



**SACOSS' Submission to the  
Essential Services Commission of South Australia on  
SA Water's 2020-2024 Regulatory Business Proposal:  
'Our Plan' 2020  
19 December 2019**

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Regulatory Business Proposal: 'Our Plan 2020*

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## Executive Summary

SA Water's 'Our Plan 2020-24', forecasts bill savings for customers which it states result from operational efficiencies and the contained costs of its capital program.<sup>1</sup> This narrative is a key concern for SACOSS. In fact, there are few underlying savings in SA Water's proposal, with the forecast bill reductions delivered via the lower cost of capital under the prevailing lower interest rates compared with the 2016-20 regulatory period.

SA Water is launching or bringing forward several new capital initiatives to improve service quality which seem contrary to customers' clear desire for prices to be as low as sustainably possible. Arguably, SA Water should instead be striving to achieve savings in the underlying business in order to deliver greater savings for customers.

In this sense, SACOSS does not consider SA Water have given adequate weight to the views expressed by consumer participants in the Consumer Experts Panel Priorities Report,<sup>2</sup> and by survey respondents generally that price was an important consideration and that bills should be kept in check as far as possible.<sup>3</sup>

SACOSS notes the willingness to pay surveys performed by SA Water but considers that they should not be given undue weight in determining whether to accept particular capital projects.

SACOSS comments on some selected capital spending projects which it considers may not be justified or could be deferred, and on SA Water's proposed operating expenditure, which could benefit from an efficiency dividend reflecting gradual improvements in delivery.

SACOSS considers that SA Water's proposed variations from ESCOSA guidance on the rate of return factors (in the areas of the equity beta, averaging period, and inflation forecasts) should be rejected.

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<sup>1</sup> SA Water "Our Plan: 2020-24", p.6.

<sup>2</sup> Almost all the 14 participants on the SA Consumer Experts Panel SA Water Regulatory Determination 2020-24: Priorities Report mentioned price as a key consideration. For example, Business SA sought an "assurance that any move to use customer willingness to pay survey data to justify additional expenditure are carefully considered against the finding that price is the clear priority from phase 2 results".

<sup>3</sup> For example, see SA Water Our Plan, Appendix C, Figure C2, p. 4 where price was the highest priority after safety and minimal interruptions, and the feedback in the What matters to you? study in phase two that (SA Water Our Plan, Appendix C, p. 17): Our consultant's breakdown of the comments suggested the following themes:

- respondents were highly engaged in the task and really appreciated being consulted about the expenditure proposals
- there was preference for user pays for some services
- customers are dissatisfied with current bills, in particular that bills are either too high and/or that their residential sewerage bill should not be based on property value as determined by the valuer general
- customers did not want further bill increases, because of current cost of living concerns.

SACOSS strongly supports the recommendation made by the Independent Chair of the Consumer Negotiation Committee for an evaluation of the overall policy surrounding the delivery of water in more remote areas, and on future consumer engagement processes.

## Introduction

The South Australian Council of Social Service is the peak non-government representative body for health and community services in South Australia, and has a vision of *Justice, Opportunity and Shared Wealth for all South Australians*. SACOSS does not accept poverty, inequity or injustice. Our mission is to be a powerful and representative voice that leads and supports our community to take actions that achieve our vision, and to hold to account governments, business, and communities for actions that disadvantage vulnerable South Australians.

SACOSS' purpose is to influence public policy in a way that promotes fair and just access to the goods and services required to live a decent life. We undertake policy and advocacy work in areas that specifically affect disadvantaged and low income consumers in South Australia. With a strong history of community advocacy, SACOSS and its members aim to improve the quality of life for people disadvantaged by the inequalities of our society.

SACOSS has a long-standing interest in the delivery of essential services. Our research shows that the cost of basic necessities like water and electricity impacts greatly and disproportionately on vulnerable and disadvantaged people.

SACOSS would like to thank the Essential Services Commission of South Australia (ESCOSA) for the opportunity to comment on SA Water's Regulatory Business Proposal, titled 'Our Plan 2020', that sets out its proposed customer service standards, revenues and indicative prices for drinking water and sewerage services for 2020-2024.

This submission comments on:

- the customer engagement process to date, with a particular focus on the willingness to pay surveys
- the proposal by the Independent Chair to consider the use of shadow pricing of environmental costs in project selection
- proposed capital spending projects
- proposed operating expenditure
- rate of return issues, with a focus on areas of divergence between ESCOSA's approach set out in its Guidance papers (noting that this approach is not finalised), and SA Water's proposed approach, and
- other issues including delivery of water in remote areas and future consumer engagement processes.

## Customer engagement processes and other considerations in determining new capital projects

In considering the new capital spending projects listed in SA Water's regulatory proposal, ESCOSA will need to consider the weight to put on:

- customer preferences and, in particular, the results of the two willingness to pay surveys conducted by Haymakr and Marsden Jacobs
- the idea of using shadow pricing to incorporate a value for environmental damage in determining whether projects are justified.

### WTP survey findings as a basis for capital spending proposals

SA Water conducted two willingness to pay (WTP) surveys to gauge customer willingness to pay for changes in service levels and related capital spending projects. The first was *What matters to you?* conducted by Haymakr. The second was *Would you invest in that?* conducted by Marsden Jacobs. The reports by Haymakr and Marsden Jacobs are at Attachment D and G of Appendix C to the SA Water Our Plan 2020-24.

There are some procedural points to note about the two WTP surveys. SACOSS considers the following steps represented good practice and were valuable:

- Drafts of both surveys were tested with customer groups prior to being sent to customers. The *What matters to you?* survey was tested with the Customer Advisory Group, while the *Would you invest in that?* survey was tested with both the Customer Advisory Group and the Customer Working Group prior to being sent to customers.
- After the survey findings were returned, they were shown to both the Customer Advisory Group and the Customer Working Group to see if the results aligned with their understanding and whether anything was missed.
- The sample sizes for both surveys were significant (5054 for the *What matters to you?* Survey and 6265 for the *Would you invest in that?* survey) results were weighted by age, gender, and postcode, and that the results of households in bill stress were analysed to see if and how much they differed from the broader results.

We believe it would be worth ESCOSA's time to evaluate in detail the results weighting process, to ensure that the results were properly (re)weighted. Surveys are only reliable to the extent that they are representative of the underlying customer group.

Ideally, the SA Water Our Plan 2020-24 would have presented the full Marsden Jacobs report rather than just the Summary Report that was attached at Attachment G. This would have enabled a full analysis of the report, in order to independently evaluate whether the survey supported the conclusions that were drawn from it.

The first survey adopted a position that examined the amount that 80 per cent of respondents would be willing to pay for a change in the service level. This approach meant

that additional services would only be considered to have been supported if 80 per cent or more of customers were willing to pay a given increase in their bill for the additional service. This was compared with a commercial service, where ‘customers have greater choice over purchasing good[s] and services’ and therefore ‘the average value supported by respondents (50<sup>th</sup> percentile) is used to set prices’. The view was that, as ‘water and sewerage are essential services, we chose a higher threshold than typically used in commercial environments’. The approach of using a higher threshold makes sense to the extent that the customer base includes a wide range of customers, including low income customers who may struggle to pay more.

It should be recognised, however, that the approach does tend to anchor outcomes to the status quo, in that a supermajority (80 per cent) have to support a change for SA Water to consider pursuing it. This may also anchor any consideration of reducing services for a reduction in prices, in that a supermajority have to support a reduced service level at a reduced price before SA Water would pursue that option further.

