently, residential charges increase in blocks of water usage and can be more than double the highest charge in Perth;
  - currently, commercial charges are based on two blocks of water usage with the threshold set at 300 kL/year;

- *the effectiveness and efficiency of the service charge structure for businesses and the merits of any alternative charging structure for country towns;*
  - currently, charges are based on the size of the meter and are set at the same levels as in Perth;
- *the appropriateness of the residential and vacant land rates for each country sewerage scheme and the maximum rate in the dollar gross rental value wastewater service charge and the merits of an alternative charging structure;*
  - currently, charges are based on the rateable value of the property;
  - currently, wastewater charges in country towns are capped while metropolitan wastewater charges are not;
- *the appropriateness of continuing uniform State-wide major fixture and volumetric discharge sewerage charges for business;*
  - the Corporation is phasing-in a new charging structure based on a customer's estimated level of sewerage discharge and a service charge based on the number of fixtures;
  - currently, the discharge rate and service charges are set at the same levels as in Perth; and
- *the impact proposed pricing structures will have on the Corporation's revenue and expenses, as well as payments to, and from, the Government.*

In proposing prices and pricing structures, the Authority is required by the Terms of Reference to consider:

- *the principles of the Government's uniform pricing policy;*
- *demand management targets; and*
- *other social, economic and environmental policy objectives.*

In undertaking the inquiry, the Authority is cognisant of section 26 of the Act, which requires the Authority to have regard to:

- the need to promote regulatory outcomes that are in the public interest;
- the long-term interests of consumers in relation to the price, quality and reliability of goods and services provided in relevant markets;
- the need to encourage investment in relevant markets;
- the legitimate business interests of investors and service providers in relevant markets;
- the need to promote competitive and fair market conduct;
- the need to prevent abuse of monopoly or market power; and
- the need to promote transparent decision making processes that involve public consultation.

The inquiry covers only regulated charges and does not extend to consideration of the Corporation's headworks charges, which are charges that apply to new customers when they connect to the system; the charges contribute to the cost of future expansions to



water supply infrastructure.<sup>1</sup> The Government may wish to consider whether headworks charges should be the subject of a separate inquiry.

Other submissions raised matters which were outside the Terms of Reference. WACOSS noted the issues of the cost of water cartage and the lack of adequate infrastructure and water services in some areas of Western Australia, while the Wheatbelt Development Commission submitted that the Terms of Reference did not extend to aspects of sustainability:

We are also concerned that the terms of reference did not include aspects of sustainability i.e. proposed mechanism to make users more water-wise, water efficient, and encouraged to engage in alternative, sustainable water-supply options. (Wheatbelt Development Commission, p2)

The Authority does interpret the Terms of Reference as incorporating the issues raised by the Wheatbelt Development Commission, as the pricing of water and wastewater services plays an important role in promoting the efficient and sustainable use of water resources over the long term. Section 2.2 provides a discussion of the role of pricing in influencing water usage decisions.

The Department of Water raised the issue of prices paid by irrigators:

Clearly the terms of reference do not include the need for considering the price of irrigation water, however the ERA could consider making some general comments on the relationship between the long run marginal cost of water and the prices paid by most irrigation cooperatives for their bulk water. This could perhaps lead in the future to a more general consideration of bulk water prices for irrigation in the future. (Department of Water, p1)

It is for Government to assess whether this issue requires investigation. While the price of irrigation water is outside the Terms of Reference, it should be noted that the National Water Initiative, of which Western Australia is a signatory, requires irrigation prices to be reviewed by an independent regulator.

## 1.2 Consultation Process

The recommendations of this inquiry were informed by the following public consultation process:

- The Authority published an issues paper on 9 December 2005 and invited submissions from industry, Government, other stakeholder groups and the general community on the matters in the Terms of Reference. Thirteen submissions were received in response to the issues paper. The issues paper and full submissions are available on the Authority's website, [www.era.wa.gov.au](http://www.era.wa.gov.au).
- The Authority invited further submissions in response to the draft report, published on 31 January 2006. Twenty six submissions were received. The draft report and full submissions are available on the Authority's website. A list of all the submissions received on the inquiry is available in Appendix 2.
- The Authority held public forums following the publication of the draft report. Interested parties were invited to attend the forums and raise any matters of

<sup>1</sup> Headworks charges are in the form of a one-off upfront payment (in addition to water usage and annual fixed charges). They are based on the estimated unit costs of meeting significant increases in demand and are applied uniformly throughout the State.

relevance to the inquiry. Forums were held in February and March in Albany, Geraldton, Kalgoorlie-Boulder, Mandurah and Northam. A video conference was held with participants from Karratha, Newman and Port Hedland.

- The Authority's Consumer Consultative Committee was consulted on 14 December 2005, 20 March 2006 and 14 June 2006.<sup>2</sup>
- In accordance with section 45 of the Act, the Authority has acted through the Chairman, Lyndon Rowe and Member, Chris Field, in conducting this inquiry.

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<sup>2</sup> The Authority Consumer Consultative Committee is chaired by Chris Field (Member of the Authority). Its members are from the Chamber of Minerals and Energy of WA; Chamber of Commerce and Industry of WA; Property Council of Australia; Country Women's Association of WA; WA Farmers Federation; Pastoralists & Graziers Association of WA; WA Council of Social Services; Consumers Association of Western Australia; and Consumer Credit Legal Service (WA). Representatives from the State Ombudsman's Office and the Department of Consumer and Employment Protection have observer status.

## 2 Residential Water Pricing

### 2.1 Terms of Reference

The Authority is expected to consider and make recommendations on:

- *the appropriate consumption threshold for the application of uniform residential charges; and*
- *the effectiveness and efficiency of the Water Corporation's five town class charges for residential and business customers in country towns and the merits of any alternative charging structure for country towns.*

### 2.2 Method

Any assessment of country residential water prices needs to take into account the multiple roles and dimensions of pricing.

#### Efficiency

Encouraging economic efficiency in water resource use is the central role of pricing for water and wastewater services. This requires that prices be set in a way that reflects the cost of supply. Prices set too low relative to cost of supply encourage over-consumption whilst prices set too high relative to the cost of supply deny benefits to consumers. Although efficiency objectives must be central to a review of prices, in carrying out the current review the Authority has been mindful of the history of the current system of prices for country water and wastewater in Western Australia and of the range of relevant Government policy objectives, including the uniform pricing policy and demand management targets.

Cost-reflective pricing is important in two respects: first, it allows service providers to recover the costs of providing services; and second, it sends the correct price signals to consumers regarding the costs of meeting their demands for those services.

#### Cost Recovery

Cost recovery must be a key consideration. To justify supply of water at a given volume, society must value that water at least equal to the full resource cost of providing it. This cost therefore has to be met by society, either through direct charges on customers or by cross subsidy. The subsidy needs to be fully documented and consistent with the cost recovery objective. Where a subsidy is in place and the full cost is not met through direct charges, the efficiency principles would indicate that at the very least consumers should not be provided with additional water unless they are prepared to pay the avoidable costs of the additional supply.

#### Price Signals

Cost recovery (at whatever level is required) could be achieved with a simple constant per-unit price. However, for water, the *structure* of the price must also be considered. Through the price structure, consumers are given important signals about the way the cost of providing water changes with increased volumes demanded and about resource

sustainability, and are given appropriate incentives to become water efficient. The structure of prices is therefore important in encouraging efficiency in resource use and as a complement to related demand management initiatives.

## Social and Equity Issues

Pricing to fully recover costs, whether by a simple constant per-unit price or a more complex price structure, has an implication that individual customers should bear the full costs of supplying them with water. The supply of water has always had a range of social and equity issues attached to it. These encompass considerations such as the provision of water for basic human needs, equity between regions when basic supply costs vary, and the role of water in providing the quality of life beyond basic needs that society may wish to have available to all citizens. The way prices are set (level and threshold) influences the extent of the achievement of these social objectives and the subsidy cost to the wider community of achieving them.

## Administration Costs

To achieve a mix of efficiency and social objectives, the ideal price system may itself be quite complex. Any evaluation of pricing structures must pay attention to the associated administrative costs. The economic benefits of a new pricing scheme should exceed any additional long-term administrative costs.

## Transparency

The role of prices in encouraging water use decisions that are in the best interests of society requires that consumers, and indeed all stakeholders, understand the pricing structure and its relationship to the underlying objectives of efficiency and equity. A transparent pricing structure requires clearly defined objectives and clarity regarding who pays, the volumes of water they pay for and why. Where a pricing structure is not well defined and consistent with stated objectives, it can hinder informed debate and limit accountability, to the detriment of consumers. A transparent pricing system can also assist potential service providers to assess the viability of entry.

## Balancing the Objectives

Thus, in developing its recommendations, the Authority has sought to recognise and balance the various objectives, including:

- the use of prices to recover and reflect the costs of providing services and encourage efficiency in water use;
- the provision of affordable water for basic needs;
- the transparency and administrative costs of alternative pricing systems;
- the impacts of price changes on customers, the Corporation and Government finances; and
- equity in pricing country water and wastewater as reflected in the uniform pricing policy.

Inevitably, however, conflicts arise between objectives. For example, achieving higher levels of cost recovery will tend to push up average prices and this may at times conflict with stated equity objectives. In assessing country residential water prices the Authority

has sought to achieve a balance between these sometimes conflicting objectives. In coming to a view, where such conflicts arise, the Authority has had regard to the long-term interests of consumers to guide it in determining an appropriate balance.

## 2.3 Current Approach

Each residential property is subject to a service charge and a usage charge.

- The annual service charge for residential customers is uniform across the State. In 2005/06 the service charge for each residential unit was \$152.30.
- Water usage charges increase as usage increases. Water usage charges throughout Western Australia (for both country and metropolitan households) are the same for annual consumption up to 350 kL. Currently, consumption up to 150 kL is priced at \$0.425/kL; consumption between 150 kL and 350 kL is priced at \$0.689/kL. Above 350 kL, charges vary across the State, intended to be based on the costs associated with providing water to the specific town or area and the location of the scheme. Under the current system, there are as many as eleven separate pricing blocks in some water tariffs (see Appendix 3).
- An outcome of the recent inquiry by the Authority into metropolitan water prices is that the recommended unit price for metropolitan customers using less than 550 kL per year will gradually converge over a period of eight years to a single charge of \$0.82/kL. This recommendation has been accepted by the Government, and under the current uniform pricing policy this is therefore the price that would apply to country customers using less than 350 kL.<sup>3</sup>

The annual service charge was made uniform across the State in 1989/90. Uniform pricing for consumption up to 350 kL was introduced in 1994/95. Collectively these uniform charges represent the uniform pricing policy.

According to the Corporation, the 350 kL threshold was chosen as the uniform pricing threshold because at the time households that used 350 kL/year paid the same amount irrespective of whether they were in Perth or in the country. Coincidentally, the uniform pricing threshold was close to the average level of water usage for the Corporation's metropolitan residential customers at the time.

There are two groups of country water schemes:

- *Group A*, which covers the majority of country towns; and
- *Group B*, which covers towns in the north of the State (above the 26<sup>th</sup> parallel) and some other towns (such as Cue, Laverton, Leonora, Meekatharra, Menzies, Mt Magnet, Sandstone, Wiluna and Yalgoo).

The distinction between Group A towns and other towns was first introduced in 1974/75, and acknowledges that households in parts of the State with higher temperatures and harsher weather conditions may require a higher amount of water usage (e.g. for increased air-conditioning use) and also recognises that certain towns have limited access to alternative sources of water, such as from bores. The State-wide uniform price (\$0.689/kL) applies to Group A customers up to a threshold of 350 kL per annum, and to Group B customer up to a threshold of 550 kL per annum.

<sup>3</sup> An assessment of the appropriateness of the current threshold for the uniform pricing policy follows in section 2.4 below.

Within each Group (A or B), each town or area is allocated to one of five classes on the basis of the cost of providing water to that town or area. The allocations are based on costs per kilolitre averaged over the past three years and are reviewed each year by the Corporation. The Corporation considers operating costs (including allocated overheads) and total costs (including depreciation and a rate of return) when assessing the allocation of schemes to classes. The cost bands used to group towns are specified in the By-laws.<sup>4</sup> Prices are uniform up to the thresholds (350 kL for Group A towns and 550 kL for Group B towns). Beyond the thresholds prices increase, with higher cost towns being charged higher prices. However, Group B prices are still lower than Perth prices for consumption up to 650 kL.

Concessions of up to 50 per cent on the Corporation's annual service charge (which covers both the water service charge and the wastewater charge for residential customers) are available to pensioners, seniors and dual State and Commonwealth seniors on a consistent State-wide basis.<sup>5</sup> Pensioners are also entitled to 50 per cent concessions on water usage up to a threshold amount: 400 kL per year for customers in the south; and 600 kL per year for customers in the north. These thresholds compare with 150 kL per year for customers in Perth.

The full schedule of existing tariffs for country and metropolitan customers is available in Appendix 3.

## 2.4 Uniform Pricing Threshold

Under the uniform pricing policy, all customers in Western Australia pay the same price for water below a certain threshold. The main aspect to the consideration of the uniform pricing policy is therefore the level of the uniform pricing threshold (that is, the level of annual water usage below which the uniform price applies).

In assessing the appropriate threshold for uniform prices, the Authority has given consideration to the objectives, both implicit and explicit, which underpin the uniform pricing policy.

### 2.4.1 Objectives of the Uniform Pricing Policy

Although there is no formal policy that specifies the objectives of the uniform pricing policy, the Department of Premier and Cabinet in its submission describes the objectives of the uniform pricing policy to be as follows:

The Uniform Pricing Policy (UPP) is expected to provide:

- affordable cost of water across the State at a consumption level considered to be the minimum for basic human needs (water for drinking, cleaning and sanitisation purposes); and
- subsidised cost of water across the State, at a consumption level considered to be the average consumption of a household.

Any recommendations of the ERA should be consistent with these general objectives of the UPP. (Department of Premier and Cabinet, p1)

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<sup>4</sup> Water Agencies (Charges) By-laws 1987.

<sup>5</sup> The maximum rebate on the annual service charge (water service charge plus wastewater charge) is 50 per cent for holders of the Pensioner Concession Card or State Concession Card; 25 per cent for State Senior Card holders; and 50 per cent for dual seniors (holders of the State Seniors Card and Commonwealth Seniors Health Card).

Various interpretations of the policy objectives underlying the uniform pricing policy were offered in other submissions:

The Zones consider that the basis of the CSOs should be equal access to equal standard of water at an equal cost. (WALGA – Central Country Zone and Great Eastern Country Zone, p8)

WACOSS strongly supports the Uniform Pricing Policy, and as stated in the WACOSS Issues Paper submission, supports the uniform tariff threshold being set at a level of agreed water use for individuals to maintain a reasonable quality of life, recognizing the essential nature of water services. (WACOSS, p7)

Further, WACOSS notes the views of the OECD:

As identified in the OECD report into Social Issues in the Provisions and Pricing of Water Services: “One such approach would define the basic needs part of water demand, access to which should be guaranteed for all (especially low income) households and beyond which the prices for water services should reflect economic and environmental policy objectives.” (WACOSS, p7)

In its Draft Report, the Authority suggested that the uniform pricing policy could be defined as a uniform charge for a certain level of water usage, for example, equal water charges across the State for consumers who use an average amount of water, where that average varies with location. This approach would involve adjusting both fixed charges and usage charges to achieve the same annual water bills for average household usage. This proposal received widespread support in submissions, for example,

The Zones strongly support the concept that appears to be outlined in the Executive Summary p.(i), that the cost for average usage should be the same across the State.

(WALGA – Central Country Zone and Great Eastern Country Zone, p3)

The Commission agrees with the concept of a uniform pricing policy with equal prices for average usage on a town by town basis. More consideration of how the determination of average usage would be calculated is necessary. Average usage will vary according to seasonal conditions, water quality, town planning design and population fluctuations.

(Pilbara Development Commission, p1)

The principle that the uniform pricing policy means consumers pay the same rate throughout the State to achieve the same standard of living is logical and recognises that to achieve the same standard of living in different locations throughout the State, different volumes of water are required. On this basis the City supports the setting of a uniform price for the average usage within set town groups (the groupings being based on climate, town size etc) plus or minus a percentage.

(City of Kalgoorlie-Boulder, p1)

Defining the uniform tariff policy as a uniform charge for a certain level of water usage across the State for consumers who use an average amount of water, where that average varies with location would, however, be difficult to implement and could lead to some distortions. First, it is difficult to define “average usage” when household consumption is driven by a large number of factors, such as household size, water efficiency, climate, garden size and swimming pools. Secondly, this approach provides little incentive to reduce average water use. In its submission, the Water Corporation listed a number of potential problems as follows.



The Corporation has the following concerns in relation to a tariff that results in the same charge for an average volume of water used in each town (where that average differs from town to town):

- 1) Each town would have a different volumetric charge up to their average consumption. There would be very little uniformity associated with pricing as there is not really an “average user”. Most households have different attributes. Unintended consequences would be that customers living in units would benefit in towns with a hot climate and/or houses with large gardens, and large families would be particularly penalised if they were in towns with low average consumption.
- 2) Such an approach would effectively reward towns who have consistently used a high volume of water by providing them at a lower unit water price. A more practical alternative would be to base the uniform charge volume on a behaviourally independent factor such as the climate.
- 3) This approach may be contrary to the Corporation’s Waterwise initiatives. Towns that have a low average use (particularly those who have been subject to significant demand management initiatives) would effectively be penalised with a higher unit price for their low use. This would ignore the costs incurred by customers in reducing consumption.
- 4) Administratively, such a policy would require determining a separate rate for each town. Determining and applying this average, as well as determining how this rate might change over time as consumption patterns change bears consideration. In addition, the policy is unlikely to be well understood by customers, and could result in additional complaints from customers on the wrong side of the average for reasons other than the “inefficiency” of their use eg large families.

(Water Corporation, p6)

The Authority accepts that setting equal charges based on average usage would be problematic. The support in submissions for the concept largely appears to reflect a widely held view that water prices should take into account the influence of climate on the water needs of households. To this extent, the setting of a higher uniform pricing threshold for towns with harsher climates (Group B) would address this concern.

It is possible that there may be some benefit in the future of a pricing approach based on average consumption in different locations and involving variation in the fixed charge. However, taking into account the submissions by the Department of Premier and Cabinet and others, the Authority has for the purpose of this inquiry defined the uniform pricing policy as:

- a uniform fixed charge across the State;
- a uniform usage charge *up to* the average consumption, where average consumption is based on the average for Perth; and
- an allowance in the definition of average consumption for harsher climatic conditions in the north of the State (see section 2.4.2 below).

In establishing the uniform pricing threshold, the key considerations are:

- whether the threshold should differ depending on the part of the State;
- the amount of water required to meet “basic needs”; and
- the degree to which prices reflect the costs of providing water services.

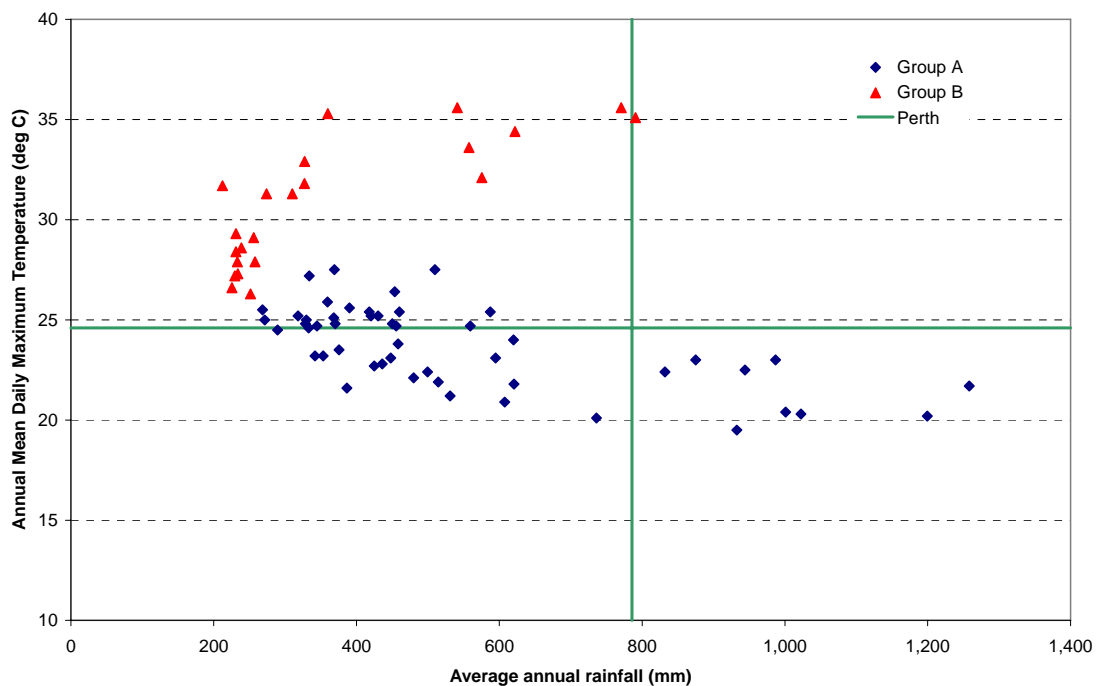


## 2.4.2 Water Usage Across the State

Currently, the uniform pricing threshold is higher for towns in parts of the State with higher temperatures, harsher weather conditions or where access to alternative sources of water, such as from bores, is limited. There are currently 32 towns in Group B, of which 23 towns are north of the 26<sup>th</sup> parallel.

The following figure plots the mean daily maximum temperature against average annual rainfall for Group A and Group B towns. For comparative purposes Perth is also shown.

**Figure 2.1 Long-Term Mean Daily Maximum Temperature and Average Annual Rainfall, Group A and Group B Towns\***



\* Note: Averages are for various periods from the beginning of records to 2004.

Source: Water Corporation & Bureau of Meteorology of Australia

Figure 2.1 shows that Group B towns have harsher weather conditions (either high maximum temperatures or low annual rainfall or both). The Authority has accepted that the allocation of towns to Groups A and B on the basis of climate differences is reasonable.

## 2.4.3 Water for Basic Needs

The Authority has considered international guidelines which define the water required to meet basic in-house water needs.

Development agencies recommend between 20 and 100 litres per capita per day of clean water to meet basic need. UNESCO guidelines state that:

To ensure our basic needs, we all need 20 to 50 litres of water free from harmful contaminants each and every day.<sup>6</sup>

In a survey of literature on water for basic needs, Gleick (1996) recommended a basic water requirement standard of 50 litres per capita per day.<sup>7</sup> This amount corresponds to a water service level of “intermediate access”, defined by the World Health Organisation (WHO) as water delivered through one tap on-plot or within 100 metres or 5 minutes total collection time.<sup>8</sup> At this service level, all needs are met for drinking water, food hygiene and personal hygiene (although not necessarily those for laundry and bathing) and the level of health concern is low. This volume of water equates to just under 75 kL for a four-person household.

Above this service level, “optimal access” is defined by the WHO as 100 litres per capita per day and above, supplied through multiple taps continuously. At this service level, all basic needs for drinking water, hygiene, bathing and laundry are met, and the level of health concern is very low. Other authors support a basic water requirement of 100 litres per capita per day (which is the typical household demand in water-scarce regions) to provide for a minimum acceptable quality of life.<sup>9</sup> This quantity is equivalent to an annual per capita consumption of just under 150 kL for a four-person household.

In more developed countries, access to water services and water usage are generally higher, although 100 litres per capita per day is likely to be sufficient to meet essential needs in any country. Average residential consumption in the Netherlands is around 100 litres per capita per day.<sup>10</sup> In England and Wales, average residential consumption in 2003/04 was around 150 litres per capita per day.<sup>11</sup>

The Corporation conducted a survey of domestic water use in Perth in 2003.<sup>12</sup> Average in-house consumption was found to be 155 litres per capita per day for single residential households and 166 litres per capita per day for multiple residential households (see Table 2.1). This equates to average annual consumptions of 190 kL for single residential households and 133 kL for multiple residential households.<sup>13</sup>

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<sup>6</sup> [www.unesco.org](http://www.unesco.org), World Water Assessment Report, Facts and Figures.

<sup>7</sup> Gleick, P. H. (1996), “Basic water requirements for human activities: meeting basic needs”, *Water International*, 21:83-92.

<sup>8</sup> Howard, G. and Bartram, J. (2003), “Domestic water quantity, service level and health”, *World Health Organization*.

<sup>9</sup> Falkenmark, M. (1991), “Approaching the ultimate constraint: water-short Third-World countries at a fatal cross-road”, Study Week on Resources and Population, Pontifical Academy, 17-22 November 1991, Vatican City.

<sup>10</sup> Gleick (1996), op cit.

<sup>11</sup> Ofwat (2006), “The Development of the Water Industry in England and Wales”, p93.

<sup>12</sup> Loh, M. & Coghlan, P. (2003), “Domestic Water Use Study in Perth, Western Australia 1998-2001”, Water Corporation.

<sup>13</sup> Based on average occupancy rates of 3.35 persons for single residential households and 2.19 persons for multiple residential households (Loh and Coghlan, 2003, op cit).

**Table 2.1 Average In-house Consumption by Perth Residential Households, 1998-2001**

Component	Average In-house Consumption (Litres per Capita per Day)	
	Single-Residential Household	Multiple-Residential Household
Bath and shower	51	55
Washing machine	42	43
Toilet	33	28
Tap	24	35
Other	5	5
<b>Total in-house</b>	<b>155</b>	<b>166</b>

Source: Loh and Coghlan (2003)

In accordance with the Government's objective of making water for basic needs available at an affordable cost, it is important to take into account varying household water needs across the State that arises from differences in climate. There was considerable support in submissions for the higher water needs of households in hotter regions to be factored into water prices. For example,

The Report recognises that average usage varies from town to town. In the Murchison region, the average consumption to maintain a household is certain to be higher than coastal and southern towns, due to the comparatively high temperatures compared to the south and the very dry climate in contrast to coastal humidity. As these environmental factors are outside the control of residents, the Zone considers that there is an obligation on the Water Corporation to equitably provide for the increased requirement to maintain a reasonable standard of living.

(WALGA – Murchison Country Zone, p1-2)

To retain the principle of uniform pricing policy, the grouping of Towns should only depend on factors which affect the volume of water required in that town to achieve a uniform standard of living.

(City of Kalgoorlie-Boulder, p1)

Water usage figures for Western Australian country towns show that average usage by households in the north of the State (Group B towns) is around 200 kL per annum higher than average consumption by households in the south of the State (Group A towns). In 2004/05, the average water usage of Group A households was 317 kL/year, while the average water usage of Group B households was 525 kL/year. Average household consumption in Perth was 279 kL in 2005/06.

