

## **Submission on Water and Wastewater Pricing - Edward Metcalfe**

### **Pricing Structure for Potable Water - Considerations.**

What I am attempting to do here is not to go down to the level of specific figures if I can help it, because I don't have sufficient data on hand to make a good recommendation. I am however a concerned consumer of water and wish to outline some pricing principles which would I believe reduce water consumption.

Water Services has not been defined in the Terms of Reference. I am taking this to be

1. The water itself
2. Intellectual property relating to any aspect of managing and processing water.
3. The water delivery infrastructure.

### **The Water Itself**

The internationally accepted minimum requirement for water per person per day is 50 litres, given here <http://www.newint.org/issue354/facts.htm>

This comes to 18.25KL per person per annum. This is probably too much of a drop in consumption for West Australians, so lets call it 100 Litres per day per person. This should then be free. As billing is done at the household level, the number of people per household needs to be taken into account. This figure can be verified from the Electoral roll and Centrelink.

Any amount of water in addition to this basic requirement needs to be charged at a higher rate than what it is, with the goal in mind for WA's acquifiers to recharge. This is to be done at a steep progressive rate.

In addition to this restrictive technique, the WA Government also needs to conserve water through greater freedom. For example say someone is consuming less than average from the scheme water. They should then be able to trade the saving to another consumer. I'll illustrate by example.

Lets say average consumption is 50 KL in a particular year. Bloggs household with 4 people uses 120KL. Therefore Bloggs household has a water saving of  $4 \times 50 - 120 = 80$  KL. The amount he can sell is 80KL. So how he would go about this would be to log into a website designed for the trading of water. He finds A. Smith who is going to be billed for 580KL. He "sells" 80KL to A. Smith. End result: Bloggs household is billed by Water Corp for 200KL and A. Smith is billed for 500KL. The price the water is traded at is agreed by the participants.

This would require a selling period at the end of the year so participants can trade before being billed.

As more people save water, the lower the average will become.

Due to the progressive price structure, Water Corp makes less money, but water will be saved as a result, which is more important.

Bloggs may achieve his low consumption by water harvesting, grey water use or on-site waste water purification. I believe a water tank on all new dwelling approvals should be mandatory.

**Intellectual property relating to any aspect of managing and processing water.**

If consumers are going to save water they have to be empowered with knowledge about how to conserve water and use it more efficiently. Currently the Water Corporation website has a few water saving tips. But does not go into details of the exact construction of a composting toilet, for example. How many reeds (in a water filtration reed bed) do you need to remove nitrates from a litre of urine per day. How do you test for nitrates, who sells testing kits.

All this kind of information needs to be easily available and under the public documentation license roughly equivalent to this one from the Linux Free Documentation License:

<http://www.gnu.org/copyleft/fdl.html>

So if someone wants to commercialise a water saving device they can. Any devices being developed could follow Open Source principles where a project coordinator accepts improvements and ideas from anyone willing to contribute.

Another way to encourage people to save water would be to have a WaterWise person of the year who wins a holiday.

### **The water delivery infrastructure.**

I think we have got this right already. Although it could be argued that someone self-sufficient in water shouldn't have to pay.

### **Waste Water**

Nearly all waste water (with the exception of nuclear contaminated water) can be purified and recycled. However before we reach that stage consideration has to be given to reducing the amount of waste water produced in the first place. This would give the consumer a water trading advantage.

The less waste water that is produced means that less potable water is used in producing waste water. Some ideas that come to mind are:

1. Waste water is treated by aerobic bacteria and the resultant water pumped through reverse osmosis to become drinking water. (I'm surprised you're not doing this yourselves, surely its easier using this instead of sea water ??)
2. Composting Toilets are used - in fact made mandatory for all new building approvals.

Waste water disposal services should either be free or a fixed fee. The reason being is that if a variable price is used people will tend to cut corners in their handling of it to reduce PRIVATE costs. This in turn will lead to a PUBLIC health hazard.

Intellectual Property and Infrastructure considerations are the same as with potable water.

### **Other Thoughts**

This moves beyond the terms of reference but there doesn't seem to be any other forum in which to say it. I won't waste your time by repeating what is in your Water Strategy.

As you are no doubt aware the World is running short of fresh water. I believe this is a technical problem to be solved by technical means but unfortunately most of the World is trying to solve it by political means. When political means fail there is going to be an increase in terrorism. Already a child dies from a water borne illness every 8 seconds.

This means that as soon as Australia has got its own water problems solved we should be helping other countries overcome their water shortages.

Currently Agriculture from WA uses 40% of water. What about a change in diet to reduce this demand. Something else that could be worked on are materials for greenhouses which doesn't trap the heat but traps the transpiration of plants and the water gets reused again. I don't know if such materials are available or even if its possible to develop them. However these people may be able to advise: <http://www.greenhouse.co.il/azrom.html>

Another thing to consider is the privatisation of the water supply. Australia must maintain full sovereign control over her water as an issue of national security and self determination.

[http://www.polarisinstitute.org/polaris\\_project/water\\_lords/water\\_lords\\_index.html](http://www.polarisinstitute.org/polaris_project/water_lords/water_lords_index.html)

and more specifically:

[http://www.polarisinstitute.org/pubs/pubs\\_global\\_water\\_grab\\_intro.html](http://www.polarisinstitute.org/pubs/pubs_global_water_grab_intro.html)

## Contact Details

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Thank you for your time.