SACOSS is concerned that WTP surveys:

- Can be overly concerned with starting and ending points. That is, customers tend to focus on changes from the current position to another position, with the resulting price change. Therefore, such surveys do not deal well with situations where, holding service levels steady, prices might fall or rise significantly due to factors such as changes in the cost of capital, as is arguably the case here.
- Tend to favour the status quo or improvements, as customers tend to accept current prices as a given.
- Can tend to ignore ‘stacking’ effects. Customers may agree to individual service improvements for incremental price changes (e.g. would you be willing to pay 1% more for an x% improvement in a particular customer service level), but when confronted with the combined additional price of a given stack of supported service improvements (e.g. pay 10% more for a range of improvements that they supported separately) they would balk at the total price change.
- Can deliver contradictory findings that are not easy to reconcile. For example, the Marsden Jacobs survey found that ‘customers are dissatisfied with current bills, in particular bills are ... too high’ and ‘customers did not want further bill increases, because of current cost of living concerns’.<sup>4</sup> However, the Marsden Jacob summary report found as a finding that customers would support price rises for five specified projects.
- Do not always evaluate the full range of alternatives to a given investment. For example, the proposal to upgrade water supply for 650 regional properties from

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<sup>4</sup> SA Water Our Plan 2020-24, Appendix C, p. 17

non-drinking water to drinking water over either 4 years or 8 years was set against doing nothing. In considering this option, it might be that it would be useful to know how these properties currently obtain access to drinking water and at what cost. For example, if these properties currently obtain drinking water at a significantly lower cost than the cost of upgrading them at an additional \$14.78 or \$21.06 per average customer bill,<sup>5</sup> then this might affect the WTP of respondents to the survey. Again, the Haymakr survey appeared to find that customers would be WTP an additional 1.51 per cent on their bills to provide free recycled water to all Council areas to irrigate public open space.<sup>6</sup> It might be that if it was explained that Councils were willing to pay for this service through rates (levied on the parties most likely to benefit from the greener public open spaces), then customer WTP to pay for this service might fall away.

For this reason, we agree with the view expressed by the independent Chair of the Customer Negotiation Committee that in determining whether capital projects should proceed, only direct utility benefits should be counted and WTP surveys should be considered unreliable.<sup>7</sup> We also note the view of the probity auditor Gaby Jaksa that future surveys might be commissioned by ESCOSA or the Customer Negotiation Committee rather than the regulated business.<sup>8</sup>

One apparent contradiction in the findings of the Haymakr survey is particularly noteworthy. The Haymakr report presented charts showing WTP across 16 service proposals.<sup>9</sup> These charts showed WTP for residential and commercial/non-residential customers for a given service proposal, e.g. Upgrade water supply for 650 regional properties from non-drinking water to drinking water. The charts showed current service level at zero, and then two or more service level improvements (and reductions in eight cases) and the additional prices that customers would be willing to pay for that improvement.

For example, the 'Upgrade water supply for 650 regional properties' survey found that customers would pay 1.22% to improve supply over 8 years and 1.74% more to improve supply over 4 years. In every chart across the 16 measures, for both residential and non-residential customers, willingness to pay rose with the more expensive option (and fell more with each step down in service levels). This would appear to suggest that customers on every service measure at all 94 of the data points wanted the more expensive improvement option and were willing to pay more for it. However, SACOSS considers that outcome is very

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<sup>5</sup> The additional amounts that customers might be prepared to pay to support the upgrade: SA Water Our Plan Appendix C, p. 40

<sup>6</sup> SA Water Our Plan 2020-24, Appendix C, p. 37

<sup>7</sup> Customer Negotiation Committee, Independent Chair report, p. 3

<sup>8</sup> Probity report (Gaby Jaksa), p. 7

<sup>9</sup> SA Water Our Plan 2020-24, Appendix C, pp. 40-55

difficult to believe. How likely is it that customers are always more ready to choose the most expensive option among the options offered, and pay for that option?

It looks like customers have mixed up willingness to pay (for a particular service at a particular price) with valuation of different price-service levels. In other words, it seems that customers have indicated that, comparing the different service levels, that they would expect a higher service level to cost more, and not whether they would be willing to pay that higher price. This is analogous to a person being asked whether they were willing to pay more for a Mercedes Benz than a Hyundai. The fact that person answered yes would not mean that they were more willing to buy a Mercedes Benz than a Hyundai, only that they saw it as a higher quality, more expensive car, and therefore would expect to pay more for it. The person might accept that a Mercedes Benz is a higher quality and more expensive car, but be completely unwilling to pay for it.

In that light, the Haymakr survey results only appear to indicate that customers would expect to pay more for additional service levels, and not whether they would be likely or willing to pay for that service level improvement. The alternative argument – that customers in every case favoured the better quality, higher priced option – seems unbelievable. It would stretch credibility a long way that across 94 data points customers were always willing to favour the higher priced, better quality option.

This view is backed by the feedback from the Customer Working Group that ‘the [Haymakr] survey was too long, didn’t give customers enough information to help them answer complex questions and make educated choices’.<sup>10</sup>

### **Shadow pricing for damage to the environment**

The report by the Independent Chair of the Customer Negotiation Committee raised consideration of the use of shadow pricing for damage to the environment in considering whether or not capital spending projects should proceed.<sup>11</sup>

Shadow pricing is a process for assigning a price to a good or service for which no clear market price exists.

Shadow pricing could be used to support capital spending proposals that ameliorate environmental damage or to down-grade projects that cause environmental damage. For example, the Independent Chair report floats the idea of using it to assess damage to seagrass in deciding on wastewater disposal options, or damage from climate change in deciding whether to use solar panels and batteries to reduce carbon emissions.<sup>12</sup>

Applying shadow prices does add an additional objective to SA Water’s capital spending proposals, which may or may not be consistent with the current charter of SA Water under

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<sup>10</sup> SA Water Our Plan 2020-24, Appendix E, p. 57

<sup>11</sup> Independent Chair report, p. 3, 18, 48, 75

<sup>12</sup> Independent Chair report, p. 18

its governing legislation, the *Public Corporations Act 1993*. At present, SA Water's charter does not appear to contain any environmental objectives.<sup>13</sup>

If shadow prices can be used to support a project, then for the sake of consistency, they should also be applied to judge whether an otherwise viable project should be rejected e.g. a reverse osmosis plant that uses electricity from the grid.

There may be more transparent ways to promote environmental objectives than for SA Water to select shadow prices. For example, the ministers could direct SA Water to consider environmental objectives<sup>14</sup> but in doing so are accountable to Parliament. This appears to be the way that SA Water can be required to consider non-commercial activities under its Charter.<sup>15</sup>

Alternatively, SA Water could charge parties willing to pay for these services where those parties perceive a value, e.g. Councils.

Thinking about climate change, this could be addressed through a price imposed on carbon under separate legislation to which SA Water could respond. Similarly, the SA Government could legislate to protect seagrass, which would require SA Water to adopt alternatives to measures that damage seagrass in breach of the legislation.

## Proposed capital projects

### Introduction

SA Water proposes to invest \$1.22b in water infrastructure, \$534m in sewerage infrastructure, and \$143m in IT during 2020-24, for a total of \$1.897b.<sup>16</sup> The spending is spread across five categories: (i) external responsibilities; (ii) sustaining services; (iii) improving services; (iv) enabling growth; and (v) efficiency.

There are a number of capital projects that should face a high level of scrutiny by ESCOSA as part of the review process. These are listed in the table below. Given a price focus by many customers, the improving services category (in italics below) might be a particular focus for ESCOSA.

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<sup>13</sup> See SA Water's charter at <https://www.sawater.com.au/about-us/legislation-and-policies/charter>

<sup>14</sup> Section 6, Public Corporations Act 1992 (SA)

<sup>15</sup> See SA Water's charter, section 9, at <https://www.sawater.com.au/about-us/legislation-and-policies/charter>

<sup>16</sup> SA Water Our Plan, p. 24

**Table 1: SA Water capital projects**

Item	Capex cost during 2020-24 (\$m)	Note: SA Water Our Plan reference
Northern Adelaide Irrigation scheme	24 (total 150 including 51.6 from Fed Govt)	pp. 26-27
Eyre Peninsula water security – desal plant	78 (total 95)	p. 25
Zero cost energy future	73+31 =104 (total 379 with remainder already spent)	p. 35
Water Network Management	144	p. 28
Major pipelines and trunk mains	128	p. 29
Network and facility renewals	172+79 = 251	p. 29
<i>Metropolitan Adelaide water quality improvement</i>	124	<i>p. 31</i>
<i>Regional water quality improvement</i>	25	<i>p. 31</i>
<i>Regional non-drinking water quality improvement</i>	37	<i>p. 31</i>
Reduce environmental overflows	31	p. 31
Expanding recycled water – Glenelg to Adelaide pipeline scheme	11	p. 31
Kangaroo Island desalination plant	23 (total 26.7)	p. 34

In considering these capital projects, ESCOSA could consider the earlier comments by SACOSS about the willingness to pay surveys and the use of shadow pricing of environmental costs in determining a position on the projects.

This submission comments below on some of the projects listed in the table.

### **Metropolitan Adelaide water quality improvement**

This program is forecast to cost \$124m and consists of:

- converting from chlorine disinfection to chloramine disinfection at a cost of \$52m, and
- upgrading the Happy Valley Treatment Plant, which supplies about 50% of Adelaide customers at a cost of \$72m.