However, the Corporation notes that water usage has reduced since the introduction of the threshold:

The Corporation would support an assessment of whether the current tariff should be uniform up to 350 kL across the state. Consumption has generally reduced since this threshold was introduced, and it may now be appropriate to reduce the volume up to which uniformity applies. Uniform prices up to 300 kL (with an additional 200 kL at concessionary prices in the north) could be achieved by simply reducing the second pricing taper from 200 kL to 150 kL, so that it applies from 150 kL to 300 kL, rather than from 150 kL to 350 kL. (Water Corporation, p6)

Given all of the above analysis, the threshold for the uniform pricing policy could be lowered (from 350 kL to 300 kL for Group A towns, and from 550 kL to 500 kL for Group B towns) without compromising the objective of providing all households with affordable water to meet basic needs. Water usage of 300 kL per year is 50 per cent more than the average in-house consumption for single residential households in the metropolitan area (190 kL per year). It is equivalent to 205 litres per capita per day for a four-person household, which is twice the 100 litres per capita per day recommended by the World Health Organisation for optimal access to water services.

In determining its recommendations on the level of the uniform pricing threshold, the Authority has been mindful of the need to balance the objectives of economic efficiency (achieved by cost-reflective pricing) and social policy (the provision of affordable water for basic needs). The Authority notes that a reduction of the threshold by 50 kL still ensures a generous amount of water, based on international experience, for all households across the State to meet essential in-house needs.

If, in future, it was the Government's intention to increase the cost-reflectivity of country water prices, one way to achieve this would be to consider further incremental reductions in the uniform pricing threshold.

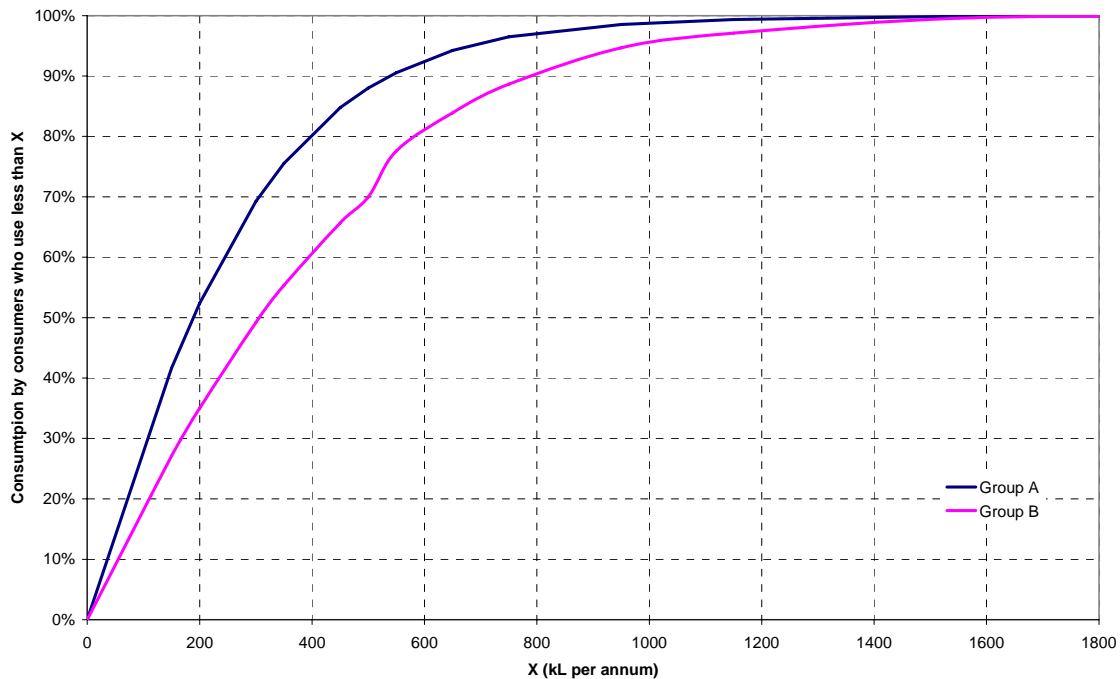
#### **2.4.4 Cost-Reflective Pricing**

A further consideration in setting the uniform pricing threshold is the impact of changes in the threshold on the cost of providing water services. Consumers who use less than the threshold amount per year will pay only the uniform price, which will not necessarily reflect the cost of supplying water. To the extent that prices for water usage above the threshold are set to reflect costs, any lowering of the threshold will increase the number of customers who will pay prices which reflect the costs of their water supply (for water usage above the threshold).

The current thresholds of 350 kL for Group A towns and 550 kL for Group B towns are above the average consumption by households in each group. Further, the majority of customers in country towns are not exposed to any cost-reflective prices. For example, in Albany, 80 per cent of consumers use less than the threshold. In Kalgoorlie-Boulder the proportion is 53 per cent. In Port Hedland, a Group B town, 57 per cent of consumers use less than the threshold.

Figure 2.2 shows the cumulative distribution of annual residential consumption for Group A schemes and Group B schemes. Figure 2.2 shows that 75 per cent of consumption in Group A is less than the 350 kL threshold. In Group B, 78 per cent of schemes have an average annual residential consumption less than the 550 kL threshold. This means that under the current system only 25 per cent of consumption (Group A) and 22 per cent of consumption (Group B) faces any kind of cost-reflective pricing, with the associated price incentive for greater water efficiency.

**Figure 2.2 Cumulative Distribution of Annual Average Residential Consumption for Group A and B Schemes (2004/05)**



Source: Water Corporation and ERA analysis

Given the distribution of average residential consumption represented in Figure 2.2, a reduction in the threshold level would increase the amount of consumption subject to prices that reflect the cost of additional consumption. Reducing the threshold by 50 kL would slightly lower the proportion of schemes with consumption below the threshold (from 75 per cent to 69 per cent of towns in Group A, and from 78 per cent to 70 per cent in Group B towns).<sup>14</sup> This could still be considered a high proportion of customers that receive price signals inconsistent with cost-reflective pricing. However, it would increase the percentage of consumers facing cost-reflective prices to 31 per cent in Group A (up from 25 per cent) and to 30 per cent in Group B (up from 22 per cent). The Authority considers that an increase in the proportion of consumers experiencing some degree of cost-reflective pricing is in the long-term interests of consumers and therefore supports a modest reduction in threshold consumption levels to achieve this.

## 2.4.5 Proposed Approach for Setting the Uniform Pricing Thresholds

The Authority accepts the view that the uniform pricing threshold should be set to reflect different household water needs in the north and south of the State. The current allocation of country towns to Group A (south) and Group B (north) seems appropriate. The thresholds could be lowered slightly to reflect reductions in per capita consumption, while still providing water for basic needs at an affordable price across the State.

<sup>14</sup> This assumes that the distribution of average residential consumption across schemes does not change in response to a change in the threshold. In so far as average consumption decreases the actual proportions will be higher than the 44 per cent and 42 per cent reported.

## Recommendations

- 1 For country water pricing, retain the categories of Group A and Group B towns, based on differences in climate and household water needs.
- 2 For country water pricing, continue to allocate towns to Group A and Group B as occurs presently.
- 3 Lower the uniform pricing policy threshold to 300 kL per household per year in Group A and 500 kL per household per year in Group B.

## 2.5 Pricing Above the Threshold

A further consideration in the assessment of country residential water prices is the determination of prices above the uniform pricing policy threshold. There are three related aspects to this question:

- the structure of prices;
- the allocation of towns to cost classes; and
- the cost base for setting prices above the threshold.

The Authority's view is that prices above the threshold should be in the form of an increasing block tariff that reflects increases in cost. The number of tariff blocks and the price levels in them will then be significantly dependent on the allocation of towns to cost classes and the choice of a cost base or bases for setting above-threshold prices.

### 2.5.1 Allocating Towns to Classes

#### 2.5.1.1 Current Approach

The Authority considers that the current methodology used by the Corporation to allocate towns to cost classes does not result in prices which adequately reflect costs.

Current allocations of towns to classes are based variously on operating costs and total costs per kilolitre, averaged over the past three years (see Table 2.2 below).

**Table 2.2 Current Basis for Allocating Country Towns to Classes (2005/06)**

	3 Year Average Operating Cost (Including Allocated Overheads) (\$/kL)	3 Year Average Total Cost (Including Depreciation and Return on Capital) (\$/kL)
Class 1	\$0.00 - \$1.00	\$0.00 - \$2.00
Class 2	\$1.00 - \$1.50	\$2.00 - \$3.00
Class 3	\$1.50 - \$2.50	\$3.00 - \$5.00
Class 4	\$2.50 - \$5.00	\$5.00 - \$10.00
Class 5	Over \$5.00	Over \$10.00

Note: The costs referred to in this table are specified in the By-laws and are not indexed for inflation.

Source: Section 17D, *Water Agencies (Charges) By-laws 1987*.

The two different cost parameters specified in the By-laws will not always allocate a given scheme to the same class: for example, a scheme might have operating costs of \$0.65/kL (a Class 1 town) and total costs of \$2.10/kL (a Class 2 town). The By-laws specify that the maximum implied class should be used (Class 2 in our example). In such instances there will be an apparent scheme misallocation on one cost basis but not the other. In analysing the data example were found of such “misallocations”.

A class allocation methodology that is based on two different cost parameters will not send consistent price signals to consumers. Some consumers will receive signals based on one cost measure (say total cost) while other consumers will receive signals based on a different cost measure (say operating cost).

The Authority has also found examples of schemes that are not consistently allocated on the basis of either cost measure. The Corporation has advised that allowance is occasionally made for a town’s specific circumstances including:

- the impact of an exceptional year on the three year average;
- towns that alternate frequently between classes;
- water quality issues; and
- regional advice regarding the future requirements for a scheme.

The use of discretionary judgements can reduce the transparency of a pricing system. In the absence of a set of rules or criteria to identify when an allowance should be made, the Authority has been unable to determine whether these allowances have been applied consistently across schemes or whether they are appropriate.

Table 2.3 shows the number of schemes in each 2005/06 class that would require reallocation on the basis of both cost parameters specified in the By-laws.

**Table 2.3 Per Cent of Schemes Requiring Reallocation**

Class Adjustment	Per Cent of Schemes Re-allocated to Another Class	
	On the Basis of Operating Costs	On the Basis of Total Costs
Down 4 Classes	1%	1%
Down 3 Classes	2%	1%
Down 2 Classes	6%	3%
Down 1 Class	18%	11%
No Change	47%	46%
Up 1 Class	19%	31%
Up 2 Classes	6%	6%
Up 3 Classes	1%	0%
Up 4 Classes	0%	0%

Source: Water Corporation data and Authority analysis.

A further problem with the current class allocation methodology is that the cost brackets specified in the By-laws are not indexed for inflation. Consequently there has been bracket creep each year. When the By-laws were written the cost bands were chosen so that approximately 20 per cent of schemes were in each class. If the By-laws were applied consistently by the Corporation only 7 per cent of schemes would currently be in Class 1 and 15 per cent in Class 2. The effect of this bracket creep is an increase in prices (for customers whose towns are allocated to a higher class), and potentially a decrease in CSO payments if prices go up more than costs.

### 2.5.1.2 Allocation Principles

An important disadvantage of the current average historical cost basis for allocating towns to classes is that it does not adequately reflect the future resource or infrastructure costs of providing water. Ideally, towns would not be allocated to classes, but would have water usage charges set on a town-by-town basis related to the future costs of supplying water (commonly referred to as long run marginal cost (**LRMC**) pricing). Such an approach would enable consumers to make informed decisions on investing in water-using goods (e.g. pools and gardens), water-efficient appliances, or self-supply (e.g. rainwater tanks), i.e. they would invest when the value to them of doing so is greater than the cost of providing the water.

#### Allocation Based on Future Costs

Following the Authority's recommendations in its urban water and wastewater pricing inquiry, the Government has decided to relate the price of water for residential and commercial customers in the Perth metropolitan area to reflect the cost of expanding future supplies. The urban inquiry identified the LRMC for Perth to be around \$0.82/kL, and usage charges for residential customers consuming up to 550 kL/year will move towards this price over the next seven years (the period from 2006/07 to 2013/14).



In considering the applicability of LRMC pricing to country water pricing, the Authority has taken into account the administrative costs of such an approach. As noted by the Department of Premier and Cabinet:

Any improvement to the efficiency of prices should be balanced with the objective of minimising administrative complexities. The balance of these two issues will be an important one for the ERA to consider in its final pricing recommendations. (Department of Premier and Cabinet, p2)

In its draft report, the Authority highlighted some practical difficulties in applying LRMC principles to country water pricing:

- cost data is not currently available in the detail required (for example, costs are not separately available for commercial as distinct from residential customers, and forward-looking cost estimates for each town needed for the purposes of estimating efficient usage charges are not readily available);
- the application of LRMC pricing could result in significant payment increases/reductions for those households using more/less than the threshold amount of water;
- averaging prices across towns (if forward-looking cost data is not available on a town-by-town basis) may mean that some towns will not face efficient price signals; and
- forward-looking cost estimates are heavily influenced by growth, which for many towns is subject to uncertainty.

The Corporation reiterated these concerns in its submission:

The Corporation agrees with the ERA that the decision as to whether it is worthwhile to develop more “efficient” water pricing will be a balance between the benefits and the costs of developing more complex systems.

However, the issue goes beyond the expense of developing better costing systems. The basic problem lies with the uncertainty associated with assumptions such as growth projections, environmental conditions and future service standards that underlie country cost estimates. There is a degree of uncertainty with the Perth cost projections, and even greater uncertainty associated with country schemes. (Water Corporation, p4)

WACOSS expresses similar concerns about the reliability of LRMC estimates:

WACOSS is also concerned about the calculation of forward-looking supply costs, as the information is not as reliable as the current calculation method of the previous three-years cost of supply. (WACOSS, p9)

The Authority accepts that the information requirements to implement LRMC-based pricing across all country towns would be substantial and the estimates of future costs would be unreliable given the uncertainty associated with the growth projections of each town. Moreover, under the uniform pricing policy there is no flexibility to vary the fixed charge, which, ideally, might be varied from town to town depending on relevant costs.

There is a further potential undesirable outcome. Under the uniform pricing policy, prices for water up to the threshold may not cover the costs of supply. In many towns, the circumstances relating to growth and water supplies are such that a forward-looking price reflecting marginal cost pricing principles would require lower prices to be set for water above the threshold. This could result in many towns not covering their infrastructure and

water resource costs, due to the operation of the uniform pricing policy and the application of LRMC pricing.

The Authority notes the submission by the Department of Water, which queried the relationship between pricing based on LRMC and headworks charges, both of which are intended to reflect the future costs of meeting additional water demand:

In relation to the comments above, another significant issue that has not been considered is that of the setting of headworks charges. Certainly, the ERA appear to have considered headworks charges in its revenue estimates, but consideration also needs to be given to the methodology for the determination headworks charges. In particular, given the ERA stated preference for pricing and long run marginal cost (LRMC), is the Water Corporation's approach to determining headworks charges consistent with long run marginal cost (for example, an approach consistent with an extension of Turvey's approach to estimating long run marginal cost)? (Department of Water, p1)

Headworks charges, or more broadly developer charges, are levied at the point at which key development decisions are made regarding block size (higher versus lower density) and location (inner versus fringe development). As such, they influence the pattern of development within and between towns, and have a consequent influence on the pattern of water demand and related infrastructure requirements. These charges need to send appropriate signals regarding the costs of development of various forms and in various locations. As headworks charges have not been included in the terms of reference, the Government may wish to consider whether headworks charges should be reviewed.

The Pilbara Development Commission and WALGA were concerned that LRMC pricing could result in current customers paying for infrastructure that they might not use:

[F]orward charging will charge those who may not necessarily benefit from infrastructure upgrades or expansion. This is particularly relevant in the northern region which predominantly has a transient workforce.

(Pilbara Development Commission, p1)

The Zones strongly oppose towns having to pay for their water upgrades, as it penalises the towns that are developing and growing.

(WALGA – Central Country Zone and Great Eastern Country Zone, p4)

The Authority concurs that water usage by current consumers might be reduced if prices were based on LRMC and where LRMC was greater than the average cost of service. However, it is not the necessarily case that current customers would actually pay more.

## Aesthetic Water Quality

A number of contributors to the inquiry supported the notion that towns with lesser quality water (such as Esperance and Albany which suffer from hard water) should be compensated, perhaps by placing them in a lower cost class.

All State residents have equal right to equal access for equal quality of water. Payment should be on an equal basis, with the only variable being volume. Corporation has acknowledged that they provide equal "safe" water, but also that other aspects (odour, appearance etc) may not be equal. Country residents pay more for this lesser standard already, and it is proposed that they be charged additional further still.

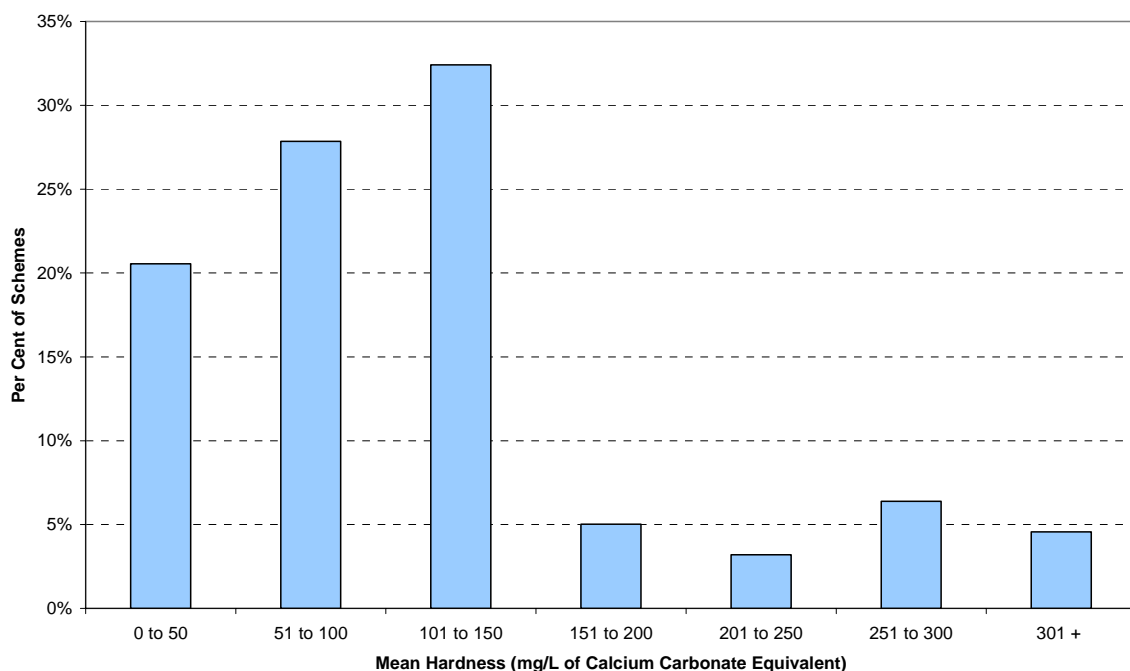
(WALGA – Central Country Zone and Great Eastern Country Zone, p3-4)

The lack of a formal policy that sets out the objectives of the uniform pricing policy is surprising and should be remedied. Any policy should also address water quality.

(City of Kalgoorlie-Boulder, p1)

The Authority notes that measures of aesthetic water quality can vary significantly across towns. As an example, the following figure shows the distribution of average ‘hardness’ across water schemes. Hardness is primarily a measure of the concentrations of calcium and magnesium ions in water, and is measured in milligrams per litre (mg/L) of calcium carbonate equivalents. The Australian Drinking Water Guidelines (1996) describe concentrations of 200-500 mg/L as “increasing scaling problems”. In 2004/05, hardness was measured at 328 mg/L in Esperance, and 243 mg/L in Albany.

**Figure 2.3 Distribution of Observed Mean Hardness, 2004/05**



Source: Water Corporation Drinking Water Quality Annual Report 2004-2005

There is a range of measures of aesthetic water quality apart from hardness (for example, taste and odour, and total dissolved solids). The Authority considers that there is merit in the relevant agencies developing a commonly accepted measure of aesthetic water quality. Given the absence of this measure, it is difficult to incorporate aesthetic water quality into the town allocation methodology.

### 2.5.1.3 Proposed Allocation Approach

In considering the allocation of towns to classes, the Authority recognises the uniform pricing policy as a constraint and is aware of the difficulties posed by the limited information available on costs and aesthetic water quality.

Given these circumstances, the Authority considers that an appropriate method for allocating towns to classes is on the basis of their direct operating costs of water supply (which includes the costs of pumping, billing, meter reading and maintenance but excludes overheads). This approach would avoid the current confusion of having two

criteria. The method proposed does not rely on the Corporation’s allocation of overheads. Although the Corporation has a comprehensive methodology for allocating overheads to towns, the apportionment of overheads is by its very nature subjective and could potentially change the allocation of towns to classes.

A further consideration is the appropriate number of town classes. A higher number of classes will increase the potential accuracy of the price signals because it results in prices and costs being better matched. However, this gain must be weighed against any increase in administrative complexity. As noted by the Corporation in its submission:

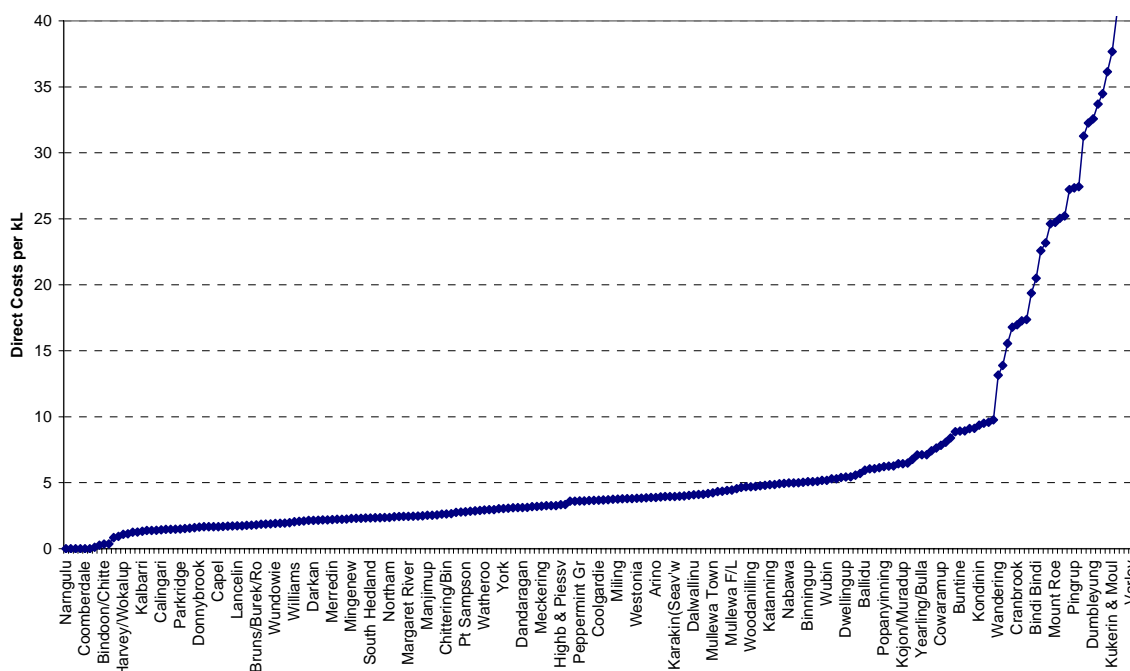
The current choice of 5 classes helps in the administration of the tariff. While theoretically each town could have a different tariff, this would complicate:

- the billing system;
- provision of information to customers on their charges;
- the publishing of by-laws.

(Water Corporation, p7)

As is shown in Figure 2.4, direct costs vary considerably between country towns.<sup>15</sup>

**Figure 2.4 Direct Costs (\$ per kL) of Water Supply to Towns in Western Australia**



The Authority has concluded that the current number of classes (five) within each climate group is appropriate: fewer classes would result in less cost-reflective pricing above the threshold, while more classes would unnecessarily complicate the administration of the system.

However, the Authority’s preferred approach is to spread customers, rather than towns, relatively evenly across classes. Under this approach, cost classes are redefined to achieve a more even spread of customers. This results in the cost boundary between

<sup>15</sup> The Authority has noted that there are some inconsistencies with the data on direct costs, with some towns having unreasonably low direct costs per kL. In such cases, the approach of the Authority has been to leave such towns in their current class. This is a matter for the Corporation to investigate and resolve.

classes (for example, the cost boundary between Class 1 and Class 2 ) being reduced so that towns close to the existing cost boundaries move up to higher classes. The advantage of this approach is that it tends to spread the large towns across the classes and customers in these towns will more likely face prices that reflect costs. The approach is demonstrated in Figure 2.5, which shows the proposed boundaries of each class and the percentage of water volume sold in each class.<sup>16</sup>

**Figure 2.5 Cumulative Distribution of Direct Costs (\$ per kL) per Scheme**

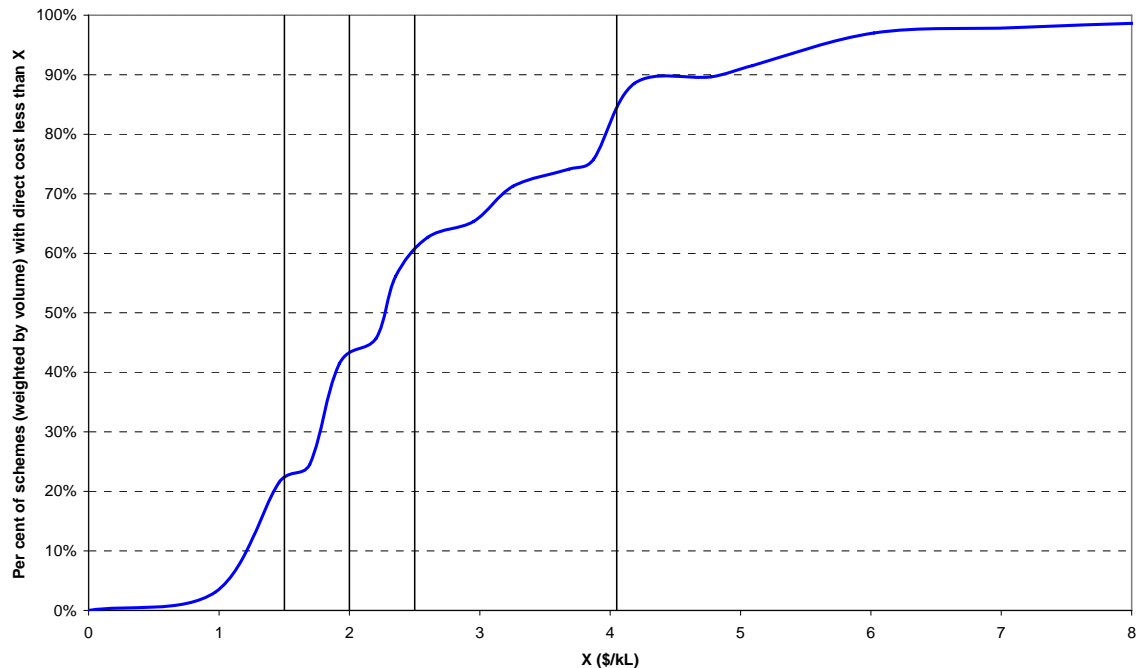


Table 2.4 compares the current and proposed allocation of towns to classes. Note that the presence of large towns on the cusps creates difficulties in attaining 20 per cent of volume in each class; given the difficulty the Authority has been guided by the principle of having fewer customers allocated to Class 5.

