



**Submission to the Essential Services Commission of South
Australia on SA Water's Regulatory Business Proposal 2016-20**

**SACOSS Submission
October 2015**

SACOSS Submission to the Essential Services Commission of South Australia SA Water's Regulatory Business Proposal 2016-20

First published in October 2015 by the
South Australian Council of Social Service

47 King William Road
Unley, SA, 5061 Australia
Ph (08) 8305 4222
Fax (08) 8272 9500
Email: sacoss@sacoss.org.au
Website: www.sacoss.org.au

Written by South Australian Council of Social Service.

© South Australian Council of Social Service, 2015

This publication is copyright. Apart from fair dealing for the purpose of private study, research, criticism or review, as permitted under the Copyright Act, no part may be reproduced by any process without written permission. Enquiries should be addressed to the Communications Officer, South Australian Council of Social Service.

Executive Summary

SACOSS has been engaged in discussions surrounding the development of the regulatory framework for water in South Australia since 2010 when SACOSS concurrently reviewed the Draft Water Industry Bill 2010 and the Commission's Economic Regulation of the South Australian Water Industry Statement of Issues. SACOSS provided a submission on SA Water's Regulatory Business Proposal for the previous Revenue Determination Period 2013 – 15.

Throughout these processes, SACOSS has consistently drawn attention to the impact of high prices on all households as well as the acute impact these have on the lowest income households across our community. These households are already burdened by major cost of living pressures and because they struggle to meet high prices for essential services, they are at high risk of losing unrestricted access to the basic and essential service of water.

SACOSS notes that SA Water is forecast to achieve significant savings against the allowance in the current regulatory period (\$33m). In the next regulatory period, SACOSS would expect to see SA Water either maintain its operations to the scale of the current regulatory period, or deliver further efficiencies.

Having reviewed SA Water's Regulatory Business Proposal, SACOSS is extremely concerned about SA Water's upwards trajectory in both capital and operating expenditure. SACOSS questions the significant increased opex expenditure and the average increase in capex. SACOSS believes that given the economic situation in South Australia and the high prices South Australian water consumers are already paying, that it would be prudent for SA Water to at a minimum maintain expenditure increases to CPI only, if not deliver increased efficiencies. SACOSS notes that the regulator's role is to determine appropriate allocations for capex and opex and that it is SA Water's discretion about how it will spend its allowance. SACOSS firmly believes that SA Water needs to deliver significant capital and operating efficiencies to SA water consumers. SACOSS estimates that additional efficiencies of at least \$23m are achievable in total proposed expenditure.

In addition, SACOSS firmly believes alterations to SA Water's proposed approach to cost of debt are necessary. SACOSS recommends that the 7 year bond series be retained as the reference for the costs of debt calculation. In relation to the shift from an 'on the day' approach to setting bond prices for the price determination period, SACOSS recommend a transitional arrangement to the trailing average approach. SACOSS estimates that this will deliver around \$80m in savings in the first year compared to what is proposed by SA Water in its Regulatory Business Proposal.

SACOSS conservatively estimates that the price impact of additional efficiencies in total expenditure and a revised approach to cost of debt is in the order of an additional \$52 per customer saving in 2016-17, compared to the SA Water proposal.

SACOSS notes that the Your Say program was the first of its kind in terms of its scope and breadth and SA Water should be supported for its determination to raise its level of engagement with customers. SACOSS also wishes to acknowledge the openness and transparency with which SA

Water has approached the Regulatory Determination and its express willingness to engage with SACOSS and other consumer interest groups.

Contents

Executive Summary.....	i
Introduction	1
High Prices.....	2
Actual versus Allowed Expenditure	4
The Need for Lower Capex and Opex	5
Capex.....	6
Opex.....	7
SA Water’s Customer Engagement Program and Findings.....	8
Labour Cost Escalation.....	21
Cost of Debt	22
Investment in Technology.....	23
Appendix 1: SACES Report	24

Introduction

As the peak body for the community services sector in South Australia, SACOSS has had a longstanding interest in the delivery of essential services and in particular in ensuring that the most vulnerable South Australians are able to access an adequate, affordable and always available supply of potable water for health and hygiene.

SACOSS thanks the Commission for the opportunity to provide comment on SA Water's Regulatory Business Proposal for the Revenue Determination Period 2016 - 20.

SACOSS has been engaged in discussions surrounding the development of the regulatory framework for water in South Australia since 2010 when SACOSS concurrently reviewed the Draft Water Industry Bill 2010 and the Commission's Economic Regulation of the South Australian Water Industry Statement of Issues. SACOSS provided a submission on SA Water's Regulatory Business Proposal for the previous Revenue Determination Period 2013 – 15.

Throughout these processes, SACOSS has consistently drawn attention to the impact of high prices on households with the lowest incomes across our community. These households are already burdened by major cost of living pressures and because they struggle to meet high prices for essential services, they are at high risk of losing unrestricted access to the basic and essential service of water.

SACOSS has commissioned the South Australian Centre for Economic Studies (SACES) to provide further advice to SACOSS about specific aspects of SA Water's Regulatory Business Proposal. The report prepared by SACES has been attached to this submission at Appendix 1. SACOSS supports the recommendations made and wishes to draw the Commission's attention to the full report.

High Prices

As reported by the Commission, South Australia has the highest water prices in the nation.¹

In South Australia, this is compounded by the fact that not only do South Australians have the highest prices in Australia but they also continue to experience a high rate of increase (as illustrated in Figure 1 below).

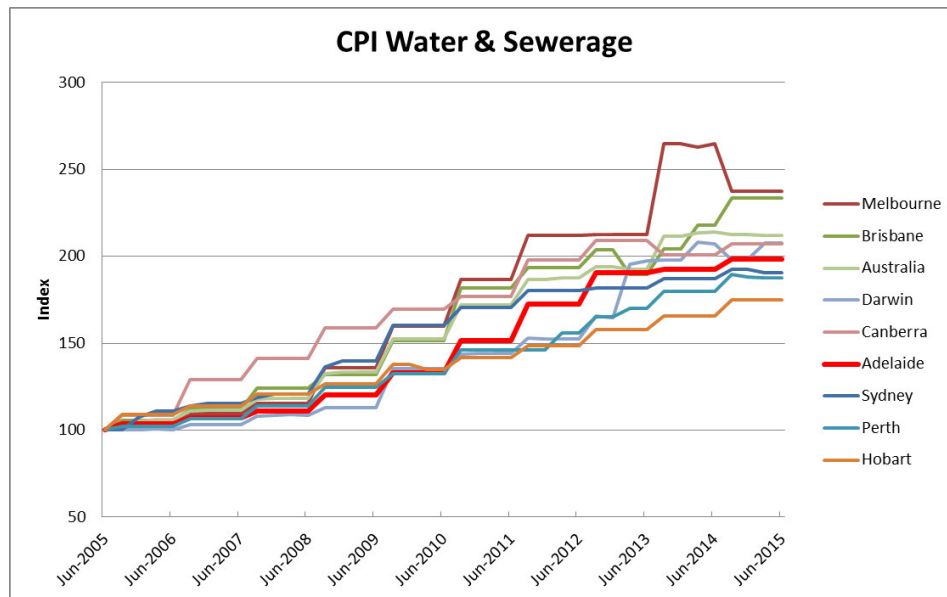


Figure 1: Water and sewerage indexes

(Source: ABS Consumer Price Index, Australia, Australian Bureau of Statistics, Canberra)

Water prices in South Australia have actually increased by nearly 100% over the last 10 years, as indicated in Table 1 below:

¹ ESCOSA (2014) as reported in <http://www.abc.net.au/news/2014-04-22/south-australians-paying-highest-water-prices-in-australia/5403700>

	% increase June Qtr 2005- June Qtr 2015
Electricity	85.7%
Gas	113.0%
Water	98.4%
Utilities	194.6%
CPI - All Groups	29.4%

Table 1: Utilities total percentage of starting price over the last 10 years, South Australia
(Source: ABS Consumer Price Index, Australia, Australian Bureau of Statistics, Canberra)

These index increases have real impacts on weekly budgets and are a significant source of financial stress. SACOSS strongly believes that it is time for water consumers to see some significant relief from the trend of price increases.

