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Business SA submission: SA Water 2020-24 Regulatory Business Proposal

January 2020

Executive Summary

- South Australian businesses relying on potable water as key inputs for production, particularly in the food and beverage manufacturing and agri-business sectors, have been significantly impacted by the tripling of SA Water's potable water price since the late 2000's, in addition to material trade-waste cost increases. Business SA welcomes SA Water's proposed price reductions over 2020-24, which equate to a 3.9% reduction in combined water and sewerage bills, albeit noting revenue reductions due to lower interest rates alone next period are approximately 3.7% per annum.
- The State Government also needs to implement the findings of the recent Independent State Water Price Inquiry, which would conservatively reduce SA Water bills by another 5-6% per annum over 2020-24.
- Expert independent analysis prepared for Business SA by Isle Utilities indicates concerns with SA Water's reliance on customer willingness-to-pay survey results to justify several major capital projects, particularly the lack of evidence to demonstrate the extent to which major projects are driven by compliance reasons or satisfying customer's willingness-to-pay.
- Compared to its interstate peers on benchmarking metrics measured over 2014-18, Isle Utilities found SA Water sits above the median for water capital expenditure (CAPEX) per connection and megalitre but generally around the average efficiency over most operating and capital expenditure ratios
- Isle Utilities found the benchmarking used to justify SA Water's \$143 million(m) in IT spending proposals is upwardly biased by the inclusion of electricity utility companies which have faced significant IT related increases due to increasing penetration of smart meters. The benchmarking ranges for IT projects are also significant, driving up the median and potentially distorting the comparative analysis in SA Water's favour.
- Business SA is sceptical of the justification for a major capital project to provide non-drinking water quality improvements to 650 remote customers, costing \$43m over 2020-24 alone for just over half the customers impacted (\$126,470 per customer). While there may be merit in reducing prices to customers who are not receiving potable quality water, expenditure of this quantum may not be the most efficient way to achieve the desired result and Isle Utilities has raised concerns around significant uncertainty regarding customer's willingness to subsidise this project.
- Business SA has long understood that water quality improvements in metropolitan Adelaide have reached the point where major capital projects to further improve taste are unnecessary in light of otherwise high potable water prices. We do not believe there has been adequate grounds to substantiate SA Water's proposed \$124m metropolitan water quality improvement project over 2020-24, particularly in the absence of a specific demand from health authorities.
- Considering the \$390m Zero Cost Energy Future project was commenced by SA Water outside of its usual regulatory determination process, ESCOSA's 2020-24 determination is particularly relevant to ensure that all remaining capital expenditure is deemed the most efficient use of SA Water customer's money to reach the desired outcome, including whether or not SA Water should own the remaining infrastructure, or whether a market based solution should be procured to achieve the same desired result without additional CAPEX being borne by SA Water's customers and subsequently added to the regulated asset base.

Contents

Introduction	4
SA businesses and the cost of potable water and sewerage	5
Business SA experience of SA Water’s business proposal consultation	6
Business SA perspective of Customer Negotiating Committee process	7
Matters determined through Pricing Principles (Trade Waste prices).....	8
Appendix A – Independent analysis of SA Water’s 2020-24 Regulatory Business proposal by Isle Utilities.....	8

Introduction

Business SA, South Australia's Chamber of Commerce and Industry, was formed in 1839 and has approximately 3,100 members across a wide range of industry sectors, from micro businesses right through to listed companies. We are a not-for-profit business membership organisation which not only works on behalf of members, but for the broader business community and in pursuit of economic prosperity for both South Australia and the nation. Business SA is also a founding member of the Australian Chamber of Commerce and Industry (ACCI) and on national issues, we work through ACCI to advance the interests of businesses across the nation. Primarily funded by our products and services to thousands of local business and employer customers, alongside member subscription support, Business SA is entirely independent of the policy agenda of any government or political party.

Existing in the driest state on the driest continent, Business SA has long played an active role in water related issues on behalf of our members, particularly those in water intensive industries such as food and beverage manufacturing and agri-business. Part of that role has included long-standing representation on SA Water's Business Customer Reference Group and the Essential Services Commission of South Australia (ESCOSA)'s Customer Advisory Committee. Business SA also maintains an Energy/Water/Sustainability Reference Group to solicit direct feedback from members and we regularly engage with a broad range of businesses and other stakeholders to stay informed on any pertinent issues related to the cost and availability of water and waste treatment.

Business SA had long called for an independent review of the value of SA Water's regulated asset base (RAB) and welcomed the State Government's recent inquiry led by Mr Lew Owens. Our [primary submission](#) highlighted the cost impact of an artificially inflated asset base, particularly on South Australian businesses, and we implore the State Government to fully implement the Independent Inquirer's recommendations at no less than the conservative upper bound of reduction, including for the waste-water asset base. We recognise this decision lies outside ESCOSA's process for its regulatory determination, but the State Government has had over 6 months to consider the report and a decision needs to be made to ensure businesses have certainty about water prices from 1 July 2020.

Business SA recognises the cost of potable water in South Australia has levelled off in recent years while other utility costs have increased materially, and we acknowledge ESCOSA and SA Water's efforts to contain price increases since 2013. Notwithstanding, the standard potable water price at \$3.41 per kilo-litre (KL) remains approximately triple the rate of just over a decade ago, \$1.16 in 2007/08, prior to major cost increases being imposed through factors including the RAB calculation methodology and construction of the Adelaide Desalination Plant (ADP) and associated pipeline infrastructure. Following ESCOSA's 2014 Water Pricing Reform Inquiry, the bulk of recommendations were dismissed by the then State Government. However, SA Water did partly adopt recommended changes to trade waste costs which has seen SA Water trade-waste customers endure a three-year implementation of 9.5 per cent per annum price increases set to end this financial year.

Supported by a grant from the State Government's Consumer Advocacy and Research Fund, Business SA has engaged specialist consultancy firm Isle Utilities to undertake an independent review of SA Water's 2020-24 regulatory business proposal, particularly from a business consumer perspective. This is to ensure that all proposed operating and capital expenditure is prudent and efficient and that any savings from a reduced cost of capital are appropriately returned to all South Australian water consumers. Isle Utilities' report forms the technical basis for our submission and can be found at **Attachment A**.

SA businesses and the cost of potable water and sewerage

There are a broad range of uses for water across the economy and varying rates of usage amongst different industry sectors. There are also businesses which depend more on potable (drinking) water, while others which are typically involved in horticulture and agriculture are often, but not always, more dependent on River Murray water, or recycled water schemes, groundwater etc. In terms of businesses hardest hit by the significant increases in SA Water potable water prices over the past decade or so, while water intensive businesses such as agri-businesses and large food and beverage manufacturers often spring to mind, there are also many less intensive water consuming businesses which may not necessarily be as visible, such as health and aged care providers, cafes, pubs, restaurants and caravan parks to name just a few.

