

Water and Sewerage Pricing Options – discussion paper

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1 Background

Icon Water has convened a Community Consultative Forum. The Forum's Terms of Reference, Agendas and Minutes are published at <https://www.iconwater.com.au/Community-and-Education/Talking-Icon-Water/Community%20Consultative%20Forum.aspx>

The following discussion, prepared by Leon Arundell of NCCC, considers issues that are raised by alternative pricing options.

The average Canberra household pays \$539.38 per year for sewerage, and about \$600 per year for water supply.

Sewerage is charged at a fixed charge of \$529.38 per year, irrespective of the volume and quality of sewerage discharged.

Potable water supply is charged per dwelling at a fixed charge of \$101.40 per year plus \$2.61 per kilolitre (kl = 1,000 litres) for the first 0.548 kl per day and \$5.24 per additional kl per day. A typical household consuming 200 kl per year (average 0.548 kl per day), will pay a fixed charge of \$101.40 plus \$522.05 for the first 0.548 kl per day.

The fixed costs cost of providing water supply to a commercial property are generally similar to the costs of providing water supply to a residential property.

Full details of charges are available at <https://www.iconwater.com.au/My-Home/My-account/Pricing-and-your-Customer-Contract.aspx>.

Most of the costs are fixed – essentially paying off the loans that financed dams, pipelines, treatment plants and sewers.

The next biggest costs are those of treating and supplying water, and of removing and treating sewage. The marginal cost of providing water is about \$1.70 per thousand litres.

Finally there are maintenance and administration costs.

It is worth remembering that the marginal cost changes over time. As demand increases, we need to source more water from lower quality reservoirs that have higher treatment costs. So the marginal cost of water is likely to increase as population increases. When demand exceeds the capacity of our existing dams, the marginal cost of the next litre of water will be the cost of building a new dam.

2 Issues

Icon Water is a natural monopoly that is owned by the ACT Government. While it would be theoretically possible for a private company to set up in competition with Icon Water, such an enterprise would not be financially viable because of the cost of duplicating existing dams, pipelines and treatment plants.

As a natural monopoly without direct competitors, Icon is susceptible to pressure from its owner (the ACT Government) to charge prices that exceed its costs in order to produce dividends, and to internal pressures to retain high staff levels and/or to pay high salaries. A moderate amount of 'inefficiency' can be an acceptable trade-off for reliability, service quality and fair pricing.

Fairness in pricing is a political consideration, because Icon is a Government owned monopoly.

Water quality is an important consideration – both the quality of drinking water, and the quality of sewage that is discharged into the Murrumbidgee River for use downstream in places like Wagga and Mildura.

Water supply security becomes a very important issue in times of drought.

Finally, there is the issue of the balancing of revenues and costs.

3 Water quality

The World Health Organisation [estimates](#) that people need 7.5 litres of water per day, or 2.74 kl per year. That equates to a total of 1 Gigalitre (Gl = 1,000 million litres) per year for 380,000 Canberrans. Canberra's annual water consumption is about 50 Gl per year. Only about 2% of our water needs to be of drinking quality.

Speaking personally, I learned the importance of drinking water quality thirty years ago when I contracted [Giardia](#) from drinking unboiled tapwater during a season when it was present in the Bateman's Bay water supply. As a water quality expert once said, *“I am always pleased to smell chlorine on my drinking water, because it means that someone cares about its quality.”*

The high water quality in some of Canberra's water catchments means that significant amounts of chlorine are needed only when the lower quality catchments are being used.

There are several ways in which we could reduce the cost of unnecessarily treating all of our water to drinking quality standards when only 2% of it is actually used for drinking. They include:

- separate water reticulation systems for potable and non-potable water. This would require a very large investment, to duplicate existing water pipes.
- lower the quality of general water supply, so that for drinking water people will have to install water filters, boil the water (for tea or coffee) and/or buy drinking quality water from retail outlets. Retail bottled water costs upwards of 38 cents per litre. It would cost more than \$1,000 per year to buy 7.5 litres of bottled water per day, compared with about \$600 to buy the 500 litres of drinking quality tap water that the average Canberra household uses per day.
- continue and extend the current practice of using 'grey' water in areas such as public ovals where it is cost-effective to do so.

4 Variable pricing

A. variation according to use

The current usage tariff more than doubles, from \$2.61 per kl to \$5.24 per kl once a dwelling goes over the average usage of 548 litres per day.