Actual versus Allowed Expenditure

SACOSS has reviewed SA Water's actual and forecast expenditure for the current regulatory period as indicated below:

Regulatory Period: 2013 - 2016

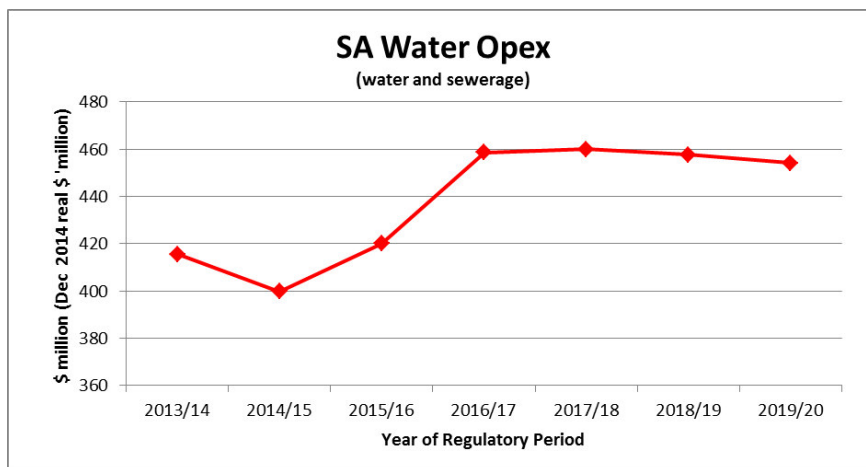
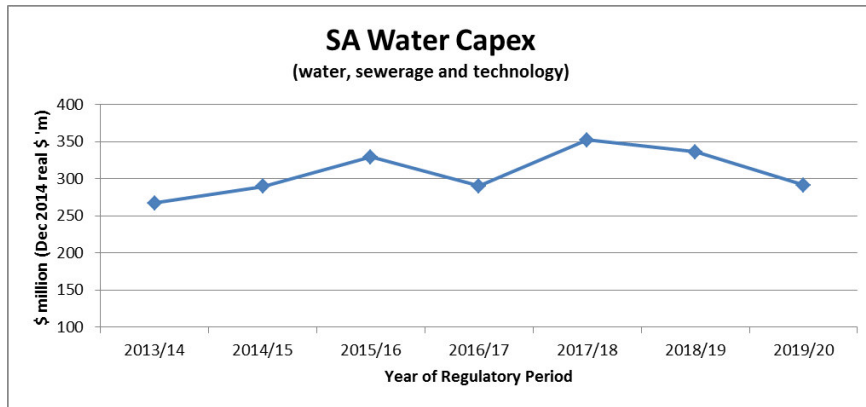
Activity	Actual	Forecast	Forecast	Reg Period	Final Decision Capex Allowance (Mar 2012 real \$' million)			Reg period
					2013/14	2014/15	2015/16	
Capex (Dec 2014 real \$' million)	2013/14	2014/15	2015/16	2013 - 2016	2013/14	2014/15	2015/16	2013 - 2016
Total (water & sewerage)	267.0	289.7	329.4	886.1	358.4	329.9	294.5	982.9
Opex (Dec 2014 real \$' million)	2013/14	2014/15	2015/16	2013 - 2016	Final Decision Opex Allowance (Mar 2012 real \$' million)			Reg period
					2013/14	2014/15	2015/16	
Total (water & sewerage)	415.5	399.8	420.0	1235.3	432.8	419.7	415.8	1268.3

SACOSS notes that water opex for the first regulatory period does not include Adelaide Desalination Plant costs which were capitalised and based upon a different cost allocation methodology.

Nevertheless, SACOSS notes that SA Water is forecast to achieve significant savings against the allowance in the current regulatory period (\$33m). SACOSS would expect to see SA Water either maintain its operations to the scale of the current regulatory period, or deliver further efficiencies over the coming regulatory period.

The Need for Lower Capex and Opex

SACOSS is extremely concerned about SA Water's upwards trajectory in both capital and operating expenditure. The graphs below illustrate the actual and forecast expenditure for the current regulatory period, contrasted with the proposed expenditure trajectory across the coming regulatory period:



SACOSS questions the significant increased opex expenditure and the average increase in capex. SACOSS believes that given the economic situation in South Australia and the high prices South Australian water consumers are already paying, that it would be prudent for SA Water to at a minimum maintain expenditure increases to CPI only, if not deliver increased efficiencies. SACOSS notes that the regulator's role is to determine appropriate allocations for capex and opex and that it is SA Water's discretion about how it will spend its allowance. SACOSS firmly believes that SA Water needs to deliver significant capital and operating efficiencies to SA water consumers. SACOSS estimates that additional efficiencies of at least \$22.5m are achievable in total proposed expenditure.

Capex

SA Water is proposing a significant program of capital expenditure of \$1.3 billion over four years:

Capex (Dec 2014 real \$'million)	2016/17	2017/18	2018/19	2019/20	Total over period
Water	162.8	204.9	161.7	146.0	675.4
Sewerage	92.4	117.6	141.6	128.1	479.7
Technology	34.9	29.9	32.9	17.3	115.0
Total	290.1	352.4	336.2	291.4	1270.1

Table 1: Capital Expenditure Proposed by SA Water 2016-20
(Source: SA Water)

SACOSS has significant concerns that SA Water may be overcapitalising and that this will lead to rapid increases in the Regulated Asset Base (RAB). In particular, SACOSS notes the following significant expenditure:

- Kangaroo Creek Dam Safety Project (\$29.1m)
- Structures – water networks (\$104.6m)
- Water network – reticulation mains (\$83.5m)
- Structures – major pipelines (\$27.0m)
- Mechanical and electrical – major pipelines (\$26.6m)
- Sewerage growth – networks (\$52.5m)
- Murray Bridge WWTP upgrade (\$66.5m)
- Bolivar capacity growth upgrade (\$24.6m)
- Improve environmental performance (\$42.7m)
- Mechanical and electrical – WWTPs (\$35.8m)

SACOSS strongly recommends that the Commission undertake detailed analysis about business cases and allowances for each of these projects and programs. SACOSS intends to reassess this proposed expenditure after the Draft Decision, and anticipates further review of the proposals at that stage.

Opex

SA Water is proposing increases to its operating expenditure compared to the previous regulatory period:

Opex (Dec 2014 real \$'million)	2016/17	2017/18	2018/19	2019/20	Total over period
Water	327.6	328.6	326.6	324.4	1307.2
Sewerage	131.1	131.3	131.1	129.8	523.3
Total	458.7	459.9	457.7	454.2	1830.5

Table 1: Operating Expenditure Proposed by SA Water 2016-20
(Source: SA Water)

SACOSS urges the Commission to undertake an extensive review of the proposed opex.

SACOSS notes the proposed expansion of the Customer Assist Program. SACOSS supports the proposed enhanced hardship provisions. Incentive schemes are widely recognised best practice in helping hardship customers address their outstanding debt issues. As noted in the SA Water Regulatory Business Proposal, SACOSS has previously undertaken a social research collaboration with SA Water that supported SA water provision of financial incentives within payment plans as a positive hardship measure.

SA Water's Customer Engagement Program and Findings

Introduction

This section comments on SA Water's customer engagement program, *Your Say*, which was conducted as part of the preparation of SA Water Regulatory Business Proposal (RBP) for 2016-2020. SA Water notes that the *Your Say* program was the first of its kind in terms of its scope and breadth² and SACOSS believes SA Water should be supported for its level of engagement with customers.

SA Water places considerable weight on the findings of the *Your Say* program, stating that "The key customer insights from Stage 3 of *Your Say* ... provide the context for many of our proposals across this document."³ SA Water relies in part on the findings of the *Your Say* program to support six of new initiatives:⁴

- Investment in a customer records management system (\$10.2 million);
- Expanding the Customer Assist program (approximately \$2 million);
- Water pressure modulation to reduce the frequency of bursts and leaks (\$13.4 million);
- Improving the aesthetics of SA Water infrastructure in residential areas (unspecified as cost appears to be included in larger projects);
- Regional water solutions to reduce salinity levels (\$12.6 million); and
- Increased levels of digital services for customers (\$10.2 million).

A number of other proposals were developed by SA Water and put to customer engagement workshop participants but did not go forward as part of its RBP.⁵

SA Water commenced a customer engagement program in November 2013. The *Your Say* program proceeded in five stages.⁶ The structure of the program is illustrated in figure 1 below. The program was facilitated by Deloitte and Newfocus.

Stage 1 consisted of a series of focus groups with customers and Customer Advisory Groups (CAGs) to identify issues of importance to customers. Stage 2 used the feedback to develop potential initial service improvements. Stage 3 consisted of SA Water seeking feedback from customers on the service improvements developed in stage 2. SA Water asked customers a range of questions to gauge customer views on current levels of service, and about willingness-to-pay for variations from the current level of service. In this stage, customers were provided with SA Water's anticipated price path for 2016-2020, which was projected to be "no more than CPI per year". Potential service

² SA Water RBP, Attachment B, p. 5.