The following table from SA Water's 2020-24 business proposal sets out indicative water bills for both residential and business customers:

Table F.3: Indicative water bills (nominal \$)*

	2019-20	2020-21	2021-22	2022-23	2023-24
Residential					
Low water use—120 kL per year	\$589	\$589	\$597	\$606	\$615
Average water use—180 kL per year	\$793	\$785	\$797	\$809	\$821
High water use—412 kL per year	\$1,585	\$1,546	\$1,568	\$1,592	\$1,615
Very high water use—637 kL per year	\$2,387	\$2,316	\$2,351	\$2,385	\$2,421
Non-residential					
Low water use—34 kL per year	\$418	\$413	\$419	\$426	\$432
Average water use—1,680 kL per year	\$6,035	\$5,807	\$5,892	\$5,979	\$6,068
High water use—5,884 kL per year	\$20,384	\$19,583	\$19,871	\$20,163	\$20,462
Very high water use—21,389 kL per year	\$73,302	\$70,393	\$71,425	\$72,477	\$73,551
Commercial (metropolitan)*					
Low water use/property value—30 kL per year / \$385,000	\$404	\$400	\$406	\$412	\$418
Average water use/property value—409 kL per year / \$1,692,000	\$2,584	\$2,528	\$2,565	\$2,603	\$2,642
High water use/property value—1,456 kL per year / \$4,150,000	\$7,883	\$7,685	\$7,798	\$7,913	\$8,030
Very high water use/property value—5,953 kL per year / \$17,525,000	\$32,620	\$31,811	\$32,278	\$32,755	\$33,240

Table F.4: Indicative sewerage bills for metropolitan customers (nominal \$)*

	2019-20	2020-21	2021-22	2022-23	2023-24
Residential					
Minimum charge	\$323	\$323	\$328	\$333	\$338
Average property value (\$467,000)	\$465	\$446	\$453	\$460	\$467
High property value (\$930,000)	\$925	\$889	\$902	\$916	\$929
Very high property value (\$1,550,000)	\$1,542	\$1,482	\$1,504	\$1,526	\$1,549
Non-residential					
Low property value (\$300,000)	\$373	\$358	\$364	\$369	\$374
Average property value (\$1,976,000)	\$2,456	\$2,360	\$2,395	\$2,430	\$2,466
High property value (\$6,350,000)	\$7,893	\$7,584	\$7,696	\$7,810	\$7,925
Very high property value (\$18,600,000)	\$23,120	\$22,213	\$22,542	\$22,876	\$23,214
Commercial					
Low property value (\$385,000)	\$479	\$460	\$467	\$474	\$481
Average property value (\$1,692,000)	\$2,103	\$2,021	\$2,051	\$2,081	\$2,112
High property value (\$4,150,000)	\$5,158	\$4,956	\$5,030	\$5,104	\$5,180
Very high property value (\$17,525,000)	\$21,784	\$20,929	\$21,239	\$21,553	\$21,872

* Sewerage bills are based on 2018-19 property values and 2018-19 property rates inflated by 1.3 per cent (March quarter 2019 CPI). Assuming CPI of 1.5 per cent for the third regulatory period.

What is important to note is that relatively speaking, the cost of both water and sewerage has a more material impact on business customers. For example, the average non-residential customer pays \$8,491 per annum in water and sewerage charges against the average residential customer, \$1,258. This accords with feedback Business SA has received for many years from a range of members, noting that the above figures do not reflect that some larger water users face bills of several million \$ per annum on water related charges alone, with sewerage and often trade-waste charges in addition. Business SA recognises it is important that residential customers do not pay any more than necessary for a clean and reliable water supply but ESCOSA should give equal weight to the impact of the costs of water and waste-water treatment on the competitiveness of South Australian businesses. With a slowing national economy, further impacted by wide-ranging bushfires, and South Australian business confidence generally down at present, the next regulatory determination for SA Water needs to recognise the importance of efficient water, sewerage and trade-waste prices being available to local businesses. Often our most water intensive businesses are also export orientated and with South Australia's population growth continuing to lag the national average by nearly half, future economic growth will only come through Governments assisting South Australian businesses to be more competitive in both interstate and international markets.

Business SA experience of SA Water's business proposal consultation

Business SA regularly engages with SA Water, including our standing position on its Business Customer Advisory Group which we have held since 2012. This is a useful mechanism for us to remain up to date with changes at SA Water, particularly for major projects, and to facilitate feedback to SA Water from a business perspective. This group has now experienced multiple regulatory determination processes, enabling us to see first hand how SA Water engages with consumers at various levels, and how that feedback shapes SA Water's decision making. The other advantage of longer term standing committees is the retention of knowledge related to how SA Water makes decisions and the drivers for those decisions. For example, one aspect of SA Water's business proposal that has surprised Business SA and others on the Customer Advisory Groups is the introduction of a \$124m metropolitan water quality improvement project. For many years now, whenever discussions of metropolitan water quality have arisen at Customer Advisory Group meetings, SA Water have explained the material improvements made in the past couple of decades and spruiked the quality of its potable water. There has also been a general consensus from consumer representatives that for the most part metropolitan water quality is fine, and that the need to keep water prices low overrides any requirement to undertake potentially costly capital projects to improve it.

SA Water has undertaken a much more in-depth pre-proposal consultation process for its 2020-24 business proposal than in the past. This involved forming a dedicated Customer Working Group solely for this process from a representative cohort of customers, as well as continued engagement with the longer-standing residential and business Customer Advisory Groups. Business SA acknowledges SA Water's efforts to engage with a wide range of consumers in forming their plans for operating and capital expenditure, including substantial online surveys and face to face meetings. It is important for SA Water to hear from a range of perspectives, and not just representative groups.

Business SA acknowledges SA Water for its attempts to make its willingness-to-pay surveys more meaningful, including for business customers. As we have long stressed, what might only be a dollar here or there for a residential customer to fund a major capital project can be substantially more for a business when that same percentage increase to the bill is applied. Notwithstanding, we maintain the view that despite the benefits willingness-to-pay surveys provide, for a business with major and complex budgetary considerations such as SA Water, the results should be used carefully in so far as how they dictate spending decisions. For example, such surveys can provide better understanding of consumers' preferences for various initiatives, but that does not necessarily extend to absolute preferences to say, spend more money delivering a safe and reliable water supply. Isle Utilities has particular reservations related to the contextual information provided in SA Water's willingness-to-pay surveys being inadequate to inform the respondent and also found too many choices in each discrete choice question bundle was likely to confuse respondents.

Business SA also has concerns about the extent of background information provided in relation to some of the willingness-to-pay questions, for example in relation to sewerage overflows. No doubt most customers would seek to see SA Water spend what is necessary to limit sewerage overflows but knowing what a reasonable amount to spend for such an outcome is likely to be a very complex question, and would require having sufficient knowledge of the cost of best practice elsewhere and other related matters.