**Table 2.4 Current and Proposed Allocation of Towns to Classes**

	Current		Proposed		Direct Cost per kL
	Share of Towns	Share of Residential Volume	Share of Towns	Share of Residential Volume	
Class 1	15%	49%	8%	23%	\$0.01 - \$1.50
Class 2	23%	24%	10%	20%	\$1.51 - \$2.00
Class 3	26%	22%	14%	21%	\$2.01 - \$2.50
Class 4	22%	4%	26%	23%	\$2.51 - \$4.05
Class 5	15%	1%	42%	13%	Over \$4.05

<sup>16</sup> The Authority's proposal is based on allocating approximately 20 per cent of total residential and commercial volume to each class, because the class methodology is used for both residential and commercial water pricing.

Table 2.4 shows that 42 per cent of towns are allocated to Class 5 under the Authority's proposal. Class 5 is open-ended and the variation in the costs of the Class 5 towns is significant. This results in some customers paying a higher price than they would if there were more classes used at the high-cost end (in place of Class 5). However, rather than defining additional classes, the Authority considers that as an alternative the charge that applies to Class 5 can be capped (see section 2.5.2.2).

The Authority also considers that, for the purposes of water (and wastewater) pricing, Mandurah should no longer be treated as a country town. Mandurah's water is supplied from Perth's Integrated Water Supply Scheme and is as close to the new Kwinana Desalination Plant as are some other parts of the metropolitan area.

The main implication of treating Mandurah as if it is part of the metropolitan area is that around 7,000 customers in Mandurah who are currently eligible for the higher concessions available in the country would no longer be eligible. For example, the annual water bill for a pensioner in Mandurah using 400 kL per year (the current threshold for the concession) would increase by \$91.79. The impacts of this recommendation on Mandurah's wastewater customers is discussed in section 3.4.1.

## Recommendations

- 4 Within the climate categories (Group A and Group B), group towns into five classes according to their direct costs of water service provision with a relatively even spread of water usage per class.
- 5 Treat Mandurah as part of the metropolitan area for water (and wastewater) pricing purposes.
- 6 Index for inflation the direct cost per kilolitre ranges used to allocate towns to cost classes and average the direct costs over the preceding three years.
- 7 Undertake further analysis to develop a measure of aesthetic water quality that could potentially be used for the allocation to cost classes of towns with lower aesthetic water quality.
- 8 Consider reviewing headworks charges to establish an effective approach for sending appropriate water pricing signals to country towns on the costs of meeting towns' future infrastructure and water resource needs.

## 2.5.2 Setting Prices to Reflect Costs

### 2.5.2.1 Pricing Principles

Under the uniform pricing policy, country water prices below the threshold consumption levels will in the majority of cases, if not all cases, be subsidised. However, prices above the threshold can potentially be more cost-reflective.

Currently, the prices that are charged for above-threshold consumption are not reflective of the cost parameters used in the class allocation. This is partly due to the large number of steps in the tariff structure,<sup>17</sup> which reduces the proportion of customers above the

<sup>17</sup> Depending on the scheme class, there are up to nine steps in the usage tariff.

threshold who face prices that coincide with costs, and partly because above-threshold prices bear little relation to the underlying costs.

The Authority received various views on the principles that should be applied to setting prices above the uniform pricing threshold. For example, WACOSS considers that water users are not sufficiently responsive to prices to warrant the use of price as a demand management tool.

Price should not be used as a demand management strategy because:

- The social costs would outweigh the potential benefit.
- There is a large body of research and evidence that concludes that water is price inelastic, that is demand that is not greatly affected by a change in the price of the product.

There is further evidence that suggests low-income households have even lower demand elasticity than high-income households. (WACOSS, p10)

The Department of Premier and Cabinet expressed the view that customers using large amounts of water should not have a reduction in their price:

In preparing its options for reforms to the pricing structures, the ERA should consider options that do not result in high end consumers of water facing a decrease in price. Whilst this may cause a departure from strict economic principles, the Government should be provided with options to consider ways to continue delivering on its waterwise message, which could be considered to be 'diluted' if high end consumers were to face an overall price decrease. (Department of Premier and Cabinet, p2)

Regarding the view put by WACOSS, the Authority considers that there is still an important role for price in overall demand management that is in the long-term interest of consumers. First, by establishing appropriate price signals, pricing policy reinforces other water demand management messages – the increasing block tariff signals that higher water consumption is more costly to society. Second, an appropriate pricing structure creates a consistent incentive for consumers at those key decision points when water-using devices are purchased. These decisions occur infrequently and once made tend to lock in water usage levels. If consumers know that by acquiring water-efficient devices they can potentially reduce their water bills, then this reinforces their incentive to buy water efficient devices, or design waterwise gardens. For these reasons, the Authority is of the view that the demand management implications are relevant in establishing a price structure.

Regarding the view put by the Department of Premier and Cabinet, the Authority considers that large water users should be dealt with consistently within a pricing system where all consumers have an incentive to be more water efficient and where larger users have a greater relative incentive. Establishing an appropriate pricing regime for water involves considerations of both level and structure. Setting price levels involves ensuring that the resource costs of delivering water services are appropriately covered, and where they are not, having an effective and transparent CSO scheme. Setting the tariff structure involves both ensuring that consumers receive appropriate signals about the cost to society of consuming higher volumes of water and that they are faced with a continuous incentive to think about ways to reduce consumption. The increasing block tariff creates this form of incentive because by reducing consumption, consumers can reduce their water bills by moving down the tariff schedule. As noted below, in the transition to a system based on increasing block tariffs that pays due regard to cost, some consumers may experience price reductions, depending on where they are placed on the new pricing schedule. However, all consumers are moved to a position where the prices paid bear a



greater relationship to costs (average bills increase) and all have a clear incentive to move from higher to lower price brackets.

The Authority recognises that basing country water prices on LRMC pricing principles is not a practical option. However, there are a range of available approaches that could be used for setting charges above the uniform pricing policy threshold that are consistent with cost-reflectivity and providing appropriate price incentives for efficiency in water use.

At one extreme, charges above the threshold could be based on the total cost of supply. At the other extreme, the charges could be set by reference to “avoidable cost”. These set upper and lower bounds for economically efficient pricing. The avoided cost of providing water services to customers includes the direct operating costs of pumping, billing, meter reading and maintenance and includes an allowance for replacing the current infrastructure. In other words, these costs would be “avoided” if the Corporation ceased to provide a service to the town.

The avoided cost pricing principle is consistent with the view that society is better off by having services provided only to those customers who are willing to pay at least the costs that would be avoided if the service were no longer provided. If customers were not willing to pay this amount then it would indicate that either: a) they would prefer a lesser quality service; b) they would prefer to make alternative arrangements for their water supply (if alternatives are available); or c) they would prefer to live nearby a cheaper water source. The avoided cost pricing principle is therefore designed to ensure people value the service being provided. It is also an important measure for establishing whether alternative providers could provide the service more economically.

The uniform pricing policy is a significant consideration in this context because customers using an average amount of water would need to have their water bill double to cover avoidable costs. Overall, in order for the Corporation’s country residential water operations to cover avoidable costs for country water customers, tariff revenue would need to increase by \$47 million in 2005/06.

The uniform pricing policy also poses challenges in terms of the pricing principles underlying the National Water Initiative. In signing the NWI, the Government has committed to achieving the pricing principles included in that agreement. The NWI (section 66(v)) requires that all rural and regional systems achieve *lower bound pricing* for water storage and delivery, and move towards *upper bound pricing* where practicable. Lower bound pricing is defined in the NWI as:

the level at which to be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.<sup>18</sup>

Upper bound pricing is defined as:

the level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.<sup>19</sup>

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<sup>18</sup> National Water Initiative, Schedule B(i)

<sup>19</sup> Ibid



The NWI recognises that:

there will be some rural community services that will never be economically viable, but which need to be maintained to meet social and public health obligations.<sup>20</sup>

The NWI requires that where full cost recovery can not be achieved, the size of any subsidy is to be reported publicly, and that jurisdictions should move towards removing the need for CSOs.

Tariff revenue for regional water systems in Western Australia does not cover the costs included in “lower bound pricing” as defined by the NWI. In 2005/06 the shortfall was \$61 million, which means that residential water usage charges above the uniform pricing threshold would need to increase by 340 per cent to meet the NWI requirements for lower bound pricing.

The Authority is of the view that its recommendations for country water prices, while not expressed in the same terms as the NWI, are consistent with the intent of the NWI agreement. Unlike the eastern States, the regional water system in Western Australia has been managed by one organisation, with the CSO policy reflecting the difference between costs and revenues. The Authority is recommending that the CSO system be made more transparent and consistent with stated social and equity objectives. This is consistent with the objectives of the NWI. The other key aspect of water pricing is the tariff structure, and here the Authority has sought in its recommendations to establish price signals to consumers whereby higher volumes are more costly. Charges are therefore set to reflect these higher costs, such that consumers can reduce their bills by reducing demand. The Authority considers that the combination of the recommended increasing block tariff and the tightening up of the CSO system is consistent with the aims of the NWI.

### 2.5.2.2 Customers in Class 5

The Authority has given particular attention to the prices for customers in the highest cost towns (Class 5). This class of towns is characterised by several outliers that are very expensive to service, and any move towards prices which reflect the average total cost less overheads for Class 5 would result in large price increases for all Class 5 customers. This could include high-volume/high cost customers such as large households in remote communities which are not in a position to reduce their usage.

The Authority acknowledges these concerns and advises capping Class 5 tariffs. It would be appropriate to have two caps, which could reasonably be set at \$2.50/kL in the lower tiers and \$5/kL in the higher tiers. Without the caps the usage charges would be \$2.98/kL in the lower tiers and up to \$7.67/kL in the upper tiers. The \$5/kL cap is around \$1/kL above the highest tariff in Class 4. The cost to Government of this policy, estimated at around \$2 million, would be covered by CSOs.

### 2.5.2.3 Recommended Prices

The Authority is recommending the following method for setting prices:

- Set price based on the uniform tariff policy for the first 300 kL in Group A and the first 500 kL in Group B.
- Set price based on the avoidable cost method for the next 250 kL of consumption above the threshold (between 300 kL and 550 kL in Group A and between 500 kL

<sup>20</sup> National Water Initiative, section 66(v)

and 750 kL in Group B). Large households using an average amount of water would usually be in this range.

- Set price based on total cost less indirect overhead costs for consumption between 550 kL and 950 kL in Group A and between 750 kL and 1150 kL in Group B.
- Set price to cover total cost for consumption above 950 kL in Group A and above 1150 kL in Group B.
- Set prices at least as high as in Perth for an equivalent amount of water (with the implication that Group B towns will have two sub-tiers within the second tier and two sub-tiers within the third tier).

In the interests of equity the Authority is further recommending that:

- For Class 5 towns, cap the lower tier tariffs at \$2.50/kL and the higher tier tariffs at \$5.00/kL.

Table 2.5 shows the various cost bases for the price tiers recommended by the Authority.

**Table 2.5 Relationship Between Costs and Prices in Recommended Price Structure for Country Residential Water Customers**

CSO Payments (Uniform Pricing Policy)	CSO Payments (Revenue Shortfall)		CSO Payments (Cost of Cap on Class 5)
			Indirect Overheads
	Direct Return on Assets		Direct Return on Assets
	Estimated Future Capital Expenditure		Estimated Future Capital Expenditure
	Direct Operating Cost		Direct Operating Cost
Uniform Price			
<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Tier 4</b>
<b>Uniform Price</b>	<b>Avoidable Costs</b>	<b>Direct Costs</b>	<b>Total Costs</b>

Note: Diagram is for illustrative purposes only and size of blocks does not indicate relative sizes of cost components.

The recommendations incorporate a commitment to the uniform pricing policy in that all consumers up to the threshold would be charged the uniform price. A fully documented and transparent CSO policy would cover these subsidies, which is consistent with NWI principles. There is an incentive to water efficiency in that consumers experience higher prices as consumption grows above the threshold. There is a basis in cost-reflectivity in the setting of the charges. The second tier is set by reference to the avoidable cost and this is consistent with economic efficiency principles. The third tier is the stand-alone cost of water supply to a town, which ensures that the town taken on its own is not subsidised by other towns or cities, but does not contribute to indirect overheads such as head office

expenses. At the top end, the upper bound charge is set by reference to total cost. This is consistent with the upper bound approach under the NWI.

Above the uniform price, the estimated future capital expenditure for each town (for the provision of water services) has been included as a cost element. Ideally, future capital expenditure would be estimated directly for each town, but the data requirements for this would be substantial. The Authority has therefore used direct depreciation as a proxy for future capital expenditure for each town, calculated on the basis of asset values and assumed future asset lives.

It should be noted that the above-threshold prices will only affect 30 per cent of the volume consumed. Most water consumed (70 per cent) will be priced at the uniform price.

The recommended prices are shown in the Table 2.6 and Table 2.7 below. The figures in brackets are the current average prices for the specified range of water usage.

**Table 2.6 Proposed Water Usage Prices for Towns in Group A (Current Prices in Brackets)**

Water Usage Prices (\$ per kL) for Group A Towns (Real Dollar Values of 2004/05)								
	1 – 300 kL		301 – 550 kL		551 – 950 kL		951 <sup>+</sup> kL	
Class 1a	0.82	(0.57)	0.82	(0.81)	1.38	(1.32)	1.71	(1.93)
Class 2a	0.82	(0.57)	0.88	(0.90)	1.80	(1.50)	2.28	(2.65)
Class 3a	0.82	(0.57)	1.11	(0.93)	2.34	(1.70)	2.73	(2.95)
Class 4a	0.82	(0.57)	1.77	(0.96)	3.63	(1.94)	4.09	(3.83)
Class 5a	0.82	(0.56)	2.50	(0.97)	5.00	(2.13)	5.00	(4.29)

**Table 2.7 Proposed Water Usage Prices for Towns in Group B (Current Prices in Brackets)**

Water Usage Prices (\$ per kL) for Group B Towns (Real Dollar Values of 2004/05)												
	1 – 500 kL		501 – 550 kL		551 – 750 kL		751 – 950 kL		951 – 1150 kL		1151 <sup>+</sup> kL	
Class 1b	0.82	(0.62)	0.82	(0.71)	1.20	(1.01)	1.38	(1.57)	1.52	(1.57)	1.71	(2.32)
Class 2b	0.82	(0.62)	0.88	(0.71)	1.20	(1.02)	1.80	(2.12)	1.80	(2.12)	2.28	(3.26)
Class 3b	0.82	(0.62)	1.11	(0.71)	1.20	(1.11)	2.34	(2.37)	2.34	(2.37)	2.73	(3.82)
Class 4b	0.82	(0.62)	1.77	(0.71)	1.77	(1.18)	3.63	(2.70)	3.63	(2.70)	4.09	(5.10)
Class 5b	0.82	(0.62)	2.50	(0.71)	2.50	(1.25)	5.00	(3.02)	5.00	(3.02)	5.00	(6.23)

A full table of proposed prices is presented in Appendix 4.

Compared to current prices, the Authority's recommendations can result in lower prices for higher levels of water usage (although generally not total bill reductions because of the price increases at lower levels of water usage). At present, prices for large amounts of

water are set at a rate that is above the total cost per kilolitre which the Authority considers to be the upper limit. In effect, the current high prices are used to pay, in part, for the discounts for low levels of water usage. The Authority's preference is to set prices above the uniform pricing threshold in relation to the costs of water and to transparently fund any subsidies through CSOs.

Apart from improving the economic efficiency of country residential water prices, the four-tier pricing structure (with an additional two sub-tiers in Group B) would have the advantage of greater simplicity and transparency than the current tariffs, which have up to nine tiers.

Under the recommended pricing structure, water prices to country residential customers would still fall short of the full cost recovery required by the Corporation. The shortfall would be made up by CSO payments to the Corporation, which would cover:

- the cost of the uniform pricing policy (\$96.0 million);
- the cost of charging at avoidable cost for the second tier (\$45.0 million);
- the cost of charging at direct cost for the third tier (\$2.2 million); and
- the cost of the caps for Class 5 customers (\$1.9 million).

The total cost of this component of CSO payments is around \$145 million.

In considering an appropriate transition period for moving from existing prices to the recommended prices, the Authority notes that a phase-in over seven years would coincided with the phasing in of the price recommendations resulting from the inquiry on urban water and wastewater pricing.

## Recommendations

- 9 For residential water prices, set an inclining tariff structure for each class, with usage charges:
  - for the first tier set at the Perth rates;
  - for the second tier set in relation to avoidable costs (i.e. direct operating costs plus an allowance for the estimated future capital expenditure);
  - for the third tier set in relation to direct costs (i.e. total costs less indirect overheads); and
  - for the fourth tier set in relation to total costs.
- 10 Set residential water prices above the uniform pricing threshold that are no less than the prices that apply in Perth for equivalent amounts of water (with the implication that Group B towns will have two sub-tiers within the second tier and two sub-tiers within the third tier).
- 11 For residential water prices, set the threshold between the second and third tiers at 550 kL per household per year in Group A and at 750 kL per household per year in Group B.
- 12 For residential water prices, set the threshold between the third and fourth tiers at 950 kL in Group A and 1150 kL in Group B.
- 13 For Class 5 towns, cap residential water prices above the uniform pricing threshold at \$2.50/kL in the second tier and at \$5.00/kL above the second tier.
- 14 The Government, via CSO payments, pay the cost of the uniform pricing policy, the cost of indirect overheads for residential water usage in the second and third tiers, the indirect return on assets for residential water usage in the third tier, and the cost of the caps for residential water customers in Class 5.
- 15 Phase in the recommended charges for residential water services over a period of seven years.

## 2.6 Other Issues

### 2.6.1 Concessions

A key element of the current approach to concessions is the difference between Perth and country areas in the thresholds below which concessions are applied (150 kL in Perth, 400 kL for Group A customers, and 600 kL for Group B customers).

WACOSS acknowledge the inconsistency in treatment of concessions between Perth and the regions, and recommended extending concessions for Perth and Group A customers:

WACOSS supports an extension of concessions on water usage for Perth and Group A residents up to 600kL/year. Under the current usage charges for group A residents for amounts between 400 and 600 kL/year, residents pay up to 95.2 cents/kL more than group B residents. When current concession are applied, eligible concession card holders in Group A pay as much as 138.6 cents/kL more than eligible concession card holders in Group B. (WACOSS, p11)

The WACOSS proposal would cost around \$5.5 million per year in increased CSO payments, with around \$5 million for Perth pensioners and \$0.5 million for country pensioners.

A consistent approach to the allocation of concessions would be to base the thresholds on the average water usage in the group (i.e. using the same principle as the Authority supports for water charging in general). This would see the threshold in the Group B reduced from 600 kL/year to 500 kL/year, the threshold in Group A reduced from 400 kL/year to 300 kL/year and the threshold in Perth increased from 150 kL/year to 300 kL/year. However, the cost of extending concessions in Perth is prohibitive and regional differences may warrant higher thresholds in the regions.

Increasing the threshold in Perth from 150 kL/year to 300 kL/year would reduce CSO payments for the benefit of country pensioners by around \$0.5 million and increase CSO payments for the benefit of Perth pensioners by around \$3.3 million per year (for a total impact of around \$2.8 million). The most significant impacts on customers would be for country customers using the current threshold amounts of water. For example, pensioners in the north using 600 kL/year would see an increase in their annual water bill of \$36.65 while pensioners in the south using 400 kL/year would see an increase in their annual water bill of \$38.50. Pensioners in Perth using 300 kL/year would see a reduction in their annual water bill of \$68.90. Around one third of Perth pensioners would be eligible for the greater concessions and around 20 per cent of country pensioners would have a reduction in their concessions.

It should be noted that these estimates are based on the assumption that customers do not change their water usage. Under the recommended price structures, all customers, including pensioners, would be able to reduce their bills by reducing their consumption.

## Recommendation

- 16 If the Government would like to treat pensioners across the State in a consistent manner, consider setting the threshold for concessions at the average level of water consumption in each area, i.e. at 300 kL for Perth and Group A and 500 kL for Group B.

## 2.6.2 Competition in the Water Industry

The way in which prices of water services are set can directly impact on the competitiveness of the water services sector. Prices which reflect costs can provide important information on the costs of service to other potential suppliers, who may be in a position to provide those services at a lower cost. Although almost all of the country residential water services in Western Australia are provided by the Corporation, there is nothing to prevent alternative service providers from supplying water services, provided they meet the statutory licence obligations. Several submissions supported the role of a transparent pricing regime in promoting competition in the water (and wastewater) sector, for example:

...it is important that any pricing (and policy) structures proposed reflect the need to encourage, where economically feasible, additional water providers. Creating a competitive environment that sponsors full contestability in providing water and waste water services to industry (and the residential sector) will enhance the State's long-term development potential.

(DoIR submission, p2)

...the absence of transparent pricing for the various elements of the water supply chain in Western Australia limits the ability of potential market entrants to establish business viability.

(CCI submission, p2)

The Authority acknowledges the role that a cost-reflective, transparent pricing regime can play in supporting the development of competition. In this regard, the Authority's recommended tariff structure for country residential water prices provides clear signals on the avoidable costs, direct costs and total costs of providing water services to each town.

A key factor in the establishment of a level playing field in the water services industry relates back to the provision of CSO payments. Under the current arrangements for CSOs, only concessions provided by the Corporation are eligible for CSO funding. Several submissions recommended extending CSO payments to services by water providers other than the Corporation:

The ERA's suggestion that there is a need to consider concessions in a broader context is supported (Finding 8). It should also be noted that currently the State Government funds such concessions only where the service is provided by the Water Corporation. Along with considering the objectives of the policy, criteria for eligibility, the options for providing assistance, and the consistent treatment of those considered eligible for assistance, it would also be worthwhile considering how the Government should fund the concessions policy in the case of non-Water Corporation providers.

(Department of Water, p3)

WACOSS recommends that CSO payments for pensioner concessions be extended to all water providers, as many rural/regional water consumers are disadvantaged if their water provider is not the Water Corporation, and as a result not automatically eligible for the State Government concession.

(WACOSS, p17)

The Authority agrees that in order to promote the development of competition in the provision of water services in rural Western Australia, the Government may need to consider extending the availability of CSO funding to all water service providers in the State.

## Recommendation

- 17 Give further consideration to making CSO funds available to all water service providers in Western Australia.



## 2.7 Impacts

### 2.7.1 Impacts on Customers

Any financial impact on customers will result from:

- the application of the new uniform pricing policy prices to country customers;
- the assignment of a town to a particular class, which determines the usage charges applying above the uniform pricing threshold; and
- the volume consumers demand relative to the price structure.

In assessing the impact of the recommended prices on customers, it is important to note that around 70 per cent of water used by country residential customers will be at the uniform price. Thus, any price increases above the uniform pricing policy threshold will apply to the remaining 30 per cent of the volume used by residential country customers, all of which is above the average volume in that class.

Following the inquiry on urban water and wastewater prices, the Government has decided to adopt the Authority's recommended water prices for the metropolitan area. This means that the \$0.82 per kL price adopted for consumption up to 550 kL in the metropolitan area would extend to country customers under the uniform pricing policy. This results in average payment increases of between \$4 and \$10 per year for country residential customers using less than the uniform pricing policy threshold amount of water. The payment increases largely reflect the increases in the cost of water to the Perth metropolitan area.

Table 2.8 and Table 2.9 show the number of towns that change class as a result of the Authority's recommendations, for Groups A and B respectively. For example, Table 2.8 shows that 30 towns in Group A shift from Class 4 to Class 5. The movement of individual towns is provided in Appendix 5.

**Table 2.8 Number of Towns Per Class, Current and Proposed (Group A)**

Group A	Proposed Class				
	1	2	3	4	5
1	11	10	5	1	1
2	1	5	15	17	5
3	1	0	7	13	23
4	1	0	1	10	30
5	0	1	0	2	27

Key:

	Towns reallocated to a lower cost class
	Towns reallocated to a higher cost class

**Table 2.9 Number of Towns Per Class, Current and Proposed (Group B)**

Group B		Proposed Class				
		1	2	3	4	5
Current Class	1	1	2	1	0	0
	2	1	4	0	3	1
	3	0	0	2	7	3
	4	0	0	0	2	3
	5	0	0	0	0	2

Key:

	Towns reallocated to a lower cost class
	Towns reallocated to a higher cost class

The average annual payment increases (or decreases) for customers in towns allocated to particular classes in Group A at different levels of water usage are shown in Table 2.10 below.

**Table 2.10 Average Annual Change in Water Payment for Towns in Group A**

Proposed Class (Group A)	Average Annual Change in Water Payment for Seven Years (with Remaining Annual CSO Per Customer in Brackets)						
	(\$ per Year, Real Dollar Values of 2005/06)						
	300 kL	350 kL	450 kL	550 kL	650 kL	750 kL	950 kL
Class 1	7 (176)	8 (201)	7 (246)	3 (282)	2 (279)	2 (232)	-10 (231)
Class 2	7 (391)	9 (448)	9 (559)	5 (669)	10 (700)	16 (694)	9 (765)
Class 3	7 (513)	10 (580)	14 (703)	13 (813)	26 (817)	40 (762)	42 (777)
Class 4	7 (1015)	15 (1129)	28 (1357)	36 (1582)	66 (1642)	97 (1668)	115 (1786)
Class 5	7 (2168)	20 (2446)	43 (3013)	62 (3564)	112 (3899)	162 (4189)	200 (4882)

Table 2.10 shows that even for customers with large payment increases, a substantial Government subsidy will remain at the end of the phase-in period. For example, for a customer in Class 5 using 650 kL per year (twice the average water use) with an increased water payment of \$112 per year, the remaining subsidy at the end of the seven year period is \$3,900.

Table 2.11 indicates that these payment increases represent annual changes of between one per cent and 11 per cent (for customers remaining in the same class).

**Table 2.11 Average Annual Per Cent Change in Water Payments for Group A Customers**

Class (Group A)	Average Annual Per Cent Change in Water Payments for Customers Remaining in the Same Class					
	300 kL	350 kL	450 kL	550 kL	650 kL	750 kL
Class 1	2%	2%	2%	1%	1%	1%
Class 2	2%	2%	2%	1%	2%	2%
Class 3	2%	3%	3%	2%	3%	4%
Class 4	2%	4%	5%	5%	7%	8%
Class 5	2%	5%	8%	8%	10%	11%

The estimated number of customers facing these payment increases is shown in Table 2.12 below.