This provides an additional financial disincentive, or penalty, to dwellings with above average water consumption.

If one accepts that it is morally wrong to consume more water than average, then this higher charge rate is justified to the extent that it penalises people who use more water than average.

However, a dwelling may consume more water than average not because the individuals in the dwelling waste water, but simply because it has more occupants than average.

Further, if a dwelling has a lower usage tariff because it consumes less than 548 litres per day, then the occupants of that dwelling have a lower financial incentive to conserve water.

B. variation over time

Each litre of water becomes less valuable in times of high rainfall, when surplus water may need to be released from dams in order to avoid flooding, and becomes more valuable in times of drought when water storages are low.

The ACT Government currently addresses this issue by imposing more severe water restrictions in times of drought. These restrictions were effective in reducing water consumption during the Millennium Drought.

The resulting reductions in water usage cause a problem by reducing revenue for Icon Water during droughts, when Icon may incur greater costs in maintaining the required quantity and quality of water supply. This creates cashflow problems for Icon Water, and creates a financial incentive for Icon Water to oppose water restrictions.

An alternative or complementary approach would be to introduce variable water pricing that reduces at times of high water availability and increases at times of drought.

Variable water pricing would need to address the following issues:

- people having adequate knowledge and awareness of their levels of water consumption, of their water consumption costs, and of what they can do to affect their water consumption and their water bills;
- the extent to which people will respond to water supply price changes (which largely depends on their knowledge and awareness, and their level of water dependence); and
- how to set water consumption charges, given uncertainties in predicting water availability.

5 Balancing revenues and costs

If costs exceed revenues, then the ACT Government will have to make up the difference from other sources of revenue such as land rates. Financially, this would have an effect to that of increasing fixed charges.

If revenues exceed costs, then the ACT Government will in effect make a windfall gain that will allow it to reduce revenue from other sources such as land rates.

6 Fairness

Water and sewerage bills are a problem for people on low incomes, because:

1. individual bills are large, because they come only once every three months; and
2. annual costs are significant (typically around \$500 each per year).

Large individual bills

People can find it difficult to pay a quarterly \$150 bill for water or sewerage from their fortnightly income payment, especially if they are on low incomes.

This problem can be addressed by allowing people to pay fortnightly, so that individual payments are only about \$15. Transaction costs will be minimal if payments are made automatically by bank transfer or by credit card deduction.

The lack of a 'consumption' charge for sewerage services raises particular issues of fairness:

- Should the occupant of a single occupant dwelling be charged the same sewerage costs as a large family that occupies a single dwelling and produces several times as much sewerage?
- Should a business be charged the same sewerage costs as a family if the sewage produced by the business is more (or less) expensive to treat than the sewerage produced by the family?

Alternative approaches to a single fixed charge per property would include reducing the fixed charge and introducing a usage charge based on, for example:

- the number of people in the household;
- the quantity of water consumed on the property (on the assumption that what comes in must go out);
- for commercial properties, the type and volume of sewage.

High costs for people on low incomes

People on low incomes can be helped to afford water and sewerage services in several ways, including:

- helping them to reduce their water usage
- adjusting their social security payments to take into account the costs of water and sewerage;
- reducing their supply charges; and
- reducing their usage charges.

A Water Efficiency audit, advice and incentives program can help people to minimise their water costs. Such a program was implemented during the Millennium Drought, and would be especially valuable to people low incomes, whose water bills constitute a relatively high proportion of their income.

Adjusting social security payments and reducing supply charges will have similar impacts from the customer's point of view. The main difference is that social security payments are controlled by the Commonwealth Government and supply charges are controlled by the ACT Government.

Reducing usage charges will primarily benefit people whose water consumption is high. It will reduce the financial incentive for these people to reduce their water consumption, and

encourage low income people to use more water (at community expense) rather than spending their money on other things.

Reducing supply and/or usage charges for people on low incomes will mean that the foregone revenue must either be supplemented by the ACT Government, or covered by increased supply and/or usage charges for other Icon Water customers.

Increasing supply and/or usage charges above for other Icon Water customers will have the following effects:

- incentives for people and businesses to locate elsewhere;
- for households, higher water and sewerage costs will mean lower spending on other goods and services;
- for businesses, higher water and sewerage costs will mean higher prices for their customers, and may result in businesses either failing or deciding to relocate elsewhere.

The additional cost of ACT Government subsidies would have similar effects. Hopefully those effects will be more evenly distributed across the community.