SA Water has readily made its staff available to meet with Business SA over the course of its pre-proposal engagement which has been appreciated. While we have often challenged SA Water on aspects of its spending proposals, staff have been willing and able to meet and discuss any concerns we've had.

In future, SA Water's customer engagement process for business proposals would benefit from more streamlined discussions between various cohorts of customers and representative groups. As South Australia's peak business lobby, we acknowledge there were aspects of the consultation, for example the construction of willingness-to-pay surveys which were not as widely canvassed with the long-standing Customer Advisory Groups but were primarily channeled through the newly formed Customer Working Group. While Business SA accepts SA Water will take different approaches with different stakeholders, we would appreciate being consulted on all the material aspects of the business proposal, including how key aspects like willingness-to-pay surveys are to be used to provide an evidence base for spending decisions. Representative groups will always approach these types of discussions through a different lense to the average customer who for example, may not have the perspective of how such processes work across the various utility companies and what the history of consultation has been for both SA Water and other companies. That is not to discount any other perspectives, but SA Water should not selectively consult on matters that are likely to be of particular interest to key consumer representative groups, including Business SA.

Business SA perspective of Customer Negotiating Committee process

For the current regulatory determination process, ESCOSA trialed a new framework which involved appointing a three-member Customer Negotiating Committee (CNC) to work more closely with SA Water in an attempt to better incorporate customer feedback and to iron out any major concerns ahead of SA Water's business proposal submission. On the face of it, this approach sought to reduce the time and cost of addressing consumers' concerns after SA Water's business proposal had been submitted.

Although the desired outcome of this approach has merit, Business SA had not originally advocated this path based on concerns about the extent to which the process would be relied upon by ESCOSA with the potential for uneven bargaining power between the CNC and SA Water. However, we do acknowledge that the final report from the CNC Chairman was quite helpful in informing the consumer response to SA Water's business proposal more broadly, particularly given its access to more in depth information throughout the negotiation process.

What the report highlighted though was that despite good endeavours by SA Water, the process did not appear to achieve a genuine negotiated outcome. This seemed to be primarily related to the timeframe in which the negotiation occurred not leaving room for any discussions of alternative pathways. Much of the outcome also seemed to be pre-determined with the CNC given access to relevant information to satisfy themselves about the evidence used to justify various decisions.

Business SA recognises there is no one perfect methodology for reaching regulatory decisions which adequately reflect consumer input, but we stress that the reality of bargaining power between consumers and utility companies will always be uneven and that should be a necessary starting point for how regulators frame their approach. We also recognise that additional consultation processes cost money and need to be carefully weighed against the demonstratable benefits.

Matters determined through Pricing Principles (Trade Waste prices)

Increasing trade waste charges have long been a concern for more water-intensive South Australian businesses, particularly those in manufacturing related industries. The more substantial volume and load based (VLB) trade waste charges apply where trade waste discharges exceed 10 tonnes of biochemical oxygen demand or suspended solids, 20 tonnes of total dissolved solids or a volume of 10,000kL per year. While the businesses which face VLB charges are typically medium to large businesses, they are often substantial employers and export orientated. Consequently, how these types of charges are calculated, when can form a significant cost component for impacted businesses, is important for South Australia's economic competitiveness.

The 2004 National Water Initiative agreed to by the Council of Australian Governments promotes '*pricing policies for trade wastes that encourage the most cost-effective methods of treating industrial waste, whether at the source or at downstream plants*'.

There has also been a long history of customers being advised by SA Water that trade-waste charges need to move to cost-reflectivity, a point that has never seemed to arrive.

Business SA acknowledges that the only material changes adopted by SA Water from ESCOSA's 2014 Water Pricing Reform Options Inquiry were those which impacted trade-waste customers. This involved 9.5% per annum increases over three consecutive years beginning in 2017 to move to cost-reflective prices.

Now we are nearing the end of that period, Business SA has been verbally advised by SA Water that trade-waste customers should expect no more than inflation related increases to the charges associated with treating trade-waste. We recognise that trade-waste charges are only determined through adherence to pricing principles, but this assurance should be made explicit by SA Water and incorporated into ESCOSA's 2020-24 revenue determination.

Appendix A – Independent analysis of SA Water's 2020-24 Regulatory Business proposal by Isle Utilities



Business SA - Independent Review of SA Water's 2020-24 Regulatory Proposal

Final Report

Client:	Business SA
Author:	Isle Utilities Ltd Paul Harris (Isle) Rohan Harris (Oakley Greenwood)
Reviewer:	Paul Harris
Date:	January 2020



Table of Contents

EXECUTIVE SUMMARY	3
1. INTRODUCTION	7
1.1 BACKGROUND.....	7
1.2 OBJECTIVE	7
1.3 SCOPE OF THIS ASSIGNMENT	7
2. OPEX AND CAPEX EVALUATION	8
2.1 OBJECTIVE	8
2.2 ANALYSIS AND CONCLUSIONS – OPERATING EXPENDITURE.....	8
2.3 ANALYSIS AND CONCLUSIONS – CAPITAL EXPENDITURE	9
3. RATE OF RETURN	15
3.1 OBJECTIVE	15
3.2 ANALYSIS AND CONCLUSIONS	15
4. FLOW THROUGH OF SAVINGS TO CONSUMERS AND BUSINESSES	19
4.1 OBJECTIVE	19
4.2 ANALYSIS AND CONCLUSIONS	19
APPENDIX A: CAPITAL BENCHMARKING	25

Executive Summary

Background and objectives

SA Water has recently submitted its regulatory business proposal ('Our Plan 2020-24') for the period from 1 July 2020 to 30 June 2024 to the Essential Services Commission of South Australia (ESCOSA).

Given the importance of water and wastewater to South Australia's (SA) residential and business customers, Business SA, South Australia's peak Chamber of Commerce and Industry and peak employer body, has engaged Isle Utilities to provide an independent expert review of 'Our Plan 2020-24', which is to be submitted as part of Business SA's submission to ESCOSA's regulatory determination review of SA Water for the 2020-24 regulatory period. In particular, Isle Utilities (Isle) has been asked to:

- Advise Business SA as to how SA Water's OPEX (existing and proposed) compares against comparable water utilities across Australia;
- Provide Business SA with a high-level assessment of the prudence of SA Water's proposed CAPEX, as compared to other Australian water utilities;
- Assess the validity of SA Water's proposed rate of return, relative to other comparable regulated utilities; and
- Undertake an indicative assessment (including modelling) to inform an assessment as to the: (a) contribution exogenous and endogenous factors are making to SA Water's proposed price changes; and (b) whether or not SA Water is passing on savings to consumers.

For the avoidance of doubt, Isle has not been asked to undertake a detailed review of any specific projects proposed by SA Water, nor has it been asked to comment on other aspects of SA Water's proposal, for example, its proposed price structures or levels of services.

