Essential Services Commission
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Dear ESCOSA

WSAA submission to SA Water Regulatory Determination 2024 – Draft Determination

Thank you for the opportunity to comment on the draft determination for SA Water.

WSAA represents water utilities, most of which operate under some form of economic regulation. WSAA often provides comments on economic regulation where determinations raise issues of general principle nationally or issues that are common to a number of utilities.

In that context WSAA would like to comment on the analysis of efficiency in the draft determination. In particular, we would like to discuss the use of total operating costs per property as an efficiency benchmark. These comments are general and we have not assessed any of the comments directly related to SA Water's costs.

Over the years WSAA has conducted a range of benchmarking exercises with utilities at both an aggregated and very disaggregated level.

From this work we consider that comparing costs on a common basis is very useful in understanding cost and efficiency across utilities. A common basis can be achieved by comparing costs using connections/properties, length of mains, water supplied and wastewater treated among others. Each will be appropriate in different circumstances.

In relation specifically to costs per property, we consider it is often the right place to start in understanding cost structures and efficiency and it is a very useful indicator. It is useful at the total operating cost level and for sub-categories of a utility's services such as water operating cost per connection, wastewater operating costs per connection or corporate costs per connection etc.

However, on its own it is not an indicator of efficiency. As we have often discussed with members, a high cost per property on an activity is not necessarily an indicator of inefficiency and a low cost per property is not an indicator of efficiency.

The reason for this is that there a range of cost drivers that differ significantly across utilities. That is, there are more factors that affect costs than just property numbers. Efficiency is one factor that causes observed cost differences but it is not the only one. The following is a brief summary of some the key drivers of costs other than efficiency.

Scale

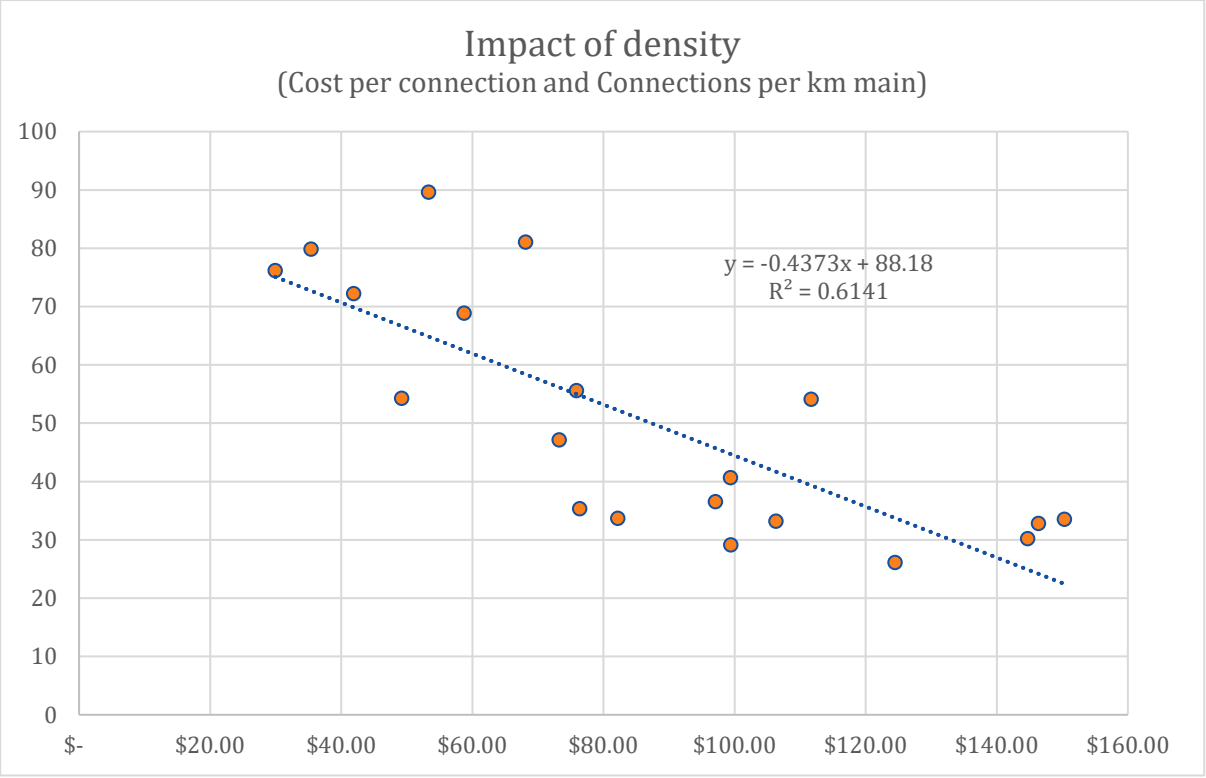
Like most infrastructure industries there are economies of scale in water utilities. For a number of functions, up to a point the larger a utility is the lower the cost of connection. Very small utilities cannot aim for the same costs per connection of larger utilities. Areas where we have found scale to most important are:

- Water networks
- Wastewater networks
- Retail and other corporate costs (interestingly we have not found scale effects in IT).