**Table 2.12 Estimated Number of Group A Customers in Each Class**

Class (Group A)	Estimated Number of Customers in Class by Water Usage Range						
	1-300 kL	301-350 kL	351-450 kL	451-550 kL	551-650 kL	651-750 kL	751+ kL
Class 1	11,490	1,648	2,578	1,819	938	938	991
Class 2	9,109	1,084	1,616	1,009	533	533	534
Class 3	13,990	1,964	3,340	2,404	1,299	1,299	1,211
Class 4	13,763	1,795	2,688	1,718	872	872	1,135
Class 5	8,687	764	955	668	286	286	302

It should be noted that only 10 per cent of water used by Group A residential customers is sold at tariffs that apply for above-550 kL usage. Also, it is possible that these customers could limit their payment increases by cutting back on their water usage.

The average payment increases for customers in towns allocated to particular classes in Group B at different levels of water usage are shown in Table 2.13 below.

**Table 2.13 Average Annual Change in Water Payment for Group B Customers**

Proposed Class (Group B)	Average Annual Change in Water Payment for Seven Years (with Remaining Annual CSO Per Customer in Brackets) (\$ per Year, Real Dollar Values of 2005/06)						
	300 kL	350 kL	450 kL	550 kL	650 kL	750 kL	950 kL
Class 1	7 (244)	8 (281)	10 (348)	11 (423)	17 (438)	16 (443)	9 (420)
Class 2	7 (497)	8 (570)	9 (717)	8 (874)	12 (981)	11 (1084)	5 (1183)
Class 3	7 (527)	8 (620)	10 (802)	13 (982)	19 (1112)	16 (1235)	22 (1267)
Class 4	7 (1038)	10 (1219)	14 (1576)	22 (1892)	38 (2144)	48 (2387)	64 (2499)
Class 5	7 (2337)	11 (2724)	18 (3496)	32 (4196)	62 (4794)	84 (5385)	119 (6078)

The following Table 2.14 indicates that these payment increases represent annual changes of between 2 per cent and 7 per cent (for customers remaining in the same class).

**Table 2.14 Average Annual Per Cent Change in Water Usage Payment for Group B Customers**

Class (Group B)	Average Annual Per Cent Change in Water Usage Payment for Customers Remaining in the Same Class					
	300 kL	350 kL	450 kL	550 kL	650 kL	750 kL
Class 1	2%	2%	2%	2%	3%	2%
Class 2	2%	2%	2%	2%	3%	2%
Class 3	2%	2%	2%	2%	3%	2%
Class 4	2%	2%	2%	3%	5%	4%
Class 5	2%	2%	2%	4%	7%	6%

Again, it is important to note that only 10 per cent of water used by Group B residential customers is sold at tariffs that apply for water usage above 750 kL. The percentage payment increases shown in Table 2.14 assume no change in consumption patterns; customers who reduce their water usage will have lower bill increases than shown.

The estimated number of customers facing these payment increases is shown in Table 2.15 below.

**Table 2.15 Estimated Number of Group B Customers in Each Class**

Class (Group B)	Estimated Number of Customers in Class by Water Usage Range						
	1-300 kL	301-350 kL	351-450 kL	451-550 kL	551-650 kL	651-750 kL	751+ kL
Class 1	1,805	353	702	639	578	518	1,542
Class 2	1,602	441	667	443	393	316	749
Class 3	1,779	204	373	317	295	246	719
Class 4	2,148	251	481	446	391	342	948
Class 5	1,963	329	580	477	429	366	1,013

## 2.7.2 Impacts on the Corporation

It is difficult to estimate the impact on the Water Corporation's revenue and its net payments to Government as a result of the Authority's recommendations, because of the uncertainty about how people would respond to the price increases. If it is assumed there is no reduction in water use, the recommendations mean a \$7.1 million increase in annual tariff revenue by the end of the phase-in period.

On this assumption, by the end of the phase-in period, residential water tariffs would account for 34 per cent of the Water Corporation's total costs in servicing these customers (up from 27 per cent in 2006/07). By comparison, if the only tariff reform was to be the

application of the Government's decisions on metropolitan water prices to the country via the uniform tariff policy, tariff revenue would account for 31 per cent of the Water Corporation's total costs in servicing these customers in 2013/14.

### **2.7.3 Impacts on Net Payments to Government**

On the assumption of no change in water usage, it is estimated that net payments to Government would increase by \$7.1 million per year once the residential water pricing recommendations are fully phased in as a result of lower CSO payments (\$7.7 million), higher dividends (\$0.4 million) and higher tax equivalent payments (\$0.2 million).

If customers reduce their water consumption (for example, in response to increasing block tariffs), net payments to Government would be lower.

## 3 Residential Wastewater Pricing

### 3.1 Terms of Reference

The Authority is expected to consider and make recommendations on:

- *the appropriateness of the residential and vacant land rates for each country sewerage scheme and the maximum rate in the dollar gross rental value wastewater service charge and the merits of an alternative charging structure.*

### 3.2 Current Approach

The Corporation operates 79 per cent of the licensed wastewater schemes in Western Australia.<sup>21</sup>

Residential wastewater charges in Western Australia have always been based on the Gross Rental Value (GRV) of the property, which are determined by the Office of the Valuer General. A charge per dollar of GRV is levied. Unlike residential water, there is no uniform tariff policy for residential wastewater services. Instead, tariffs are set independently for each country wastewater scheme with the objective of recovering the costs of providing wastewater services to that scheme (the classes used for water pricing are not used for wastewater pricing). Overall cost recovery for a town is achieved by varying the charge per dollar GRV in the town. Whilst basing charges for a town on GRV can result in cost recovery, using GRV as the basis for the charge to an individual customer means that the charge to the individual customer is not related to the cost of supplying the service to them. Individual charges can be significantly different from the underlying cost.

There are a number of restrictions on the charges that can be levied under this system. For very high cost towns full cost recovery is limited by the application of a cap of \$0.12 per dollar, which limits the extent of full cost recovery in these areas.<sup>22</sup>

There is also a maximum and minimum on the total service charge payable by any individual country customer (there is currently no maximum charge for metropolitan customers). The minimum country residential wastewater charge in 2005/06 is \$241.30 per residential unit and the maximum charge is \$612.40. The maximum charge was introduced in 2000/01. According to the Corporation, part of the justification for the cap was to limit the payment increases to country towns to ensure affordability.

Wastewater charges for vacant land held for residential purposes are also based on GRV and set in a way to recover costs. Vacant land is subject to the same maximum charge; however the minimum charge is lower (\$159.90 in 2005/06 compared to \$241.30 for developed residential properties). The dollar rates per dollar GRV are the same for vacant land as for residential customers.

<sup>21</sup> Other wastewater service providers in Western Australia are mainly shire councils (19 in total), as well as Hamersley Iron Pty Ltd and Rottnest Island Authority.

<sup>22</sup> *Water Agencies (Charges) By-laws 1987*, Schedule 3 – Charges for sewerage for 2005/06, Division 2(10). The By-laws set out the minimum and maximum country sewerage charges for residential land, vacant land and other land; and, for each country sewerage area, the dollar rate per GRV for residential and non-residential land, with a maximum rate of \$0.12 per dollar of GRV. The *Water Agencies (Powers) Act 1984* limits the maximum rate than can be applied in By-laws to \$0.20 per dollar of GRV.

The rates paid by each town are intended to be reflective of the cost of supplying that town with wastewater services (so, for example, a town in an environmentally-sensitive area that requires more costly wastewater treatment will pay a higher rate). This means that the cost of providing wastewater services to a town are broadly met by the households in that town, that is, by those using the service provided for that town.

Given this approach to cost recovery, the Corporation has advised that it has been possible for local communities to elect more costly wastewater treatments, with the higher costs reflected in their wastewater charges (but still subject to the caps). For example, Albany residents agreed to a higher wastewater charge because they preferred the more costly option of using treated wastewater to irrigate tree lots rather than disposal through ocean outfall.

However, in the past there has been some inconsistency between wastewater charging in each town.<sup>23</sup> These inconsistencies were further complicated by government-imposed limitations on increases in charges between 1983/84 and 1992/93. Hence the relationship between individual town charges and their associated costs diverged over time.

In 1993, the Government approved the introduction of a new charging method which aimed to gradually bring revenue back into line with the cost of provision in each town. This realignment of costs and revenues required price increases for some towns and decreases for others. To minimise the impact on households, annual price increments were limited to a maximum of 10 per cent above inflation.

### 3.3 Evaluation

The Authority has evaluated the current approach to residential wastewater pricing against the objectives of having wastewater prices:

- relate to the costs of providing the service;
- achieve social objectives; and
- set in a way that is transparent, easy to understand and not costly to administer.

#### 3.3.1 Cost-Reflectivity

At the scheme level, the GRV methodology used to set country wastewater charges potentially allows for more cost-reflective pricing than country water prices, since wastewater charges are intended to recover the costs of wastewater services on a town-by-town basis rather than for a class of towns. However, the caps limit the extent to which prices can reflect costs in high-cost towns. In 2005/06, 24 per cent of country towns, representing 10 per cent of the Corporation's country residential wastewater costs, had their wastewater charges capped at \$0.12 per dollar. The cap is funded by a CSO payment to the Corporation.

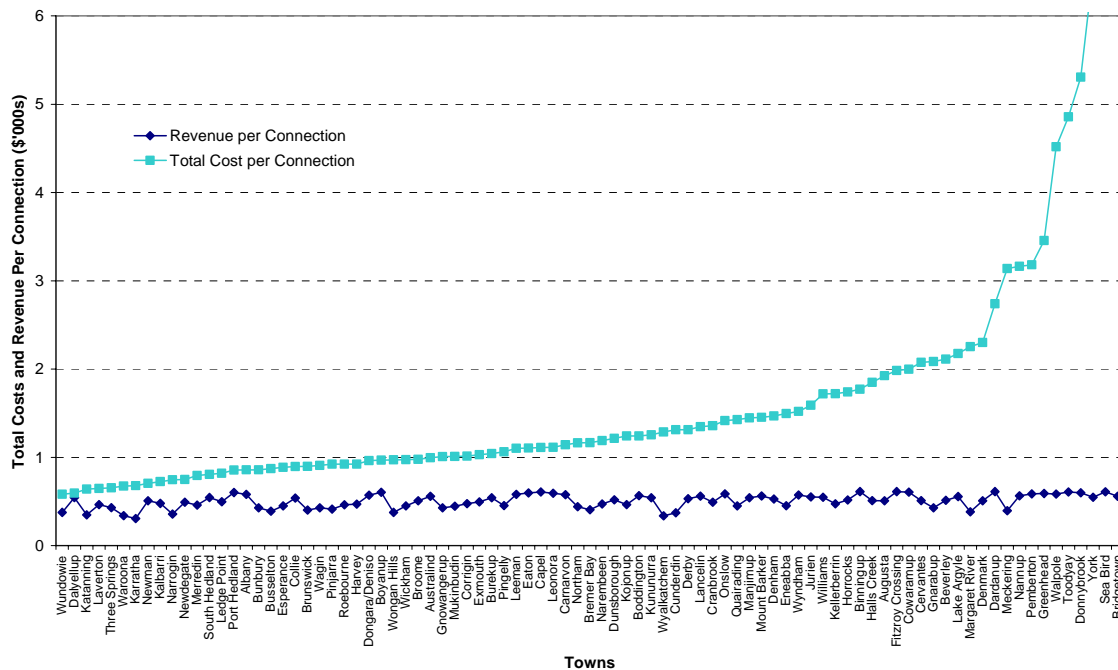
The degree to which country wastewater charges actually reflect costs depends upon how the dollar rate per unit of GRV is set for each town. The relationship between average residential wastewater charges and total costs per household across schemes is shown in Figure 3.1 below.

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<sup>23</sup> Differences were largely due to the complication of calculating cost of capital where schemes were funded through grants.



**Figure 3.1 Residential Wastewater Revenues and Total Costs per Household, by Scheme (2005/06)**



Source: Water Corporation and ERA analysis

Figure 3.1 shows that there is no discernable relationship between total wastewater costs per connection and the average residential wastewater charges per connection. Average residential charges range from \$308 to \$612 per household per year. Total costs per household range from less than \$600 to over \$10,000 per year.

Moreover, residential charges can vary significantly between towns with similar costs. For example, Boyanup and Wongan Hills both have total costs per customer of around \$970 but average residential charges are \$604 and \$377 respectively. Both towns have a similar distribution of GRVs; the difference in average charges is due to a large difference in the GRV rate (\$0.12 versus \$0.698).

Pricing based on GRV will produce a poor alignment of prices with costs at the household level. GRVs can vary markedly within a town: customers can therefore pay very different amounts for an identical wastewater service. As noted in one submission:

The current method... is like pricing petrol to consumers on the basis of the estimated market value of the vehicle. (G. McPherson, p1)

The Corporation acknowledges this point in its submission:

GRV-based pricing is not cost-reflective for individual customers. (Water Corporation, p10)

Household charges can also vary due to the distribution of GRVs in a town: customers in the same GRV band can face different charges, not only because of differences in wastewater costs in each town but also on the proportion of high-GRV and low-GRV properties. For example, assume two towns (A and B) have the same wastewater costs but Town A has a higher proportion of high-value properties. In this case a customer in Town A with a low GRV (say \$5,000) would pay less for wastewater than a similar

customer in Town B as there are fewer high-GRV customers in Town B to share the wastewater costs.<sup>24</sup>

### 3.3.2 Achieving Social Objectives

GRV-based pricing is often justified on the basis of its social outcomes. Several submissions expressed the view that GRV pricing is more equitable than other pricing methodologies.

It is important that progressive wastewater charges, based on property valuation, continue to be applied....WACOSS believes a strict GRV pricing system would be more equitable; as regardless of where people live (metropolitan or regional) they would pay similar prices.

(WACOSS, p2, p14)

While it is agreed that values between towns may vary for identical properties, and therefore affecting the amount levied for wastewater discharge, it is suggested that it remains a reasonably fair system. A GRV based charge is essentially based on a capacity to pay – the large homes in premium areas that attract a higher charge than compact homes in less desirable areas, are owned by those that can afford the higher price of purchase and rates. This also means that those with the capacity to pay contribute according to that capacity – a concept enshrined in the income tax system of the country.

(WALGA – Central Country Zone and Great Eastern Country Zone, p6)

Although the match between GRV of residential dwellings and household income is not perfect, it has been demonstrated (in the case of urban residential wastewater) that it is more than reasonable. Further, any move away from it tends to have distributional effects that favour affluent households to the disadvantage of low income households.

(Department of Water, p4)

Other submissions argued that GRV-based pricing does not have desirable social outcomes because GRVs are only weakly related to income.

The Commission agrees that household sewerage charges should be separated from property values and gross rental values. The main Pilbara town centres are characterised by a regional housing and rental market that has low availability, high rental prices and inflated property values. A large proportion of household users are paying the maximum capped amount as a result. To remove the maximum cap and maintain the calculation based on property value would create a financial burden on regional households.

(Pilbara Development Commission, p1-2)

The current method is a guess work strategy and irrational, because it cannot be assured what income people are receiving by estimating the GRV of a property. With the ongoing aging population there will be increasing substantial numbers of people such as myself who have a property, but receive a low income (ie casual or part time income) or Centrelink benefit.

(G. McPherson, p1)

The Authority does not support the use of wastewater pricing as a method of income redistribution. Those who support GRV-based pricing often claim that there is a strong correlation between property values and income (high income earners tend to live in more expensive areas). The Authority has not been presented with reliable evidence to support

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<sup>24</sup> The impact on low-GRV households will also depend on the proportion of high-GRV properties which are paying the cap wastewater charge, as the effect of the cap is to shift costs towards lower-GRV households.

the view that there is indeed a strong correlation between property values and income. The Authority noted in its inquiry into urban water and wastewater prices that 25 per cent of lower-income households were in above-average valued properties.

The available evidence on the relationship between income and property values in Western Australia is very limited. In fact, there appear to be few studies of this issue generally. A recent review of the correlation between income and home values undertaken for the Local Government Association of South Australia does not support the idea of a strong correlation.<sup>25</sup> Indeed they find that the simple correlation is weak, both for Australia and Adelaide. This raises significant questions over using property value as a simple measure of capacity to pay.

Many submissions acknowledged that GRV is a poor basis for setting wastewater prices, but raise concerns about the social consequences of any transition away from GRV-based pricing to an alternative approach.

The general principle of moving away from a gross rental value (GRV) based charge for residential wastewater pricing is supported, but the transitional effects on customers are not.

(Department of Premier and Cabinet, p3)

The Corporation does not support the halfway step proposed in the ERA's Urban Pricing Inquiry as it creates serious inequities around the step points in the tariff structure. The structure would also create broadening inequities in the longer-term as relative valuations changed and charges were not updated.

If this tariff was intended as a halfway step to a uniform service charge, the Corporation believes there are more equitable phase-in strategies.

The Corporation notes that State Government has reconfirmed its preference for GRV-based pricing in its response to the ERA's Urban Pricing Inquiry, based on the impact any change would have on customers of low socio-economic status.

(Water Corporation, p10)

It is acknowledged that the GRV of property does not have a perfect relationship with the income of the owner. However, given that GRV is used to calculate the wastewater charges for metropolitan based residential customers, the Department does not support a change to the pricing mechanism at this stage.

(Department of Local Government and Regional Development, p3)

The Authority has regarded these concerns in its recommendations, which relate to the impacts on customers of any transition from GRV-based prices to an alternative pricing system. The Authority is of the view that such impacts can be mitigated by an appropriate phasing in of new prices, with limits placed on annual price increases to individual households.

A further issue is that of the cap on maximum wastewater charges. Country wastewater charges, unlike metropolitan wastewater charges, are subject to a cap on the maximum charge (currently \$612.40 per year), which was introduced by the Government in 2000 to limit the payment increases to high value property owners in country towns. Several submissions recommended that the Authority consider the effect of removing the cap on country wastewater charges.

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<sup>25</sup> South Australian Centre for Economic Studies. (2004). "The Correlation Between Income and Home Values: Literature Review and Investigation of Data." SA Local Government Association.

The Government would be interested in receiving advice on the impact of removing the pricing caps present for country residential wastewater customers. This would be particularly relevant for towns that have chosen to have a more advanced level of wastewater treatment.

(Department of Premier and Cabinet, p3)

Removal of the cap for wastewater charges on high-value properties is agreed, so as to achieve consistency and equality across the State, regardless of whether metropolitan or country.

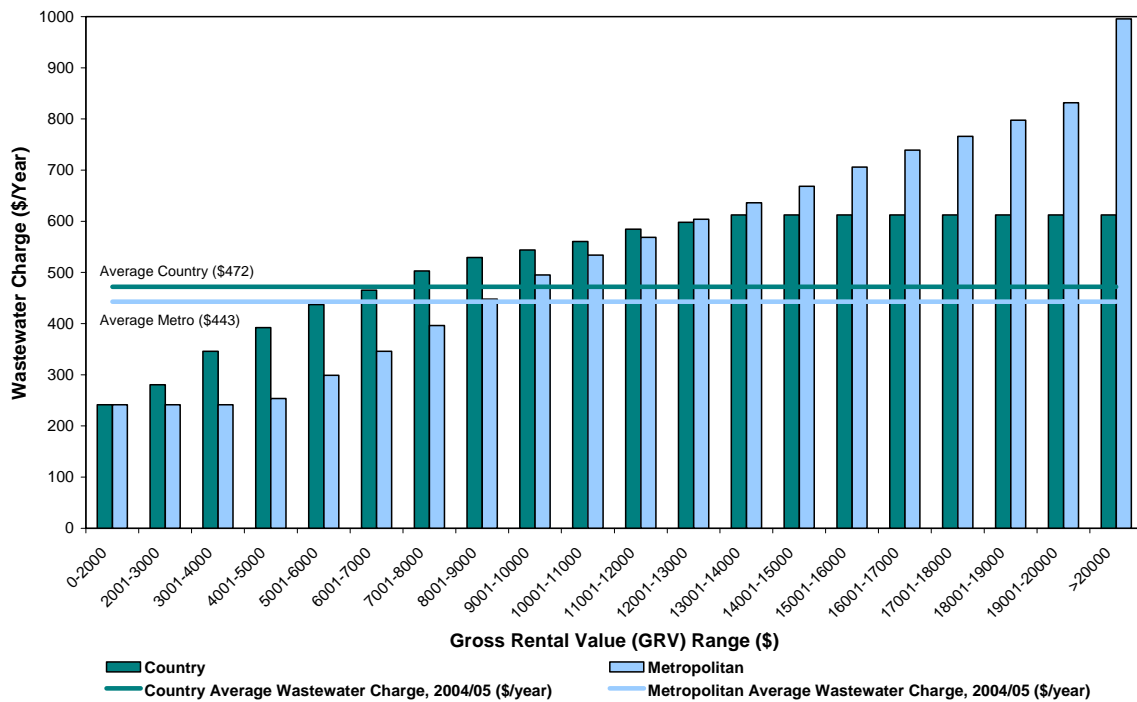
(WALGA – Central Country Zone and Great Eastern Country Zone, p12)

In relation to the rate cap, given the anomalies that the application of this cap causes, the Department supports consideration being given to either increasing the value of the cap or its removal.

(Department of Local Government and Regional Development, p3)

The Corporation maintains that a key reason for the cap on individual wastewater charges in country towns is affordability. Without the cap, the high wastewater rate per dollar of GRV in country towns relative to Perth would result in country customers with high-value properties facing high wastewater charges.

**Figure 3.2 Estimated Average Annual Wastewater Charges (2006) Versus GRV for Country and Metropolitan Residential Customers**



Source: Water Corporation, ERA analysis

Comparison between residential wastewater tariffs in Perth and in country areas (Figure 3.2) shows that, in the lower-GRV brackets, wastewater tariffs are higher for country customers than for Perth customers in the same GRV band. This is partly due to the cap on individual wastewater charges in country towns, which does not apply in Perth, and which results in a greater proportion of wastewater costs being borne by low-GRV households in country towns, relative to households with the same GRVs in Perth.

The effect of the cap is to shift the cost burden from customers in high-GRV properties towards customers in low-GRV properties. Thus, the income redistribution effect of GRV-based pricing is less pronounced in country towns than in the Perth metropolitan area.

This situation illustrates the principal difficulty in using GRV as a basis for charging. GRV is influenced by a complex combination of market forces and policies. Hence, making it a basis for charging for a service such as wastewater is always likely to produce unintended consequences in terms of efficiency and equity. An important aspect of this is that customers will perceive charges for the service changing because of changes in GRV caused by changing market conditions and policies when they are receiving exactly the same service level.

WACOSS supports the retention of a cap, but suggested an alternative approach to its calculation:

WACOSS does not oppose a cap, however this could be more equitably distributed and offered as a percentage discount for all regional residential consumers on the GRV amount; meeting the objective of the Government providing incentives/support for people living in regional areas. This would be more transparent, more equitable, and easier to calculate than the current model. This would also mean that although some towns may pay more for their wastewater service, some towns may pay less. (WACOSS, p14)

The suggestion by WACOSS concerns the method of applying a cap within the framework of a GRV-based system for wastewater pricing. The Authority's view, however, is that equity and transparency would be better enhanced by moving away from GRV-based prices.

### 3.3.3 Administrative Cost and Transparency

There is general agreement, among customers, the Corporation and others, that GRV-based pricing lacks transparency and is costly to administer.

The lack of transparency in the Water Corporation's setting of country residential wastewater prices is acknowledged, irrespective of the relationship between community service obligation (CSO) payments and the Water Corporation's payments back to the Government (dividends and tax equivalent payment).

(Department of Premier and Cabinet p3)

The Corporation has previously proposed moving to a fixed service charge for sewerage as this would improve customer understanding of the basis for our charges and reduce the cost and complexity of administration.

(Water Corporation, p10)

Apart from the obvious inequities valuation based rating is costly to administer particularly revaluations by the Valuer Generals Office or when an amended evaluation is applied following a minor addition to a house is made. Needless to say it is also very confusing to customers.

(G. Kew, p1)

GRV-based prices are not transparent and are the subject of complaints when customers' wastewater bills change due to changes in land valuations. The Corporation incurs costs of around \$2.4 million per annum for property valuations. However, to a large extent this expenditure would continue even if wastewater prices were decoupled from GRV because drainage pricing is based on GRV. In addition, if the Corporation removed GRV pricing

entirely, the Office of the Valuer General would continue to require government funding for its operations.

### 3.3.4 Alternatives to GRV-based Pricing

Most other States have moved away from GRV-based prices for wastewater services to either uniform charges or charges based on estimated discharge to sewers.

All other jurisdictions, except for South Australia, have adopted a uniform fixed charge that reflects the average “per property” cost of wastewater services. Where water consumption is used to estimate residential wastewater volumes, some companies (e.g. Melbourne retailers) use monthly seasonal factors and discharge factors differentiated by house type and quarterly water consumption. Hunter Water Corporation in NSW uses a simple discharge factor of 50 per cent for all residential customers in its usage-based wastewater charge. Another approach is to use winter water consumption as the basis, as water use in winter for regions that have rainfall concentrated in winter is predominantly in-house use and discharged to the sewer.

**Table 3.1 Residential Wastewater Charging Arrangement in Each State**

City	Residential Wastewater Charges
<b>Perth</b>	Fixed service charge based on property Gross Rental Value (GRV).
<b>Melbourne</b>	Fixed service charge – uniform across all customers. Usage charge based on water consumption adjusted by a discharge factor and seasonal factor.
<b>Sydney</b>	Fixed service charge – uniform across all customers.
<b>Canberra</b>	Fixed service charge – uniform across all customers.
<b>Brisbane</b>	Fixed service charge – uniform across all customers.
<b>Adelaide</b>	Fixed service charge based on property value.

The Authority recommended in its Inquiry on Urban Water and Wastewater Pricing a gradual move away from GRV-based pricing for metropolitan residential wastewater services. A similar move away from GRV-based pricing would appear appropriate for application in country towns.

### 3.3.5 Competition in the Wastewater Industry

A further issue raised in the submissions is that of the development of competition in the provision of residential wastewater services. There are currently 21 other providers of wastewater services to country towns in Western Australia. However, as noted by the Department of Water, these service providers do not qualify for CSO funding (unlike the Corporation):

As the ERA would be aware, there are a number of Country Shires which provide their own wastewater services. The problem for these schemes is that as they are not a Government owned corporation, they do not have access to CSO funding. This puts the country operations at a disadvantage relative to their Water Corporation counterparts. This gives further support to the need for a more general scheme for the funding of loss making schemes. A more general CSO Scheme would not only allow for the entry of alternative service providers but would support the more equitable treatment of non-Water Corporation communities. (Department of Water, p4)

The Authority accepts that there is a clear case for an extension of CSO funding to all wastewater (and water) service providers in Western Australia (see Recommendation in section 2.6.2).

