

Submission to

Inquiry on Urban Water and Wastewater Pricing

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From

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7th September 2004

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Background to this submission

In 2001 the CSIRO initiated six Flagship programs to tackle some of Australia's most pressing issues, one of which is managing water resources stressed because of increased competition between users, the impact of water diversions on the environment, a drying climate and salinisation.

The Southwest Western Australian node of the *Water for a Healthy Country* Flagship Program contains several projects, the success of which is affected to some degree by the price of water and wastewater services in urban areas.

The projects are on water re-use, desalination of saline water under towns for potable use, integrated water resource management (including water conservation), urban water cycle management and water forecasting.

The work covers biophysical, economic and social aspects and is therefore integrated in both scope and outcomes.

The process of deciding water prices could include aspects that are currently ignored to better reflect the true cost of supplying water, and the value of water for its various uses. The resulting price that results from these processes has a major impact on the viability of options that are being researched within CSIRO and other parties, especially water re-use, reclamation, self supply and conservation.

CSIRO's role is to provide information that can be used by policy makers and resource managers in making their decisions. It is not our role to prescribe policies or management decisions that are the legitimate role of state land and water managers. Therefore this submission raises issues but does not make specific recommendations about what the state's policies and management actions should be.

General comments on urban pricing

There are many progressive features in the current water pricing schemes adopted in Western Australia – the high level of metering for scheme water use and the progressive tariff structure being amongst them.

There are also very good equity arrangements in terms of subsidies for people living in remote areas and for people living with social and economic disadvantage.

Reforms of pricing arrangements would do well to consider the benefits that these policies offer while making further adjustments that send appropriate signals to consumers about the value of water and its increased cost of supply given the drying climate in Western Australia.

While the scope of the inquiry relates to water services in three urban centres, the current universal tariff policy for < 350 KL consumption amounts in WA means that this pricing review is likely to affect prices for the whole state.

It is understood that Perth water services generate all of the surplus for the dividend that is paid by Water Corporation to the state government, some of which is returned as Community Service Obligations for supporting the more costly services in regional and rural WA and subsidies for specific customer groups (pensioners, seniors etc). Therefore urban pricing policy has a profound affect on all state water services and on those services that the dividend supports.

In normal markets, prices reflect supply and demand. In this regard, the drying of the climate in the past 28 years, and the additional drying since 1998, are not reflected in the price charged for Perth's household water (page 9 of the issues paper shows that prices have remained static in recent years).

It can be argued that restrictions can be a more equitable way of allocating water reductions than prices, and restrictions have been successfully used to reduce demand for the past three summers. However when we have a drying climate, there is a need for a long term signal to consumers about the marginal cost of their next water source rather than an inability to use water, even if they are prepared to pay for a more expensive source. This is particularly important to those people who value their gardens highly or enjoy gardening as a hobby.

Apart from the current subsidies for some water savings devices, prices offer little incentive for consumers to invest in water saving devices. The issues paper shows that the average annual water charge of \$270 per annum (or 74 cents per day, less than 2% of household costs) does not provide much incentive for cost savings to be achieved through investments in water conservation and reuse devices, or through changes in water use behaviours.

For Water Corporation consumers, there is less incentive to invest in water conservation because:

- Slightly more than half of the average annual charge for water is fixed, and
- Half of the water is used inside the house, which is harder to reduce compared with more discretionary outdoor use (ie maybe only \$70 per annum is discretionary use in an average household).

There is no need for the structure of prices (ie the proportion that is fixed) to reflect the fixed – variable cost structure of the organisation because water elasticities are usually low and the revenue that comes to water utilities varies relatively little from year to year compared with many businesses. This is particularly true when a significant proportion of revenue comes from sewerage and drainage services that are based on rating properties rather than paying for the services that are provided.

Water supply by its nature requires a geographic monopoly to be established for the duration of the supply license to enable the utility to invest in long term capital works. This provides even more stability in terms of likely investments streams.

All other cities in Australia (including Bunbury and Busselton) have lower fixed charges than does Perth, thereby providing more incentive for consumers to affect their overall bill by reducing their consumption.

Given the cost of providing a GL per annum to the Integrated Water Supply Scheme (IWSS) is up to \$10M, any water savings that can result from a major rebalancing of fixed and variable costs would be significant. Some re-balancing options which are cost neutral to water consumers overall (but heavy users would pay more while lighter users would pay less) have estimated annual water savings of between 7 and 17GL, a considerable cost saving in deferred new sources if they were able to be realised.