The first element is understood to bring SA into line with water treatment arrangements in Sydney, Melbourne, Brisbane, and some parts of SA, where chloramine is considered more effective in disinfection than chlorine.<sup>17</sup>

The second element is to improve the taste of metropolitan water for water supplied to about 50 per cent of Adelaide residents. While there may be some efficiencies in doing the two processes together, the second element is understood to be more about aesthetics than hygiene.<sup>18</sup> SACOSS would recommend that in deciding whether the second element is justified, ESCOSA closely evaluate:

- the level of complaints about water aesthetics and taste in respect of water supplied by the Happy Valley treatment plant, and
- the level and significance of the cost savings from performing the two elements together compared to postponing the second element.

### **Regional water quality improvement**

The regional water quality improvement program aims to improve water quality at Melrose, Wilmington, Quorn and Naracoorte with 'small amounts on initiatives to improve water quality at Nangwarry, Cadell and in the Swan Reach Morgan system'.<sup>19</sup>

SA Water explains that the project aims:<sup>20</sup>

*To improve the aesthetic water quality in regional supplies, we are addressing issues such as the saltiness and hardness of water, which can be unpleasant to taste and affect appliances such as washing machines and hot water systems.*

In evaluating this project, it should be considered that these residents generally use rainwater for drinking purposes, with the harder water supplied by SA Water used for other purposes. The Customer Negotiation Committee considered that the overall cost of such a project for all rural areas should be considered together rather than the costs of just the towns to be addressed during 2020-24. This would give a holistic sense of the total cost and cost-benefit.<sup>21</sup>

### **Regional non-drinking water quality improvement**

This project aims to improve water supply in 19 non-drinking water systems servicing approximately 650 customers in remote townships from non-potable to potable at a cost of around \$100m (the costs have not yet been refined). At present, these customers use rainwater for drinking purposes and the water supplied by SA Water for other purposes.

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<sup>17</sup> Independent Chair report, pp. 62-63

<sup>18</sup> Independent Chair report, p. 63

<sup>19</sup> Independent Chair report, p. 63, and SA Water Our Plan, p. 31

<sup>20</sup> SA Water Our Plan, p. 31

<sup>21</sup> Independent Chair report, pp. 63-64

In an attempt to spread the costs, SA Water has proposed as part of this regulatory determination to improve supply for 340 of the 650 properties at a capital cost of \$37m. That represents a capital cost in this period of almost \$108,800 per property, with the remaining estimated costs of perhaps \$63m to come in later regulatory periods.<sup>22</sup> This excludes operating costs, which the Independent Chair's report estimated at perhaps \$5m per year.<sup>23</sup> The business case for this project is driven solely by customer priorities, and as the Independent Chair has noted 'cannot otherwise be justified'.<sup>24</sup>

SACOSS acknowledges the very real and complex issue of water quality and supply in regional and remote South Australia. It is worth noting that in 2015 the Goyder Institute undertook a study into water supply and governance options in outback towns in South Australia, making numerous recommendations.<sup>25</sup> It is unclear whether any of those recommendations have been implemented.

SACOSS agrees with the suggestion of the Independent Chair that:

*...what is required is a considered approach by the Government to this issue and an orderly set of priorities, rather than for SA Water to be pushing ahead with a partial solution at very considerable aggregate cost to its customers and no cost to the Government, but with every possibility that expectations will be raised in other locations across the State currently not served by SA Water.*<sup>26</sup>

SACOSS is concerned that SA Water's 'partial solution' to this broader complex issue, which is being driven solely by customer priorities identified by SA Water, may lead to further inequities in water supply in regional and remote South Australia. As part of a consideration of the prudence and efficiency of this capital expenditure proposal, SACOSS is seeking ESCOSA consider the approach suggested by the Independent Chair, and liaise with experts, Government and SA Water to investigate alternative approaches to addressing this pressing issue.

## **ZCEF project**

The Zero Cost Energy Future (ZCEF) project is a project to source energy for pumping and treating water used by SA Water from its own locally based generation and storage assets.<sup>27</sup>

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<sup>22</sup> Independent Chair report, p. 65

<sup>23</sup> Independent Chair report, p. 65

<sup>24</sup> Independent Chair Report, p.65

<sup>25</sup> Willis E. M., Pearce M. W., Jorgensen B. S., and Martin J. F., 2015, Water supply and governance options for outback towns in remote South Australia, Goyder Institute for Water Research Technical Report Series No. 15/7, Adelaide, South Australia  
[http://www.goyderinstitute.org/r185/media/system/attrib/file/176/15\\_7\\_Outback%20townsMay%20web.pdf](http://www.goyderinstitute.org/r185/media/system/attrib/file/176/15_7_Outback%20townsMay%20web.pdf)

<sup>26</sup> Independent Chair Report, p.65

<sup>27</sup> SA Water Our Plan, p. 35

SA Water notes that electricity prices have been volatile in SA, and the project provides a measure of security against rising electricity prices, as well as allowing SA Water to trade any excess electricity into the grid.

It is noted that the ZCEF project is mostly completed in that of the projected total budget of \$379m, all but \$104m has been spent in the 2016-20 regulatory period. There seems to be some uncertainty about the final cost, as the Independent Chair's report suggested its cost would be \$390m.<sup>28</sup>

Nonetheless, it is important to evaluate the project as it was not evaluated or approved as part of the 2016-20 regulatory period,<sup>29</sup> so should be subject to an ex-post review.<sup>30</sup>

In practice, the ZCEF is a series of discrete, locally-based projects to convert electricity supply by installing solar panels and batteries across up to 90 sites.<sup>31</sup>

SA Water forecasts that the project will cost \$379m and save \$47m per year.<sup>32</sup>

The Independent Chair's report questioned whether SA Water should have engaged in the project due to its risk. The report suggested that ESCOSA examine ways that customers can lock in the benefits of the project while not being exposed to the risks.

It is not clear how this might be done. One possible option would be a model where SA Water contracts with a third party at a fixed price for the third party to build and operate the supply infrastructure and takes the electricity at a fixed price for the life of the assets. This would leave some counterparty risk and remove any upside for the project. The alternative way would be to split the regulated asset base into water and energy supply assets, making the energy supply assets unregulated, and fixing a price for the cost of energy to the water assets of the SA Water business. It is not clear whether or not that is within ESCOSA's power.

Certainly, it should be noted that there are a significant number of specialist parties that work in building and operating utility-scale solar farms, and such a party would likely be prepared to sign a long-term contract for SA Water to take the power from a plant that they built. This would mean that SA Water could reduce risk, but also benefit from specialist skills of the third party, which might have access to supplies and installation experience at lower cost than SA Water itself.

In terms of risk evaluation, the ZCEF project is vulnerable to changes in revenue savings (based on changes in electricity prices), the choice of discount rate, and any cost overruns.

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<sup>28</sup> Independent Chair report, p. 46

<sup>29</sup> It was instead part of a significant additional area of capital expenditure during that period beyond the capex approved by ESCOSA.

<sup>30</sup> Compare Independent Chair report, p. 46

<sup>31</sup> Independent Chair report, p. 46

<sup>32</sup> SA Water Our Plan, p. 35

The table below shows the discounted payback period under a range of scenarios, including one where the savings are lower than anticipated at \$40m per year.

Overall, the discounted payback period is quite long under each scenario at 9 or more years. This is true even at a very low discount rate equal to SA Water’s internal rate of return of 2.52 per cent (under ESCOSA guidance) or its own proposed discount rate of 3.59 per cent. At a more standard discount rate of 8 per cent for the project, reflecting the risks of this project rather than the risks of SA Water’s assets more generally, the discounted payback period expands to 13 or 18 years.

**Table 2: Discount payback period analysis**

Discounted payback period analysis	Years to payback	Years to payback
Discount rate	at \$47m revenue benefits per year	at \$40m revenue benefits per year
At ESCOSA’s guidance - 2.52%	9	11
SA Water’s proposed - 3.59%	9+	11+
Reflecting standard risks for this particular project 8%	13+	18+

Note: Assumes all costs incurred in year 0, and discounted cashflows occur from year 1.