³ SA Water RBP, p. 28

⁴ Own analysis of SA Water RBP.

⁵ These encompassed proposals around smart meters, changes in response times and other service levels, minimising noise levels, upgrading waste water treatment plants to improve the quality of discharge, a metro Adelaide taste enhancement program, water recycling schemes, and water for economic development. See SA Water RBP, Attachment B, pp. 43 to 72.

⁶ SA Water RBP, Attachment B, p. 5.

improvements were offered as variations from this price path. SA Water also conducted an online survey in June 2014 as part of stage 3.⁷ SA Water drew eleven customer insights from stage 3 (discussed below).⁸ SA Water reports that the feedback from the stage 3 workshops and online survey resulted in SA Water deciding to advance a number of new service improvements on top of business-as-usual expenditure worth an additional \$5 on the average customer bill.⁹

Stage 4 consisted of refinement of the service improvement proposals based on the stage 3 feedback. Stage 5 focussed on seeking feedback from customers on the refined service improvement proposals. Customers participating in stage 5 were selected from stage 3 participants.

Figure 1: Structure of SA Water Customer Engagement Program

Figure 1 – SA Water’s Customer Engagement Program



Source: SA Water RBP, Attachment B, p. 6.

Comments on methodology

Sample composition and size

It is important for a sample to be representative in order properly to reflect the views of the underlying population. Having said that, a sample that is not representative can be adjusted to become (more) representative by weighting the responses from particular under-represented

⁷ SA Water RBP, Attachment B, p. 8. SA Water reports that the survey “was made available to those without the internet through reply paid envelopes and customers had the opportunity to complete the survey via the phone by ringing the SA Water customer service centre”.

⁸ Deloitte’s report on stage 3 is at SA Water RBP, Attachment B at pp 30-82.

⁹ SA Water RBP, Attachment B at p. 5.

participant groups (or *cohorts*) more heavily and weighting over-represented participant groups less heavily.

Whether a cohort needs to be represented depends on whether its views are likely to be significantly different from other cohorts. If a cohort's views may reasonably be expected to vary from other cohorts, then it is important to collect information on whether a participant is part of the identified cohort as part of sampling, and then to adjust the sample outcomes to accommodate any under or over-weighting of that cohort in the sample.¹⁰

SA Water's consultant, Deloitte, advised that the stage 3 and 5 workshop participants "were recruited on the basis of gender, age, household income, property ownership, geography, and recent contact with SA Water".¹¹

SA water engaged in a range of qualitative and quantitative sampling. The qualitative sampling consisted of the focus group and workshop output during stage 1, 3, and 5. The quantitative sampling consisted of the online survey and of the willingness-to-pay questionnaire put to the workshop participants in stage 3.

As a matter of practicality, the qualitative sample size could be expected to be significantly smaller than the quantitative sample due to the higher cost of engaging qualitatively and because the qualitative outputs may be relied on for general direction about the types of service improvements to be put during the quantitative phase. In this case, the qualitative samples included 118 participants in stage 1, 144 participants in stage 3, and 47 participants in stage 5, plus participation by CAGs and multicultural communities.¹²

The size of the qualitative sample (i.e. the number of participants in the workshops and forums) is arguably too small to draw strong conclusions about the views of the SA population. By comparison with the sample sizes at stages 1, 3, and 5 (118, 144, and 47), a sample size of 96 would represent a margin of error of ± 10 per cent from the views of the underlying population.

The qualitative responses in the forums and workshops were significant in that they guided the choice of service improvements offered in the stage 3 and 5 workshops and likely guided the development of the questions in the online survey. The willingness-to-pay responses were only completed by workshop participants and so they are only as representative of the customer base as the participants in the forums and workshops.

SACOSS asked SA Water about the representativeness of the forum and workshop participants.¹³ SA Water responded that:¹⁴

¹⁰ For example, if women and men might be expected to respond differently to an online survey, and the survey aims to determine the views of the general population, then it will be important for the survey to ask information on the respondent's gender and to reweight the survey responses to the proportions of women and men in the general population.

¹¹ SA Water RBP, Attachment B, pp. 8 and 37.

¹² SA Water RBP, Attachment B, p. 7. It is not entirely clear whether the CAGs and multicultural community participants were additional to or included in the number of forum/workshop participants.

¹³ Email from Engineerom Infrastructure Consulting (consultant to SACOSS) to SA Water, 6 October 2015.

¹⁴ Email from SA Water to Engineerom Infrastructure Consulting (consultant to SACOSS), 9 October 2015.

In Stage 3, a segmentation plan was implemented to target key customer segments in the workshops. This ensured the workshop participants were representative of SA Water’s customer base and a consultant was engaged to manage the recruitment process to ensure SA Water customer segmentation criteria were met. The high level customer segments were Residential, Non-residential and Industry stakeholders. Sub-segments included bill payers, future bill payers, landlords, hardship, tenants, small business, builders and developers, local government and customer advisory groups.

As stated above, the stage 3 workshops drew 144 participants. However, this sample included only 16 metropolitan residential customers, plus 15 metropolitan business customers, and another 16 outer metropolitan residential customers (Mt Barker).¹⁵ This means that only 31 of the 144 participants (22 per cent) were from metropolitan Adelaide (this percentage rises to 33 percent including outer metro areas). This is very different to the underlying population of SA, where 74 per cent of the population live in the Adelaide statistical division (and 82 per cent live in either Adelaide or outer Adelaide statistical divisions).¹⁶

The stage 1 and 5 forums or workshops also drew much more heavily on regional areas than representative for SA Water’s customer base. In stage 1, 50 per cent of participants came from regional areas (59 out of 118) and 50 per cent from Adelaide metropolitan areas (again, 59 out of 118).¹⁷ In stage 5, 25 out of 47 participants (53 per cent) came from regional areas while 22 out of 47 (47 per cent) came from metropolitan areas.¹⁸

The impact of favouring regional participants so heavily over metropolitan participants in forums and workshops is that the views of metropolitan residents may not have been incorporated into the choice of service improvements to be taken forward for presentation to customers to stage 3 or 5 or to the RBP.

Whether the over-representation of regional customers is critical depends on whether regional participants had different views from metropolitan participants on particular service offerings. Regional and metropolitan customers may well have had different views on different proposed service improvements, in particular service improvements with a regional or metropolitan focus, such as regional water solutions to reduce salinity levels (proposed in the RBP) and a metropolitan Adelaide taste enhancement program (not proposed in the RBP). More broadly, responses to a range of other programs *might*¹⁹ have been influenced by whether the participant was from a regional or metropolitan location. Table 1 comments on the service improvements proposed in stage 3 and just some of the ways in which they *might* have been affected by the location of the participant.

¹⁵ SA Water RBP, Attachment B, p. 37. This does assume that a participant in a particular area lives in that area. It also assumes all SA residents are customers.

¹⁶ *Population Projections for South Australia and Statistical Divisions, 2011-41*, September 2015 release. <http://www.dpti.sa.gov.au/planning/population#population-projections-for-sa-and-statistical-divisions-2011-2041>.

¹⁷ SA Water RBP, Attachment B, p. 90.

¹⁸ SA Water RBP, Attachment B, p. 8.

¹⁹ The word *might* is used to illustrate that the following hypotheses about the preferences of regional and metropolitan customers are only for the purposes of illustration of possible differences between regional and metropolitan customers.