Our key findings

Table 1 below summarises our key findings.

Table 1 - Key Findings

Components	Key Findings
Operating Expenditure - IT	<ul style="list-style-type: none"> • The peer group that KPMG used in its benchmarking analysis included energy businesses. • To the extent that electricity business must be included in the study to allow for a robust comparator set, smart metering and behind the meter related costs should be removed from the analysis, as these are industry specific costs that would skew the benchmarking results relative to the water businesses. • In any event, Isle believe the analysis should also provide relevant benchmarks for water businesses only. • Possibly related to the above discussion, the ranges for some of the IT benchmarks are significant (e.g. for IT Capital Expenditure per Corporate End User the cost range is \$606 to \$36,430 per user, for IT Capital Expenditure per Customer the cost range is \$1.70 to \$83.20 per customer). Isle believes this drives up the median, and hence could be distorting the comparative analysis in SA Water's favour. Moreover, to our mind, such a large (unrealistic) range calls into question the validity of the information being collected and presented.
Operating Expenditure – non-IT	<ul style="list-style-type: none"> • The Peer Group are all categorised as MAJOR businesses according to the Bureau of Meteorology National Performance Report, so this represents a good comparison for SA Water, and hence in our opinion is acceptable. • Isle understand that the multi-factor analysis is the same analysis and approach as was adopted in 2016, which we believe is appropriate. • More generally, Isle accessed exactly the same dataset as used by KPMG to conduct their benchmarking analysis, and our analysis aligns with the outputs presented by KPMG, so prima facie, there appears no underlying computational issues with the benchmarking analysis undertaken and presented.

<p>Capital Expenditure – General Comments</p>	<ul style="list-style-type: none"> • Little information was provided in relation to SA Water’s proposed capital expenditure in ‘Our Plan 2020-24’. Isle consultants have been involved in other regulatory price submission processes for the Australian energy and water industry where submissions for capital expenditure have been supported by comprehensive Strategic Asset Management Plans. • Based on capital benchmarking analysis conducted by Isle, SA Water appear to be above the peer group median on Water CAPEX / Connection and Water CAPEX / ML. • Isle acknowledge that SA Water has had some significant water mains bursts in recent times that have attracted significant political and media attention, particularly in the Adelaide metropolitan area. We do not have sufficient detail to understand whether such repairs were funded via OPEX, Minor or Major CAPEX, however, Isle expect this series of unplanned failure events would drive increases in SA Water’s capital expenditure relative to their peer group. • A large portion of water and sewerage capital expenditure has been allocated to meeting external responsibilities (\$256m and \$132m respectively), which is essentially maintaining compliance with the relevant Safe Drinking Water, Environment Protection, Dam Safety, Work Health and Safety, Heritage Places and Aboriginal Heritage Acts and Guidelines. Isle observes that this expenditure does not appear to be supported with evidence showing spending is required to either maintain compliance, rectify an area of non-compliance, or satisfy customer willingness to pay outcomes. • Isle believe SA Water’s proposed Capital Delivery Model is likely to make them more efficient and move them toward best practice because it contains a number of key contractual elements that will improve the efficiency of delivery.
<p>Capital Expenditure – Willingness to Pay</p>	<ul style="list-style-type: none"> • Prima facie, the breadth and depth of the customer engagement process that SA Water appears to have undertaken to inform its regulatory submission is appropriate. In particular, the use of quantitative analysis techniques to inform a regulated business’ understanding of its customers’ willingness to pay for different service attributes is best practice. • However, the robustness of these types of analyses are inextricably linked to the detailed nature of questionnaire. For example, questionnaires that are too long, do not provide enough relevant contextual / background information, “lead” respondents (via their wording), or do not provide a means for respondents to express their overall budgetary constraint, are more than likely going to lead to spurious results. • We note that SA Water’s Customer Working Group appears to have had some concern over a number of these aspects. • Isle were provided with extracts of the “What matters to you?” choice modelling survey, and one question from the “Would you invest in this” contingent valuation survey. Based on the information provided, we have similar reservations as SA Water’s Customer Working Group did. • Isle would therefore recommend that ESCOSA pay particular attention to reasonableness of the specific questions asked in the survey itself and how they operationalised these results when justifying specific projects, not just the overall process adopted by SA Water.
<p>Capital Expenditure – Project Specific¹</p>	<ul style="list-style-type: none"> • <u>Morgan to Whyalla pipeline</u>: No mention is made by SA Water or the Customer Negotiating Committee (CNC) to SA Water having undertaken an economic cost benefit test, in particular, there is no mention of SA Water having assessed the annualised value of lost supply (i.e. the probability * consequence of an asset failure) as compared to the annualised cost of the expenditure. To the extent that this type of analysis has not been undertaken in support of this project, then to our mind, it should be undertaken prior to its approval, as a viable option would be to simply take on more risk of loss of supply (unless the expenditure is driven by external regulatory or legal requirements).

1 In forming our views on these projects, we have relied significantly on the information presented in the Customer Negotiation Committee report: “*Report of Independent Chair: SA Water Regulatory Determination 2020*”.