Recently, the Australian Energy Market Commission (AEMC) released analysis on future residential electricity prices in South Australia.<sup>33</sup> The AEMC analysis forecast annual residential bills in South Australia to decrease by 1.5 per cent (or \$27) in the reporting period from 2018-19 to 2021-22:<sup>34</sup>

- wholesale costs are expected to go down by 10.0 per cent (or \$84) over the reporting period contributing -4.5 percentage points
- regulated network costs are expected to increase by 4.4 per cent (or \$33) over the reporting period contributing 1.8 percentage points (this is driven by increase in transmission costs due to the SA / NSW interconnector)
- environmental costs are expected to go down by 10.6 per cent (or \$16) over the reporting period contributing -0.8 percentage points (driven by a decrease in LRET costs stemming from a reduction in the cost of LGCs).

Assuming this translated to the commercial rates that SA Water is likely paying on supply, then this would reduce annual benefits by about \$1m from \$47m to \$46m.

If, in fact, the falls in electricity prices are larger, this will have a big impact on the length of time to pay back the \$390m expenditure. For example, a 4.5 per cent fall in tariffs would reduce the annual benefits of the ZCEF project by over \$2m to under \$45m. This would

<sup>33</sup> See AEMC, Residential Electricity Price Trends 2019: Final Report, 9 December 2019 <https://www.aemc.gov.au/sites/default/files/2019-12/2019%20Residential%20Electricity%20Price%20Trends%20final%20report%20FINAL.pdf>

<sup>34</sup> AEMC, Residential Electricity Price Trends 2019, p.12.

push the discounted payback period under even ESCOSA's guidance at 2.52 per cent past 10 years.

Payback periods over 10 years begin to look unattractive. This is especially the case where the costs of solar panels and batteries are continuing to fall, as postponement of the installation of the panels and batteries would have decreased the capital costs of the project. SACOSS is seeking ESCOSA consider the effect of a reduction in electricity prices on the expected savings and overall prudence and efficiency of the ZCEF project.

### **Water mains improvement**

SA Water proposes to spend \$144m in 2020-24 to improve water mains performance and reduce interruptions. SA Water states that the money would be spent:<sup>35</sup>

*...in targeted upgrades, installing more valves to isolate smaller areas, and using predictive technologies and pressure management, we expect the number of customers interrupted more than three times in 12 months will decrease from the current 2,758 to <1,750 by 2024. With an innovative approach and sound planning, will aim to achieve this reduction of 37 per cent without putting pressure on customer bills.*

From the Independent Chair's report, it is understood that \$112m of this investment would be spent on mains replacement, with the remainder to be spent on sensor technology, pressure management, and valve installation.

It would seem premature to spend the \$112m earmarked for mains replacement given:

- the other investment is designed to collect additional information about mains condition that could be used to determine the appropriate age and condition at which to replace mains, or how to use a combination of pressure management and valve installations to reduce the impact of water mains bursts
- the rate of failure of water mains has been stable for many years apart from an aberration in 2016<sup>36</sup>
- "SA Water presented data to the Committee which demonstrates that leakage from its network is very low by both national and international standards"<sup>37</sup>
- "both the absolute number of water main failures and the number of failures per 100 kilometres of pipe have been on a downward trajectory for many years."<sup>38</sup>

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<sup>35</sup> SA Water Our Plan, p. 28

<sup>36</sup> Independent Chair report, pp. 67-69

<sup>37</sup> Independent Chair report, pp. 45

<sup>38</sup> Independent Chair report, pp. 49

## North Adelaide Irrigation Scheme

SA Water is forecasting that the North Adelaide Irrigation Scheme (NAIS) will cost \$150m,<sup>39</sup> although the Independent Chair's report suggested \$155.6m.<sup>40</sup>

The NAIS provides for reprocessing of treated wastewater from the Bolivar plant and diversion to the Northern Adelaide plains. That wastewater had previously been discharged into the ocean off the Adelaide coastline, where it was affecting seagrass beds and reefs.

The Commonwealth agreed to contribute (\$51.6m according to SA Water or \$45.6m according to the Independent Chair), with the remainder contributed by State Government (roughly \$100-110m).<sup>41</sup>

SACOSS considers that the Federal Government contribution should not be included in SA Water's regulated asset base because it is a capital contribution from a third party. The Independent Chair stated that they understood that to be the case.<sup>42</sup>

The State Government contribution of \$100-110m is to be collected through unregulated charges and through an estimated \$45.6m added to the SA Water regulated asset base and collected from sewerage charges.

The project is largely committed, with only \$24m left to be spent in the 2020-24 regulatory period.<sup>43</sup>

The Independent Chair's report notes that the contribution by State Government to be collected through regulated charges has increased from \$45.6m to \$60.6m 'due to delays in contracting irrigation customers'.<sup>44</sup> That is a major increase in the cost of the scheme to be recovered from customers in regulated charges, almost 33 per cent, and reflects the risks in capital projects. The alternative of discharge off the Adelaide coastline was reported to be a net present value of \$67.6m, which is now not much more than the additional sewerage charges.

The project is the result of a direction from the SA Government. It highlights the risks involved in Government directions. As the directing party, it would be appropriate for the State Government to bear the cost of any project cost overruns, by capping the contribution that goes into the regulated asset base at the cost of the existing approach. That would cap the contribution to the regulated asset base at either the actual cost or to no more than the \$67.6m net present value of the existing discharge arrangement.

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<sup>39</sup> SA Water Our Plan, p. 27

<sup>40</sup> Independent Chair, p. 48

<sup>41</sup> SA Water Our Plan, p. 27; contrast Independent Chair report, p. 48

<sup>42</sup> Independent Chair report, p. 48

<sup>43</sup> SA Water Our Plan, p. 27

<sup>44</sup> Independent Chair report, p. 48

## Eyre Peninsula desalination plant

The Eyre Peninsula desalination plant is designed provide additional water to the Eyre Peninsula. The project has already commenced.

SA Water forecasts the desalination plant will cost \$95m in total, with the remaining \$78m to be spent in 2020-24.<sup>45</sup> By contrast, the independent Chair's report suggested the project cost at \$108m.<sup>46</sup>

Currently water for the Eyre Peninsula is coming from the Uley Basin and the Murray River. The Independent Chair's report states that the Uley Basin currently provides 5 GL per annum, but the extraction should reduce to 3.8 GL within 5 years to be sustainable. That leaves a gap of 1.2 GL per annum from around 2024, plus any growth in demand. Growth in demand is not stated. SA Water notes that water from a desalination plant would improve water quality on the Eyre Peninsula. The Independent Chair's report notes that there are no alternative sources of supply as the flow from the Murray River is precarious.

The desalination plant will be built with a 4 GL per annum capacity. The Independent Chair's report notes that the plant is sized with 8GL inlet and outfall pipes to cater to any increase in demand. The additional cost of the oversized inlet and outfall pipes is not stated.

The key issue is the size and timing of the investment in the plant. If demand is not growing significantly, then the plant size at 4GL per annum seems significantly in excess of the 1.2 GL per annum additional requirement from 2024 or so. While it is unclear what sizing options are available for desalination plants and whether smaller options are available at reasonable cost compared to larger options, it is understood that small and moveable desalination plants range from around 100m<sup>3</sup> per day or 0.04 GL per annum, far smaller than the 4 GL installed plant size. As the total cost of the Kangaroo Island desalination plant is \$26 to \$28m, clearly smaller plant sizes are available for selection. Again, it is unclear what additional cost is involved in oversizing the inlet and outfall pipes to cater to an expansion to 8 GL per annum and what would be the costs of expanding the pipes from 4 GL to 8 GL per annum in the future at the time that was required.

Finally, the question arises whether the plant could have been deferred for a few years closer to the time of required use in 2024, as it is understood that the cost of reverse osmosis plant is falling significantly with general increases in demand for such plant around the world. Partly the timing of the plant hinges on how quickly a desalination plant can take to build, and the volatility of demand. Other factors bearing on whether the plant could be postponed for a period include whether encouraging reduced use, providing incentives for reduced use, and/or finding water efficiencies would work to defer demand.

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<sup>45</sup> SA Water Our Plan, pp. 25 and 27

<sup>46</sup> Independent Chair report, p. 49

SACOSS considers it would be reasonable for SA Water to be required to:

- point to strong demand analysis to underpin the decision to size the plant at 4 GL per annum and to oversize the inlet and outfall pipes at 8 GL per annum, and
- demonstrate smaller plant could not be installed at acceptable risk to water security in view of forecast demand
- explain why the plant had to be timed for commencement of construction during the 2016-20 regulatory period and completion in 2020-24, and whether the timing of the extraction from Uley Basin could have supported later commencement.