The amount that consumers would decrease their water use were prices to rise (or a larger proportion of their bill were to be based on consumption) is notoriously difficult to assess. In many parts of Perth there is a self supply option (domestic bores) that is absent in many other parts of the world. In addition, about half of Perth's domestic consumption of scheme water is on lawns and gardens. These two factors make price elasticities likely to be larger in Perth than in comparable cities elsewhere in the world (ie more savings would be realised for a given increase in price).

The current subsidy scheme has been very effective in increasing consumers' adoption of scheme water saving devices, especially water-efficient washing machines and domestic bores. It is likely that each GL saved through this scheme has cost the government about \$3.25M¹. However the consumer pays over 60% of the cost of most products and therefore the total cost of these savings is likely to be about the \$10M per GL, similar to the cost of bringing on a new water source. There are other benefits that flow to consumers from the purchase of these subsidised products, and there are uncalculated environmental (and sometimes social) costs of new sources, and these together probably mean that the subsidy scheme should continue even with a new source being developed.

The high cost of wastewater services relative to water (page 12) reflects the high cost of treatment that these waters require before being discharged to the Indian Ocean. The quality of this water is such that it allows other uses, if there is a nearby market that can use this quality of water. Even if the 20% wastewater re-use target is achieved by 2012, the amount of wastewater discharging each year into the Ocean will exceed the current 100GL pa annum discharge due to the growth in domestic water consumption in the next 8 years. Increasing the re-use target is an option that government should consider.

Community Service Obligations provide social equity in many cases and most seem to have wide public support. Consideration could be given to alternative investments that reduce the need for CSOs. If paid each year without review or transparency, there is less incentive to see whether CSOs could be reduced over time. For example, if a lower cost source could be developed for a rural area receiving a substantial CSO (eg through subsidised water prices), there could be a net savings for government. Some research by CSIRO in association with the Water Corporation is attempting to increase water reuse and to desalinate water under towns like Katanning. Price is always a factor in the viability of these schemes.

The Issues Paper raises the possibility of water prices including the cost of resource (catchment, aquifer) management as is done elsewhere in Australia. Were such

¹ The Issues paper indicates a much higher cost – page 47

charges to be introduced they probably should include all licensed water users, not just water service providers who provide the highest quality and value use.

Increasingly however, Perth, Bunbury and Busselton are using confined groundwater sources and their proportion relative to other water users is locally very high. These sources are less likely to be contaminated and are more reliable than streams and superficial aquifers. There is a possibility that a water resource management charge for using these aquifers could be considered in return for a longer term (even perpetual) licence for a proportion or share of the sustainable yield, and policies that reserve these sources for public water supplies. Such a charge could result in improved management of these valuable resources and the resulting increase in water prices to consumers would be relatively minor.

Specific CSIRO projects affected by urban water pricing

CSIRO is very supportive of the current **water re-use** work being carried out under the guidance of the Water Taskforce. The current major impediments to increased re-use are technical (eg aquifer storage and recovery processes), consumer perceptions and the low cost of alternative water sources to potential users. These sources include scheme water as well as access to groundwater sources.

For some uses, the need for even more expensive (Tertiary) treatments will make re-use even more cost prohibitive. Options currently being evaluated are infiltration of treated wastewater for irrigation of public open space (McGillvray Oval, Halls Head) with the possible extension to the Mosman Peninsula which is susceptible to saltwater intrusion from both the Ocean and Swan Estuary.

CSIRO is also involved in the **Rural Towns** project whereby a pilot desalination plant is proposed for Katanning to reduce the saline groundwater levels under the town while providing a new water source to augment the Great Southern Towns Water Scheme (GSTWS). The universal water tariff policy means that the cost of water to consumers is subsidised in these towns resulting in increased outside water use (and rising water levels under the towns) and a disincentive to desalinate the water for re-use. If the GSTWS can be augmented, additional water may be released from Harris Dam for use in the IWSS.

CSIRO are also working with state agencies and the Water Corporation on land and water management options for **Gnangara Mound** which is currently supplying about 60% of the water to the IWSS. Any reduction in per capita domestic consumption would allow the Mound to be spelled so that it can recover some of the 20-50GL per annum loss in storage that it has been experiencing over the past 15 years.

CSIRO has also been involved in researching **community attitudes and behaviour** to water supply options such as restrictions. We are about to appoint a senior Water Economist who could assist in reviewing the impact of pricing options on water demand.

Concluding Statement

CSIRO welcome the opportunity to comment on the pricing of urban water and wastewater sources. The Issues Paper is a good review of the current situation but lacks a thorough discussion on the impacts of low water prices on the ability to meet targets set in the state Water Strategy for conservation (155KL/person/year) and re-use (20% by 2012). Rebalancing prices is only one way of increasing water conservation and re-use and is certainly not the complete solution. However without an economic incentive to change, the rate of adoption of improved water behaviour is likely to lag behind desired rates.