	<ul style="list-style-type: none"> • <u>Regional non-drinking water quality improvements (for 650 regional customers):</u> Our reading of the CNC's report is that they appear sceptical regarding this project, and in particular, whether the correct survey questions were asked to elicit well informed, robust responses from respondents. Isle agree with the intent of the CNC's comment that the wording of such questions (in particular, what information is presented) is fundamentally important, as customer's willingness to subsidise is likely to be affected by a myriad of specific considerations related to cost, service level improvements, comparative costs and comparative existing levels of service. It is unclear to us, what information was presented to customers as part of the survey, although it appears the CNC does not consider it to have been adequate. All-in-all, on face value, Isle's view is that it appears to be significant uncertainty regarding customers' willingness to subsidise this project. • <u>Eyre Peninsula (EP) Desalination Plant:</u> Based on a high-level review of reported benchmarks for desalinisation plant costs, SA Water's proposed costs look to be high, however, we are also aware that costs depend on various project specific characteristics, such as raw water quality, the location (e.g., proximity to seawater), type of technology and energy costs. Therefore, Isle's view is that there is not enough information made available in the public domain to be able to form any definitive view as to the prudence or efficiency of this project. • <u>Northern Adelaide Irrigation Scheme (NAIS):</u> Based on our understanding of the context for this project, from the perspective of sewerage customers, the NAIS: (a) avoids the cost of treating and discharging the wastewater into the Gulf; and (b) provides a broader benefit in that it aligns with their preferences for reuse over discharge. There is an argument to suggest that the combination of these two "values" should form the basis for determining the impact on sewerage charges (the effect of which would be to de-link sewerage charges from the commercial aspects of the irrigation scheme, namely irrigation-related revenues, with SA Water being solely responsible for bearing these risks), or that this represents a cap on sewerage charge increases. • <u>Improving the quality of water for metropolitan customers:</u> The CNC makes reference to the "<i>vague proposalimproving metropolitan water quality</i>". This appears to be in reference to the choice modelling analysis undertaken, which, based on the extracts we were provided, we would tend to agree with. Where questions lack context, which includes the extent of the underlying benefits and improvements that would be achieved from the expenditure, it is difficult to place significant reliance on the results. Isle would strongly support ESCOSA focusing its review on the specific questions and approach that were used to derive customers' willingness to pay, which in turn has been used to support at least part of this expenditure.
<p>Rate of return</p>	<ul style="list-style-type: none"> • Prima facie, Isle believe there appears to be some evidence in support of SA Water's assertion that the WACC calculated under ESCOSA's approach may lead to WACC's that are lower than comparable interstate water businesses. However, this does not appear to be related to the any individual input parameter (which appears to be how SA Water proposes to 'solve' the problem), rather it is related to broader differences in approach (e.g., averaging two calculations in the case of IPART). • Isle believe SA Water's approach to averaging the risk-free rate over 60 days instead of 20 days is reasonable, given the guidance provided by ESCOSA, as well as regulatory precedence (in particular the Australian Energy Regulator). • Isle believe the use of a single year RBA forecast of inflation – which is <u>in effect</u> what SA Water is proposing to adopt to inform its inflation estimate – is unreasonable, given the short-term nature of this forecast in the context of long-term investments and funding requirements. Prima facie, there would appear to be little evidence supporting SA Water's position that its proposed approach provides a reasonable basis for determining forecast inflation. • The regulatory framework is, in theory, designed to support the financial viability of an efficient firm. That said, Isle would support ESCOSA adopting a set of principles to assess issues related to the financial viability of regulated businesses, and in particular

	<p>that any near-term price increase to support financial viability should be ‘paid back’ to customers in the long term.</p>
<p>Flow through of savings to Consumers and Businesses</p>	<ul style="list-style-type: none"> • Zero Cost Energy Future (‘Project Zero’): SA Water appears to have adopted assumptions that would see 100% of their forecast energy cost savings immediately flow back to their consumers from the commencement of the next regulatory period. • Recommendations from the Independent State Water Price Inquiry: The inclusion of this would reduce SA Water’s overall Water revenue requirement by around \$43m, leading to an [\$42 per annum] reduction in the average residential water bill and a [\$307 per annum] reduction in the average non-residential water bill. Extending the State Water Price Inquiry findings to sewerage would lead to reduction in SA Water’s overall sewerage revenue requirement of around \$21m, leading to an [\$27 per annum] reduction in the average residential sewerage bill and a [\$143 per annum] reduction in the average non-residential sewerage bill. • Price reductions due to discretionary actions undertaken by SA Water: SA Water’s discretionary actions, namely its investment in ‘Project Zero’, and other on-going efficiency savings, have reduced SA Water’s proposed revenue requirement by in the order of \$28.5m per annum.

1. Introduction

1.1 Background

SA Water has recently submitted its regulatory business proposal ('Our Plan 2020-24') for the period from 1 July 2020 to 30 June 2024 to the Essential Services Commission of South Australia (ESCOSA).

The 'Our Plan 2020-24' document (along with the accompanying appendices) provides an overview of the key elements influencing SA Water's business planning and operation, as well as the impact that SA Water's proposed expenditure will have on its customers in terms of both price and levels of service.

1.2 Objective

Given the importance of water and wastewater to South Australia's (**SA**) residential and business customers, *Business SA*, South Australia's peak Chamber of Commerce and Industry and peak employer body, has engaged Isle Utilities (Isle) to provide an independent expert review of 'Our Plan 2020-24' to be submitted as part of Business SA's submission to ESCOSA's regulatory determination review of SA Water for the 2020-24 regulatory period.

1.3 Scope of this assignment

This assignment is relatively narrow in scope. In particular, the purpose was to:

- Advise Business SA as to how SA Water's OPEX (existing and proposed) compares against comparable water utilities across Australia;
- Provide Business SA with a high-level assessment of the prudence of SA Water's proposed CAPEX, as compared to other Australian water utilities;
- Assess the validity of SA Water's proposed rate of return, relative to other comparable regulated utilities; and
- Undertake an indicative assessment (including modelling) to inform an assessment as to the (a) contribution exogenous and endogenous factors are making to SA Water's proposed price changes, and (b) whether or not SA Water is passing on savings to consumers.

For the avoidance of doubt, Isle has not been asked to undertake a detailed review of any specific projects proposed by SA Water, nor has it been asked to comment on other aspects of SA Water's proposal, for example, its proposed price structures or levels of services.

2. OPEX and CAPEX Evaluation

2.1 Objective

Isle have been asked by Business SA to:

- Advise Business SA as to how SA Water’s OPEX (existing and proposed) compares against comparable water utilities across Australia; and
- Provide Business SA with a high-level assessment of the prudence of SA Water’s proposed CAPEX, as compared to other Australian water utilities.

2.2 Analysis and conclusions – Operating Expenditure

2.2.1 Operating Expenditure (IT)

Isle reviewed the benchmarking analysis that supported SA Water’s submission. The analysis contains four (4) years of information, which is aligned with good benchmarking practice, which is to use a longer series of data to ‘normalise’ annual anomalies.

The Peer Group that has been used is a mixture of Australian water, electricity and gas utilities, with approximately half of the Peer Group representing water utilities. On face value, this may create a number of comparative challenges:

- A number of Australian electricity businesses have undertaken extensive smart meter roll outs in recent years, which have had significant ramifications on their IT spend in relation to metering, communication systems and back-end meter data management and customer management systems. If this expenditure is included in the electricity data, this would significantly elevate their IT costs in comparison to Australian water businesses;
- The Australian electricity industry has also seen growth in behind-the-meter (BTM) solar, battery and other energy sources in recent years, which is likely to have had ramifications on spending associated with network related control and IT systems - which also could significantly elevate electricity IT costs in comparison to Australian water businesses; and
- Having regard to the above commentary:
 - It is unclear why energy businesses were in fact included in this study in the first place – no reasoning appears to be included in the supporting documentation
 - To the extent that electricity business must be included in the study to allow for a robust comparator set, smart metering and BTM related costs should be removed from the analysis
 - In any event, the analysis should also provide relevant benchmarks for water businesses only.