### **Kangaroo Island desalination plant**

SA Water is proposing to bring forward the Kangaroo Island desalination plant at a cost during the 2020-24 period of \$23, and a total cost of \$26.7m.<sup>47</sup> The plant had been planned for a later date but was brought forward based on planned development on the island, though SA Water notes that the ‘timing of this investment is dependent on having customer contracts in place’.<sup>48</sup>

The Independent Chair’s report notes that the demand comes from a single customer, a proposed golf course, that additional water supply would not otherwise be required until 2030, and the development approval for the golf course appears to have lapsed.<sup>49</sup> A new development application may be made.

If the cost were fully covered over the long term by customer contracts SACOSS could see no reason to object to the plant. However, SA Water notes that as ‘with other growth projects, these costs will be offset by contributions from new customers’<sup>50</sup> without explicitly stating whether the full, long term costs are offset by the customer revenue, and how the risk that the customer will fail has been addressed.

The Independent Chair’s report sheds light on the issue by noting that the proposed golf course development is only paying a portion of the cost (a pipeline from Middle River sized for its needs), with SA Water to pay for the ‘desalination plant, the pipeline from Penneshaw and the marginal cost of a larger pipeline from Middle River to cater for demand from customers other than the golf course’.<sup>51</sup> Given that demand from other customers is only likely to arise after 2030, this seems very clearly to be a case of overbuilding well ahead of time.

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<sup>47</sup> SA Water Our Plan, p. 34

<sup>48</sup> SA Water Our Plan, p. 34

<sup>49</sup> Independent Chair report, p. 52

<sup>50</sup> SA Water Our Plan, p. 34

<sup>51</sup> Independent Chair report, p. 52

The Independent Chair's report also argues that the demand should be regarded as outside the area that SA Water should supply.

Given the uncertainty around whether the golf club development will proceed, SACOSS considers it would appear to be more appropriate for this plant to be a contingent project, subject to further review based on whether the golf club proceeds, and even then only for the cost of infrastructure needed to meet the demand that the golf club is willing to support.

## IT expenditure

SA Water is proposing a \$143m IT budget for 2020-24.<sup>52</sup>

SA Water has proposed a 5 per cent capital delivery efficiency target for the IT budget,<sup>53</sup> after the IT budget was insulated from capital efficiencies during the 2016-20 regulatory period.<sup>54</sup>

SA Water supported its IT expenditure proposals through a KPMG IT benchmarking study (Appendix L), and an KPMG IT Plan Review Summary Report (Appendix M).

We note the recommendation by KPMG in Appendix M that SA Water is 'yet to complete options analysis for projects early in the gateway process', and 'evidence of options analysis [should] be provided to ESCOSA as part of its ex-post capex review, to support the 2024 price review'.<sup>55</sup> ESCOSA should look out for this options analysis information from SA Water.

KPMG's benchmarking of IT expenditure on the capex benchmarks shows a clear rise in IT capex in 2020-24 compared to historical averages, with:<sup>56</sup>

- IT capex as a percentage of total corporate capex rising from slightly below the historical benchmark to 55.6% higher than the historical benchmark
- historical capex per corporate end user rising from in line with historical benchmarks to 45.3% higher, and
- historical capex per customer rising from 23.6% higher than the historical benchmark average to 65.3%.

Much of the IT capital expenditure is stated to be aimed at improving the efficiency of SA Water, for example by:<sup>57</sup>

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<sup>52</sup> SA Water Our Plan, pp. 36-38 sets out the main areas of IT expenditure and total IT budget.

<sup>53</sup> SA Water Our Plan, p. 22

<sup>54</sup> Independent Chair report, p. 60

<sup>55</sup> SA Water Our Plan, Appendix M, p. 4

<sup>56</sup> SA Water Our Plan, Appendix L, p. 4

<sup>57</sup> See SA Water Our Plan at p. 37 and Independent Chair report, pp. 77-80

- providing a single platform for customer information, including e-billing
- equipment sensors to collect asset condition information so that assets are replaced based on condition analysis rather than age
- reducing and integrating legacy systems
- greater workforce collaboration and mobility
- IT risk management and building IT resilience.

SA Water has not identified significant and clear savings in capex arising from this IT expenditure, despite most of the expenditure being aimed at efficiency and process improvement rather than maintenance of business as usual or a defensive posture against cyber-attacks. For example, extending asset lives through better condition monitoring should deliver a significant saving across SA Water’s regulated asset base. Alternatively, if it does not result in identified savings, then the condition monitoring program should not proceed. A similar position could be adopted for the programs to reduce or integrate legacy systems, improve workforce collaboration and mobility, and provide a single platform for customer information.

Any identified savings for these IT efficiency projects should be factored into reduced capex or opex or both and should at a minimum exceed the IT costs of the projects. It would not make sense to pursue greater efficiencies from IT programs unless those efficiencies can be identified in advance with a reasonable degree of confidence and are in excess of their costs.

On the opex side, SA Water is proposing an increase in IT expenditure of \$5.6m per year.<sup>58</sup> This compares with forecast savings based on IT efficiencies of only \$4.4m.<sup>59</sup> This begs the question of whether the IT operating expenditure is justified as it delivers less in savings than it incurs in costs.

## **Operating expenditure**

SA Water is proposing over \$1.85 billion in operating expenditure in the 2002-24 regulatory period, as outlined in the table below.<sup>60</sup>

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<sup>58</sup> SA Water Our Plan, p. 38

<sup>59</sup> Independent Chair report, p. 54

<sup>60</sup> SA Our Plan, p. 43

**Table 3: SA Water proposed Operating Expenditure 2020-24**

<b>December 2018 real \$ (\$m)</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>Total</b>
<b>Water</b>	320.5	333.5	338.9	340.1	<b>1333</b>
<b>Sewerage</b>	124.3	127.9	131.4	135.6	<b>519.2</b>
<b>Totals</b>	444.8	461.4	470.3	475.7	<b>1852.2</b>

SA Water presents a KPMG benchmarking study of opex at Appendix K.

The KPMG opex benchmarking study compares SA Water to other water utilities on a customer, length, demand (CLD) basis. The study found that SA Water had improved slightly compared to its 2013-14 performance, and was among the most efficient in opex terms among its cohort group.<sup>61</sup> One unusual finding of the report is that a number of the smallest utilities are significantly below the line of average efficiency, meaning that they are among the most efficient of the utilities.<sup>62</sup> This runs counter to the general assumption that small utilities would tend to be less efficient due to lower economies of scale, and might be investigated by the ESCOSA to assess whether the findings have any implications for the basis of the KPMG comparison or efficiencies of large utilities compared to small utilities.

SA Water is presenting few savings in underlying costs.

The major area of opex savings is from lower energy costs, but these are due to the ZCEF capital project to build solar plus batteries at a range of sites to manage energy costs (with the project being largely spent at the start of the 2020-24 regulatory period).

Once these savings are removed, then the remaining savings are as shown in the table below.<sup>63</sup>

**Table 4: SA Water opex savings 2020-24 (minus ZCEF savings)**

<b>December 2018 real \$ (\$m)</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>Total</b>
<b>0.5% ongoing efficiency target</b>	-1.7	-3.3	-5.0	-6.6	<b>-16.6</b>
<b>Procurement contract savings</b>	-5.1	-5.1	-5.2	-5.2	<b>-20.6</b>
<b>total</b>	-6.8	-8.4	-10.2	-11.8	<b>-37.2</b>

<sup>61</sup> SA Water Our Plan, Appendix K, p. 6

<sup>62</sup> SA Water Our Plan, Appendix K, p. 6

<sup>63</sup> SA Our Plan, p. 22

Of a \$1.852 billion budget, the proposed savings represent just 2 per cent. This compares with a proposed 5 per cent efficiency in the capital budget over 2020-24. The savings are concentrated in the area of procurement, which is forecast to deliver over half the total savings.

Overall, it might be expected that there would be greater scope for opex savings, given the extensive IT expenditure program aimed at making savings, as well as general improvements in technology to support operational staff.

## Regulatory rate of return

SA Water is proposing a rate of return of 3.59 per cent (post-tax real applying market data as at June 2019).<sup>64</sup>

ESCOSA has published several guidance papers on the rate of return, including Guidance Paper 5 on the cost of funding and using assets, Guidance Paper 6 on the treatment of inflation, and Guidance Paper 7 on the averaging period of the risk free rate. On 13 December 2019, ESCOSA released a further Guidance Paper 9 dealing with Annual updates of the Regulatory Rate of Return. SACOSS has not yet had the opportunity to consider the matters raised in Guidance Paper 9, as part of this submission.