### 3.3.6 Evaluation Summary

In view of the various objectives of country residential wastewater pricing (cost-reflectivity, social objectives, low administrative costs and transparency), as well as the approaches adopted in other States, the Authority recommends the Government move away from GRV-based pricing and introduce a flat charge for each town on the basis of total costs less indirect overheads. A flat charge approach is simple and transparent, and has advantages over usage-based prices – it does not require the estimation of discharge factors, seasonal factors or winter water usage, and is reasonably cost-reflective, as the cost of providing wastewater services does not differ significantly between households. A flat charge also has the advantages over the current approach of:

- retaining different charges across towns;
- spreading the CSO for each town evenly across customers; and
- having a greater proportion of customers paying at least the direct cost (the customers that do not pay direct costs are on the cap).

To protect households in high cost towns from very high charges, the Authority recommends that the flat charge for each town be subject to a uniform maximum charge. The Authority considers that the current maximum charge (\$612.40) could be applied. The flat charge for each town would also to apply to vacant land in that town.

To ameliorate the impact of a transition to flat charges on low-GRV households, the Authority recommends that the new charges be phased in over seven years. In addition, the Authority has presented an option of not having customers pay for overheads, which would lessen the impacts on customers.

Because of the similarities between Perth and Mandurah and their geographical proximity, the Authority recommends that Mandurah be subject to the urban charges.



## Recommendations

- 18 For wastewater services for residential customers, de-couple prices from property values and apply a flat charge (subject to a maximum) for each town set in relation to either:
  - the total cost of providing the service in each town (Option A); or
  - the total cost less indirect overheads (Option B).
- 19 Set the maximum flat charge for residential wastewater services at the current maximum.
- 20 Treat Mandurah as part of the metropolitan area for wastewater (and water) pricing purposes.
- 21 Phase in the recommended prices for residential wastewater services over a period of seven years.

## 3.4 Impacts

The relevant base case for assessing the Authority's proposals is the Corporation's current policy of aiming for total cost recovery for each scheme (subject to the caps). In this section the impacts of the Authority's proposals is contrasted with the impacts of the Corporation's current policy, implemented over seven years.

### 3.4.1 Impacts on Customers

Once fully implemented, the Corporation's policy will increase the average household bill from \$485 in 2006/7 to \$593 and will result in 73 per cent of households paying the \$612.40 maximum charge (see Table 3.2). A full set of flat charges for each town is provided in Appendix 6.

In comparison, the Authority's Option A (setting flat charges in relation to total costs) would lead to an increase in the average household bill from \$485 to \$585 over the period to 2013/14, while Option B (setting flat charges in relation to total costs less indirect overheads) would lead to an increase from \$485 to \$538.

Forty eight per cent of households would face the maximum charge of \$612.40 under Option A while 24 per cent would face the maximum under Option B.

**Table 3.2 Average Household Wastewater Bills (Real Dollar Values of 2005/06)**

	Corporation's Policy Implemented over 7 Years	Authority's Proposal (Option A)	Authority's Proposal (Option B)
2006/7	\$485	\$485	\$485
2013/14	\$590	\$585	\$538
Annualised bill increase	\$15.00	\$14.29	\$7.57

Under Option A, 42 per cent of customers would have the same household bills as under the Corporation's approach. Eighty three per cent of households would be at least as well off under this option as under the current approach. Twelve per cent of customers would be worse off by up to \$100 (real in 2004/05 dollars) at the end of the transition period. Around 5 per cent would be worse off by between \$150 and \$372.

Under Option B, 21 per cent of customers would have the same household bills as under the current approach. Ninety per cent of households would be at least as well off under this option as under the current approach. Seven per cent of customers would be worse off by up to \$100 (real in 2004/05 dollars) at the end of the transition period. Around 3 per cent would be worse off by between \$150 and \$372.

The tables below compare the Authority's proposals with the Corporation's policy (implemented over seven years) for "low", "middle" and "high" GRV households. Moving to a flat charge would increase bills for low GRV households. Higher GRV households in high cost towns would generally see no change in their bill whilst those in low cost towns would see a reduction.

**Table 3.3 Average Household Wastewater Bills, Low-GRV Households (2004/05 Dollars)**

	Corporation's Policy Implemented over 7 Years	Option A	Option B
2006/7	\$362	\$362	\$351
2013/14	\$389	\$553	\$486
Annualised bill change	\$5.37	\$27.35	\$19.31

Note: Low-GRV households are defined as households with a GRV of up to \$4,000 (3.3% of customers).

**Table 3.4 Average Household Wastewater Bills, Mid-GRV Households (2004/05 Dollars)**

	Corporation's Policy Implemented over 7 Years	Option A	Option B
2006/7	\$490	\$490	\$490
2013/14	\$610	\$478	\$434
Annualised bill change	\$14.99	-\$1.52	-\$8.03

Note: Mid-GRV households are defined as households with a GRV between \$6,000 and \$8,000 (40% of customers).

**Table 3.5 Average Household Wastewater Bills, High-GRV Households (2004/05 Dollars)**

	Corporation's Policy Implemented over 7 Years	Option A	Option B
2006/7	\$555	\$555	\$555
2013/14	\$615	\$497	\$441
Annualised bill change	\$17.13	\$1.74	-\$16.22

Note: High-GRV households are defined as households with a GRV above \$10,000 (12% of customers).

After the Authority's recommendations are fully phased in, the customers in the lowest GRV bands would still generally receive a subsidy from the Government, which would average around \$170 per customer per year for Option A and around \$323 per customer per year for Option B.

The impact on wastewater customers in Mandurah (which number around 18,000) of the Authority's recommendation that Mandurah be treated as part of the Perth metropolitan area for the purposes of wastewater pricing is that the average annual wastewater bill would be reduced by around \$180. Specifically,

- around 88 per cent of customers in Mandurah would have a decreased wastewater bill (on average around \$100 per annum);
- five per cent of customers would see an increased wastewater bill; and
- seven per cent of customers would have no change in their wastewater bills.

A seven year phase-in period, along with limits on the annual increases to individual customers, would ameliorate the impacts on the small proportion of customers adversely affected.

### 3.4.2 Impacts on the Corporation

Option A would result in an \$11.9 million increase in annual tariff revenue by the end of the phase-in period while Option B would result in a \$6.4 million increase.

By comparison, the Corporation's approach would increase tariff revenue by \$12.6 million.

The Corporation would benefit from a simplified pricing structure and would be expected to receive fewer customer complaints (in comparison to the current situation where bills are often queried following property revaluations).

### 3.4.3 Impacts on Government

Once fully phased in, the Authority's Option A would increase annual net payments to Government by \$12.0 million per year as a result of lower CSO payments (\$12.9 million) and higher dividends (\$0.6 million) and tax equivalent payments (\$0.3 million). The \$15.6 million at the end of the phase-in period would fund the cap on individual wastewater bills.

The Authority's Option B would increase annual net payments to Government by \$6.5 million per year as a result of lower CSO payments (\$7.1 million) and higher dividends (\$0.4 million) and tax equivalent payments (\$0.2 million). The \$21.2 million

CSO at the end of the phase-in period would comprise the cap on individual wastewater bills (\$9.8 million) and the subsidy for overheads (\$11.4 million).

By comparison, the Corporation's current policy implemented over seven years would increase annual net payments to Government by \$12.7 million per year as a result of lower CSO payments (\$13.6 million) and higher dividends (\$0.6 million) and tax equivalent payments (\$0.3 million).

## 4 Non-Residential Water Pricing

### 4.1 Terms of Reference

The Authority is expected to consider and make recommendations on:

- *the effectiveness and efficiency of the service charge structure for businesses and the merits of any alternative charging structure for country towns; and*
- *the effectiveness and efficiency of the Water Corporation's five town class charges for residential and business customers in country towns and the merits of any alternative charging structure for country towns.*

### 4.2 Introduction

In considering the pricing of water and wastewater services to non-residential customers, the Authority has adopted a slightly different approach to that used for residential customers: there is a greater emphasis on setting prices to reflect cost, and less importance placed on the use of prices to deliver social policy objectives.

The Authority, in particular, notes the submission by the Department of Premier and Cabinet, that subsidies to country customers through the uniform pricing policy are aimed at residential customers:

The intention of the UPP [uniform pricing policy] is not to provide further subsidies to country areas above and beyond that which is considered necessary for basic human needs and the average amount consumed by an average household. (Department of Premier and Cabinet, p1)

Non-residential customers are currently separated for pricing purposes into commercial/industrial customers, mining customers, farmland customers and charitable/other institutional (e.g. schools) customers. The Authority has considered each group of customers in turn.

### 4.3 Commercial/Industrial Customers

#### 4.3.1 Current Approach

Since 1995, commercial country water users have paid a fixed charge and a usage charge for water.

Commercial users throughout Western Australia face the same fixed charges for water. State-wide uniform usage charges have not been adopted for commercial customers (contrary to commercial wastewater pricing). For commercial water pricing purposes schemes are currently divided into the same five classes that are used for residential pricing: those schemes that are more costly to supply are placed in a higher class and face higher water usage charges. Country commercial users currently face higher usage charges than Perth commercial users *for any given level of water consumption*.

The usage charge for commercial customers has a step at 300 kL/year. The usage charge was initially set at the same rate in relation to country residential usage charges.

The lower charge was initially set as the same rate as country residential charges for usage between 450 kL/year and 550 kL/year while the upper charge was initially set at the same rate as the residential charge for usage between 750 kL/year and 1150 kL/year. This alignment is now only approximate due to the application of different annual increases to residential and commercial charges.

Prior to 1995, commercial water fixed charges were based on the value of the commercial property. In Perth, this approach was replaced with a pricing structure involving a fixed charge based upon the size of the meter serving the property. This revised approach was extended to the country regions in 1995 and by 2001/02 commercial users throughout the State faced the same tariff structure. By applying uniform fixed charges the Corporation sought to simplify the administration of the tariff. Pricing based on meter-size was chosen as it was considered to be a reasonable approximation for the different costs of supply.

Regulated commercial tariffs apply only to customers using less than 49 kL per day. Industrial and mining customers whose peak demands exceed 49 kL per day are covered by bulk water supply agreements under the Corporation's Major Consumers Policy. These customers pay charges that reflect the location-specific costs of providing the service, including the costs of upgrading peak capacity and ongoing operating costs. Expansion costs are estimated on the basis of the unit cost of expanding capacity for a notional scheme.

The schedule of prices for non-residential customers is available in Appendix 3.

### 4.3.2 Grouping of Towns

Currently, the grouping of country towns into cost classes applies to both commercial and residential customers. The Authority has considered whether it would be beneficial to apply different town groupings for commercial customers (on the basis of their costs of service, or in some cases the costs of future infrastructure requirements).

The Authority is of the view that there are no advantages to be gained from moving away from the current system. The current allocation of towns to classes is on the basis of the unit costs incurred by the whole town: there is no differentiation in the Water Corporation's data between the costs incurred by commercial customers or residential customers. Any alternative allocation would be on the basis of usage volume, which could be used to re-assign commercial customers to alternative class categories. However, this would unnecessarily complicate the pricing system. A simpler approach is to leave the grouping of commercial customers on the same basis as residential customers, but to adjust the usage charges for each customer category to recover, in part or in full, the costs of water service to a town (see section 4.3.5 below).

#### Recommendation

- 22 Group country towns into Groups A and B in the same manner for commercial water pricing as for residential water pricing.

### 4.3.3 Cost Recovery

The Authority has considered the extent to which country commercial water prices should reflect the costs of providing country water services. Currently, country commercial water tariffs do not recover the full costs of service. The current CSO to country commercial

customers is in the order of \$12 million per year. Commercial tariff revenue accounts for 68 per cent of total commercial tariff and CSO revenue, although this is projected to increase to 74 per cent by 2013/14 as a result of the projected increase in metropolitan commercial water fixed charges which are applied uniformly across the State.

Setting prices to reflect costs sends the correct signals to commercial customers regarding the costs of their water usages, but the provision of subsidies to businesses can distort this signal. The Department of Premier and Cabinet noted that:

Concessions provided to customers should as far as possible not distort pricing signals. (Department of Premier and Cabinet, p3)

The importance of not distorting price signals is reiterated by the Chamber of Commerce and Industry in its submission:

CCI believes that the “beneficiary pays” principle is an efficient and equitable means of recovering the costs of providing goods and services.

Government businesses are often required to provide services to some customer groups (e.g. regional communities) at prices below cost. CCI recognises that these social objectives are legitimate goals of government, even though they mean that the beneficiary pays principle must sometimes be violated.

Nevertheless, it is preferable that such social objectives be delivered in ways that minimise as far as possible the distorting of price signals, and the economic inefficiencies and inequities that result. For example, it is better to pay the cost of community service obligations guaranteeing access to affordable water in the regions by a direct subsidy from general government, rather than through cross-subsidies from other consumers.

(Chamber of Commerce and Industry, p1)

WACOSS submitted that water charges to commercial customers should reflect costs incurred by the commercial sector:

WACOSS supports greater transparency in identifying commercial and residential costs of water supply. Acknowledging that significant increased water demand in regional areas of Western Australia is more than likely to be the result of new commercial activity (or an expansion of current activity) which may result in increased employment and therefore additional residential water demand, it is important that the commercial sector rather than the residential sector be identified as the reason for the forward-looking cost and water charges apportioned respectively. (WACOSS, p9)

WALGA submitted that the principle of “necessary” water usage should apply to residential customers only:

...the Zone considers that usage charges should be the same for businesses of the same type whether city or country. The Zone does not consider that the principal of “necessary” water applies to business or commercial operations, and that the concept should be limited to residential properties. (WALGA – Central Country Zone and Great Eastern Country Zone, p8)

One concern raised frequently in the public forums and in some submissions was that increases in commercial water prices could impact on the viability and location decisions of country businesses. For example:



The suggestion by the ERA that country commercial water customers should not be subsidised is acknowledged. However, because of the current levels of subsidisation at present, the transition to full cost recovery may cause some businesses to become unviable.

(Department of Premier and Cabinet, p2)

The argument that water should be treated like any other input is short sighted, as it ignores the commercial and social flow on benefits from having affordable water for commercial usage in rural and remote areas. An expansion of the uniform pricing policy to include commercial customers would have significant flow on effects, while the introduction of a full user pays system would severely disadvantage regional and remote users and this would impact adversely on the total economic performance of the State.

(City of Kalgoorlie-Boulder, p2)

The Authority does not consider that non-residential water prices are likely to be a factor in the location decisions of businesses. The subsidy going to the majority of businesses is around \$977 per business per year on average, and this is unlikely to be large enough to influence their location decisions. Furthermore, major business customers (those expecting to use more than 49 kL/day) are treated as non-regulated customers who pay the full water costs associated with their investment decisions.

Rather, prices which more closely reflect costs are more likely to provide an incentive to commercial users to economise on their water usage (for example, by installing water-efficient technologies).

The Authority is of the view that water is a business input and, as such, should not be subsidised. However, the retention or removal of the discount on the first 300 kL of water for commercial customers is a decision for Government, and the Authority has considered both options (see Section 4.3.5 below).

## Recommendation

- 23 In general, CSO payments should not be provided to country commercial customers, or if they are, such payments should be made transparent.

### 4.3.4 Fixed Charge

There was support for the retention of the State-wide fixed charge, on the grounds that it was cost-reflective:

As with residential consumers, the cost of manufacturing a meter is the same cost for Perth as well as for country residents, and that the time to fit a meter is the same, and it performs the same function, the Zones consider that the annual service charges structure should be identical throughout the State. (WALGA – Central Country Zone and Great Eastern Country Zone, p4)

The cost-reflectivity of the fixed charge for commercial customers has been considerably enhanced by the move away from property-based fixed charges to fixed charges based on meter size. Further varying the fixed charge for commercial customers from town to town is not supported, as it would complicate the pricing system for no clear benefit. Improvements to the cost-reflectivity of commercial water prices can be better achieved

through the allocation of towns to cost classes (on the basis of direct unit costs per town) and the setting of cost-reflective per-kL usage charges.

## Recommendation

- 24 Retain the State-wide uniform fixed charge for commercial water customers.

### 4.3.4.1 Major Consumer Policy

The Corporation's Major Consumer Policy applies to industrial and mining customers using more than 49 kL/day. Under this policy, Major Consumers pay charges which reflect the augmentation costs at their specific location.

The Authority has considered whether there would be benefits from lowering the threshold for the Corporation's Major Consumer Policy (say, from 49 kL/day to 40 kL/day).

Under the Authority's recommendations, the issue of whether or not large customers are treated as Major Consumers becomes less important. This is because the prices recommended for large commercial customers are more cost-reflective than the current prices, and the subsidy going to commercial customers is lower. However, if the Government were to not accept the recommendations of the Authority, the lowering of the threshold for future large customers (but not for existing customers) is worth further examination. Tariffs for Major Consumers is an issue that would be relevant to a review of headworks charges.

### 4.3.5 Pricing Proposals

The Authority has considered two options for commercial and industrial customers:

- Option A – provide a discount for the first 300 kL of annual water usage (by not charging for indirect overheads); or
- Option B – have all water usage charged at the total cost.

Under either approach, the Authority recommends capping the charge that applies to Class 5 customers at \$5 per kL (in the same manner as for residential customers) because this class of towns is characterised by several outliers that are very expensive to service and it would not be appropriate to set the charge based on the average costs in this class.

The usage charges under each option are shown in Table 4.1 below.

**Table 4.1 Current and Proposed Country Commercial Water Usage Charges**

Town Class	Commercial Water Usage Charges (\$ per kL)		
	Current	Option A	Option B
Class 1	0.85 – 1.48	1.02 – 1.30	1.30
Class 2	1.13 – 2.01	1.34 – 1.71	1.71
Class 3	1.24 – 2.24	1.63 – 2.08	2.08
Class 4	1.35 – 2.55	2.46 – 3.14	3.14
Class 5	1.39 – 2.85	3.92 – 5.00	5.00

It should be noted that although some of the usage charges for Classes 1 to 3 are less than the current charges, the fixed charges are increasing significantly, which in general results in overall payment increases (as discussed in the next section).

## Recommendation

- 25 For commercial water, either:
  - a) continue a two-block inclining tariff structure for each class, with usage charges for the first block set in relation to total direct costs (i.e. total costs less indirect overheads) and usage charges for the second block set in relation to total costs; and keep the threshold at 300 kL per customer per year; or
  - b) apply a single usage charge to commercial customers to recover total costs.
- 26 Under either approach, cap the commercial water usage charge for Class 5 customers at \$5/kL.
- 27 Continue to set country commercial water fixed service charges uniformly across the State.
- 28 Phase in the recommended commercial water prices over a period of seven years.

## 4.3.6 Impacts

### 4.3.6.1 Impacts on Customers

The Option A pricing changes result in payment increases ranging from 6.4 per cent per year (approximately \$60) for customers with a 20mm meter using 300 kL of water to 4.3 per cent (approximately \$1014 per year) for customers with a 50mm meter using 5 ML of water. Alternatively, under Option B, the pricing changes result in annual payment increases ranging from 8.3 per cent to 4.4 per cent, respectively.

Within these overall impacts there will be variations depending on the class of town. For example, under Option A the payment increases for customers with a 20 mm meter and 300 kL of water usage range from \$41 per year for customers in the 19 towns remaining in Class 1 to \$200 per year for the customers in the one town reallocated from Class 1 to Class 5. The comparable impacts for Option B are \$31 per year and \$155 per year respectively.

Under the current system, only one per cent of commercial customers (by volume) are allocated to Class 5. Under the Authority's recommendation, approximately 13 per cent of commercial water volume is allocated to Class 5.

The payment increases for customers remaining in the same class for Option A, shown in Table 4.2 below, range from one per cent for high water users in Class 1 to 13 per cent for low water users in Class 5. The comparison for Option B is shown in Table 4.3.

**Table 4.2 Average Annual Per Cent Change in Water Payments for Commercial Customers (Option A)**

Class	Average Annual Per Cent Change in Water Payments for Customers Remaining in the Same Class (Option A)				
	300 kL	1000 kL	2000 kL	5000 kL	20000 kL
Class 1	5%	3%	3%	2%	1%
Class 2	5%	2%	3%	2%	1%
Class 3	6%	3%	3%	2%	1%
Class 4	9%	5%	4%	4%	4%
Class 5	13%	8%	7%	7%	7%

**Table 4.3 Average Annual Per Cent Change in Water Payments for Commercial Customers (Option B)**

Class	Average Annual Per Cent Change in Water Payments for Customers Remaining in the Same Class (Option B)				
	300 kL	1000 kL	2000 kL	5000 kL	20000 kL
Class 1	4%	2%	3%	2%	1%
Class 2	4%	2%	3%	2%	1%
Class 3	4%	2%	3%	2%	1%
Class 4	7%	4%	4%	4%	4%
Class 5	11%	8%	7%	7%	7%

#### 4.3.6.2 Impacts on the Corporation

The Authority's recommendations for commercial water customers result in a \$9.1 million increase in tariff revenue under Option A and a \$10.9 million increase under Option B.

### 4.3.6.3 Impacts on Net Payments to Government

Option A provides a \$9.2 million increase in net payments to government while Option B provides an \$11.0 million increase.

CSO payments reduce from \$13.2 million in 2005/06 to \$3.4 million under Option A (to pay for the discount for the first 300 kL and the cap on Class 5 charges) and \$1.7 million under Option B (to pay for the cap on Class 5 charges).

## 4.4 Farmland Customers

Farmland customers are currently charged a flat usage charge and pay the same fixed charge as residential customers. The Authority has estimated that the cost of servicing farmland customers is approximately \$23.1 million while tariff revenue is in the order of \$5.6 million.

The Authority has been advised by the Corporation that farmland customers use water for a variety of purposes, including domestic use, back-up supply and stock (the average usage is 547 kL per year, which compares to 317 kL per year for Group A residential customers). The tariff is currently set at a lower rate than for residential or commercial customers because the Corporation's service standard requirements in relation to farmland customers are lower than for its other customers.

The Authority recommends that farmland tariffs be set by maintaining the current relativity between farmland and residential tariffs. Currently, the contribution to total costs by farmland customers is approximately 24 per cent, compared to 27 per cent for residential customers (i.e. a ratio of 0.88). Maintaining this relativity would require the charge to farmland customers to increase from \$0.951/kL in 2006/07 to \$1.182/kL in 2013/14 (in real dollar values of 2005/06).

For an average farmland customer, the total bill would increase by \$16 per year for seven years.

The Corporation's tariff revenue would increase by \$1.6 million per year and net payments to Government would increase by \$1.5 million per year once this recommendation is fully phased in.

### Recommendation

- 29 Set the flat usage charge for water for farmland customers by maintaining the current water price relativity with residential customers.
- 30 Continue to set the fixed charge for water for farmland customers at the same amount as the residential fixed charge.
- 31 Phase in the recommended water prices for farmland customers over a period of seven years.

## 4.5 Other Non-Residential Customers

Other non-residential customers include charitable and institutional organisations (e.g. non-government schools, churches and community facilities) and local government businesses. These customers are currently charged at Class 1 rates and do not pay a fixed charge.

The main issue here is that some of these customers operate in commercial environments and some could be regarded as significant commercial enterprises. The Authority estimates that subsidies to this group of customers cost \$19 million per year based on the estimated costs associated with servicing them (approximately \$30 million per year) and the estimated tariff revenue (approximately \$11 million per year).

The Authority is of the view that, at a minimum, where customers in this group are operating in a commercial environment they should be treated as commercial customers and have their water charges set accordingly.

The view of the Authority is that where Government wishes to support these enterprises and institutions (for example, charities), subsidising their water is an inefficient, and less transparent, mechanism compared to alternatives such as direct grants.

Where these customers are not operating in a commercial environment, the tariffs should be set by maintaining their relativity with commercial tariffs. Currently, the contribution to total costs by charitable/institutional customers is approximately 38 per cent, compared to 68 per cent for commercial customers (i.e. a ratio of 0.56). Maintaining this relativity would require the average charge to charitable/institutional customers to increase from \$1.487/kL in 2006/07 to \$2.001/kL in 2013/14 (in real dollar values of 2005/06).

The financial impacts of this recommendation cannot be determined accurately because the Authority is not aware of the number of local government and charitable customers that could be treated as commercial customers. However, it is expected that the Corporation's tariff revenue and net payments to government would each increase by around \$5 million.

### Recommendations

- 32 For water pricing, treat local government businesses in the same manner as commercial customers.
- 33 For water pricing, treat charitable and institutional customers as commercial customers where they are operating as a commercial business and where they are not, set the charge to maintain the current relativity with commercial charges.
- 34 Phase in the recommended water prices for charitable and institutional customers over a period of seven years.

## 5 Non-Residential Wastewater Pricing

### 5.1 Terms of Reference

The Authority is expected to consider and make recommendations on:

- *the appropriateness of continuing uniform State-wide major fixture and volumetric discharge sewerage charges for business.*

### 5.2 Current Approach

Until 1995/96 both metropolitan and country commercial customers paid wastewater charges based on property values (using the GRV methodology). Following a Corporation review of wastewater pricing practices in Australia and abroad, a new charging structure was introduced for metropolitan commercial users, with charges based on the number of major fixtures (e.g. toilets and urinals) and the volume of wastewater discharged to the sewerage system. Country customers continued to pay GRV-based charges.

At the request of the Expenditure Review Committee (a sub-committee of Cabinet) another review was conducted in 2002 by a work group established by the Minister for Government Enterprises. A number of alternative options for country commercial wastewater pricing were considered. It was recommended that the metropolitan tariff structure should be adopted in country pricing. A preference was also expressed for a greater consistency between country and metropolitan pricing structures.

Country commercial pricing reform began in 2003/04. Once completely phased in, all of the Corporation's commercial customers throughout the State will pay the same wastewater charges.<sup>26</sup> The new tariff consists of:

- a service charge based on the number of major sewerage fixtures; and
- a usage charge based on the assessed volume of wastewater discharged into the wastewater system. Discharge below 200 kL/year is charged at zero cost.

The full country commercial pricing structures are available in Appendix 3.

### 5.3 Evaluation

#### 5.3.1 Cost-Reflectivity

The Authority estimates that the uniform commercial wastewater pricing policy currently costs \$22 million per year in CSO payments and is expected to increase to around \$27 million per year by 2013/14. While there are administrative savings associated with having a uniform policy, the savings are unlikely to warrant the CSO expenditure. This is particularly the case when residential wastewater prices are determined on a town-by-town basis. Without consistent treatment between residential and commercial wastewater customers, there is a risk that residential customers would pay more than their share of the town's total wastewater costs.

<sup>26</sup> To minimise disruption to customers, annual price changes were limited to 10 per cent above inflation. By 2013/14 an estimated 85 per cent of users will be fully phased in.



Some submissions commented on CSOs going to non-residential wastewater customers. WACOSS expressed concern regarding the sharing of costs between residential and commercial customers:

WACOSS does not view inconsistency between wastewater charging as an issue in itself, but to the extent that residential consumers are burdened with higher costs as a result of commercial wastewater charges not being set in an appropriate manner, then we would support reform in this area.