Finally, and possibly related to the above discussion, the ranges for some of the IT benchmarks are significant (e.g. for IT Capital Expenditure per Corporate End User the cost range is \$606 to \$36,430 per user, for IT Capital Expenditure per Customer the cost range is \$1.70 to \$83.20 per customer). Isle believes this drives up the median, and hence could be distorting the comparative analysis in SA Water’s favour. Moreover, to our mind, such a large range calls into question the validity of the information being collected and presented. On face value, this is likely to indicate either:

- The inclusion of comparator businesses that have different underlying cost structures that are unlikely to be reflecting different levels of efficiency (i.e. they are not like-for-like businesses) – which aligns with our observation regarding the inclusion of some energy businesses; and / or
- That the categorisation of data used to undertake the benchmarking is not consistent across businesses and has not strictly adhered to the definition of the collected benchmarking metrics (i.e. different businesses categorise and assign costs differently for the purposes of the benchmarking exercise, thus distorting the results).

2.2.2 Operating Expenditure (non-IT)

Isle reviewed the non-IT related benchmarking analysis that supported SA Water’s proposal. The analysis contains five (5) years of data, which is aligned with good benchmarking practice, which is to use a longer series of data to ‘normalise’ annual anomalies.

The Peer Group are all categorised as MAJOR businesses according to the Bureau of Meteorology National Performance Report, so this represents a good comparison for SA Water, and hence in our opinion is acceptable. We understand that the multi-factor analysis is the same analysis and approach as was adopted in 2016, which Isle believe is appropriate.

More generally, we accessed exactly the same dataset as used by KPMG to conduct their benchmarking analysis, so as to run our own analysis on a number of the elements of the water and sewerage OPEX per customer and water and sewerage OPEX per km of main information provided by KPMG. Isle's analysis aligns with the outputs presented by KPMG, so prima facie, there appears no underlying computational issues with the benchmarking analysis undertaken and presented.

2.3 Analysis and conclusions – Capital Expenditure

2.3.1 General observations

As a general observation, there was little information provided in relation to SA Water's proposed capital expenditure in 'Our Plan 2020-24'. Isle consultants have been involved in other regulatory price submission processes for the Australian energy and water industry where submissions for capital expenditure have been supported by comprehensive Strategic Asset Management Plans. These plans are extremely detailed and describe at the program and major project level all of the drivers of expenditure (asset condition, network growth, asset redundancy, meeting technical or economic regulatory compliance, etc), and the associated cashflows and assumptions for these individual programs and projects. Isle understand this level of detail was not made publicly available for this process.

To inform our analysis of SA Water's capital expenditure forecasts, we undertook a high-level benchmarking exercise. In undertaking this, we used:

- Data from the Bureau of Meteorology National Performance Report – which is what KPMG used for its OPEX analysis - for the 2014-2018 period; and
- The same Australian water industry peer group as KPMG used for its OPEX analysis.

Based on this analysis, details of which are provided in **Appendix A**, SA Water appear to be above the peer group median on some water related metrics, particularly Water CAPEX / Connection and Water CAPEX / ML.

Isle acknowledge that SA Water has had some significant water mains bursts in recent times that have attracted significant political and media attention, particularly in the Adelaide metropolitan area. This is due to a significant increase in mains breaks in major pipelines and the duration of unplanned interruptions². Isle assume that such a highly publicised series of failure events would have meant that additional funding was directed toward improved monitoring and management of the water system through technology, and accompanied with increased levels of water mains renewals, etc. We do not have sufficient detail to understand whether such repairs were specifically funded via OPEX, Minor or Major CAPEX, however, Isle expect these unplanned failure events would drive increases in SA Water's capital expenditure relative to their peer group.

A large portion of SA Water's water and sewerage capital expenditure has been allocated to meeting external responsibilities (\$256m and \$132m respectively), which is essentially maintaining compliance with the relevant Safe Drinking Water, Environment Protection, Dam Safety, Work Health and Safety, Heritage Places and Aboriginal Heritage Acts and Guidelines. SA Water indicates on page 27 of its 'Our Plan 2020-24' the breakdown of these particular capital projects (refer our **Table 2** overleaf).

Given details are not provided at the specific program and major project level, it is difficult to determine whether this expenditure is required to address one of the following expenditure drivers:

- Maintaining a necessary level of compliance with the relevant Act or Guideline;
- Rectifying areas where there has been a recorded breach or non-compliance associated with a relevant Act or Guideline;
- Addressing an area of non-compliance as determined by an official audit or review; or
- Satisfying the outcomes of the customer willingness to pay survey.

Such investments would normally be supported with detailed evidence showing spending is required to either maintain compliance, negate a breach of compliance and/or close gaps as identified by an official audit.

2 AMCL, "SA Water Main Management Independent Review", pages 12 and 13

Table 2 - SA Water’s proposed capital expenditure for external responsibilities

Table 3: Proposed expenditure to meet external responsibilities

	CAPEX water (four years)	CAPEX sewerage (four years)	Average additional OPEX (per year)
Dam safety	\$91 million	-	\$0.4 million
Water quality risk management	\$29 million	-	-
Safety	\$29 million	\$32 million	\$0.7 million
Water licences	\$14 million	-	-
Eyre Peninsula desalination	\$78 million	-	\$5.1 million
Sewerage treatment plant performance for licence compliance	-	\$22 million	\$1.2 million
Reliable power supply	-	\$8 million	-
Odour reduction	-	\$20 million	\$1.0 million
Environmental improvement plans (including recycling)	-	\$11 million	\$0.8 million
Northern Adelaide Irrigation Scheme	-	\$24 million	\$2.8 million
Sewer network infiltration management	-	\$10 million	-
Accommodation	\$7 million	\$2 million	-
Security	\$8 million	\$3 million	\$0.1 million
Water industry licence fee reduction	-	-	(\$2.4 million)
Total	\$256 million	\$132 million	\$12.1 million
Total OPEX saving			(\$2.4 million)
Net OPEX			\$9.7 million

December 2018 dollars

With regard to SA Water’s proposed Capital Delivery Model, Isle would conclude this is likely to make them more efficient and move them towards best practice because it contains some key contractual elements as follows:

- Adoption of Framework Agreements;
- Strict governance and decision-making processes and controls (particularly with regard to extracting value for money and managing contingency);
- Detailed workforce planning and scope prioritisation modelling;
- A reduction in overheads through co-location of internal and external workforces, streamlining of key activities like Engineering Management;
- Adoption of Target-Outturn-Cost and Value for Money principles;
- A focus on innovation; and
- A well-defined, monitored and measured performance management framework to incentivise the supply chain.

Isle cannot exactly quantify the savings potential of this model, but we would expect that SA Water’s proposed 5% capital efficiency target will be met through the implementation of this proposed Capital Delivery Model.

2.3.2 Willingness to Pay

Isle has been asked to comment on the appropriateness of the customer consultation process, and in particular, the willingness to pay analysis presented by SA Water. In doing this, we have relied predominately on the information presented in Appendix C “Our Plan customer engagement” of SA Water’s regulatory proposal, the Customer Negotiation Committee’s feedback on the use of that information, as well as some partial extracts from the customer questionnaires that were used.