Under ESCOSA’s approach in Guidance Papers 5, 6 and 7, SA Water estimates that it would apply a rate of return of 2.52 per cent (post-tax real).<sup>65</sup>

SA Water proposes that it will vary from the method proposed by ESCOSA in three areas, accounting for the difference in rate of 1.07 per cent. The differences are summarised in table 5 below. SA Water’s proposed values for other parameters are the same as those nominated by ESCOSA.

**Table 5: SA Water proposed ROR approach**

Parameter	ESCOSA approach	SA Water approach
Equity beta	0.60 – 0.70	0.70
Averaging period	20 days	60 days
Inflation	10 year average: RBA forecast for first year and mid-point of RBA inflation target for remaining nine years (2.5%)	One year RBA forecast; inflation estimate capped at inputted risk-free rate minus 0.15%

It is understood that previously, SA Water has indicated that it would be seeking for cost of equity to be calculated on historical or backward-looking rates rather than expected or

<sup>64</sup> SA Water Our Plan 2020-24, Appendix E, p. 2

<sup>65</sup> SA Water Our Plan 2020-24, Appendix E, p. 2

forward-looking rates. This would not be appropriate as the cost of equity should be set based on the forward expectations of investors. The cost of equity is intended to reflect what investors - looking ahead - would want to achieve on their investment. SACOSS would say more on this issue except that SA Water does not appear to have continued with this position in its regulatory proposal.

## Equity beta

ESCOSA's guidance paper proposed an equity beta in the range 0.6 to 0.7. SA Water has proposed an equity beta of 0.7.<sup>66</sup>

The equity beta is a measure of the volatility or risk of a stock compared to the average of the market, where a beta of 1 is equivalent to average volatility.

The choice of the equity beta is an important one, since as ESCOSA points out in its Guidance Paper, "Each 0.1 movement in the equity beta for SA Water has an annual revenue impact of approximately \$29 million, or approximately \$29 per customer (around 3 percent of total revenue)".<sup>67</sup>

The AER considered the value of the equity beta for the regulated energy industry (gas and electricity networks) in a discussion paper to its Rate of Return Instrument 2018.<sup>68</sup>

The AER considered that the empirical studies indicated that the equity beta lay in the range 0.4 to 0.7, based on a study by Henry in 2013 that was confirmed by an updated study in 2017.<sup>69</sup> It noted that those industries should conceptually have risks lower than the market average because they were natural monopolies that faced limited competition, operated within stable regulatory frameworks, and have mechanisms to adjust to major changes in demand, such as accelerated depreciation and prudent discounts. ESCOSA noted that the AER more recently found that the equity beta range was 0.4 to 0.8 and was proposing to move to an equity beta of 0.6.<sup>70</sup> Other regulators have selected equity betas between 0.65 and 0.7.<sup>71</sup>

When examining the water industry, SA Water would likely face the same or lower risks than electricity or gas networks, given water reticulation also has natural monopoly characteristics. In this, SACOSS agrees with the view in ESCOSA's guidance paper that in the case of SA Water:<sup>72</sup>

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<sup>66</sup> SA Water Our Plan, p. Appendix E, p. 2

<sup>67</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, p. 11

<sup>68</sup> AER 2018, Discussion paper Equity Beta March 2018

<sup>69</sup> AER 2018, Discussion paper Equity Beta March 2018, p. 15 and 26

<sup>70</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, p. 22

<sup>71</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, Table 7, p. 25

<sup>72</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, p. 22

- *The nature of the water and sewerage services it provides, as essential services with very limited competition, are not likely to be affected much by systematic risks, and probably less so than electricity distribution companies.*
- *The revenue cap form of regulation applied to SA Water allows a specified revenue amount to be collected by the utility, irrespective of demand changes for its services. A revenue cap means that revenue remains stable despite economy-wide factors, or systematic risk, which  $\beta$  measures the firm's susceptibility to. A price cap, in contrast, exposes the utility to demand risk which, at least in part, reflects systematic risk.*

This would suggest an equity beta for SA Water in or below the range 0.4 to 0.7 or 0.8.

ESCOSA considers that the revenue cap form of regulation reduces systematic risk.<sup>73</sup> A revenue cap can reduce systematic risk because it means that the regulated firms are in effect guaranteed to collect the full amount of the allowed revenues even if demand changes. Consequently, ESCOSA considers that some of the equity betas selected by Australian regulators might be overstated because they have not fully recognised the reduction in systematic risk arising from the use of a revenue cap form of regulation.<sup>74</sup>

Based on the range 0.4 to 0.7 or 0.4 to 0.8, it would seem reasonable to select an equity beta of 0.6 rather than 0.7. This is closer to (though still above) the midpoint of the 0.4 to 0.7 range, and at the midpoint of the 0.4 to 0.8 range.

### **Averaging period**

ESCOSA currently uses a 20 day averaging period. The averaging period is the period in the lead-up to the new regulatory period over which interest rates will be averaged to determine the value of the risk-free rate as an input to determining the return on equity.<sup>75</sup>

SA Water is seeking an averaging period for the cost of equity of 60 days rather than 20 days. It considers that this reduces the volatility of the rate that may be selected, and noted that recent ESCOSA guidance was that it was open to providing the choice of a longer averaging period.<sup>76</sup> In fact, ESCOSA's Guidance Paper indicated that there may be unintended consequences from using a longer period, and ESCOSA would expect the proposal from SA Water for a longer period to be supported by:

- evidence that customers prefer long-term price stability
- analysis to show that adopting a long-term cost of equity is the best way to reduce price volatility, and

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<sup>73</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, p. 22

<sup>74</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, p. 25

<sup>75</sup> AER 2018, Discussion paper Market Risk Premium, risk free rate averaging period and automatic application of the rate of return, p. 33

<sup>76</sup> SA Water Our Plan, Appendix E, p. 3

- information about the long-term impacts on revenue and prices of adopting that approach, relative to using the prevailing Risk Free Rate.<sup>77</sup>

Looking in SA Water’s response at Appendix E to its regulatory proposal, it has only addressed these requirements to a very limited extent in one page of its submission (page 3 of Appendix E). Its core argument is that a longer averaging period reduces volatility and it does not address the reasons to move away from the prevailing risk free rate or the long-term impacts of doing so.<sup>78</sup>

The Customer Negotiation Committee did not agree that customers preferred long-term price stability. Their view was that:<sup>79</sup>

*SA Water justified its proposal on the basis that research indicates customers value stable prices. Against a background of increases of up to 100% in water prices in the not so distant past, and rapidly rising energy prices, this should come as no surprise. It seems highly likely to the Committee that customers would prefer price stability to further price increases, but that is not the same as saying they would prefer price stability under all circumstances....*

*[Noting that falling interest rates meant that future water bills were likely to be lower than in 2016-20, the Committee commented that] The Committee finds it impossible to believe that customers would prefer an increase in prices to a sizeable fall just because a 1% increase is more “stable” than a 7% fall....*

*It is probably true that customers prefer stable prices over prices which jump around or increase rapidly, but it is also probably true that they prefer falling prices to stable prices.*

A longer averaging period might give SA Water some chance to guess in the near term if interest rates were about to fall or rise, and to act on that to obtain a more favourable risk-free rate. For example, if SA Water could see that interest rates were about to fall ahead of the 60 day period, then it could pick the longer averaging period of 60 days to partly receive the benefit of the higher rate at the start of that period. If SA Water saw that rates were about to rise, it could pick a shorter period of 20 days to obtain the advantage of the higher rates in the final 20 days. While it would be required to nominate the period in advance, the direction of near-term rates can be reasonably easy to predict, particularly in the near future.

SACOSS sees the logic of applying a mechanistic approach for selecting the risk-free rate such as a fixed 20 day period. This reduces the potential for gaming and best reflects the risk free rate that prevails at the start of the regulatory period. This should not

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<sup>77</sup> ESCOSA, Guidance Paper: The cost of funding and using assets, p. 6

<sup>78</sup> SA Water Our Plan, Appendix E, p. 3

<sup>79</sup> Customer Negotiation Committee, Independent Chair report, pp. 83-84

disadvantage the regulated entity because, as the AER notes in its review of the averaging period in its discussion paper to the 2018 Rate of Return Instrument, “Over the long term, [longer averaging periods] have the same mean outcome as shorter averaging periods because they are both ultimately averages of the same underlying yield estimates”.<sup>80</sup>

SACOSS recommends retaining the current 20 day averaging period.