Table 1: How participant location might have affected responses to particular proposed service improvements

Proposed service improvement	Possible effect	Outcome in RBP
Investment in a Customer Records System to enable a case management approach	Regional customers may have more strongly supported this initiative because they have poorer physical access to SA Water or a greater number of case issues to manage	Proposed
Expanding the Customer Assist Program to offer support measures, such as debt forgiveness for a single quarterly bill, in cases of extreme hardship.	Regional customers may have lower incomes and/or higher levels of utility debt than metropolitan customers	Proposed
Water pressure modulation (to reduce frequency of bursts and leaks).	Regional customers may be more concerned about bursts and leaks because of a perception they will take longer to fix in regional areas or because water is seen as more critical to economic activity in regional areas	Proposed
Improving the aesthetics of SA Water infrastructure in residential areas	Regional customers may be less supportive of this initiative because it is focussed on residential areas in or around metropolitan areas	Proposed
Regional water solutions to reduce salinity levels	Regional customers may be more supportive of this initiative because of its regional focus	Proposed
Increased level of digital services for customers	Regional customers may have more strongly supported this initiative because they have poorer physical access to shopfronts	Proposed
Smart meter roll out within the next regulatory period	Unclear. Regional customers may be more supportive given the cost of metering reading is higher in regional areas or they may be less supportive if they already self-read meters or are more price-sensitive than metropolitan users	Not proposed

Proposed service improvement	Possible effect	Outcome in RBP
Changes to service levels (responding to bursts, leaks and overflows; water quality; unplanned supply interruptions and minor leaks)	Regional customers may be more price-sensitive. The Deloitte report notes that “Regional customers suggested they were unsure why they should invest in SA Water providing a more responsive service, as in many instances this will only have an impact on metropolitan customers.” ²⁰	Not proposed
Minimising noise levels for residents	Regional participants may live more remotely from noisy SA Water facilities	Not proposed
Large-scale investment to upgrade wastewater treatment plants to improve the quality of wastewater being discharged into the ocean	Regional participants may live more remotely from the ocean	Not proposed
A metropolitan Adelaide taste enhancement program to address the smell and taste of chlorine	Regional participants may not support a service improvement focussed on metropolitan areas	Not proposed
Water recycling schemes	Expanded water recycling options may be less available in regional areas	Not proposed
Water for growth (contributing to the economic development of South Australia)	Less economic development opportunities from water projects may be available in regional areas	Not proposed

Overall, the qualitative responses and the willingness-to-pay responses may not be representative of the underlying customer base because of their weighting towards regional areas and the possibility that regional responses are not representative of SA Water’s total customer base.

²⁰ SA Water RBP, Attachment B, p. 40.

Online survey

The other element of the customer engagement process was the online survey conducted in June 2014 during stage 3.²¹ The survey generated 1,232 responses.

Deloitte state that “The online survey was made available to those without the internet through reply paid envelopes and customers had the opportunity to complete the survey via the phone by ringing the SA Water customer service centre”.²² This seems a reasonable approach to ensure there were no barriers to particular groups in participating in the survey.

In contrast to the qualitative responses, the online survey was answered 90 per cent by metropolitan respondents and 10 per cent by regional respondents.²³ While the number of metropolitan respondents is higher than their proportion of the total population (74 per cent), Deloitte indicate that some account was taken of the location of the respondent:²⁴

Survey data was analysed using a number of statistical tests to determine statistically significant differences in responses. Responses were analysed by region, with potential biases being identified to ensure that the sample of SA Water customers who responded to the survey were representative of the South Australian population in terms of age, gender and income. Due to the small sample of business respondents, business data has not been included in the forthcoming analysis but will be supplied to SA Water for consideration.

Responses to the online survey by location are included when there was a statistically significant difference between metropolitan Adelaide and regional respondents. Results have been displayed at an aggregate level for residential responses (denoted as ‘residential respondents’ survey graphs) when there was no statistically significant difference.

In response to a question from SACOSS, SA Water stated that:²⁵

Quotas were not set for survey respondents due to the online method adopted. In the analysis phase, the survey data was weighted against the population at an aggregate level. Responses were analysed by region, with potential biases being identified to ensure that the sample of SA Water customers who responded to the survey were representative of the South Australian population in terms of age, gender and income.

It is not clear from SA Water’s response whether the survey responses were reweighed by location, or just by age, gender, and income. In addition, it may have been worthwhile to collect data on and examine other cohorts apart from age, gender, and income to assess whether these cohorts had responses that were statistically different from other respondents and were proportionately represented in the survey responses.

²¹ SA Water RBP, Attachment B, p. 37.

²² SA Water RBP, Attachment B, p. 37.

²³ SA Water RBP, Attachment B, p. 37.

²⁴ SA Water RBP, Attachment B, p. 38.

²⁵ Email from SA Water to Engineroom Infrastructure Consulting (consultant to SACOSS), 9 October 2015.

Assuming a representative sample, SA Water’s sample size of 1,232 provides a margin of error of less than ± 3 per cent.²⁶ This is an appropriately small margin of error to draw reasonable conclusions about the views of the underlying population from the survey findings.

As indicated in the quote above, Deloitte notes that only 24 of the online survey respondents were businesses and it was therefore unable to attract sufficient business customers to undertake the online survey to include business results in the stage 3 analysis.²⁷ This indicates that the online survey results can only be used to understand the views of residential customers.

Validity of the findings drawn from the Your Say customer engagement program

Table 2 presents the eleven high level findings of stage 3 of the Your Say program.

Table 2: High level findings of SA Water Customer Engagement program

1	Customers would like to improve their experience with SA Water
2	Customers favour multiple channels of communication
3	Customers see the value in smart meters but are concerned about the costs
4	Customers are willing to contribute to an expansion of the Customer Assist Program
5	Customers are satisfied with the level of service provided by SA Water
6	Customers support cost effective investment in water pressure modulation to minimise infrastructure failures
7	Customers favour investment in visual amenity over noise attenuation
8	Customers support investment in environmental projects where value and costs are well known
9	Customers support investment in water quality initiatives in areas experiencing significant issues
10	Customers value water recycling schemes that have broad community impacts
11	Customers believe SA Water has a role to play in contributing to the economic development of South Australia

Source: SA Water Regulatory Business Proposal, Attachment B, p. 11.

Some of these insights are perhaps at too high a level for them to provide much support for any particular investment. In particular, insights one and eleven are quite non-specific for any particular service offering.

²⁶ A sample size of 1,096 provides a margin of error of ± 3 per cent.

²⁷ SA Water RBP, Attachment B, p. 38.

Based on these stage 3 insights, the responses to the online survey, and feedback received during stage 5, SA Water incorporated a number of service improvements into its RBP.

General observations about the findings of the Your Say program

Apparent contradictions among findings

There are some apparent contradictions among the responses of customers.

For example, the stage 3 report found that “The majority of customers who responded to the online survey were unprepared to accept the likely bill impacts resulting from any investment to improve service levels”.²⁸ In addition, one of the customer insights in table 2 was that “customers are satisfied with the level of service provided by SA Water”.²⁹ This finding is arguably not consistent with findings that there was customer support for specific initiatives such as water pressure modulation, improving the aesthetics of SA Water infrastructure, or regional water solutions to reduce salinity levels.

It is not especially surprising in itself that there would be contradictions in findings about customers’ views as customers do change their minds on issues depending on the presentation of the issue or other factors. However, it is also true that such contradictions make it harder to draw solid conclusions about customers’ underlying preferences. This is why economists tend to place much greater weight on observed behaviour in the market compared to customer feedback in forums, workshops, and surveys.

As discussed below, it may also be that some of the initiatives to improve service were supported because customers expected that the savings from those initiatives would outweigh their cost.

Savings from particular service improvements

A number of the initiatives are likely to provide savings to SA Water compared to the base case of continued operation under current conditions.

These initiatives include the following three programs:

- Investment in a customer records system;
- Increased levels of digital services for customers; and
- Water pressure modulation to reduce the frequency of bursts and leaks.

In relation to the first two customer-focussed initiatives, Deloitte notes that:³⁰

SA Water is responding to the request for multiple channels of communication by proposing an increased level of digital services, allowing customers to choose which platform to engage with SA Water based on their preferred channel.

Other key initiatives to improve customer experience included:

²⁸ SA Water RBP, Attachment B, p. 53.

²⁹ SA Water Regulatory Business Proposal, Attachment B, p. 11.

³⁰ SA Water RBP, Attachment B, p. 16.

- *Provision of eBilling and online payment solutions*
- *Digital engagement to better understand the customer experience*
- *Online fault reporting to streamline the current reporting process and make tracking visible to customers*
- *Increased customer Self-Service options including a portal for major business customers.*

The CRM system is likely to assist in tracking customer complaints. SA Water notes it would allow it “to easily identify the customer’s previous contact history”.³¹ This could be expected to reduce the costs of resolving customer complaints.

The water pressure modulation proposal aims to reduce the number of bursts and leaks and associated water loss. Commenting on customers’ reactions to the proposal:³²

Customers agreed that a potential benefit of water pressure modulation would be a reduction in the amount of major infrastructure and water mains that would need replacing in areas of high water pressure. Members of the Business CAG suggested this initiative should be cost neutral to the customer due to the potential long-term cost savings that could be realised by SA Water.

These three measures could well yield savings significantly greater than their cost. SA Water may well have developed business cases around the savings associated with these measures which identify the savings and whether and by how much they outweigh the costs. It would be reasonable for SA Water to provide these business cases and to factor in savings in future capex and opex allowances at least equivalent to the capital and operating costs of these three programs.

The need for a super-majority

An issue arises of whether SA Water should demonstrate that more than a simple majority support initiatives before it includes them in the RBP.