Prima facie, the breadth and depth of the customer engagement process that SA Water appears to have undertaken to inform its regulatory submission is appropriate. In particular, the use of quantitative analysis techniques to inform a regulated business’ understanding of their customers’ willingness to pay for different service attributes is best practice.

However, the robustness of these types of analyses are inextricably linked to the detailed nature of customer questionnaire. For example, questionnaires that are too long, do not provide enough relevant contextual / background information, “lead” respondents (via their wording), or do not provide a means for respondents to express their overall budgetary constraints, are more than likely going to lead to spurious results.

Isle notes that SA Water’s Customer Working Group appears to have had some concern over a number of these aspects. For example, SA Water note that the Customer Working Group asked them to “*consider different methods of data collection with regards to ‘willingness to pay’ of customers and priorities for services in future. They felt the survey was too long, didn’t give customers enough information to help them answer complex questions and make educated choices. As a group, they would have liked to have been involved in its development a lot earlier in the process, even at procurement. Concern was shown that the data collected was driving SA Water’s priorities and asked if it actually achieved the outcomes SA Water wanted³*”. The Customer Negotiation Committee also noted raised concerns about the questions that were asked.

As stated earlier, Isle were provided with extracts from part of each of the two quantitative surveys undertaken (i.e. the “What matters to you?” choice modelling and the “Would you invest in this” contingent valuation analysis). Given we have only been provided partial extracts, it is difficult to make definitive statements as to the robustness of the entire questionnaires. However, in the context of the only question that we have from both surveys (improving the water quality for regional areas), Isle would note a number of potential issues:

- **What matters to you?:** It appears that the choice that was presented to customers was “*Improve all drinking water issues within 12 years*”, which, in our opinion, provides the respondent with no contextual information as to, amongst other things: (a) how many regional towns would be improved over that time frame, (b) how many properties within those towns would be improved, or (c) what tangible level of improvement would be received by the customers in those towns. On face value, it is difficult to see how any respondent could make an informed response to this type of question. Moreover, this is but one of a very large number of attributes that appears to have been tested in each choice set – once more than 5 or six attributes are tested, the response is more likely to reflect a respondent’s overall budget constraint, as opposed to their relative valuations of different attributes; and
- **“Would you invest in this”:** Based on the extract that we were provided, the question was “*some water supplies in regional areas can be clean and safe to drink yet taste can vary and sometimes it doesn’t taste good.....We want to improve the hardness and taste in three regional towns.....The investment will cost \$25m from 2020.....*”. We were not provided with the video that accompanied this question, so some of our concerns may be addressed by the content of that video (although we note that it might be that respondents do not in fact watch the video). Our concerns are that:
 - The reference to “*we want to improve..*” may be seen as leading the respondent to choose a certain outcome
 - There is no quantitative presentation of what level of improvement would be experienced as a result of the investment. The closest the question comes to this is reference to “*sometimes it doesn’t taste good*”...Without knowing how often this occurs, what affected customers’ perceptions of this are, and what level of improvement would be received as a result of the investment, it is difficult to see how respondents could make an informed decision as to whether or not they would be willing to pay for that investment
 - The presentation of the cost and number of beneficiaries could have potentially be presented differently, for example, instead of the “*investment will cost \$25m from 2020*”, “*the investment will cost \$11,000 per household*” or “*the investment will cost \$4166 per person*”, both of which would have been a more detailed representation of the costs and beneficiaries of the expenditure, which may have in turn elicited quite a different response from customers.

Notwithstanding any of the above, Isle would reiterate that given we have only been provided partial extracts, it is difficult to make definitive statements as to the robustness of the entire questionnaire.

As such, Isle would strongly support ESCOSA investigating not just the overall customer engagement process adopted by SA Water, but the specific questions that were asked that were used to support the outcomes proposed by SA Water.

Following on from this, ESCOSA should also investigate in detail how SA Water’s has operationalised the results when justifying specific projects. Again, scant detail appears in the publicly available documents regarding exactly how ESCOSA has utilised the WTP results within the specific project evaluations.

3 SA Water, “Our Plan 2020-24, Appendix C: Our Plan customer engagement”, page 57

2.3.3 Project Specific Comments

Isle have been asked, where possible to comment on a small number of specific expenditure items proposed by SA Water. These are the:

- Morgan to Whyalla pipeline, particularly in relation to whether this project appears prudent having regard to the quantum of spend supported by consumers;
- Project to improve drinking water to 650 regional customers;
- Eyre Peninsula Desalination Plant, particularly the reasonableness of SA Water’s cost estimates;
- Northern Adelaide Irrigation Scheme, particularly in relation to how costs will be recouped from end users of the recycled water; and
- Improving the quality of water for metropolitan customers.

Ideally, such an assessment requires a detailed review of all of the detailed material supporting the project/s, including, but not limited to:

- What the key drivers of expenditure are, and the information that has been used to support the derivation of the underlying driver itself (e.g., the methodology used to develop demand forecasts in support of augmentation programs)?
- Were the appropriate analytical techniques used to substantiate these drivers?
- Were the appropriate suite of feasible options identified for solving the problem?
- Did SA Water undertake a detailed cost / benefit analysis of those options, including incorporating the value of optionality created by different options and customers’ willingness to pay or service level improvements?

As previously highlighted by Isle, this type of information has not been made available (in detailed form) in SA Water’s publicly available reports, hence, Isle are **unable to provide a definitive opinion with regard to the prudence and efficiency (or not) of any of these projects**. In lieu of this, we have provided a number of high-level comments on each project in **Table 3** below, predominantly based on information contained in the Customer Negotiation Committee report: “*Report of Independent Chair: SA Water Regulatory Determination 2020*”.

Table 3 - High-level comments on a number of SA Water’s specific projects

Project	Comment
<p>Morgan to Whyalla pipeline</p>	<ul style="list-style-type: none"> • The Customer Negotiation Committee (CNC) appears to support this expenditure. • The overall pipeline relies on Murray River Water. The CNC rightfully notes the risk around this supply source, and moreover, noted that <i>‘this assumes the pipeline has not been made redundant by other developments such as desalination plants...for the present, no more economical source of supply is available for the townships and large industries which rely on the pipeline’</i>. • The CNC indicates that Section 3 - which supports some of SA Water’s largest water users - is where most of the proposed \$62m will be spent in the forthcoming regulatory period. Primary facie, this is likely to increase the value of lost supply in any economic assessment of the need for this project. • The CNC indicates that <i>“a condition assessment of the pipeline was completed in 2018 through a combination of a visual walking inspection over the full length and targeted ultrasonic thickness scanning, targeting the primary failure mode, the thinning of the wall near the seam weld. The results indicated that 1.3% of the pipe length, or 4.67km, currently has a wall thickness of less than 3mm and needs early attention. It is proposed to replace other adjacent lengths of pipe to a total of 14km, where they have also deteriorated significantly and it is economically sensible to do so”</i> • No mention is made by the CNC to an economic cost benefit test, in particular, there is no mention of SA Water having assessed the annualised value of lost supply (i.e. the probability * consequence of an asset failure) as compared to the