### **SA Water’s proposed method of estimating inflation**

The rate of return is set using nominal inputs. Accordingly, it must be adjusted to determine a real rate of return. The adjustment is based on an estimate of inflation.

ESCOSA’s guidance is for inflation to be the Reserve Bank of Australia (RBA) forecast for the first year, and then the mid-point of the RBA inflation target range (i.e. 2.5 per cent) for the remaining nine years. This is ESCOSA’s current approach, which is in line with the approach of most utility regulators in Australia.<sup>81</sup>

SA Water is proposing that inflation to be the one-year RBA forecast and then an inflation estimate capped at inputted risk-free rate minus 0.15%.<sup>82</sup> SA Water proposes two market-based approaches to derive the inflation estimate for years 2-10, ‘the bond breakeven approach (difference between nominal Commonwealth Government bonds and inflation indexed Commonwealth Government bonds) and the inflation swap approach’.<sup>83</sup>

The difference relates to the inflation estimate for years 2-10 of the forecast.

The report of the Independent Chair of the Customer Negotiation Committee is supportive of ESCOSA’s current (and proposed) approach, commenting that:<sup>84</sup>

*SA Water is proposing an approach to forecasting inflation which places greater weight on market expectations and less on the RBA forecast and target band.*

*The Committee cannot add value to the debate about the best measure for forecasting inflation but is happy to see the matter considered. .... the Committee does not consider a change should be made unless there is a conclusive argument in favour of such a change. The mere fact that the present method produces a low rate of return is not such an argument.*

ESCOSA’s Guidance Paper 6 argues that the core issue is the quality of the forecasting approach and the key is to pick the best forecasting approach. It argues that SA Water has proposed some market-based approaches (bond breakeven and inflation swap approaches)

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<sup>80</sup> AER 2018, Discussion paper Market Risk Premium, risk free rate averaging period and automatic application of the rate of return, p. 35

<sup>81</sup> ESCOSA, Guidance Paper 6: Treatment of Inflation in the regulatory rate of return, June, p. 4

<sup>82</sup> See SA Water Our Plan, Appendix E, p. 2 and pp. 4-6

<sup>83</sup> SA Water Our Plan, Appendix E, p. 2 and p. 6

<sup>84</sup> Customer Negotiation Committee, Independent Chair report, pp. 84-85

that ‘can have large and time-varying biases’, which as the RBA stated in its submission to the AER review of the treatment of inflation, ‘market-based measures of inflation expectations have several shortcomings that probably make them unviable alternatives to the current [AER] method’.<sup>85</sup>

The ESCOSA Guidance Paper noted that resetting the WACC annually, using inflation risk hedges, cost-pass through mechanisms, are ways to manage inflation risk.<sup>86</sup>

ESCOSA’s comparison found that using the bond breakeven rate or economist predictions were not necessarily more accurate than ESCOSA’s current approach, there may be practical difficulties in implementation (e.g. proprietary restrictions on economist forecasts).

SA Water proposes to cap the forecast inflation rate at a maximum of at least 0.15 per cent below the risk-free rate (i.e. The 10 year Commonwealth bond rate).<sup>87</sup>

This seems unreasonable based on the available evidence.

First, there is little long-term relationship between inflation rates and bond rates.<sup>88</sup> Figure E.5 in Appendix E of SA Water’s Our Plan clearly shows the lack of a relationship between the risk-free rate (green line) and actual inflation (blue line) over the ten years from 2009 to 2019.<sup>89</sup> Examining Figure E.5, inflation has generally been below the risk-free rate, but the gap has been closing, and currently inflation is higher than the risk-free rate as at the end of 2019.

Second, looking at external sources, inflation is currently 1.7 per cent (all groups, Sept 2019 quarter)<sup>90</sup> while the current 10 year Commonwealth bond rate is 1.17 per cent.<sup>91</sup> Capping the forecast inflation rate at the risk-free rate minus 0.15% would produce a result of  $1.17 - 0.15 = 1.02$  per cent, which is well below the current inflation rate (0.68 per cent below the current inflation rate). This would mean that SA Water would receive the benefit of an artificially low inflation rate estimate based on its proposed capping mechanism.

### **Adjusting the rate of return based on financial viability objectives**

SA Water notes that the objectives of ESCOSA include ‘facilitating maintenance of the financial viability of regulated industries and the incentive for long-term investments’.<sup>92</sup>

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<sup>85</sup> ESCOSA, Guidance Paper 6: Treatment of Inflation in the regulatory rate of return, June, pp. 5-6

<sup>86</sup> ESCOSA, Guidance Paper 6: Treatment of Inflation in the regulatory rate of return, June, p. 6

<sup>87</sup> SA Water Our Plan 2020-24, Appendix E, p. 6

<sup>88</sup> SA Water Our Plan 2020-24, Appendix E, p. 5

<sup>89</sup> SA Water Our Plan 2020-24, Appendix E, Figure E.5, p. 5

<sup>90</sup> RBA, at <https://www.rba.gov.au/inflation/measures-cpi.html>

<sup>91</sup> Bloomberg, at <https://www.bloomberg.com/quote/GACGB10:IND>

<sup>92</sup> SA Water Our Plan 2020-24, Appendix E, p. 7

SA Water proposes that ESCOSA should consider additional metrics to determine whether the rate of return determined by it delivers financial viability to SA water. It proposes three measures to determine whether the rate of return delivers financial viability, being: (i) Interest cover; (ii) Funds from Operations (FFO) over net debt; and (iii) Gearing (net debt to RAB).<sup>93</sup> Each of these three measures focusses on the ability of the regulated firm to cover its debt obligations.

SA Water forecasts a return under the guidance set out by ESCOSA in its guidance papers of 2.58 per cent. It compares this with its proposed rate of return of 3.59 per cent. It argues that it fails to meet the FFO over net debt measure using ESCOSA's approach.<sup>94</sup> SACOSS notes that under ESCOSA's approach, SA water would easily meet two of the three financial viability measures (Interest cover and Gearing).

SACOSS considers that these financial viability measures should not be used in determining the rate of return. The correct application of the capital asset pricing model (CAPM) approach should deliver a reasonable rate of return, which in turn should deliver a financially viable outcome for the regulated firm. That is the core intent of the CAPM model.

When regulatory bodies set rates of return, they tend to look at benchmark models where debt and equity levels are set to assumed levels. For example, the assumed gearing for the purposes of the CAPM model suggested in the ESCOSA guidance and accepted by SA Water is 60 per cent debt and 40 per cent equity.<sup>95</sup> This clearly demonstrates that delving into the specific gearing or debt levels of the regulated firm is not part of the regulatory task in setting the rate of return.

Moreover, the three financial viability measures proposed by SA Water above all relate to the specific debt level of the regulated firm. That means that if the firm's debt levels are low, then the firm can meet them under a wider range of rate of return, but if debt levels are high, then the firm might struggle to meet the financial viability measures unless it received a high rate of return. Accordingly, using the measures provides a gaming opportunity as it provides the firm with an incentive to increase debt to very high levels, and thus 'require' the regulator to provide a high rate of return to allow the firm to meet its financial viability measures. Providing incentives for regulated firms to load up on debt also increase risk for the firms, which is clearly undesirable from a regulatory or policy perspective. Providing incentives to load up on debt to game regulators or force them to award higher rates of return is also contrary to good regulatory practice.

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<sup>93</sup> SA Water Our Plan 2020-24, Appendix E, p. 8. SA Water mentions a fourth measure 'Retained cash flow/capex, but does not conduct an analysis of whether this measure is met by ESCOSA's proposed rate of return.

<sup>94</sup> SA Water Our Plan 2020-24, Appendix E, p. 8, Table E5

<sup>95</sup> SA Water Our Plan 2020-24, Appendix E, p. 2, Table E1

## Other issues

### Review of the locations where SA Water is obliged to supply a customer

The Independent Chair's report called for a review of the arrangements for locations in which SA Water is obliged to supply a customer.

This is likely to be outside the direct scope of ESCOSA's task of evaluating SA Water's regulatory proposal. However, it is a critical consideration to the overall cost of water supply in South Australia. The obligations faced by SA Water determine SA Water's overall costs.

New policy developments in the NEM may provide some guidance for appropriate policy settings. In the electricity industry, distributors have generally had an obligation to connect new customers within the defined geographic area that they serve.<sup>96</sup> The AEMC has considered a rule change to permit distributors to connect new and existing customers via stand-alone power systems where this is lower cost than new connection or maintenance of existing connection assets.<sup>97</sup> The AEMC recommended a regime to permit distributors to connect new and existing customers via stand-alone power systems while preserving existing standards of supply.