(WACOSS, p16)

The Pilbara Development Commission supported uniformity in commercial charges across the State,

The practice of commercial users receiving subsidies through Community Service Obligations is not fair to residential users, although appropriate pricing of services is vital to prevent regional economic implications....In regards to in principle to cost recovery for commercial customers, there should be a parity of costings for similar businesses operating in different areas. As in the uniform pricing policy for residential water, costings for supply of an “average service” should not differ. This could affect the location choices for new businesses and impact on existing business if competitors are paying a lesser amount for the same service.

(Pilbara Development Commission, p2)

Setting uniform commercial wastewater charges on the basis of the average costs of commercial wastewater services across the State would result in prices which do not reflect the costs of service in each town. While this would benefit some businesses (those in towns with high wastewater costs), it would disadvantage others (in low-cost towns). The Authority does not expect that cost-reflective pricing would play a significant role in the decision of businesses on where to locate in rural Australia (since average commercial wastewater charges are currently \$500 per year).<sup>27</sup>

### 5.3.2 Tariff Structure

The methods for charging non-residential customers vary widely from State to State. Most have developed charging arrangements that differentiate between commercial customers that discharge predominantly domestic waste and those that discharge trade waste. Wastewater service providers in all States have developed “acceptance” policies to deal with the acceptance of potentially hazardous trade waste. Trade waste customers are generally charged more to reflect the higher costs they impose on the sewage system.

Table 5.1 provides a summary of pricing regimes for non-residential wastewater services throughout Australia.

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<sup>27</sup> Excludes caravan parks and aged homes.

**Table 5.1 Non-Residential Wastewater Charging Arrangements in Each State**

City	Non-Residential Wastewater Charges
<b>Perth</b>	Fixed service charge based on the number of fixtures.
<b>Melbourne</b>	Fixed service charge – uniform across all customers.
<b>Sydney</b>	Fixed service charge based on the assessed annual value (AAV) of the property or based on the size and number of water meters.
<b>Canberra</b>	Fixed service charge.
<b>Brisbane</b>	Fixed service charge – same fee charge for residential customers.
<b>Adelaide</b>	Fixed service charge based on property value.

With the exception of South Australia, all States apply a two-part tariff for non-residential customers, but the way in which fixed and usage charges are set varies.

There are several ways of levying the *fixed* component:

- a uniform charge across all commercial customers (Melbourne, Canberra, Brisbane);
- a fixed charge that is adjusted by the number of sewage fixtures (Perth); or
- a fixed charge based on property value (Adelaide and Sydney).

Some submissions to the Authority commented that basing the service charge on the number of fixtures was inequitable, as it does not accurately reflect the amount of discharge to sewers:

...a service charge based on number of fixtures has the potential to be highly inequitable. Some business may employ a fair number of people, but use little water other than for human consumption (eg a metal fabrication shop), whereas a second business employing the same number of people may use a huge amount of water (such as a commercial laundry). Some industries may use a very large amount of water, but discharge little into the sewer (eg: plant nurseries)....The Zones accept that an unconnected property, whether vacant land or occupied, having a sewer line available should contribute to its cost through a minimum annual service charge.

(WALGA – Central Country Zone and Great Eastern Country Zone, p8)

If the Water Corporation chooses to tax the hospitality industry on the amount of major fixtures, should this then be rated on the occupancy of the property? Currently the Australian Bureau of Statistics expects every motel, hotel, resort, etc to provide occupancy statistics. These statistics are collected and returned to the ABS every three months. During high occupancy times, water usage and discharge rates are paid by the hospitality industry on a user pays basis. If property is only 45-55% full, and the industry averages are easy to obtain, why are these properties being charged on 100% of their fixtures? Sewerage rates could be charged at the full rate and at the end of each quarter or annually be credited for the major fixtures not utilised by the property.

(J. Sturis, p2)

The basis for setting *usage* charges for non-residential customers also differs from State to State. Some States are using sophisticated methods to monitor discharge levels, while

others use proxies such as water consumption or the number of sewage fixtures to establish a usage fee.

The WA Local Government Association (WALGA) submitted that:

...the Zone considers that usage charges should be the same for business of the same type whether city or country. The Zone does not consider that the principal of “necessary” water applies to business or commercial operations, and that the concept should be limited to residential properties. (WALGA – Central Country Zone and Great Eastern Country Zone, p8)

### 5.3.3 Competition in the Wastewater Industry

A further issue is the development of competition in the provision of country commercial wastewater services. The Department of Water notes that the Corporation has a number of advantages over potential competitors:

The ERA’s view, as expressed in findings 19 and 20 [in which the Authority recommended cost-reflective pricing of commercial wastewater services] is supported. Although it is likely the prospect for competition in wastewater service provision might be compromised by uniform commercial pricing across schemes (Finding 21), there are other inhibitors. In particular, the Water Corporation’s ready access to CSOs. Further, although under National Competition Policy efforts were made to introduce arrangements that were competitively neutral, such as the introduction of Tax Equivalent Regime (TER), it remains true that from a State perspective there are financial benefits to having the Water Corporation provide services. For example, the Water Corporation pays dividends to the State, and under the National Tax Equivalent Regime (NTER), taxes paid by the Water Corporation are returned to the State. Neither of these is the case if a private sector provider provides the service. (Department of Water, p6)

The Authority supports the view that CSO payments should be made available to all providers of water and wastewater services (see sections 2.6.2 and 3.3.5), which would provide a more level playing field for alternative providers of commercial wastewater services in country towns.

## 5.4 Pricing Proposal

The Authority is of the view that the current two-part tariff is appropriate in circumstances where volumes of wastewater discharged to sewerage systems can be measured or otherwise determined with reasonable accuracy. The efficiency of volumetric charging is further enhanced because customers have some ability to alter discharges of wastewater in response to prices (for example, to implement technologies that reduce wastewater discharges).

The uniform commercial wastewater prices are an issue because residential wastewater prices are determined on a town-by-town basis. Without consistent treatment between residential and commercial wastewater customers, there is a risk that residential customers would pay more than their share of the town’s total wastewater costs and that efficiency objectives would be compromised.

The Authority recommends that the uniform commercial wastewater pricing policy be replaced by a pricing structure under which country commercial wastewater service charges in each town reflect the full costs of providing wastewater services to the town. This could be achieved by either varying the fixed charges between towns or by varying the discharge rates. However, given that the Corporation is currently moving customers

off GRV-based pricing, it is recommended that this process be largely completed before prices are adjusted to be more cost-reflective.

### Recommendation

- 35 Replace the uniform commercial wastewater pricing policy by a more cost-reflective structure once the current non-residential wastewater pricing reforms are largely completed.

## 5.5 Impacts

### 5.5.1 Impacts on Customers

The impacts on customers would depend on the location of customers and their estimated wastewater discharge. However, average charges for country commercial wastewater customers would need to increase by around 75 per cent if the CSO were to be removed. If the increase were to be achieved by varying the fixture charges for the country, the average fixture charges would need to approximately double from their current amount (e.g. the first fixture charge of \$516 per year would need to increase to a \$1,011 per year). Varying the fixture charges between towns would result in the fixed charges in some towns more than doubling while in other towns the impact would be less.

### 5.5.2 Impacts on the Corporation

Any new charging arrangement would involve significant changes to the Corporation's billing system. Tariff revenue would be expected to increase by around \$29 million per year from removing the subsidy to non-residential customers.

### 5.5.3 Impacts on Net Payments to Government

Net payments to Government would increase by around \$29 million per year once the pricing changes are fully phased in, largely as a result of reduced CSO payments.

## 6 Overall Impacts on the Corporation and Net Payments to Government

### 6.1 Terms of Reference

The Authority is expected to consider and make recommendations on:

- *the impact proposed pricing structures will have on the Water Corporation's revenue and expenses, as well as payments to, and from, the government.*

### 6.2 Assumptions

In estimating the total impacts on the Corporation and net payments to government, the Authority has assumed that Option A for residential wastewater pricing (i.e. basing the CSO on the cost of capping the flat wastewater charges rather than also on the cost of overheads) and Option A for commercial water pricing (i.e. retaining a two-tier usage charge structure rather moving to a single tier structure).

No allowance has been made for reduced water consumption, which is possible as a result of increased water prices. The impacts stated below are therefore likely to be over-estimates.

### 6.3 Impact on the Corporation

The impacts of the Authority's recommendations on the Corporation will be largely administrative (associated with billing changes) rather than financial as the CSO system operates to balance the Corporation's revenue from its country operations with the costs of servicing the country.

Once the recommendations are fully phased in, the total impact of the Authority's recommendations on tariff revenue is expected to be an increase of \$21.5 million per year (in real dollar values of 2004/05, assuming no reduction in water usage). This increased revenue would be offset by lower CSO revenue of \$20.6 million per year.

### 6.4 Impact on Net Payments to Government

Table 6.1 below shows the impact on net payments to Government of the recommendations while Table 6.2 shows that impact of maintaining current country prices constant in real terms (with the exception of the implementation of the Government's recent decision on metropolitan tariffs that will apply to the country).

A comparison of the two tables shows that, under the Authority's recommendations, annual dividend payments will be higher in 2013/14 by \$0.6 million per year, tax equivalent payments will be higher by around \$0.3 million per year and CSOs will be lower by \$20.5 million per year. The total impact on net payments to government is \$21.4 million per year (assuming no reduction in water usage).

**Table 6.1 Impact of Recommended Prices on Net Payments to Government**

Recommendations Net Payments to Government	Year Ending 30 June								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dividends	337.0	326.2	318.9	318.2	315.3	335.4	344.9	352.3	361.8
Tax Equivalent Payments	169.9	164.5	160.8	160.4	159.0	169.1	173.9	177.6	182.4
CSOs	-	-	-	-	-	-	-	-	-
	327.9	339.6	341.1	342.7	344.4	346.9	349.4	352.0	354.7
Net Payments to Government	179.0	151.1	138.5	136.0	129.8	157.6	169.4	177.9	189.6

**Table 6.2 Impact on Net Payments to Government of Maintaining Current Prices in Constant Real Terms**

Status Quo Net Payments to Government	Year Ending 30 June								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dividends	337.0	326.2	318.9	318.3	315.3	335.4	344.8	352.0	361.2
Tax Equivalent Payments	169.9	164.5	160.8	160.5	159.0	169.1	173.8	177.5	182.1
CSOs	-	-	-	-	-	-	-	-	-
	327.9	339.6	344.0	348.4	353.0	358.4	363.9	369.5	375.2
Net Payments to Government	179.0	151.1	135.8	130.4	121.3	146.1	154.7	159.9	168.1

The CSO payments to the Corporation in 2013/14 once the Authority's recommendations are fully phased in are summarised in Table 6.3. They are presented in comparison to current CSOs and also to the CSOs that would be paid under a continuation of the status quo (except for the implementation of the recent metropolitan prices to the country under the uniform tariff policy).

**Table 6.3 Impact of Recommendations on CSO Payments**

	CSO Payments (Real Dollar Values of 2004/05)		
	2006/07	Recommendations	2013/14 Status Quo*
<b>Residential Water</b>			
Tier 1	94.3	95.9	
Tier 2		45.0	
Tier 3	42.8	2.2	
Tier 4		1.9	
<i>Total Water Country Loss CSO</i>	<i>137.0</i>	<i>145.0</i>	<i>151.4</i>
Concessions – Country	12.3	15.3	15.0
Concessions – Metro	18.9	23.6	23.6
<b>Total</b>	<b>168.3</b>	<b>183.9</b>	<b>190.0</b>
<b>Residential Wastewater</b>			
Country Cap		4.4	
Country Overheads		11.4	
<i>Total Wastewater Country Loss CSO</i>	<i>22.4</i>	<i>15.8</i>	<i>15.2</i>
Metro	18.0	18.1	18.1
Concessions – Country	12.3	16.1	16.2
Concessions – Metro	30.4	33.2	33.2
<b>Total</b>	<b>83.1</b>	<b>83.2</b>	<b>82.6</b>
<b>Non-Residential Water</b>			
Commercial	13.2	3.4	11.5
Farmland	17.8	19.0	20.5
Charitable/Institutional	18.9	17.4	22.0
<b>Total</b>	<b>49.8</b>	<b>39.8</b>	<b>54.1</b>
<b>Non-Residential Wastewater</b>			
<b>Total</b>	<b>21.2</b>	<b>29.2</b>	<b>29.2</b>
<b>Other</b>			
Drainage	10.8	12.1	12.1
Irrigation	6.5	7.1	7.1
Other (e.g. includes vacant land)	-0.2	-0.6	0.2
<b>Total</b>	<b>17.1</b>	<b>18.6</b>	<b>19.3</b>
<b>Total</b>	<b>339.6</b>	<b>354.7</b>	<b>375.2</b>

Note: the status quo assumes that the Corporation's policy of moving country residential wastewater prices to be cost-reflective is implemented by 2013/14.



# APPENDICES

## Appendix 1: Terms of Reference

### INQUIRY ON COUNTRY WATER AND WASTEWATER PRICING IN WESTERN AUSTRALIA

#### TERMS OF REFERENCE

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I, ERIC RIPPER, Treasurer, pursuant to section 32(1) of the *Economic Regulation Authority Act 2003* (the ERA Act), request that the Economic Regulation Authority (the Authority) undertake an inquiry into the Water Corporation's country potable water and wastewater prices. In doing so the Authority is expected to consider and make recommendations on:

- the appropriate consumption threshold for the application of uniform residential charges;
- the effectiveness and efficiency of the Water Corporation's five town class charges for residential and business customers in country towns and the merits of any alternative charging structure for country towns;
- the effectiveness and efficiency of the service charge structure for businesses and the merits of any alternative charging structure for country towns;
- the appropriateness of the residential and vacant land rates for each country sewerage scheme and the maximum rate in the dollar gross rental value wastewater service charge and the merits of an alternative charging structure;
- the appropriateness of continuing uniform State wide major fixture and volumetric discharge sewerage charges for business; and
- the impact proposed pricing structures will have on the Water Corporation's revenue and expenses, as well as payments to, and from, the government.

The Authority is to have regard to the principles of the Government's uniform pricing policy, demand management targets, and other social, economic and environmental policy objectives.

The Authority will release an issues paper as soon as possible after receiving the reference. The paper is to facilitate public consultation on the basis of invitations for written submissions from industry, government and all other stakeholder groups, including the general community.

A draft report is to be made available by 31 January 2006 for further public consultation on the basis of invitations for written submissions.

A final report is to be completed by no later than 28 April 2006.

**ERIC RIPPER MLA  
DEPUTY PREMIER; TREASURER;  
MINISTER FOR GOVERNMENT ENTERPRISES;  
MINISTER ASSISTING THE MINISTER FOR PUBLIC SECTOR MANAGEMENT**

## Appendix 2: List of Submissions

### Submissions Received in Response to Issues Paper

Chamber of Commerce and Industry  
 Chamber of Minerals and Energy WA  
 Department of Industry and Resources  
 Goldfields and Esperance Development Commission  
 Great Southern Development Commission  
 Harvey Water  
 Nelsons of Bridgetown  
 Public Interest Advocacy Centre  
 Radys, A.  
 Shire of Bridgetown-Greenbushes  
 South West Development Commission  
 WA Council of Social Services (WACOSS)  
 Water Corporation

### Submissions Received in Response to Draft Report

Abbey Beach Resort Management Ltd  
 Australian Performance Associates  
 Ballantyne, C.  
 Chamber of Commerce and Industry  
 City of Kalgoorlie-Boulder  
 City of Mandurah  
 Department of Industry and Resources  
 Department of Local Government and Regional Development  
 Department of Premier and Cabinet  
 Department of Water  
 Kew, G.  
 Major, D.  
 McPherson, G.  
 Natural Resource Chemical Laboratory  
 Pilbara Development Commission  
 Shire of Derby-West Kimberley  
 Shire of Donnybrook  
 Shire of Dumbleyung  
 Shire of Shark Bay  
 Sturis, J. G.  
 Turner, D.  
 WA Council of Social Services (WACOSS)  
 WA Local Government Association (WALGA) – Central Country Zone & Great Eastern  
 Country Zone  
 WA Local Government Association (WALGA) – Murchison Country Zone  
 Water Corporation  
 Wheatbelt Development Commission

## Appendix 3: Current Water and Wastewater Tariffs

This appendix sets out the Corporation's current water and wastewater tariffs for country customers, as published on the Corporation website ([www.watercorporation.com.au](http://www.watercorporation.com.au)).

### Residential Water Tariffs

Each residential property is subject to a service charge and a usage charge. In 2005/06 the service charge for each residential unit is \$152.30 (this applies to both country and metropolitan households).

Water usage charges depend upon which group and which class a town has been allocated. There are two groups of towns:

- Group A covers the majority of country towns, while
- Group B covers towns in the north of the State (above the 26<sup>th</sup> parallel) and some other towns (e.g. Cue, Laverton, Leonora, Meekatharra, Menzies, Mt Magnet, Sandstone, Wiluna and Yalgoo).

Within each group, each town is allocated to one of five classes on the basis of the cost of providing water to that town or area.

The 2005/06 tariffs for Group A are listed in the table below. Existing Perth tariffs and the tariffs recommended for the Perth metropolitan area in the ERA Final Report on the urban water and wastewater pricing inquiry are also included.

**Table A3.1 Residential Water Usage Tariffs for Customers in Group A and Perth (2005/06)**

Usage (kL/year)	Perth Tariffs (c/kL)		Country Tariffs (c/kL)				
	ERA Recommended	Current	Class 1	Class 2	Class 3	Class 4	Class 5
0 to 150	82.0	42.5	42.5	42.5	42.5	42.5	42.5
151 to 350	82.0	68.9	68.9	68.9	68.9	68.9	68.9
351 to 450	82.0	93.0	85.1	87.6	87.6	87.6	87.6
451 to 550	82.0	93.0	85.1	113.1	124.3	135.7	139.5
551 to 750	120.0	122.6	122.6	128.0	147.4	163.0	178.4
751 to 950	120.0	122.6	156.0	211.3	235.7	268.2	300.7
951 to 1150	120.0	153.3	156.0	211.3	235.7	268.2	300.7
1151 to 1550	120.0	153.3	224.1	308.8	357.4	487.6	601.1
1551 to 1950	120.0	153.3	258.3	381.9	471.3	585.1	698.8
Over 1950	120.0	153.3	300.2	487.6	568.8	682.4	780.0

Source: Water Corporation and ERA (2005) Final Report: Inquiry on Urban Water and Wastewater Pricing

The 2005/06 tariffs for Group B are listed in the table below. Lower tariffs for usage between 351 kL and 650 kL apply to towns in Group B. Existing Perth tariffs and the tariffs recommended for the Perth metropolitan area in the ERA Final Report on the urban water and wastewater pricing inquiry are also included.

**Table A3.2 Residential Water Usage Tariffs for Customers in Group B and Perth (2005/06)**

Usage (kL/year)	Perth Tariffs (c/kL)		Country Tariffs (c/kL)				
	ERA Recom- mended	Current	Class 1	Class 2	Class 3	Class 4	Class 5
0 to 150	82.0	42.5	42.5	42.5	42.5	42.5	42.5
151 to 350	82.0	68.9	68.9	68.9	68.9	68.9	68.9
351 to 450	82.0	93.0	68.9	68.9	68.9	68.9	68.9
451 to 550	82.0	93.0	68.9	68.9	68.9	68.9	68.9
551 to 650	120.0	122.6	77.7	83.2	83.2	83.2	83.2
651 to 750	120.0	122.6	122.6	128.0	147.4	163	178.4
751 to 950	120.0	122.6	156.0	211.3	235.7	268.2	300.7
951 to 1150	120.0	153.3	156.0	211.3	235.7	268.2	300.7
1151 to 1550	120.0	153.3	224.1	308.8	357.4	487.6	601.1
1551 to 1950	120.0	153.3	258.3	381.9	471.3	585.1	698.8
Over 1950	120.0	153.3	300.2	487.6	568.8	682.4	780.0

Source: Water Corporation and ERA (2005) Final Report: Inquiry on Urban Water and Wastewater Pricing

## Country Residential Wastewater Tariffs

Sewerage charges for residential properties are based on the rateable value of the property. The rateable value is derived from the GRV (gross rental value, or estimated gross annual rent) determined by the Office of the Valuer General for the property.

The tariffs are set independently for each country town sewerage scheme, with the objective of recovering the costs of providing sewerage services to the specific town or area.

The minimum country residential sewerage charge in 2005/06 is \$241.30 per residential unit. The maximum country residential sewerage charge in 2005/06 is \$612.40 per residential unit.

## Country Commercial Water Tariffs

Commercial properties are subject to a service charge and to usage charges.

### Service Charge

Country commercial water service charges are set equal to metropolitan water service charges. The water service charge is based on the size of the water meter to the property. The charges for 2005/06 are set out in Table A3.3 below.

**Table A3.3 Country Commercial Water Service Charges for 2005/06**

Meter Size	Charge 2005/06
15mm & 20mm meter	\$461.90
25mm meter	\$721.70
30mm meter	\$1,039.30
35mm, 38mm & 40mm meter	\$1,848.00
50mm meter	\$2,887.00
70mm, 75mm & 80mm meter	\$7,390.00
100mm meter	\$11,548.00
140mm & 150mm meter	\$25,982.00
Strata titled units sharing a meter	\$152.30

## Usage Charges

For the purposes of setting commercial water charges, the Corporation allocates country towns to five classes in the same manner as for residential water charges. The allocation of towns to classes is set out in Appendix 5. Within each class, usage charges in country towns have two steps: 0-300 kL, and above 300 kL. Table A3.4 shows the commercial water usage charges for customers in country towns, compared with commercial customers in Perth, and commercial tariffs recommended for the Perth metropolitan area in the final report of the urban water and wastewater pricing inquiry. Unlike residential customers, there is no separation of commercial customers into Groups A and B.

As the uniform tariff policy does not apply to commercial water charges, commercial customers in country towns pay higher water usage charges than in Perth. In comparison to country residential customers, country commercial customers pay higher charges at lower levels of water usage and lower charges at higher levels of water usage.

**Table A3.4 Commercial Water Usage Charges for Perth and Country Town Classes for 2005/06**

Usage (kL/year)	Perth Tariffs (c/kL)		Current Country Tariffs (c/kL)				
	ERA Recommended Tariffs (Urban Inquiry)	Current Perth Tariffs	Class 1	Class 2	Class 3	Class 4	Class 5
0 – 300 kL	82	72.6	84.7	112.5	123.6	135.1	138.8
301 – 600 kL	82	72.6	148.0	200.6	223.6	254.6	285.3
601 – 1,100,000 kL	82	81.1	148.0	200.6	223.6	254.6	285.3
Over 1,100,000 kL	82	79.0	148.0	200.6	223.6	254.6	285.3

Source: Water Corporation and ERA (2005) Final Report: Inquiry on Urban Water and Wastewater Pricing

## Country Commercial Wastewater Tariffs

On 1 July 2003 the Corporation introduced a new method of charging commercial properties for sewerage. The new tariff consists of a service charge, based on the number of major sewerage fixtures (e.g. toilets and urinals) and a usage charge, based on the assessed volume of wastewater discharged into the sewerage system.

The new charges are being phased in, in most cases over six years. Once completely phased in, all of the Corporation's commercial wastewater customers throughout the State will pay the same wastewater charges.

The sewerage charge for 2005/06 will be determined by comparing last year's bill with the ultimate combined service and usage charges. These charges will be assessed using 2005/06 sewerage charges as the base.

## Service Charges

Table A3.5 sets out the commercial wastewater service charges for 2005/06.

**Table A3.5 Commercial Wastewater Service Charges for 2005/06 (State-wide)**

Fixture *	Charge (\$/year)
First Fixture	\$516.00
Second Fixture	\$220.80
Third Fixture	\$294.90
Over 3 Fixtures (each)	\$320.70
Strata Titled Units	\$320.70

\* Note: Fixture charges are cumulative.

## Usage Charges

In 2005/06 the usage charge for country commercial wastewater services is 193.10 c/kL.



A 200 kL free discharge allowance per annum applies to each property. No usage charge applies to properties where the annual volume of discharge is less than 200 kL.

## Vacant Land Water Tariffs

Vacant land is subject to a service charge and to usage charges.

### Service Charge

The charge for 2005/06 is \$152.30

### Usage Charges

2005/06 residential usage charges apply to vacant land held for residential purposes. For usage charges please refer to country residential water usage charges above.

A country vacant land usage charge of 122.40 c/kL applies to vacant land held for purposes other than residential.

## Vacant Land Wastewater Tariffs

Sewerage charges for vacant land are based on the rateable value of the property.

The rateable value is derived from the GRV (gross rental value), determined by the Office of the Valuer General for the property.

The tariffs are set independently for each country town sewerage scheme, with the objective of recovering the costs of providing sewerage services to the specific town or area.

The minimum country sewerage charge for vacant land in 2005/06 is \$158.90. The maximum country sewerage charge for vacant land held for residential purposes is \$612.40.

## Appendix 4: Recommended Prices

### Assumptions

The prices in the tables below assume that Option A for residential wastewater pricing (i.e. basing the CSO on the cost of capping the flat wastewater charges rather than also on the cost of overheads) and Option A for commercial water pricing (i.e. retaining a two-tier usage charge structure rather moving to a single tier structure).