The arguments for a super-majority in support of an initiative include that:

- For infrastructure services such as water and waste water provision, generally all customers are bound to pay the additional costs of a new initiative. Co-opting all customers to pay should require stronger support as some customers will be forced to pay for initiatives that they do not support and some customers may struggle to afford to pay for a service which is an essential service; and
- Inevitably it is difficult to place too much confidence in the findings of customer workshops, forums, willingness-to-pay responses, or surveys, as they do represent judgments and interpretations, may be subject to some level of process bias, and may not accurately reflect customers’ actual market behaviour.

³¹ SA Water RBP, Attachment B, p. 17.

³² SA Water RBP, Attachment B, p. 59.

As a practical matter, it may be better not to go forward with a broadly-based initiative that would impose costs across the customer base without a level of support for an initiative significantly above a bare majority. Alternatively, it may be reasonable:

- Not to go forward with an initiative where an initiative does not have majority support compared to those who disagree with it, or neither support nor disagree with it; or
- Proceed with an initiative but with a lower cost option or in a staged way that spreads the costs over a number of RBPs.

Views on specific proposed service improvements

Investment in customer records management systems

Deloitte presented findings on customer support for a customer record management system in its stage 3 report.³³

The facilitators asked whether the customer supports “SA Water investigating a Customer Records Management system”. This question is not ideal in the sense that it seems to be asking about an *investigation* of the costs of a CRM system or some type of pilot rather than about full implementation of such a system.

The responses are not compelling in favour of investigating a CRM system, with 28 per cent disagreeing or strongly disagreeing, and 44 per cent agreeing or strongly agreeing.³⁴ There is less than a majority support for the initiative.

Digital engagement strategy

SA Water state that:³⁵

As part of our proposed IT investment, we will invest \$10.2 million in our digital strategy which will:

- *Enhance self-service and payment platforms for customers*
- *Create more channels for customers to interact with us*
- *Enhance customer enquiry handling*
- *Improve how we communicate service issues*
- *Form better customer relationships*
- *Improve information management and digital customer research.*

As noted above, this strategy may well return savings greater than its cost by reducing the number of customer service staff and streamlining customer enquiry handling.

³³ SA Water RBP, Attachment B, p. 43.

³⁴ The other 27 per cent neither agreed nor disagreed.

³⁵ SA Water RBP, p. 12.

In contrast to other proposed initiatives, SA Water does not present any survey or other results to support this initiative.³⁶ This is despite a number of claims that a “clear majority” of customers supported this initiative.³⁷

Regional water solutions to reduce salinity levels

Deloitte states that under this initiative, SA Water plans to “invest in infrastructure to improve water quality for residents and businesses in Orroroo and Warooka”.³⁸

However, in the RBP, SA Water states expenditure of “\$12.6 million to improve water quality aesthetics and reduce salinity for customers at Orroroo”, and identifies a separate program of “\$15.0 million to improve the reliability of the water supply for customers at Warooka and Point Turton by changing supply from bore fields to the River Murray system”.³⁹

SA Water’s RBP states that:⁴⁰

Customers were made aware that these regional water quality solutions would cost \$6m-\$10m per solution, which would equate to approximately a \$1.30 per annum increase in the typical SA Water bill. SA Water indicated only one regional water quality solution has been scheduled for the next four years. Knowing this, 68% of customers supported SA Water investigating options to undertake investment in regional water quality solutions and found the likely bill impact of \$1.30 p.a. to be acceptable. Metropolitan customers in the workshops provided the highest levels of support, with 77% of metropolitan customers supporting this initiative as compared to 65% of regional workshop customers.

It is concerning that the findings state that customers supported ‘investigating options to undertake investment’ rather than in actually undertaking such investment. This appears to contradict the form of the question put to customers as stated on the next page, which is “I support SA Water undertaking regional water treatment upgrades”.⁴¹ Customers were given to understand only one upgrade would occur, so it may be that they might not have supported the upgrade for both Orroroo and Warooka if they understood them both to be proceeding on the same justification. As Orroroo has a population of around 935,⁴² SA Water may wish to consider alternative ways of improving its drinking water quality than a \$12.6 million salinity reduction scheme.

Conclusions

SACOSS cautions against overreliance on the qualitative responses and the willingness-to-pay responses to justify expenditure. Among the issues identified, these responses may not be representative of the underlying customer base because of their weighting towards regional areas and the possibility that regional responses are not representative of SA Water’s total customer base.

³⁶ Compare SA Water RBP, Attachment B, p. 44.

³⁷ For example at SA Water RBP, p. 34.

³⁸ SA Water RBP, Attachment B, p. 24.

³⁹ SA Water RBP, p. 12.

⁴⁰ SA Water RBP, Attachment B, p. 65.

⁴¹ SA Water RBP, p. 66.

⁴² District Council of Orroroo Carrieton website at <https://www.orraroo.sa.gov.au/page.aspx?u=462>.

However, SACOSS believes that the below three measures could well yield savings significantly greater than their cost:

- Investment in a customer records management system (\$10.2 million);
- Increased levels of digital services for customers (\$10.2 million).
- Water pressure modulation to reduce the frequency of bursts and leaks (\$13.4 million);

SACOSS believes that SA Water may well have developed business cases around the savings associated with these measures which identify the savings and whether and by how much they outweigh the costs. It would be reasonable for SA Water to provide these business cases and to factor in savings in future capex and opex allowances at least equivalent to the capital and operating costs of these three programs.

In relation to the following measure:

- Regional water solutions to reduce salinity levels (\$12.6 million)

It is concerning that the findings of the CEP state that customers supported 'investigating options to undertake investment' rather than in actually undertaking such investment. This appears to contradict the form of the question put to customers as stated by SA Water, which is "I support SA Water undertaking regional water treatment upgrades". SACOSS believes that SA Water should consider alternative ways of improving its drinking water quality than a \$12.6 million salinity reduction scheme.

In relation to the remaining two proposals:

- Expanding the Customer Assist program (approximately \$2 million)
- Improving the aesthetics of SA Water infrastructure in residential areas (unspecified as cost appears to be included in larger projects)

SACOSS has previously noted its support for expansion of the Customer Assist program. In relation to the final measure, SACOSS notes that as the qualitative responses and the willingness-to-pay responses may not be representative of the underlying customer base because of their weighting towards regional areas and the possibility that regional responses are not representative of SA Water's total customer base, the CEP program alone is insufficient to justify this proposed expenditure.

Labour Cost Escalation

SACOSS has commissioned the South Australian Centre for Economic Studies (SACES) to provide further advice to SACOSS about labour cost escalation in SA Water's Regulatory Business Proposal. The report prepared by SACES has been attached to this submission at Appendix 1. SACOSS supports the recommendations made and wishes to draw the Commission's attention to the full report.

In summary, SACES proposes that the labour cost escalation factor proposed by SA Water is appropriate and supported by the available evidence. SACES notes that:

"Whilst disagreeing with the assumptions implicit in the BIS Shrapnel analysis presented by SA Water to support their use of an above inflation increase in labour costs... SA Water in its Regulatory Business Proposal does not (strictly) propose that the BIS Shrapnel forecasts be adopted.⁵ Instead it proposes an increase in unit wage costs of 3 per cent over the determination period, with the total labour costs subject to the same 1 per cent annual efficiency target as OPEX more broadly. This appears an entirely reasonable approach to take. It also means that the wage escalation would be in line with the unit wage cost forecasts for the sector produced by Deloitte Access Economics for the AER as an input into a number of their recent electricity determinations."⁴³

⁴³ SACES (2015) Independent Advice on Cost of Debt and Labour Cost Proposals in SA Water's Regulatory Business Proposal 2016-20: pp. 2 & 5-6.

Cost of Debt

SACOSS has commissioned the South Australian Centre for Economic Studies (SACES) to provide further advice to SACOSS about cost of debt treatment in SA Water's Regulatory Business Proposal. The report prepared by SACES has been attached to this submission at Appendix 1. SACOSS supports the recommendations made and wishes to draw the Commission's attention to the full report.

The proposed shift from using 7 year BBB bonds as the reference series to using 10 year BBB bonds, and a shift from an 'on the day' approach to setting bond prices for the price determination period have significant implications for consumers in the current environment. As a result, SACOSS were keen to gain an independent perspective of these issues to feed in to the Regulatory Determination process.