In the case of wastewater treatment plants there are significant scale economies at the plant level. Larger plants can be much cheaper per ML treated compared to small plants. However, it is not always the case that large utilities can capture scale economies across their whole operations. For example, in our benchmarking of UK water utilities there are some very large utilities, which by virtue of the areas they serve have very large numbers of small treatment plants. This limits the degree they can realise scale economies in the treatment part of their operations.

Density

The density of a utilities operations is another driver of costs. A city with a high density of connections will face different costs per connection than a utility that services rural areas. In general, the greater the density of a utility's operations (connections per km of mains) the lower the cost of per connection. Figure 3 illustrates this relationship for water networks using data from Australian utilities. While the relationship is clear, like total cost per property, the graph shows that density is one of the factors affecting costs but not the only one.



Level of water and wastewater treatment

Utilities also differ in the level of wastewater treatment they provide to meet regulatory or customer expectations. Where receiving waters are sensitive for either human use or environmental reasons higher levels of wastewater treatment are required. The costs of tertiary treatment are significantly higher than secondary treatment or primary treatment. Utilities with high levels of tertiary treatment will naturally have higher treatment costs than a utility with secondary or primary treatment.

Likewise, the quality of raw source water will affect treatment costs. For instance, in some cases there are minimal treatment costs where there are high quality water sources in protected catchments. This would need to be accounted for in any cost comparison with

catchments where significant treatment is required.

Water source

The source of bulk drinking water is another obvious driver of costs. This factor is becoming more important as utilities meet water security need in a changing climate. Over the last 20 years the dominant change in water supply is the increase in rainfall independent supplies such as desalination and water recycling. New sources of supply often cost more than traditional surface water sources. This is certainly true of operating costs. Desalination and recycling use significantly more energy than dams. A utility that primarily relies on surface water, has a different cost structure than one that relies more on desalination.

Topography

Finally, the topography in the area serviced by a utility also has an impact on costs. For example, topography can drive energy and pumping costs. It can also determine the areas for wastewater catchments which will in turn drive the number of treatment plants necessary and the scale of those plants.

Efficiency models with multiple drivers

Finally, we would like to draw attention to how multiple drivers are incorporated into efficiency analysis.

In the UK the water regulator Ofwat operates large number of econometric models to set baseline levels of efficiency. While these models are not without controversy, they do recognize that many factors need to be taken into account.

As Ofwat says:

> *We use econometric benchmarking models to help to set efficient base cost allowances. These use statistical methods to compare costs between companies on a like-for-like basis by considering multiple factors that drive differences in costs between companies and over time. For example, company size, population density, treatment complexity, etc. They allow us to identify an efficiency 'benchmark' that all companies should achieve.*[1]

Ofwat has separate models for separate services. They identify the key cost drivers for each:

- *The key drivers of wholesale water activities are scale; treatment complexity; network topography and population density.*
- *The key drivers of wastewater network plus activities are scale; economies of scale at sewage treatment works; treatment complexity; network topography; population density; and potentially urban rainfall.*
- *The key exogenous drivers of bioresources expenditure are scale; economies of scale in sludge treatment; and the location of sewage treatment works relative to sludge treatment centres, which causes differences in efficient sludge transport costs.*
- In relation to retail Ofwat are consulting on *'3 bad debt cost models; 2 other cost models; and 6 total cost models. In each model, the dependent variable is specified as cost per household.'*

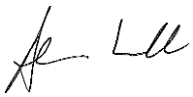
The key message from WSAA's understanding of cost drivers and of the UK experience is that

[1] Ofwat 2023, Econometric Base Cost models for PR2024, April, Econometric_base_cost_models_for_PR24_final.pdf (ofwat.gov.uk)

efficiency cannot be measured with a single indicator.

Thank you again for the opportunity to comment. If you would like to discuss these issues further please contact Stuart Wilson (stuart.wilson@wsaa.asn.au).

Kind regards



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