### Proposed Prices (Real Dollar Values of 2005/06)

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Residential Water Charges - Country</b>									
<b>Fixed Charge</b>									
All customers	152.30	149.97	147.71	145.46	143.20	140.95	138.70	136.44	134.19
<b>Usage Charges</b>									
<b>Class 1a</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.851	0.855	0.850	0.845	0.840	0.835	0.830	0.825	0.820
451 - 500	0.851	0.855	0.850	0.845	0.840	0.835	0.830	0.825	0.820
501 - 550	0.851	0.855	0.850	0.845	0.840	0.835	0.830	0.825	0.820
551 - 650	1.226	1.232	1.253	1.275	1.296	1.317	1.339	1.360	1.382
651 - 750	1.226	1.232	1.253	1.275	1.296	1.317	1.339	1.360	1.382

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
751 - 950	1.560	1.567	1.541	1.514	1.488	1.461	1.435	1.408	1.382
951 - 1150	1.560	1.567	1.587	1.608	1.628	1.648	1.668	1.688	1.708
1150 - 1550	2.241	2.252	2.174	2.097	2.019	1.941	1.863	1.786	1.708
1550 - 1950	2.583	2.596	2.469	2.342	2.215	2.088	1.961	1.835	1.708
>1950	3.002	3.016	2.830	2.643	2.456	2.269	2.082	1.895	1.708
<b>Class 2a</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.876	0.881	0.881	0.881	0.881	0.881	0.881	0.881	0.881
451 - 500	1.131	1.137	1.100	1.064	1.027	0.991	0.954	0.918	0.881
501 - 550	1.131	1.137	1.100	1.064	1.027	0.991	0.954	0.918	0.881
551 - 650	1.280	1.286	1.360	1.433	1.506	1.580	1.653	1.727	1.800
651 - 750	1.280	1.286	1.360	1.433	1.506	1.580	1.653	1.727	1.800
751 - 950	2.113	2.123	2.077	2.031	1.985	1.938	1.892	1.846	1.800
951 - 1150	2.113	2.123	2.145	2.167	2.189	2.210	2.232	2.254	2.276
1150 - 1550	3.088	3.103	2.985	2.867	2.748	2.630	2.512	2.394	2.276
1550 - 1950	3.819	3.837	3.614	3.391	3.168	2.945	2.722	2.499	2.276
>1950	4.876	4.900	4.525	4.150	3.775	3.400	3.026	2.651	2.276
<b>Class 3a</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.876	0.881	0.914	0.946	0.979	1.012	1.045	1.078	1.111

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
451 - 500	1.243	1.249	1.230	1.210	1.190	1.170	1.150	1.131	1.111
501 - 550	1.243	1.249	1.230	1.210	1.190	1.170	1.150	1.131	1.111
551 - 650	1.474	1.481	1.604	1.727	1.850	1.973	2.095	2.218	2.341
651 - 750	1.474	1.481	1.604	1.727	1.850	1.973	2.095	2.218	2.341
751 - 950	2.357	2.369	2.365	2.361	2.357	2.353	2.349	2.345	2.341
951 - 1150	2.357	2.369	2.420	2.472	2.524	2.576	2.627	2.679	2.731
1150 - 1550	3.574	3.592	3.469	3.346	3.223	3.100	2.977	2.854	2.731
1550 - 1950	4.713	4.736	4.450	4.163	3.877	3.590	3.304	3.017	2.731
>1950	5.688	5.716	5.289	4.863	4.436	4.010	3.584	3.157	2.731
<b>Class 4a</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.876	0.881	1.007	1.134	1.261	1.388	1.514	1.641	1.768
451 - 500	1.357	1.364	1.421	1.479	1.537	1.595	1.652	1.710	1.768
501 - 550	1.357	1.364	1.421	1.479	1.537	1.595	1.652	1.710	1.768
551 - 650	1.630	1.638	1.923	2.208	2.493	2.778	3.063	3.348	3.633
651 - 750	1.630	1.638	1.923	2.208	2.493	2.778	3.063	3.348	3.633
751 - 950	2.682	2.695	2.829	2.963	3.097	3.231	3.365	3.499	3.633
951 - 1150	2.682	2.695	2.895	3.094	3.293	3.493	3.692	3.891	4.090
1150 - 1550	4.876	4.900	4.784	4.669	4.553	4.437	4.322	4.206	4.090
1550 - 1950	5.851	5.880	5.624	5.368	5.113	4.857	4.602	4.346	4.090
>1950	6.824	6.857	6.462	6.067	5.672	5.276	4.881	4.486	4.090
<b>Class 5a</b>									

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.876	0.881	1.112	1.343	1.575	1.806	2.037	2.269	2.500
451 - 500	1.395	1.402	1.558	1.715	1.872	2.029	2.186	2.343	2.500
501 - 550	1.395	1.402	1.558	1.715	1.872	2.029	2.186	2.343	2.500
551 - 650	1.784	1.792	2.251	2.709	3.167	3.625	4.084	4.542	5.000
651 - 750	1.784	1.792	2.251	2.709	3.167	3.625	4.084	4.542	5.000
751 - 950	3.007	3.021	3.304	3.587	3.869	4.152	4.435	4.717	5.000
951 - 1150	3.007	3.021	3.304	3.587	3.869	4.152	4.435	4.717	5.000
1150 - 1550	6.011	6.040	5.891	5.743	5.594	5.446	5.297	5.149	5.000
1550 - 1950	6.988	7.022	6.733	6.445	6.156	5.867	5.578	5.289	5.000
>1950	7.800	7.838	7.433	7.027	6.622	6.216	5.811	5.405	5.000
<b>Class 1b</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
451 - 500	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
501 - 550	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
551 - 650	0.777	0.836	0.888	0.940	0.992	1.044	1.096	1.148	1.200
651 - 750	1.226	1.232	1.227	1.223	1.218	1.214	1.209	1.205	1.200
751 - 950	1.560	1.567	1.541	1.514	1.488	1.461	1.435	1.408	1.382
951 - 1150	1.560	1.567	1.560	1.553	1.546	1.539	1.531	1.524	1.517
1150 - 1550	2.241	2.252	2.174	2.097	2.019	1.941	1.863	1.786	1.708

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
1550 - 1950	2.583	2.596	2.469	2.342	2.215	2.088	1.961	1.835	1.708
>1950	3.002	3.016	2.830	2.643	2.456	2.269	2.082	1.895	1.708
<b>Class 2b</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
451 - 500	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
501 - 550	0.689	0.710	0.734	0.759	0.783	0.808	0.832	0.857	0.881
551 - 650	0.832	0.836	0.888	0.940	0.992	1.044	1.096	1.148	1.200
651 - 750	1.280	1.286	1.274	1.262	1.249	1.237	1.225	1.212	1.200
751 - 950	2.113	2.123	2.077	2.031	1.985	1.938	1.892	1.846	1.800
951 - 1150	2.113	2.123	2.077	2.031	1.985	1.938	1.892	1.846	1.800
1150 - 1550	3.088	3.103	2.985	2.867	2.748	2.630	2.512	2.394	2.276
1550 - 1950	3.819	3.837	3.614	3.391	3.168	2.945	2.722	2.499	2.276
>1950	4.876	4.900	4.525	4.150	3.775	3.400	3.026	2.651	2.276
<b>Class 3b</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
451 - 500	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
501 - 550	0.689	0.710	0.767	0.825	0.882	0.939	0.996	1.054	1.111
551 - 650	0.832	0.836	0.888	0.940	0.992	1.044	1.096	1.148	1.200
651 - 750	1.474	1.481	1.441	1.401	1.361	1.320	1.280	1.240	1.200

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
751 - 950	2.357	2.369	2.365	2.361	2.357	2.353	2.349	2.345	2.341
951 - 1150	2.357	2.369	2.365	2.361	2.357	2.353	2.349	2.345	2.341
1150 - 1550	3.574	3.592	3.469	3.346	3.223	3.100	2.977	2.854	2.731
1550 - 1950	4.713	4.736	4.450	4.163	3.877	3.590	3.304	3.017	2.731
>1950	5.688	5.716	5.289	4.863	4.436	4.010	3.584	3.157	2.731
<b>Class 4b</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
451 - 500	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
501 - 550	0.689	0.710	0.861	1.012	1.163	1.314	1.466	1.617	1.768
551 - 650	0.832	0.836	0.969	1.102	1.235	1.369	1.502	1.635	1.768
651 - 750	1.630	1.638	1.657	1.675	1.694	1.712	1.731	1.749	1.768
751 - 950	2.682	2.695	2.829	2.963	3.097	3.231	3.365	3.499	3.633
951 - 1150	2.682	2.695	2.829	2.963	3.097	3.231	3.365	3.499	3.633
1150 - 1550	4.876	4.900	4.784	4.669	4.553	4.437	4.322	4.206	4.090
1550 - 1950	5.851	5.880	5.624	5.368	5.113	4.857	4.602	4.346	4.090
>1950	6.824	6.857	6.462	6.067	5.672	5.276	4.881	4.486	4.090
<b>Class 5b</b>									
0 - 150	0.425	0.478	0.527	0.576	0.625	0.674	0.722	0.771	0.820
151 - 350	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
351 - 450	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
451 - 500	0.689	0.710	0.726	0.741	0.757	0.773	0.789	0.804	0.820
501 - 550	0.689	0.710	0.966	1.221	1.477	1.733	1.989	2.244	2.500
551 - 650	0.832	0.836	1.074	1.311	1.549	1.787	2.025	2.262	2.500
651 - 750	1.784	1.792	1.894	1.995	2.096	2.197	2.298	2.399	2.500
751 - 950	3.007	3.021	3.304	3.587	3.869	4.152	4.435	4.717	5.000
951 - 1150	3.007	3.021	3.304	3.587	3.869	4.152	4.435	4.717	5.000
1150 - 1550	6.011	6.040	5.891	5.743	5.594	5.446	5.297	5.149	5.000
1550 - 1950	6.988	7.022	6.733	6.445	6.156	5.867	5.578	5.289	5.000
>1950	7.800	7.838	7.433	7.027	6.622	6.216	5.811	5.405	5.000
<b>Commercial Water Charges - Country</b>									
<b>Fixed Charge</b>									
15 mm & 20mm meter	461.90	478.71	497.65	517.35	537.82	559.11	581.24	604.24	628.15
25mm meter	721.70	747.99	777.59	808.36	840.36	873.62	908.19	944.13	981.50
30mm meter	1,039.30	1,077.12	1,119.75	1,164.06	1,210.13	1,258.02	1,307.81	1,359.57	1,413.38
35mm, 38mm & 40mm meter	1,848.00	1,914.83	1,990.62	2,069.40	2,151.30	2,236.44	2,324.95	2,416.96	2,512.62
50mm meter	2,887.00	2,991.56	3,109.96	3,233.04	3,360.99	3,494.01	3,632.29	3,776.05	3,925.49
70mm, 75mm & 80mm meter	7,390.00	7,659.33	7,962.46	8,277.59	8,605.19	8,945.75	9,299.80	9,667.85	10,050.47
100mm meter	11,548.00	11,968.19	12,441.85	12,934.26	13,446.15	13,978.31	14,531.52	15,106.63	15,704.50
140mm & 150mm meter	25,982.00	26,926.96	27,992.65	29,100.50	30,252.21	31,449.49	32,694.16	33,988.08	35,333.22
Vacant land	152.30	149.97	147.71	145.46	143.20	140.95	138.70	136.44	134.19
<b>Usage Charges</b>									



Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Class 1</b>									
1-300	0.847	0.851	0.875	0.899	0.923	0.947	0.972	0.996	1.020
301+	1.480	1.487	1.460	1.434	1.407	1.381	1.354	1.328	1.301
<b>Class 2</b>									
1-300	1.125	1.131	1.161	1.191	1.222	1.252	1.282	1.312	1.343
301+	2.006	2.016	1.972	1.929	1.886	1.842	1.799	1.756	1.713
<b>Class 3</b>									
1-300	1.236	1.242	1.297	1.353	1.409	1.465	1.521	1.577	1.632
301+	2.236	2.246	2.223	2.199	2.176	2.153	2.129	2.106	2.082
<b>Class 4</b>									
1-300	1.351	1.358	1.516	1.674	1.831	1.989	2.147	2.305	2.463
301+	2.546	2.559	2.642	2.725	2.808	2.892	2.975	3.058	3.141
<b>Class 5</b>									
1-300	1.388	1.395	1.756	2.116	2.477	2.838	3.199	3.559	3.920
301+	2.853	2.867	3.172	3.477	3.781	4.086	4.391	4.695	5.000
<b>Vacant land</b>	1.224	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230
<b>Mining</b>									
Usage Charge	1.682	1.682	1.788	1.893	1.999	2.105	2.211	2.316	2.422
<b>Farmland</b>									
Fixed Charge	152.30	149.97	147.71	145.46	143.20	140.95	138.70	136.44	134.188
Usage Charge	0.951	0.951	0.984	1.017	1.050	1.083	1.116	1.149	1.182
<b>Charitable/Institutional</b>									
Usage Charge									

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
Average	1.480	1.487	1.561	1.634	1.708	1.781	1.854	1.928	2.001
<b>Residential Wastewater Charges - Country</b>									
Average	482.24	484.63	498.91	513.19	527.48	541.76	556.04	570.32	584.61
<b>Commercial Wastewater Charges - Country</b>									
<b>Fixed Charges</b>									
First Fixture	516.00	518.55	511.20	503.94	496.80	489.75	482.80	475.95	475.95
Second Fixture	220.80	221.89	218.74	215.64	212.58	209.57	206.59	203.66	203.66
Third Fixture	294.90	296.36	292.15	288.01	283.92	279.90	275.93	272.01	272.01
Over 3 Fixtures (each)	320.70	322.29	317.71	313.21	308.76	304.38	300.07	295.81	295.81
Strata Title	320.70	322.29	317.71	313.21	308.76	304.38	300.07	295.81	295.81
Vacant land	260.00	261.29	267.49	263.69	259.95	256.26	252.63	249.04	249.04
Caravan Parks	6,578.95	6,611.50	6,768.39	6,672.37	6,577.72	6,484.41	6,392.42	6,301.74	6,301.74
First Fixture, Aged Homes	142.90	143.61	141.57	139.56	137.58	135.63	133.71	131.81	131.81
Over 1 Fixture, Aged Homes	62.85	63.16	62.26	61.38	60.51	59.65	58.81	57.97	57.97
First Fixture, Exempt & Charitable	142.90	143.61	141.57	139.56	137.58	135.63	133.71	131.81	131.81
<b>Usage Charge</b>									
Discharge over 200kL	1.931	1.941	1.941	1.941	1.941	1.941	1.941	1.941	1.941

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Drainage - Country</b>									
Drainage	-	-	-	-	-	-	-	-	-
<b>Irrigation - Country</b>									
Irrigation	346.00	347.71	347.71	347.71	347.71	347.71	347.71	347.71	347.71
<b>Residential Water Charges - Metro</b>									
<b>Fixed Charge</b>	152.30	149.97	147.71	145.46	143.20	140.95	138.70	136.44	134.19
All customers									
<b>Usage Charges</b>									
0 – 150kL	0.421	0.445	0.499	0.552	0.606	0.659	0.713	0.766	0.820
151 - 350kL	0.682	0.689	0.708	0.727	0.745	0.764	0.783	0.801	0.820
351 – 550kL	0.920	0.912	0.899	0.886	0.872	0.859	0.846	0.833	0.820
551 – 950kL	1.213	1.210	1.208	1.207	1.205	1.204	1.203	1.201	1.200
over 950kL	1.517	1.514	1.514	1.515	1.515	1.515	1.516	1.516	1.517
<b>Commercial Water Charges - Metro</b>									
<b>Fixed Charges</b>									
20mm meter	461.90	478.71	497.65	517.35	537.82	559.11	581.24	604.24	628.15
25mm meter	721.70	747.99	777.59	808.36	840.36	873.62	908.19	944.13	981.50
30mm meter	1,039.30	1,077.12	1,119.75	1,164.06	1,210.13	1,258.02	1,307.81	1,359.57	1,413.38
40mm meter	1,848.00	1,914.83	1,990.62	2,069.40	2,151.30	2,236.44	2,324.95	2,416.96	2,512.62
50mm meter	2,887.00	2,991.56	3,109.96	3,233.04	3,360.99	3,494.01	3,632.29	3,776.05	3,925.49

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
80mm meter	7,390.00	7,659.33	7,962.46	8,277.59	8,605.19	8,945.75	9,299.80	9,667.85	10,050.47
100mm meter	11,548.00	11,968.19	12,441.85	12,934.26	13,446.15	13,978.31	14,531.52	15,106.63	15,704.50
150mm meter	25,982.00	26,926.96	27,992.65	29,100.50	30,252.21	31,449.49	32,694.16	33,988.08	35,333.22
200mm meter	46,190.00	47,870.81	49,765.38	51,734.93	53,782.42	55,910.96	58,123.73	60,424.07	62,815.46
250mm meter	72,172.00	74,797.77	77,758.02	80,835.43	84,034.63	87,360.44	90,817.88	94,412.16	98,148.68
300mm meter	103,928.00	107,709.80	111,972.60	116,404.11	121,011.00	125,800.22	130,778.98	135,954.78	141,335.42
350mm meter	141,457.00	146,603.98	152,406.09	158,437.82	164,708.27	171,226.88	178,003.48	185,048.27	192,371.87
Vacant land	152.30	149.97	147.71	145.46	143.20	140.95	138.70	136.44	134.19
<b>Usage Charges</b>									
0 – 600	0.726	0.741	0.752	0.764	0.775	0.786	0.797	0.809	0.820
601 – 1,100,000	0.811	0.816	0.816	0.817	0.818	0.818	0.819	0.819	0.820
over 1,100,000	0.790	0.797	0.801	0.804	0.807	0.810	0.814	0.817	0.820
<b>Residential Water Charges - Metro</b>									
Average	455.51	457.76	451.27	444.87	438.56	432.34	426.20	420.16	414.20
<b>Commercial Wastewater Charges - Metro</b>									
<b>Fixed Charges</b>									
First Fixture	516.00	518.55	511.20	503.94	496.80	489.75	482.80	475.95	469.20
Second Fixture	220.80	221.89	218.74	215.64	212.58	209.57	206.59	203.66	200.77
Third Fixture	294.90	296.36	292.15	288.01	283.92	279.90	275.93	272.01	268.15
Over 3 Fixtures (each)	320.70	322.29	317.71	313.21	308.76	304.38	300.07	295.81	291.61
Strata Title	320.70	322.29	317.71	313.21	308.76	304.38	300.07	295.81	291.61

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
Vacant land	270.00	271.34	267.49	263.69	259.95	256.26	252.63	249.04	245.51
First Fixture, Aged Homes	142.90	143.61	141.57	139.56	137.58	135.63	133.71	131.81	129.94
Over 1 Fixture, Aged Homes	62.85	63.16	62.26	61.38	60.51	59.65	58.81	57.97	57.15
First Fixture, Exempt & Charitable	142.90	143.61	141.57	139.56	137.58	135.63	133.71	131.81	129.94
<b>Usage Charge</b>									
>200kL	1.931	1.941	1.941	1.941	1.941	1.941	1.941	1.941	1.941
<b>Drainage Rates - Metro</b>									
Residential	57.00	57.28	56.99	56.71	56.43	56.14	55.86	55.58	55.30
Commercial	389.00	390.92	388.97	387.02	385.08	383.15	381.23	379.32	377.41
Vacant Land	72.00	72.36	71.99	71.63	71.27	70.92	70.56	70.21	69.86

## Proposed Prices (Forecast Nominal Dollar Values at End of Year, Assumed Annual Inflation Rate of 3.1 per cent, except for 2006/07 Where Assumed Inflation Rate is 3.6 per cent)

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Residential Water Charges - Country</b>									
<b>Fixed Charge</b>									
All customers	152.30	153.72	152.28	154.59	156.89	159.20	161.49	163.77	166.05
<b>Usage Charges</b>									
<b>Class 1a</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.851	0.877	0.877	0.898	0.921	0.943	0.967	0.990	1.015
451 - 500	0.851	0.877	0.877	0.898	0.921	0.943	0.967	0.990	1.015
501 - 550	0.851	0.877	0.877	0.898	0.921	0.943	0.967	0.990	1.015
551 - 650	1.226	1.263	1.292	1.355	1.420	1.488	1.559	1.633	1.710
651 - 750	1.226	1.263	1.292	1.355	1.420	1.488	1.559	1.633	1.710
751 - 950	1.560	1.607	1.588	1.609	1.630	1.650	1.670	1.690	1.710
951 - 1150	1.560	1.607	1.637	1.708	1.783	1.861	1.942	2.026	2.113
1150 - 1550	2.241	2.308	2.242	2.228	2.212	2.192	2.170	2.143	2.113
1550 - 1950	2.583	2.660	2.545	2.489	2.427	2.359	2.284	2.202	2.113
>1950	3.002	3.092	2.917	2.808	2.690	2.562	2.424	2.274	2.113
<b>Class 2a</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.876	0.903	0.908	0.936	0.965	0.995	1.026	1.058	1.090
451 - 500	1.131	1.165	1.134	1.130	1.125	1.119	1.111	1.101	1.090
501 - 550	1.131	1.165	1.134	1.130	1.125	1.119	1.111	1.101	1.090
551 - 650	1.280	1.318	1.402	1.523	1.650	1.784	1.925	2.072	2.227
651 - 750	1.280	1.318	1.402	1.523	1.650	1.784	1.925	2.072	2.227
751 - 950	2.113	2.176	2.141	2.158	2.174	2.189	2.203	2.216	2.227
951 - 1150	2.113	2.176	2.211	2.303	2.398	2.496	2.599	2.705	2.816
1150 - 1550	3.088	3.180	3.077	3.046	3.011	2.971	2.925	2.873	2.816
1550 - 1950	3.819	3.933	3.726	3.604	3.471	3.326	3.169	2.999	2.816
>1950	4.876	5.023	4.665	4.411	4.136	3.841	3.523	3.182	2.816
<b>Class 3a</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.876	0.903	0.942	1.006	1.073	1.143	1.217	1.294	1.375
451 - 500	1.243	1.281	1.268	1.286	1.304	1.322	1.340	1.357	1.375
501 - 550	1.243	1.281	1.268	1.286	1.304	1.322	1.340	1.357	1.375
551 - 650	1.474	1.518	1.654	1.835	2.026	2.228	2.440	2.663	2.897
651 - 750	1.474	1.518	1.654	1.835	2.026	2.228	2.440	2.663	2.897
751 - 950	2.357	2.428	2.438	2.509	2.582	2.657	2.735	2.815	2.897
951 - 1150	2.357	2.428	2.495	2.627	2.765	2.909	3.059	3.216	3.379
1150 - 1550	3.574	3.681	3.576	3.556	3.531	3.501	3.466	3.425	3.379
1550 - 1950	4.713	4.855	4.587	4.424	4.247	4.055	3.847	3.622	3.379

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
>1950	5.688	5.859	5.453	5.168	4.861	4.529	4.173	3.790	3.379
<b>Class 4a</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.876	0.903	1.039	1.205	1.381	1.567	1.763	1.970	2.188
451 - 500	1.357	1.398	1.465	1.572	1.684	1.801	1.924	2.053	2.188
501 - 550	1.357	1.398	1.465	1.572	1.684	1.801	1.924	2.053	2.188
551 - 650	1.630	1.679	1.983	2.347	2.731	3.137	3.566	4.018	4.495
651 - 750	1.630	1.679	1.983	2.347	2.731	3.137	3.566	4.018	4.495
751 - 950	2.682	2.763	2.917	3.149	3.393	3.649	3.918	4.200	4.495
951 - 1150	2.682	2.763	2.984	3.288	3.608	3.945	4.299	4.671	5.061
1150 - 1550	4.876	5.023	4.932	4.962	4.988	5.012	5.032	5.049	5.061
1550 - 1950	5.851	6.027	5.798	5.705	5.602	5.486	5.358	5.217	5.061
>1950	6.824	7.029	6.662	6.448	6.214	5.959	5.683	5.384	5.061
<b>Class 5a</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.876	0.903	1.146	1.428	1.725	2.040	2.372	2.723	3.094
451 - 500	1.395	1.437	1.607	1.823	2.051	2.292	2.545	2.812	3.094
501 - 550	1.395	1.437	1.607	1.823	2.051	2.292	2.545	2.812	3.094
551 - 650	1.784	1.837	2.320	2.879	3.470	4.095	4.755	5.452	6.187
651 - 750	1.784	1.837	2.320	2.879	3.470	4.095	4.755	5.452	6.187
751 - 950	3.007	3.097	3.406	3.812	4.239	4.689	5.163	5.662	6.187



Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
951 - 1150	3.007	3.097	3.406	3.812	4.239	4.689	5.163	5.662	6.187
1150 - 1550	6.011	6.191	6.073	6.103	6.129	6.151	6.168	6.180	6.187
1550 - 1950	6.988	7.198	6.941	6.849	6.744	6.626	6.494	6.348	6.187
>1950	7.800	8.034	7.662	7.468	7.255	7.021	6.766	6.488	6.187
<b>Class 1b</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
451 - 500	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
501 - 550	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
551 - 650	0.777	0.857	0.916	0.999	1.087	1.179	1.276	1.378	1.485
651 - 750	1.226	1.263	1.265	1.299	1.335	1.371	1.408	1.446	1.485
751 - 950	1.560	1.607	1.588	1.609	1.630	1.650	1.670	1.690	1.710
951 - 1150	1.560	1.607	1.608	1.650	1.694	1.738	1.783	1.830	1.877
1150 - 1550	2.241	2.308	2.242	2.228	2.212	2.192	2.170	2.143	2.113
1550 - 1950	2.583	2.660	2.545	2.489	2.427	2.359	2.284	2.202	2.113
>1950	3.002	3.092	2.917	2.808	2.690	2.562	2.424	2.274	2.113
<b>Class 2b</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
451 - 500	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
501 - 550	0.689	0.728	0.757	0.807	0.858	0.912	0.969	1.028	1.090

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
551 - 650	0.832	0.857	0.916	0.999	1.087	1.179	1.276	1.378	1.485
651 - 750	1.280	1.318	1.313	1.341	1.369	1.397	1.426	1.455	1.485
751 - 950	2.113	2.176	2.141	2.158	2.174	2.189	2.203	2.216	2.227
951 - 1150	2.113	2.176	2.141	2.158	2.174	2.189	2.203	2.216	2.227
1150 - 1550	3.088	3.180	3.077	3.046	3.011	2.971	2.925	2.873	2.816
1550 - 1950	3.819	3.933	3.726	3.604	3.471	3.326	3.169	2.999	2.816
>1950	4.876	5.023	4.665	4.411	4.136	3.841	3.523	3.182	2.816
<b>Class 3b</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
451 - 500	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
501 - 550	0.689	0.728	0.791	0.876	0.966	1.061	1.160	1.265	1.375
551 - 650	0.832	0.857	0.916	0.999	1.087	1.179	1.276	1.378	1.485
651 - 750	1.474	1.518	1.485	1.489	1.491	1.491	1.491	1.489	1.485
751 - 950	2.357	2.428	2.438	2.509	2.582	2.657	2.735	2.815	2.897
951 - 1150	2.357	2.428	2.438	2.509	2.582	2.657	2.735	2.815	2.897
1150 - 1550	3.574	3.681	3.576	3.556	3.531	3.501	3.466	3.425	3.379
1550 - 1950	4.713	4.855	4.587	4.424	4.247	4.055	3.847	3.622	3.379
>1950	5.688	5.859	5.453	5.168	4.861	4.529	4.173	3.790	3.379
<b>Class 4b</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
351 - 450	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
451 - 500	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
501 - 550	0.689	0.728	0.888	1.076	1.275	1.485	1.706	1.941	2.188
551 - 650	0.832	0.857	0.999	1.171	1.353	1.546	1.748	1.962	2.188
651 - 750	1.630	1.679	1.708	1.780	1.856	1.934	2.015	2.100	2.188
751 - 950	2.682	2.763	2.917	3.149	3.393	3.649	3.918	4.200	4.495
951 - 1150	2.682	2.763	2.917	3.149	3.393	3.649	3.918	4.200	4.495
1150 - 1550	4.876	5.023	4.932	4.962	4.988	5.012	5.032	5.049	5.061
1550 - 1950	5.851	6.027	5.798	5.705	5.602	5.486	5.358	5.217	5.061
>1950	6.824	7.029	6.662	6.448	6.214	5.959	5.683	5.384	5.061
<b>Class 5b</b>									
0 - 150	0.425	0.490	0.543	0.612	0.684	0.761	0.841	0.926	1.015
151 - 350	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
351 - 450	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
451 - 500	0.689	0.728	0.748	0.788	0.830	0.873	0.918	0.965	1.015
501 - 550	0.689	0.728	0.996	1.298	1.618	1.957	2.315	2.694	3.094
551 - 650	0.832	0.857	1.107	1.394	1.697	2.018	2.357	2.715	3.094
651 - 750	1.784	1.837	1.952	2.120	2.296	2.481	2.675	2.879	3.094
751 - 950	3.007	3.097	3.406	3.812	4.239	4.689	5.163	5.662	6.187
951 - 1150	3.007	3.097	3.406	3.812	4.239	4.689	5.163	5.662	6.187
1150 - 1550	6.011	6.191	6.073	6.103	6.129	6.151	6.168	6.180	6.187
1550 - 1950	6.988	7.198	6.941	6.849	6.744	6.626	6.494	6.348	6.187
>1950	7.800	8.034	7.662	7.468	7.255	7.021	6.766	6.488	6.187