As SACES notes, the shift from a 7 to 10 year bond is less strongly supported by theory or evidence:

*"There is no theoretical reason for preferring a 7-year bond tenor to a 10-year bond tenor or vice versa in setting rates of return for a regulated utility, making the choice of tenor an empirical matter. In selecting the tenor of bonds for use in a price determination a regulator would ideally use the tenor that best matched that which would be used by a 'benchmark efficient entity in the regulated sector. No data has been presented on the average tenor of bonds issued by regulated water utilities in Australia (or, indeed on the effective tenor of SA Water's own stock of debt). In the absence of such evidence we would recommend retaining the 7 year bond series as the reference for the costs of debt calculation, as it is not clear why South Australian consumers should be funding a slightly longer period of certainty of bond rates for SA Water."*⁴⁴

SACOSS therefore recommends that the 7 year bond series be retained as the reference for the costs of debt calculation.

In relation to the shift from an 'on the day' approach to setting bond prices for the price determination period, SACES recommend a transitional arrangement to the trailing average approach:

*This potential for windfall returns suggests that some form of transitional arrangement would be prudent. This is the approach adopted by the AER in their most recent determination process for electricity and gas utilities, where the cost of debt will be gradually transitioned to a 10 year trailing average over a 10 year period. As we are recommending the use of a 7 year bond tenor in calculating the cost of debt, our recommendation is that the transition be towards a 7 year trailing average.*⁴⁵

SACES recommends that the QTC approach be adopted as the transitional arrangement to a trailing average approach with two variations as outlines by SACES in the attached report.

⁴⁴ SACES (2015) op cit p.2.

⁴⁵ SACES (2015) op cit. p.3.

Investment in Technology

SA Water proposes to invest \$115m of capital in technology over the regulatory period. Key projects include:

- Enhance Digital Strategy program (\$10.2m)
- Field process re-engineering (\$13.9m)
- SCADA systems review and renewal (\$4.6m)
- Information security program (\$4.0m)
- IT asset lifecycle renewal program (\$47m)

SACOSS is concerned about the level of investment proposed in the 2016-20 regulatory period. SACOSS believes that it would be prudent to stage IT investment over a number of regulatory periods given the size of the investment.

As outlined in the consumer engagement section of this submission, SACOSS acknowledges that the Digital Strategy may well return savings greater than its cost by reducing the number of customer service staff and streamlining customer enquiry handling.

In contrast to other proposed initiatives, SA Water does not present any consumer survey or other results to support this initiative.⁴⁶ This is despite a number of claims that a “clear majority” of customers supported this initiative.⁴⁷

SACOSS believes that SA Water may well have developed business cases around the savings associated with this measure which identify the savings and whether and by how much they outweigh the costs. It would be reasonable for SA Water to provide this business case and to factor in savings in future capex and opex allowances at least equivalent to the capital and operating costs of this program.

⁴⁶ Compare SA Water RBP, Attachment B, p. 44.

⁴⁷ For example at SA Water RBP, p. 34.

Appendix 1: SACES Report



SOUTH AUSTRALIAN
CENTRE FOR ECONOMIC STUDIES



ADELAIDE & FLINDERS UNIVERSITIES

Independent Advice on Cost of Debt and Labour Cost Proposals in SA Water's Regulatory Business Proposal 2016-20

Final Report

Report commissioned by the
South Australian Council of Social Services

Report prepared by the
SA Centre for Economic Studies

October 2015

Contents

Acronyms	(i)
Executive Summary	(ii)
1. Introduction	1
2. Considerations on Cost of Debt	2
3. Estimates of Labour Cost Trends in the RBP	5
Bibliography	7

This report was prepared by the following SACES researcher:
Steve Whetton, Deputy Director

Disclaimer: This study, while embodying the best efforts of the investigators is but an expression of the issues considered most relevant, and neither the Centre, the investigators, nor the Universities can be held responsible for any consequences that ensue from the use of the information in this report. Neither the Centre, the investigators, nor the Universities make any warranty or guarantee regarding the contents of the report, and any warranty or guarantee is disavowed except to the extent that statute makes it unavoidable.

Acronyms

AER	Australian Energy Regulator
BBB	Bonds whose risk has been rated at BBB-, BBB and BBB+, e.g. corporate bonds rated as investment grade but not in the lowest risk categories of investment grade corporate debt.
CPI	Consumer Price Index
ESCOSA	Essential Services Commission of South Australia
GFC	Global Financial Crisis
WACC	Weighted Average Cost of Capital
QTC	Queensland Treasury Corporation
RAB	Regulated Asset Base
RBA	Reserve Bank of Australia

Executive Summary

The Essential Services Commission of South Australia (ESCOSA) is currently in the process of making a determination on the allowable revenue for the SA Water Corporation over the period 2016/17 to 2019/20, which includes identifying appropriate levels of operating and capital expenditures, as well as determining the rate of return to allow on SA Water's regulated asset base.

The SA Council on Social Services has asked the SA Centre for Economic Studies to provide an independent assessment of the required real rate of return on debt, and the escalation factor proposed for the cost of labour in SA Water's Regulatory Business Proposal (SA Water 2015), which details SA Water's proposal for its allowed revenue. The fact that we have not expressed a view on the other components of the WACC, or operating and capital costs should be taken as neither disagreement nor endorsement of the proposals contained in the Regulatory Business Proposal.

Cost of debt

ESCOSA's final framework approach is proposing two material changes to the approach to calculating the cost of debt in the WACC calculation, a shift from using 7 year BBB bonds as the reference series to using 10 year BBB bonds, and a shift from an 'on the day' approach to setting bond prices for the price determination period.¹ This approach has also been adopted by SA Water in their Regulatory Business Proposal.

We agree that the switch to a trailing average approach to setting the cost of debt has a strong theoretical rationale, and support its use.

However, we believe that a case has not been made for switching from a 7-year bond to a (generally more expensive) 10-year bond as the reference series, and as such **recommend that the 7-year BBB bond remains the reference series for calculating the cost of debt.**

We also believe that the move to a trailing average approach has the potential to deliver a windfall to SA Water relative to retaining the existing 'on the day' approach to calculating the cost of debt. Shifting immediately to a 10 year trailing average calculated on the 10 year BBB bond series as proposed by SA Water would deliver an additional pre-tax return to SA Water of **\$225 million** in the first year compared to the current method (calculations are based on the August 2015 rates in the RBA BBB bond series). Even compared to the bond yield included in the previous price determination the pre-tax windfall gain would be **\$142 million** in the first year.

As such we recommend the use of a transitional arrangement as part of the switch to a trailing average approach, and follow Lally (2013) in recommending the QTC approach (modified to use a 7 year bond).

Escalation factor for cost of labour

Whilst disagreeing with the assumptions implicit in the BIS Shrapnel analysis presented by SA Water to support their use of an above inflation increase in labour costs, **we believe that the 3 per cent nominal increase proposed by SA Water is appropriate and supported by the available evidence.**

¹ ESCOSA is also proposing to shift from using the Bloomberg fair value curve as the source of the reference price data to the RBA's commercial bond rate price series, but it is unlikely that this shift will, on average, have a material impact on the modelled cost of debt. We support the move to use of the RBA series as it increases the transparency of the process, the RBA having published the methodology used, whereas Bloomberg's compilation and analytical methods are proprietary technology.

1. Introduction

The Essential Services Commission of South Australia (ESCOSA) is currently in the process of making a determination on the allowable revenue for the SA Water Corporation over the period 2016/17 to 2019/20. In making the determination it is generally guided by costs that would be faced by, and therefore the revenue that would be required by, a typical efficient water utility (often described as a 'benchmark efficient entity'). The objective is to ensure that the regulated entity has the opportunity (should it run its operations efficiently) to make a reasonable rate of return, and to ensure that it is incentivised to make an efficient level of investment in the maintenance, renewal, and expansion of its existing stock of assets, whilst preventing it from using its natural monopoly to extract excess profits from water consumers.

In making the determination ESCOSA needs to form a judgement on the efficient cost of a range of operation and capital expenditures. It also needs to set an appropriate return on capital (the regulated asset base or RAB), this return on capital is known as the weighted average cost of capital (WACC). The WACC is the expected cost on average for all the various components of capital (equity and debt) used by the firm. Alternatively, it represents an estimate of the expected rate of return on company assets. All other things being equal, the higher the estimated WACC then the higher will be the efficient prices allowed by the regulator. In mathematical terms ESCOSA (2015) expresses the WACC as follows:

$$WACC_{post\ tax,real} = \frac{1 + \left(k_e \frac{E}{V} + k_d \frac{D}{V}\right)}{(1 + i_{exp})} - 1$$

where: k_e is the expected real return on equity;
 k_d is the required real return on debt;
 E/V is the proportion of equity in total financing;
 D/V is the proportion of debt in total financing; and
 i_{exp} is the expected rate of inflation.