Consideration of the same approach could be a guiding principle for regulation of SA Water's supply obligations in the future.

### Commentary on the customer engagement process generally

The Independent Chair's report suggests that in future engagements, SA Water consider a different form of customer engagement where customers are involved from the outset, like the model employed by Scottish Water. The Chair's report noted that, 'In Scotland there is a Consumer Forum which jointly develops the business plan of Scottish Water'. This would presumably involve SA Water setting its regulatory strategy in discussion with customers *before* determining its capital spending projects. The independent probity auditor had a similar expectation of the form that consumer engagement would have, stating:<sup>98</sup>

*For me, it is likely that negotiations on the business plan would focus on the cost-benefit analysis justifying the individual projects constituting the business plan, including their opportunity costs as well as questions of selection and timing among competing projects etc.*

Instead, it is understood that SA Water selected its preferred portfolio of capital spending projects, developed those projects to the point where they were close to ready for inclusion

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<sup>96</sup> Section 66 of the National Energy Retail Law

<sup>97</sup> AEMC 2019, Final Report: Review of the regulatory framework for stand-alone power systems – priority 1, May at <https://www.aemc.gov.au/sites/default/files/2019-05/SAPS%20Priority%201%20Final%20Report%20-%20FOR%20PUBLICATION.pdf>

<sup>98</sup> Probity report (Gaby Jaksa), p. 6

in a regulatory proposal with the form and cost of the project determined, and then consulted with customers on the proposals.

This process then affected the value and quality of the consumer feedback, as the feedback was on developed projects. Further, a considerable amount of the project information was not presented to the Customer Negotiation Committee (e.g. costs) until near the end of the process, meaning that detailed feedback could not be provided with due time for consideration.

Accordingly, the Independent Chair's report argued that, 'the process was not a negotiation'.<sup>99</sup> The probity auditor's report noted that:<sup>100</sup>

*... negotiations might have been easier if the CNC had the benefit of the provisional business plan currently being finalized by SA Water for submission to ESCOSA. Saying this, I note that SA Water did, however, give a detailed "overview" of its "Our Plan 2020" that quantified various types of expenditure and effects on revenue and prices.*

It is recognised that the process of customer engagement is a difficult one and judgments have to be made about how much information is presented to consumers, the timing of the information, the expertise of consumers to judge the information, and reasonable expectations about how much time and involvement can be expected of the consumer groups whether they are volunteers or minimally paid.

The Independent Chair and the probity auditor both concluded that the process could have worked better if consumers were involved earlier and had access to more information. In considering improvements, SA Water could consider involving customers prior to deciding on capital projects. Given the lead times for preparation and submission of regulatory proposals, this would necessitate involving consumers early in the next regulatory period, perhaps after the first year or 18 months of the four year period.

SACOSS has broadly welcomed ESCOSA's efforts to promote and facilitate a more engaged consultation process as part of this regulatory determination. We now consider it will be critical to undertake a proper evaluation of how the customer engagement process has influenced the outcome of Regulatory Determination 2020. This should include an evaluation of the contribution of some of the components of the engagement process, for example the role of the Customer Negotiation Committee.

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<sup>99</sup> Independent Chair report, p. 89

<sup>100</sup> Probity report (Gaby Jaksa), p. 6

## Recommendations

SACOSS acknowledges the significant challenges for regulated businesses in providing sufficient information in regulatory business proposals for customers to be able to meaningfully comment on proposals, without overwhelming customers with technical details. We understand this balance is difficult to achieve. However, we are concerned that SA Water's 'Our Plan 2020', lacked sufficient detail on the capital expenditure proposals, and appeared to be more concerned with promoting or marketing its overall plan to customers. It is against this back ground that we make the following recommendations and support ESCOSA in undertaking a thorough evaluation of all expenditure proposals:

### Customer engagement processes and other considerations in determining new capital projects

#### WTP survey findings as a basis for capital spending proposals

- In determining whether capital projects should proceed, WTP surveys should be accorded minimal weight by ESCOSA, with a greater weight being placed on the direct utility benefits of the project.

#### Shadow pricing for damage to the environment

- ESCOSA could consider whether there are more transparent ways to promote environmental objectives than for SA Water to select shadow prices.

### Proposed capital projects

#### Metropolitan Adelaide water quality improvement

- ESCOSA closely evaluate:
  - the level of complaints about water aesthetics and taste in respect of water supplied by the Happy Valley treatment plant, and
  - the level and significance of the cost savings from performing the two elements together compared to postponing the second element.

#### Regional water quality improvement

- ESCOSA consider the overall cost of such a project for all rural areas together, rather than the costs of just the towns to be addressed during 2020-24, providing a holistic sense of the total cost and cost-benefit.

#### Regional non-drinking water quality improvement

- ESCOSA consider the approach suggested by the Independent Chair for an evaluation of the overall policy surrounding the delivery of water in more remote areas, and liaise with experts, Government and SA Water to investigate alternative approaches to addressing this pressing issue.

### **ZCEF project**

- It is important ESCOSA evaluate the project as it was not evaluated or approved as part of the 2016-20 regulatory period, so should be subject to an ex-post review.
- ESCOSA consider the effect of a reduction in electricity prices on the expected savings and overall prudence and efficiency of the ZCEF project.

### **Water mains improvement**

- ESCOSA consider whether the \$112m expenditure earmarked for mains replacement is premature given factors outlined in this submission.

### **North Adelaide Irrigation Scheme (NAIS)**

- SACOSS recommends that:
  - the Federal Government contribution should not be included in SA Water's regulated asset base because it is a capital contribution from a third party.
  - the State Government to bear the cost of any project cost overruns, by capping the contribution that goes into the regulated asset base at the cost of the existing approach.

### **Eyre Peninsula desalination plant**

- ESCOSA require SA Water to:
  - point to strong demand analysis to underpin the decision to size the plant at 4 GL per annum and to oversize the inlet and outfall pipes at 8 GL per annum
  - demonstrate smaller plant could not be installed at acceptable risk to water security in view of forecast demand.

### **Kangaroo Island desalination plant**

- ESCOSA consider whether it is more appropriate for this plant to be a contingent project, subject to further review based on whether the golf club proceeds, and even then only for the cost of infrastructure needed to meet the demand that the golf club is willing to support.

### **IT expenditure**

- ESCOSA consider whether the IT operating expenditure is justified as it delivers less in savings than it incurs in costs.

### **Operating expenditure**

- ESCOSA consider whether there should be greater scope for opex savings in the proposal, given the extensive IT expenditure program and general improvements in technology to support operational staff

## Regulatory rate of return

- SACOSS considers that SA Water's proposed variations from ESCOSA guidance on the rate of return factors (in the areas of the equity beta, averaging period, and inflation forecasts) should be rejected, as outlined below:

### Equity beta

- It is reasonable for ESCOSA to select an equity beta of 0.6 rather than 0.7. This is closer to (although still above) the midpoint of the 0.4 to 0.7 range, and at the midpoint of the 0.4 to 0.8 range.

### Averaging period

- SACOSS recommends retaining the current 20 day averaging period.

### SA Water's proposed method of estimating inflation

- SACOSS considers SA Water's proposal to cap the forecast inflation rate at a maximum of at least 0.15 per cent below the risk-free rate (i.e. The 10 year Commonwealth bond rate) is unreasonable based on the available evidence.

### Adjusting the rate of return based on financial viability objectives

- SACOSS considers that:
  - the financial viability measures proposed by SA Water should not be used in determining the rate of return
  - the correct application of the capital asset pricing model (CAPM) approach should deliver a reasonable rate of return, which in turn should deliver a financially viable outcome for the regulated firm.

## Other issues

### Review of the locations where SA Water is obliged to supply a customer

- ESCOSA consider liaising with the SA Government to review the arrangements for locations in which SA Water is obliged to supply a customer, and consider the approach put forward by the AEMC in electricity distribution.

### Commentary on the customer engagement process generally

- ESCOSA undertake a thorough evaluation of how the customer engagement process has influenced the outcome of Regulatory Determination 2020, including an individual evaluation of the contribution of each component of the process to the outcome.
- In future processes, ESCOSA consider the feedback around SA Water engaging with customers prior to deciding on capital projects, as opposed to engaging with customers after capital projects have been identified.