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Commercial Water Charges - Country</b>									
<b>Fixed Charge</b>									
15 mm & 20mm meter	461.90	490.68	513.03	549.82	589.24	631.48	676.76	725.28	777.29
25mm meter	721.70	766.69	801.62	859.09	920.69	986.70	1,057.45	1,133.27	1,214.52
30mm meter	1,039.30	1,104.05	1,154.35	1,237.11	1,325.81	1,420.87	1,522.75	1,631.93	1,748.94
35mm, 38mm & 40mm meter	1,848.00	1,962.70	2,052.12	2,199.26	2,356.95	2,525.94	2,707.05	2,901.14	3,109.15
50mm meter	2,887.00	3,066.35	3,206.05	3,435.93	3,682.28	3,946.30	4,229.24	4,532.48	4,857.45
70mm, 75mm & 80mm meter	7,390.00	7,850.81	8,208.50	8,797.04	9,427.78	10,103.75	10,828.18	11,604.55	12,436.59
100mm meter	11,548.00	12,267.39	12,826.30	13,745.93	14,731.51	15,787.75	16,919.72	18,132.85	19,432.96
140mm & 150mm meter	25,982.00	27,600.14	28,857.61	30,926.68	33,144.10	35,520.51	38,067.31	40,796.71	43,721.81
Vacant land	152.30	153.72	152.28	154.59	156.89	159.20	161.49	163.77	166.05
<b>Usage Charges</b>									
<b>Class 1</b>									
1-300	0.847	0.872	0.902	0.955	1.012	1.070	1.131	1.195	1.262
301+	1.480	1.524	1.505	1.524	1.542	1.559	1.577	1.594	1.610
<b>Class 2</b>									
1-300	1.125	1.159	1.197	1.266	1.338	1.414	1.493	1.575	1.661
301+	2.006	2.066	2.033	2.050	2.066	2.081	2.095	2.108	2.119
<b>Class 3</b>									
1-300	1.236	1.273	1.337	1.438	1.544	1.655	1.771	1.892	2.020
301+	2.236	2.303	2.292	2.337	2.384	2.431	2.479	2.527	2.576

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Class 4</b>									
1-300	1.351	1.392	1.563	1.779	2.007	2.247	2.500	2.767	3.048
301+	2.546	2.623	2.724	2.896	3.077	3.266	3.464	3.671	3.887
<b>Class 5</b>									
1-300	1.388	1.430	1.810	2.249	2.714	3.205	3.724	4.272	4.851
301+	2.853	2.939	3.270	3.695	4.143	4.615	5.112	5.636	6.187
<b>Vacant land</b>	1.224	1.261	1.268	1.307	1.348	1.389	1.432	1.476	1.522
<b>Mining</b>									
Usage Charge	1.682	1.724	1.843	2.012	2.190	2.377	2.574	2.780	2.997
<b>Farmland</b>									
Fixed Charge	152.30	153.72	152.28	154.59	156.89	159.20	161.49	163.77	166.05
Usage Charge	0.951	0.975	1.014	1.081	1.150	1.223	1.299	1.379	1.462
<b>Charitable/Institutional</b>									
Usage Charge									
Average	1.48	1.52	1.61	1.74	1.87	2.01	2.16	2.31	2.48
	-	-	-	-	-	-	-	-	-
<b>Residential Wastewater Charges - Country</b>									
Average	482.24	496.75	514.33	545.40	577.90	611.89	647.42	684.57	723.40

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Commercial Wastewater Charges - Country</b>									
<b>Fixed Charges</b>									
First Fixture	516.00	531.52	526.99	535.57	544.29	553.14	562.15	571.30	588.95
Second Fixture	220.80	227.44	225.50	229.17	232.90	236.69	240.55	244.46	252.02
Third Fixture	294.90	303.77	301.18	306.08	311.07	316.13	321.27	326.50	336.59
Over 3 Fixtures (each)	320.70	330.34	327.53	332.86	338.28	343.79	349.38	355.07	366.04
Strata Title	320.70	330.34	327.53	332.86	338.28	343.79	349.38	355.07	366.04
Vacant land	260.00	267.82	275.75	280.24	284.80	289.44	294.15	298.93	308.17
Caravan Parks	6,578.95	6,776.79	6,977.53	7,091.09	7,206.50	7,323.79	7,442.99	7,564.13	7,797.86
First Fixture, Aged Homes	142.90	147.20	145.94	148.32	150.73	153.19	155.68	158.21	163.10
Over 1 Fixture, Aged Homes	62.85	64.74	64.19	65.23	66.30	67.37	68.47	69.59	71.74
First Fixture, Exempt & Charitable	142.90	147.20	145.94	148.32	150.73	153.19	155.68	158.21	163.10
<b>Usage Charge</b>									
Discharge over 200kL	1.931	1.989	2.001	2.062	2.126	2.192	2.259	2.329	2.401
<b>Drainage - Country</b>									
Drainage	-	-	-	-	-	-	-	-	-
<b>Irrigation - Country</b>									
Irrigation	346.00	356.40	358.46	369.53	380.95	392.72	404.86	417.37	430.26

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Residential Water Charges - Metro</b>									
<b>Fixed Charge</b>	152.30	153.72	152.28	154.59	156.89	159.20	161.49	163.77	166.05
All customers									
<b>Usage Charges</b>									
0 – 150kL	0.421	0.456	0.514	0.587	0.664	0.745	0.830	0.920	1.015
151 - 350kL	0.682	0.706	0.730	0.772	0.817	0.863	0.911	0.962	1.015
351 – 550kL	0.920	0.935	0.926	0.941	0.956	0.971	0.985	1.000	1.015
551 – 950kL	1.213	1.240	1.246	1.283	1.321	1.360	1.400	1.442	1.485
over 950kL	1.517	1.552	1.561	1.610	1.660	1.711	1.765	1.820	1.877
<b>Commercial Water Charges - Metro</b>									
<b>Fixed Charges</b>									
20mm meter	461.90	490.68	513.03	549.82	589.24	631.48	676.76	725.28	777.29
25mm meter	721.70	766.69	801.62	859.09	920.69	986.70	1,057.45	1,133.27	1,214.52
30mm meter	1,039.30	1,104.05	1,154.35	1,237.11	1,325.81	1,420.87	1,522.75	1,631.93	1,748.94
40mm meter	1,848.00	1,962.70	2,052.12	2,199.26	2,356.95	2,525.94	2,707.05	2,901.14	3,109.15
50mm meter	2,887.00	3,066.35	3,206.05	3,435.93	3,682.28	3,946.30	4,229.24	4,532.48	4,857.45
80mm meter	7,390.00	7,850.81	8,208.50	8,797.04	9,427.78	10,103.75	10,828.18	11,604.55	12,436.59
100mm meter	11,548.00	12,267.39	12,826.30	13,745.93	14,731.51	15,787.75	16,919.72	18,132.85	19,432.96
150mm meter	25,982.00	27,600.14	28,857.61	30,926.68	33,144.10	35,520.51	38,067.31	40,796.71	43,721.81
200mm meter	46,190.00	49,067.58	51,303.11	54,981.51	58,923.65	63,148.43	67,676.13	72,528.46	77,728.71
250mm meter	72,172.00	76,667.72	80,160.72	85,908.19	92,067.75	98,668.94	105,743.44	113,325.17	121,450.51

Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
300mm meter	103,928.00	110,402.54	115,432.52	123,708.95	132,578.80	142,084.61	152,271.98	163,189.78	174,890.37
350mm meter	141,457.00	150,269.08	157,115.39	168,380.45	180,453.22	193,391.59	207,257.64	222,117.87	238,043.57
Vacant land	152.30	153.72	152.28	154.59	156.89	159.20	161.49	163.77	166.05
<b>Usage Charges</b>									
0 – 600	0.726	0.760	0.776	0.812	0.849	0.888	0.929	0.971	1.015
601 – 1,100,000	0.811	0.836	0.842	0.868	0.896	0.924	0.953	0.984	1.015
over 1,100,000	0.790	0.817	0.825	0.854	0.884	0.915	0.947	0.980	1.015
<b>Residential Water Charges - Metro</b>									
Average	455.51	469.21	465.22	472.79	480.48	488.30	496.25	504.33	512.53
<b>Commercial Wastewater Charges - Metro</b>									
<b>Fixed Charges</b>									
First Fixture	516.00	531.52	526.99	535.57	544.29	553.14	562.15	571.30	580.59
Second Fixture	220.80	227.44	225.50	229.17	232.90	236.69	240.55	244.46	248.44
Third Fixture	294.90	303.77	301.18	306.08	311.07	316.13	321.27	326.50	331.82
Over 3 Fixtures (each)	320.70	330.34	327.53	332.86	338.28	343.79	349.38	355.07	360.85
Strata Title	320.70	330.34	327.53	332.86	338.28	343.79	349.38	355.07	360.85
Vacant land	270.00	278.12	275.75	280.24	284.80	289.44	294.15	298.93	303.80
First Fixture, Aged Homes	142.90	147.20	145.94	148.32	150.73	153.19	155.68	158.21	160.79
Over 1 Fixture, Aged Homes	62.85	64.74	64.19	65.23	66.30	67.37	68.47	69.59	70.72



Year Ending 30 June	2006	2007	2008	2009	2010	2011	2012	2013	2014
First Fixture, Exempt & Charitable	142.90	147.20	145.94	148.32	150.73	153.19	155.68	158.21	160.79
<b>Usage Charge</b>									
>200kL	1.931	1.989	2.001	2.062	2.126	2.192	2.259	2.329	2.401
<b>Drainage Rates - Metro</b>									
Residential	57.00	58.71	58.76	60.27	61.82	63.41	65.04	66.72	68.43
Commercial	389.00	400.70	400.98	411.30	421.89	432.74	443.88	455.30	467.02
Vacant Land	72.00	74.17	74.22	76.13	78.09	80.10	82.16	84.27	86.44

## Appendix 5: Current and Proposed Country Town Allocation for Water Pricing

The following tables provide the current and proposed country town allocation for country water pricing.

Group A Classes	Current Country Town Allocation (with Proposed Class in Brackets)	Proposed Country Town Allocation (with Average Direct Cost per kL in Brackets)
1	Albany (3) Allanooka F/L (1) Australind/Eaton (2) Boyanup (2) Bruns/Burek/Ro (2) Capel (2) Cervantes (1) Collie (1) Collie F/L (1) Cunderdin (2) Dathagnoorara (1) Dongara/Denison (1) Donnybrook (2) Esperance (2) Geraldton (1) Grass Valley (4) Harvey/Wokalup (1) Jurien (3) Kalbarri (1) Mandurah (transferred to metro) Margaret River (3) Moora (1) Narngulu (1) Northam (3) Parkridge (1) Pinjarra (2) Porongorup Town (5) Walkaway (1) Waroona/Hamel (2) Wundowie (2) Yarloop (3)	Allanooka F/L (0.37) Bodallin (1.25) Calingari (1.43) Cervantes (1.25) Collie (0.93) Collie F/L (0.1) Condingup (1.47) Dathagnoorara (1.38) Dongara/Denison (1.45) Geraldton (1.45) Gibson (0.26) Harvey/Wokalup (1.09) Kalbarri (1.32) Moora (1.39) Narngulu (0) Parkridge (1.5) Walkaway (0.83)
2	Allanson (3) Bakers Hill (3) Balingup (5) Beverley (4) Binningup (5) Bodallin (1) Boddington (5) Boyup Brook (3) Burracoppin (4) Carnamah (4) Coorow (4) Dardanup (4) Darkan (3)	Australind/Eaton (1.7) Boyanup (1.66) Bruns/Burek/Ro (1.81) Capel (1.67) Cunderdin (1.88) Donnybrook (1.64) Dowerin (1.94) Eneabba (1.66) Esperance (1.73) Grass Patch (1.66) Guilderton (1.68) Lancelin (1.73) Nth Dandalup (1.97)

	Dowerin (2)	Pinjarra (1.86)
	Dunsborough/Yallingup (3)	Waroona/Hamel (1.55)
	Dwellingup (5)	Wundowie (1.9)
	Eneabba (2)	
	Eradu (3)	
	Gabbadah (Sovereign Hill) (5)	
	Gin Gin (4)	
	Greenbushes (3)	
	Greenhead (3)	
	Guilderton (2)	
	Karakin (Seaview) (4)	
	Kellerberrin (4)	
	Lancelin (2)	
	Ledge Point (3)	
	Leeman (4)	
	Manjimup (4)	
	Meckering (4)	
	Merredin (3)	
	Mingenew (3)	
	Nannup (4)	
	Narrogin (3)	
	Nth Dandalup (2)	
	Pemberton (4)	
	Peppermint Grove (4)	
	Tammin (3)	
	Toodyay (3)	
	Wagin (4)	
	Williams (3)	
	Woodridge (4)	
	York (4)	
3	Arrowsmith F/L (4)	Albany (2.35)
	Augusta (4)	Allanson (2.14)
	Bolgart (5)	Bakers Hill (2.46)
	Bremer Bay (5)	Boyup Brook (2.3)
	Bridgetown (4)	Darkan (2.15)
	Brookton (5)	Dunsborough/Yallingup (2.44)
	Broomehill (5)	Eradu (2.32)
	Calingari (1)	Greenbushes (2.49)
	Chittering/Bin (4)	Greenhead (2.43)
	Coolgardie (4)	Jurien (2.09)
	Cuballing (5)	Kambalda (0)
	Dalwallinu (5)	Koorda (2.19)
	Denmark (5)	Ledge Point (2.15)
	Doodlakine (5)	Margaret River (2.45)
	Gibson (1)	Merredin (2.2)
	Goomaling (5)	Mingenew (2.28)
	Highb & Piessv (4)	Narrogin (2.29)
	Hines Hill (5)	Narrogin Farmland (2.18)
	Hopetoun (5)	Northam (2.36)
	Kalgoorlie/Boulder (4)	Northhampton (2.22)
	Kambalda (3)	Sea Bird (2.42)
	Katanning (5)	Southern Cross (1.52)
	Katanning F/L (5)	Tammin (2.07)
	Kirup (5)	Toodyay (2.24)
	Kojonup/Muradup (5)	Williams (2.05)
	Koorda (3)	Wyalkatchem (2.23)
	Marvel Loch (5)	Yarloop (2.48)
	Morowa (4)	
	Mount Barker (5)	

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	Myalup (4)	
	Nabawa (5)	
	Narrikup (5)	
	Northcliffe (5)	
	Northhampton (3)	
	Pingelly (4)	
	Pithara (5)	
	Quairading (4)	
	Sea Bird (3)	
	Southern Cross (3)	
	Three Springs (4)	
	Westonia (4)	
	Wickepin (4)	
	Woodanilling (5)	
	Wyalkatchem (3)	
	Yearling/Bulla (5)	
4	Badgingarra (5)	Arino (3.87)
	Ballidu (5)	Arrowsmith F/L (3.13)
	Bruce Rock (5)	Augusta (2.75)
	Bunjil (4)	Beverley (3.87)
	Caron (4)	Bridgetown (3.18)
	Condingup (1)	Bunjil (0)
	Corrigin (5)	Burracoppin (2.78)
	Cowaramup (5)	Carnamah (2.84)
	Cranbrook (5)	Caron (0)
	Dandaragan (4)	Chittering/Bin (2.63)
	Frankland (5)	Coolgardie (3.67)
	Gnowangerup (5)	Coorow (3.6)
	Horrocks (4)	Dandaragan (3.12)
	Hyden (5)	Dardanup (2.56)
	Jerramungup (5)	Gin Gin (2.65)
	Kalannie (4)	Grass Valley (3.85)
	Kendenup Town (5)	Highb & Piessv (3.33)
	Kondinin (5)	Horrocks (3.62)
	Kulin (5)	Kalannie (3.66)
	Kununoppin (5)	Kalgoorlie/Boulder (4.03)
	Lake Grace (5)	Karakin (Seaview (3.96)
	Latham (5)	Kellerberrin (3.95)
	Miling (4)	Leeman (3.26)
	Moorine Rock (5)	Manjimup (2.53)
	Mukinbudin (4)	Meckering (3.23)
	Mullewa F/L (5)	Miling (3.77)
	Mullewa Town (5)	Morowa (3.69)
	Narembeen (4)	Mukinbudin (3.64)
	Narrogin Farmland (3)	Myalup (3.7)
	New Norcia (5)	Nannup (2.86)
	Newdegate (5)	Narembeen (3.2)
	Norseman (4)	Norseman (3.8)
	Nyabing (5)	Nungarin (2.95)
	Perenjori (5)	Pemberton (3.79)
	Pingaring (5)	Peppermint Grove (3.61)
	Popanyinning (5)	Pingelly (3.92)
	Tambellup (5)	Quairading (3.83)
	Trayning (4)	Three Springs (3.11)
	Walpole (5)	Trayning (3.95)
	Wandering (5)	Wagin (3.98)
	Watheroo (4)	Watheroo (2.94)
	Widgiemooltha (4)	Westonia (3.81)
	Wongan Hills (5)	Wickepin (3.26)

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	Wubin (5)	Widgiemooltha (3.02) Woodridge (2.95) York (3.04)
5	Arino (4) Beacon (5) Bencubbin (5) Bindi Bindi (5) Borden (5) Broad Arrow (5) Bullfinch (5) Buntine (5) Coomberdale (5) Dumbleyung (5) Dundn,Harr,Jit (5) Grass Patch (2) Kalgoorlie (5) Kukerin & Moul (5) Lake King (5) Mount Roe (5) Mullayup (5) Munglinup (5) Muntadgin (5) Nungarin (4) Ongerup (5) Pingrup (5) Quininup (5) Ravensthorpe (5) Rocky Gully (5) Salmon Gums (5) Tincurrin (5) Varley (5) Wellstead (5) Yeracooin (5) Yuna (5)	Badgingarra (6.76) Balingup (4.69) Ballidu (5.95) Beacon (5.03) Bencubbin (7.12) Bindi Bindi (20.5) Binningup (5.08) Boddington (4.11) Bolgart (4.99) Borden (40.58) Bremer Bay (6.05) Broad Arrow (68.53) Brookton (4.95) Broomehill (6.48) Bruce Rock (5.7) Bullfinch (6.25) Buntine (8.91) Coomberdale (0) Corrigin (4.64) Cowaramup (7.82) Cranbrook (16.97) Cuballing (5.08) Dalwallinu (4.07) Denmark (8.05) Doodlakine (4.76) Dumbleyung (32.57) Dundn,Harr,Jit (25.03) Dwellingup (5.42) Frankland (24.63) Gabbadah (Sover'n Hill) (4.33) Gnowangerup (7.42) Goomaling (4.12) Hines Hill (4.19) Hopetoun (4.98) Hyden (16.78) Jerramungup (17.27) Kalgoorlie (27.42) Katanning (4.85) Katanning F/L (4.55) Kendrup Town (9.58) Kirup (4.86) Kojonup/Muradup (6.44) Kondinin (9.35) Kukerin & Moul (37.67) Kulin (4.92) Kununoppin (5.29) Lake Grace (9.5) Lake King (31.27) Latham (9.76) Marvel Loch (5.18) Moorine Rock (23.18) Mount Barker (6.07) Mount Roe (24.73) Mullayup (22.58) Mullewa F/L (4.44) Mullewa Town (4.22)

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Munglinup (25.21)  
Muntadgin (15.56)  
Nabawa (4.97)  
Narrikup (6.26)  
New Norcia (4.36)  
Newdegate (13.89)  
Northcliffe (9.11)  
Nyabing (32.26)  
Ongerup (27.21)  
Perenjori (5.44)  
Pingaring (19.37)  
Pingrup (27.34)  
Pithara (4.41)  
Popanyinning (6.22)  
Porongorup Tow (8.86)  
Quininup (17.36)  
Ravensthorpe (9.1)  
Rocky Gully (33.7)  
Salmon Gums (57.42)  
Tambellup (8.92)  
Tincurrin (42.54)  
Varley (58.76)  
Walpole (5.1)  
Wandering (13.15)  
Wellstead (34.47)  
Wongan Hills (8.39)  
Woodanilling (4.69)  
Wubin (5.18)  
Yearling/Bulla (7.11)  
Yerecoin (4.81)  
Yuna (36.13)

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Group B Classes (Generally for Towns Above the 26 <sup>th</sup> Parallel)	Current Country Town Allocation	Proposed Country Town Allocation (with Average Direct Cost per kL in Brackets)
1	Broome (1) Kununurra (2) Port Hedland (2) South Hedland (3)	Broome (1.37) Newman (1.12)
2	Carnarvon Town (4) Derby (2) Exmouth (4) Fitzroy Crossing (2) Karratha (5) Meekatharra (2) Mount Magnet (2) Newman (1) Wiluna (4)	Derby (1.78) Fitzroy Crossing (1.92) Kununurra (1.73) Meekatharra (1.58) Mount Magnet (1.86) Port Hedland (1.77)
3	Camballin (5) Cue (3) Denham Saline (3) Gascoyne Junction (5) Halls Creek (4) Laverton (4) Leonora (4) Pt Sampson Town (4) Roebourne (4) Wickham (4) Wyndham (5) Yalgoo (4)	Cue (2.35) Denham Saline (2.34) South Hedland (2.33)
4	Lake Argyle (4) Marble Bar (5) Nullagine (5) Onslow (5) Sandstone (4)	Carnarvon Town (3.34) Exmouth (2.53) Halls Creek (3.1) Lake Argyle (4) Laverton (3.26) Leonora (3.06) Pt Sampson Town (2.79) Roebourne (2.62) Sandstone (3.77) Wickham (2.89) Wiluna (3.61) Yalgoo (3.75)
5	Menzies (5) Wittenoom (5)	Camballin (7.1) Gascoyne Junction (7.63) Karratha (5.4) Marble Bar (4.72) Menzies (6.44) Nullagine (6.13) Onslow (5.29) Wittenoom (0) Wyndham (5.57)

## Appendix 6: Average Residential Wastewater Charges for Country Towns

Average Annual Residential Wastewater Charges (\$ per customer per Year, real dollar values of 2005/06)				
	Average Charge in 2006/07	Water Corporation Average Charge in 2013/14	Option A Flat Charge	Option B Flat Charge
Albany	579	608	612	609
Augusta	508	612	612	612
Australind	559	612	612	612
Beverley	512	512	612	612
Binningup	612	612	612	612
Boddington	567	605	612	612
Boyanup	604	604	612	612
Bremer Bay	408	560	612	612
Bridgetown	557	602	612	612
Broome	507	612	612	562
Brunswick	403	591	555	466
Bunbury	429	612	585	513
Burekup	542	610	612	509
Busselton	390	612	596	530
Capel	609	611	612	612
Carnarvon	578	594	612	612
Cervantes	510	609	612	612
Collie	538	576	542	454
Corrigin	476	505	612	493
Cowaramup	605	612	612	612
Cranbrook	490	490	612	612
Cunderdin	372	457	612	612
Dalyellup	545	508	478	445
Dardanup	612	612	612	612
Denham	528	593	612	612
Denmark	507	610	612	612
Derby	532	612	612	612
Dongara/Denison	571	601	612	612
Donnybrook	600	600	612	612
Dunsborough	518	612	612	612
Eaton	597	612	612	612
Eneabba	453	453	612	574
Esperance	451	602	612	591
Exmouth	495	602	566	436
Fitzroy Crossing	612	612	612	612
Gnarabup	427	612	612	574
Gnowangerup	427	469	563	438
Greenhead	590	612	612	612
Halls Creek	511	612	612	612
Harvey	469	604	568	476
Horrocks	517	517	612	612

(contd...)



(...contd)

Average Annual Residential Wastewater Charges (\$ per Customer per Year)				
	Average Charge in 2006/07	Water Corporation Average Charge in 2013/14	Option A Flat Charge	Option B Flat Charge
Jurien	551	609	612	612
Kalbarri	479	482	453	384
Karratha	308	471	443	383
Katanning	349	380	357	277
Kellerberrin	473	476	612	612
Kojonup	464	556	612	579
Kununurra	542	612	612	612
Lake Argyle	556	612	612	565
Lancelin	560	612	612	612
Laverton	466	577	533	499
Ledge Point	496	600	596	529
Leeman	580	604	598	463
Leonora	592	612	612	612
Manjimup	544	601	612	612
Margaret River	383	612	612	612
Meckering	395	408	612	612
Merredin	459	544	533	459
Mount Barker	562	603	612	612
Mukinbudin	446	446	542	410
Nannup	565	565	612	612
Narembeen	470	470	612	520
Narrogin	358	518	487	410
Newdegate	490	490	498	420
Newman	508	502	471	418
Northam	442	594	612	572
Onslow	587	587	612	612
Pemberton	586	586	612	612
Pingelly	454	497	612	612
Pinjarra	412	599	612	612
Port Hedland	600	546	513	433
Quairading	449	450	612	612
Roebourne	462	522	560	466
Sea Bird	610	610	612	612
South Hedland	545	464	436	356
Three Springs	430	409	385	312
Toodyay	609	609	612	612
Wagin	428	556	597	506
Walpole	583	583	612	612
Waroona	340	494	464	410
Wickham	449	575	541	436
Williams	548	548	612	612
Wongan Hills	377	585	571	453
Wundowie	377	349	328	248
Wyalkatchem	337	337	612	552
Wyndham	574	574	612	612
York	547	547	612	612

## Appendix 7: Glossary

Term	Definition
Act	Economic Regulation Authority Act (2003)
Authority	Economic Regulation Authority (Western Australia)
Corporation	Water Corporation (Western Australia)
CSO	Community Services Obligation
ERA	Economic Regulation Authority (Western Australia)
GRV	Gross Rental Value, which is the gross annual rental that the property might reasonably be expected to realise if let on a tenancy from year to year (determined by the Valuer General)
kL	Kilolitre, which is 1,000 litres.
LRMC	Long run marginal cost, which is the forward-looking cost of supplying an additional unit of water to meet increases in projected demand, through new source development and/or demand management programs.
ML	Megalitres, which is 1,000 kilolitres or 1,000,000 litres.
NWI	National Water Initiative
OECD	Organisation for Economic Co-operation and Development
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WACOSS	Western Australian Council of Social Services Inc
WALGA	Western Australian Local Government Association
WHO	World Health Organisation