The SA Council on Social Services has asked the SA Centre for Economic Studies to provide an independent assessment of the required real rate of return on debt, and the escalation factor proposed for the cost of labour in SA Water's Regulatory Business Proposal (SA Water 2015), which details SA Water's proposal for its allowed revenue.

Chapter 2 of this report sets out our assessment on the cost of debt proposal, and Chapter 3 assesses the proposed escalation factor for labour.

2. Considerations on Cost of Debt

ESCOSA's final framework approach is proposing two material changes to the approach to calculating the cost of debt in the WACC calculation, a shift from using 7 year BBB bonds as the reference series to using 10 year BBB bonds, and a shift from an 'on the day' approach to setting bond prices for the price determination period.²

There is a strong theoretical rationale for the use of a trailing average approach in that a benchmark efficient utility firm will not be financing its entire stock of debt at the date on which a regulatory determination is made, but rather its cost of debt at any point in time will be a weighted average of past bond yields as it issues bonds from time to time to refinance expiring bonds, and to fund major new capital works.

It is arguable that using an 'on the day' BBB rate as at December 2012 in the last determination may have given SA Water an insufficient allowance for debt, as by December 2012 rates had fallen back to pre-GFC levels, whereas it is likely that a portion of SA Water's debt as at December 2012 would have had rates set in the period where the cost of (non-government) debt was well above its pre-GFC average (roughly the period Oct 2007 to Oct 2011). By way of illustration, if an equally weighted 7 year trailing average had been used in setting the cost of debt in April 2013, the nominal rate used would have been 7.76 per cent, rather than the 6.05 per cent adopted in the determination. Of course an equally weighted trailing average calculated over a period which includes a rate spike caused by a financial crisis is likely to overstate the costs of funds to a 'benchmark efficient entity', as a prudent firm would seek to minimise their use of the debt market during the period of high yields. SA Water, for example, based on the financial statements to their annual report had an average cost of debt of roughly 6.2 per cent in 2012/13.

The shift from a 7 year bond to a 10 year bond as the reference series is less strongly supported by either theory or evidence. There is no theoretical reason for preferring a 7-year bond tenor to a 10-year bond tenor or vice versa in setting rates of return for a regulated utility, making the choice of tenor an empirical matter. In selecting the tenor of bonds for use in a price determination a regulator would ideally use the tenor that best matched that which would be used by a 'benchmark efficient entity in the regulated sector. No data has been presented on the average tenor of bonds issued by regulated water utilities in Australia (or, indeed on the effective tenor of SA Water's own stock of debt). In the absence of such evidence we would recommend retaining the 7 year bond series as the reference for the costs of debt calculation, as it is not clear why South Australian consumers should be funding a slightly longer period of certainty of bond rates for SA Water.

It is important to note that each of the proposed changes will have the effect of increasing the allowance for cost of debt. And that this will occur at a time when yields in the reference bond series are close to record lows. We submit that moving immediately to this new approach to calculating the cost of debt will deliver a windfall gain to SA Water with little or no offsetting benefit to consumers such as reducing their exposure to increases in the cost of debt or increased security of supply by removing a risk to the financial sustainability of the regulated entity.³

Shifting the cost of debt calculation to an (equally weighted) 10 year trailing average calculated over 7 year BBB bonds would increase the allowable cost of debt by 222 basis points relative to an 'on the day' approach using the average BBB bond rate for August 2015 from the RBA data. Changing the

² ESCOSA is also proposed to shift from using the Bloomberg fair value curve as the source of the reference price data to the RBA's commercial bond rate price series, but it is unlikely that this shift will, on average, have a material impact on the modelled cost of debt. We support the move to use of the RBA series as it increases the transparency of the process, the RBA having published the methodology used, whereas Bloomberg's compilation and analytical methods are proprietary technology.

³ Over the medium term, as mentioned above there is a justification for switching to a trailing average approach to the cost of debt to ensure that the allowed cost of debt and the benchmark efficient entity's remain in alignment over cyclical movements in market rates for corporate debt.

reference bond series from the 7 year to the 10 year series increases the cost by an additional 39 basis points.

As the assumption made in calculating the WACC for SA Water is that a benchmark efficient entity in the regulated sector would have a gearing rate of 60 per cent, even small changes to the allowance for the cost of debt can have significant impacts on the costs facing water consumers. Applying these increases in cost of debt to the combined estimate of the Regulated Asset Bases for water and sewerage services⁴ suggests that a 10 year trailing average calculated on the 10 year BBB bond series as at August 2015 would deliver an additional pre-tax return to SA Water of **\$225 million** in the first year alone compared to using the average yield of the 7 year bond series for the month of August 2015 (e.g. effectively the calculation approach adopted in the previous price determination, although averaged over the whole month rather than 20 days). Even compared to the bond yield included in the previous price determination the pre-tax windfall gain would be **\$142 million** in the first year.

Of course, depending on the exact date on which ESCOSA sets the cost of debt for the first year of the next determination period and what happened to BBB bond yields in the interim, calculating the potential price windfall based on data as at August 2015 may overstate the potential windfall to SA Water, however unless there is a financial crisis in the intervening period accompanied by a sharp increase in yields it is likely that an immediate move to a 10 year trailing average (or even a 7 year trailing average) would provide SA Water with excess returns.

Conversely it should also be kept in mind that current rates are well below their long-run average, and adopting a price determination that was based on current 'on-the-day' rates would likely provide SA Water with insufficient returns.

This potential for windfall returns suggests that some form of transitional arrangement would be prudent. This is the approach adopted by the AER in their most recent determination process for electricity and gas utilities, where the cost of debt will be gradually transitioned to a 10 year trailing average over a 10 year period. As we are recommending the use of a 7 year bond tenor in calculating the cost of debt, our recommendation is that the transition be towards a 7 year trailing average.

Lally (2014) sets out two transitional arrangements suitable for use in a regulated utility transitioning from a fixed 'on-the-day' rate to a ten year trailing average. The notation of these transition arrangements is that $R_{t,T}$ denotes a bond rate set at time t running to time T .

The first approach outlined by Lally involves setting rates based on a weighted average of the current one year rate and one or more 10 year rates (Lally's report was prepared as part of the AER determination processes where a decision had been made to adopt a 10 year bond tenor as the reference series). In the first year a weighting of 90 per cent is given to the current one year rate, and 10 per cent to the ten year rate as at the current period. In the second year the 1 year bond rate for the second year is given a weighting of 80 per cent, with the ten year bond at year 1 and the 10 year bond at year two each given a 10 per cent weighting, and so on until in year 10 the rate used is an evenly weighted average of each of 10 year bond rates for each of the previous ten years (e.g. a 10 year trailing average), as set out in the following series of weightings:

Year 1: $0.1R_{0,10} + 0.9R_{0,1}$

Year 2: $0.1R_{0,10} + 0.1R_{1,11} + 0.9R_{1,2}$

.....

Year 9: $0.1R_{0,10} + 0.1R_{1,11} + 0.1R_{2,12} + \dots + 0.1R_{8,18} + 0.1R_{8,9}$

Year 10: $0.1R_{0,10} + 0.1R_{1,11} + 0.1R_{2,12} + \dots + 0.1R_{8,18} + 0.1R_{9,19}$

⁴ Averaged across the start date estimate and end date estimate for the 2016/17 in each case, giving an average of \$8291.5 million for water services and \$3845.25 million for sewerage services.

The second approach considered by Lally is known as the QTC approach (having been first set out by the Queensland Treasury Corporation). This approach gives the 10 year rate set in year one a weighting of 100 per cent in year one. In year two the 10 year rate for the second year is included in the weighted average with a weight of 10 per cent, with the year one rate's weighting reduced to 90 per cent, and so on with the weighting given to the 10 year rate that prevailed in year one progressively being reduced by 10 per cent in each year as an additional year's 10 year rate is included in the average until in year 10 the rate used is an equally weighted trailing average of the previous ten years' rates, as set out below:

$$\begin{aligned} \text{Year 1:} & R_{0,10} \\ \text{Year 2:} & 0.9R_{0,10} + 0.1R_{1,11} \\ & \dots \\ \text{Year 9:} & 0.2R_{0,10} + 0.1R_{1,11} + 0.1R_{2,12} + \dots + 0.1R_{8,18} \\ \text{Year 10:} & 0.1R_{0,10} + 0.1R_{1,11} + 0.1R_{2,12} + \dots + 0.1R_{8,18} + 0.1R_{9,19} \end{aligned}$$

Lally concludes that on theoretical grounds he prefers the first approach, but that if the approach is being applied to a utility that has at least partially been hedging its rates over the previous determination period, the QTC approach is more likely to have a roughly even chance of over or under compensating firms for their actual cost of debt, and that it should therefore be preferred.

We agree with Lally and recommend that the QTC approach be adopted as the transitional arrangement to a trailing average approach.

However we recommend two variations from the QTC method.

First, as discussed previously, we recommend the use of a 7 year bond rate, and therefore a 7 year trailing average would be more appropriate given the use of a 7 year bond rate as the reference series implies that a benchmark efficient entity would be issuing its longer term debt in 7 year bonds, and so its current rate structure would be some form of average of prevailing rates over the past seven years.

Second, we recommend a faster transition to the seven year trailing average, such that the last year of the current determination period would be the first year in which the full seven year trailing average was used as the cost of debt. So to achieve this rate of transition, the rate at the start of 2013/14 (which we have assumed to be the rate as at June 2013) would be the base year for the calculation, with each additional year's bond rate introduced being given a weight of $\frac{1}{7}$. This would give the following calculation approach for the cost of debt over the determination period:

$$2016/17: (\frac{4}{7}) * R_{7yr, Jun2013} + (\frac{1}{7}) * R_{7yr, Jun2014} + (\frac{1}{7}) * R_{7yr, Jun2015} + (\frac{1}{7}) * R_{7yr, Jun2016}$$

$$2017/18: (\frac{3}{7}) * R_{7yr, Jun2013} + (\frac{1}{7}) * R_{7yr, Jun2014} + (\frac{1}{7}) * R_{7yr, Jun2015} + (\frac{1}{7}) * R_{7yr, Jun2016} + (\frac{1}{7}) * R_{7yr, Jun2017}$$

$$2018/19: (\frac{2}{7}) * R_{7yr, Jun2013} + (\frac{1}{7}) * R_{7yr, Jun2014} + (\frac{1}{7}) * R_{7yr, Jun2015} + (\frac{1}{7}) * R_{7yr, Jun2016} + (\frac{1}{7}) * R_{7yr, Jun2017} + (\frac{1}{7}) * R_{7yr, Jun2018}$$

$$2019/20: (\frac{1}{7}) * R_{7yr, Jun2013} + (\frac{1}{7}) * R_{7yr, Jun2014} + (\frac{1}{7}) * R_{7yr, Jun2015} + (\frac{1}{7}) * R_{7yr, Jun2016} + (\frac{1}{7}) * R_{7yr, Jun2017} + (\frac{1}{7}) * R_{7yr, Jun2018} + (\frac{1}{7}) * R_{7yr, Jun2019}$$

As the seven year rate for June 2016 is not yet known it is not possible to know what rate would result from this calculation approach. For the purposes of illustration, if the 7 year rate in June 2016 was the rate that is currently prevailing as at August 2015, then the 2016/17 rate calculated using this approach would be 5.8 per cent. If, instead, by then the 7-year rates had returned to their pre-GFC average of 6.58 per cent then the 2016/17 rate calculated using this approach would be 6.0 per cent.

3. Estimates of Labour Cost Trends in the RBP

In their Regulatory Business Proposal, SA Water have proposed that the allowance for unit wage costs in the Opex calculation to be allowed to increase at a rate that is higher than the CPI. This proposal needs to be considered within the broader framework of the overall Opex proposal which includes a 1 per cent annual productivity allowance. In broad terms this seems a reasonable approach to take, as the evidence suggests over the long-term Australian wages to increase at an average rate of CPI plus the overall rate of labour productivity growth (Borland 2012, quoted in AER 2015) with growth exceeding this long run average in times of strong growth in labour demand and undershooting when demand is weaker.

The question then arises as to what escalation should be used for unit wage costs in the SA Water price determination. As part of its Regulatory Business Proposal SA Water has presented modelling by BIS Shrapnel on projected growth in South Australian and Australian wages in the Electricity, Gas, Water and Waste Services sector (see Appendix I of SA Water's Regulatory Business Proposal). BIS Shrapnel's are forecasting that the nominal growth in the sector in South Australia will average just over 3.9 per cent nominal over the determination period (see Table 3.1). The RBA's current forecasts of inflation are that it will remain close to 2.5 per cent (RBA, 2015b), therefore BIS Shrapnel is forecasting an average real increase of 1.4 per cent in unit wages over the next four years. This would require either an increase in labour productivity well above its historic average (at a time when for the economy as a whole productivity growth has slowed sharply) or a significant fall in the labour productivity of the sector.

Without examining the BIS Shrapnel model in detail it is not possible to identify what factors are driving the projection of strong growth in wages for the sector. However other charts presented in their report suggest that their model includes projections of a sharp increase in engineering construction activity in South Australia over the determination period. For example, a chart presented on page 40 of their report forecasts engineering construction spending in the utilities sector in SA will increase by 79 per cent over the period from 2015/16 to 2019/20. This projection appears to be driven by very high levels of utilities spending to support the expansion of the Olympic Dam mine, a project that is currently on hold. Similarly their forecasts for engineering construction more broadly are also very bullish with real engineering construction work forecast to increase in real terms from \$4.1 billion in 2017/18 to \$6.5 billion in 2019/20, a real increase of 58 per cent in two years. Again no evidence is presented that makes the case for such strong growth projections. As such we suggest that BIS Shrapnel's forecasts not be considered when setting the allowance for wage cost growth.

Table 3.1: Forecast nominal wage cost increases for the Electricity, Gas, Water and Waste Services sector, Australia and South Australia, annual percentage change

		Actual		Forecast				
		2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
BIS Shrapnel	SA	3.5	3.4	3.4	3.5	3.8	4.0	4.4
	Australia	3.3	3.2	3.3	3.6	3.9	4.1	4.3
Deloitte Access Economics	SA	4.2	3.0	2.4	3.0	3.0	3.1	3.1
	Australia	3.2	3.3	2.9	3.1	3.0	3.0	3.0

Source: BIS Shrapnel (2015), Deloitte Access Economics (2015)

SA Water in its Regulatory Business Proposal does not (strictly) propose that the BIS Shrapnel forecasts be adopted.⁵ Instead it proposes an increase in unit wage costs of 3 per cent over the determination period, with the total labour costs subject to the same 1 per cent annual efficiency target

⁵ Although it does refer to the BIS Shrapnel forecasts to imply that its proposal includes an effective 2 per cent efficiency target in its use of labour, given our concerns with the BIS Shrapnel modelling we believe that that contention is not supported by the available evidence, but rather the actual growth in nominal unit labour costs will be close to 3 per cent of the determination period, and therefore the actual efficiency proposed is the 1 per cent targeted more broadly across SA Water's operations.

as OPEX more broadly. This appears an entirely reasonable approach to take. It also means that the wage escalation would be in line with the unit wage cost forecasts for the sector produced by Deloitte Access Economics for the AER as an input into a number of their recent electricity determinations.

Bibliography

- Australian Energy Regulator (AER) (2013a), 'Explanatory Statement, Rate of Return Guideline'.
- _____ (2013b), 'Better Regulation, Explanatory Statement, Rate of Return Guideline (Appendices)'.
- _____ (2014), 'Final framework and approach for SA Power Networks regulatory control period commencing 1 July 2015'.
- _____ (2015), 'SA Power Networks Determination 2015–16 to 2019–20 Preliminary Decision: Attachment 7 – Operating expenditure.
- BIS Shrapnel (2015), 'Forecasts of Labour Cost Escalation Rates to 2019/20, Australia and South Australia', submitted by SA Water as Appendix I of their Regulatory Business Proposal
- Deloitte Access Economics (2015), 'Forecast growth in labour costs in NEM regions of Australia Report prepared for the AER'
- Essential Services Commission of South Australia (ESCOSA) (2014), 'SA Water Price Determination 1 July 2016 – 30 June 2020, Final Framework and Approach'
- _____ (2015), SA Water Regulatory Rate Of Return 2016 – 2020, Final Report to the Treasurer
- Lally, M. (2013), 'Estimating the Cost of Debt of the Benchmark Efficient Regulated Energy Network Business', report prepared for the AER.
- Reserve Bank of Australia (RBA) (2015a), 'Aggregate Measures of Australian Corporate Bond Spreads and Yields - F3', available from: <http://www.rba.gov.au/statistics/tables/index.html#interest-rates>, accessed: 22 January 2015.
- _____ (2015b), 'Statement on Monetary Policy, August 2015, available from: <http://www.rba.gov.au/publications/smp/2015/aug/pdf/0815.pdf> accessed: 1 October 2015.
- SA Water (2015), 'Regulatory Business Proposal'.