	<p>annualised cost of the expenditure. SA Water makes no mention of any such analysis in its 'Our Plan 2020-24' document either.</p> <ul style="list-style-type: none"> • To the extent that this type of analysis has not been undertaken in support of this project, then to our mind, it should be undertaken prior to this project being approved, as a viable option would be to simply take on more risk of loss of supply (unless it is driven by external regulatory or legal requirements). • Any future investments in this pipeline should be risk-weighted to reflect the uncertain supply source, as well as the optionality created by being able to cater for alternative supply sources (e.g. potential desalinisation options). • Isle's overall view is that there is not enough information made available in the public domain to be able to form any definitive view as to the prudence or efficiency of this project.
<p>Regional non-drinking water quality improvements (for 650 regional customers):</p>	<ul style="list-style-type: none"> • Our reading of the CNC's report is that they appear sceptical regarding this project. • The CNC indicate that the business case for replacing these systems with drinking water systems states that the proposal is driven solely by customer priorities and cannot otherwise be justified. • Isle agree with the CNC that the "appropriate thing to have done would have been to establish what value (or utility) the prospective beneficiaries placed on the proposed service improvement". • The Committee indicates that the surveys that were undertaken to assess the willingness of other (non affected) customers to subsidise those 650 customers "should not have been undertaken", but if they were to be undertaken the appropriate question should refer to the total cost of the project. • Isle are of the opinion that testing customers' willingness to subsidise is a robust approach to determining overall customer utility, however, we agree with the intent of the CNC's comment that the wording of such questions (in particular, what information is presented) is fundamentally important, as customer's willingness to subsidise is likely to be affected by a myriad of specific considerations related to cost, service level improvements, comparative costs and comparative existing levels of service. It is unclear to us, what information was presented to customers as part of the survey, although it appears the CNC does not consider it to have been adequate. • All-in-all, on face value, there appears to be significant uncertainty regarding customers' willingness to subsidise this project. • Isle's overall view is that there is not enough information made available in the public domain to be able to form any definitive view as to the prudence or efficiency of this project.
<p>Eyre Peninsula (EP) Desalination Plant</p>	<ul style="list-style-type: none"> • The CNC states that it is "<i>persuaded that this project is prudent but is not equipped to form a view about whether it is efficient</i>". • Business SA has asked us specifically about the reasonableness of SA Water's unit cost estimates, which based on information in SA Water's 'Our Plan 2020-24' document is estimated to cost \$95m, for a 4GL sized plant⁴ • Based on a high-level review⁵ of reported benchmarks for desalinisation plant costs, this looks to be high, however, we are also aware that costs depend on various project specific characteristics, such as raw water quality, the location (e.g., proximity to seawater), type of technology adopted and energy costs.

4 Customer Negotiation Committee, "Report of Independent Chair: SA Water Regulatory Determination 2020", page 49

5 See for example, <https://www.advisian.com/en/global-perspectives/the-cost-of-desalination#>

	<ul style="list-style-type: none"> • Therefore, Isle’s view is that there is not enough information made available in the public domain to be able to form any definitive view as to the prudence or efficiency of this project.
<p>Northern Adelaide Irrigation Scheme (NAIS)</p>	<ul style="list-style-type: none"> • The CNC indicates that <i>“up to date estimates of the comparison between the cost of treating and discharging the wastewater into the Gulf and the NAIS option” “still favours NAIS”</i>. • However, the CNC rightfully notes that <i>“the Commission has discretion around the amount by which SA Water’s RAB is increased to accommodate this project”</i> and that <i>“it is sewerage customers who are bearing the commercial risk of this project, not the owner of SA Water”</i> and that <i>“we think this is inappropriate.”</i> • Isle are of similar view, in particular, based on our understanding of the context for this project, from the perspective of sewerage customers, the NAIS: (a) avoids the cost of treating and discharging the wastewater into the Gulf; and (b) provides a broader benefit in that it aligns with their preferences for reuse over discharge. There is an argument to suggest that the combination of these two “values” should form the basis for determining the impact on sewerage charges (the effect of which would be to de-link sewerage charges from the commercial aspects of the irrigation scheme, namely irrigation-related revenues, with SA Water being solely responsible for bearing these risks), or that this represents a cap on sewerage charge increases. • For the avoidance of doubt, Isle do not see this approach being applicable to Project Zero, as to our mind, that project is predominately about investments to reduce a cost input required to be incurred to provide regulated services – it just happens that the underlying cost input is linked to a market price (which is analogous to many types of investments made by regulated businesses, generally in response to some form of incentive mechanisms), whereas the NAIS is fundamentally underpinned by generating non-regulated revenue.
<p>Improving the quality of water for metropolitan customers</p>	<ul style="list-style-type: none"> • The CNC indicates that they <i>“discussed the proposal with the relevant officer from SA Health and confirmed that the move to chlorination was strongly supported, although not mandated. The second part of the proposal is more about water aesthetics than public safety but there are efficiencies in doing the two parts together.”</i> • Also in its documents, the CNC makes reference to the <i>“vague proposalimproving metropolitan water quality”</i>. This appears to be in reference to the choice modelling analysis undertaken, which, based on the extracts we were provided, Isle would tend to agree with. As discussed earlier, where questions lack context, which includes the quantum of benefits/improvements that would be achieved as a result of that expenditure, it is difficult to place significant reliance on the results. For the avoidance of doubt, Isle were not provided with the specific question that was asked on this topic as part of the “Would you invest in this” survey, so we cannot comment on that survey or its results. • Similar to our earlier observation, Isle would strongly support ESCOSA focusing its review on the specific questions and approach that were used to derive customers’ willingness to pay, which in turn has been used to support at least part of this expenditure.

3. Rate of Return

3.1 Objective

The allowed return on capital generally represents the largest component of a regulated business’ revenue requirement. The rate of return, or the weighted average cost of capital (WACC) as it is also known, is a forecast of the cost of funds an efficient owner of a business such as SA Water would require in order to fund investments in that business. The WACC gets multiplied by the value of SA Water’s regulated asset base to determine the overall return on capital.

Isle have been asked by Business SA to comment on SA Water’s proposed rate of return relative to comparable water utilities, and in doing so, comment on a number of the particular components of the rate of return, including, but not limited to:

- The averaging period;
- The treatment of inflation; and
- SA Water’s argument regarding a minimum rate of return (related to their financial viability assessment).

3.2 Analysis and conclusions

ESCOSA has previously outlined an approach to determining SA Water’s WACC. SA Water contends that ESCOSA’s approach does not provide for appropriate returns. SA Water presents four arguments as justification for moving away from ESCOSA’s previously proposed methodology. Paraphrasing, SA Water indicates that:

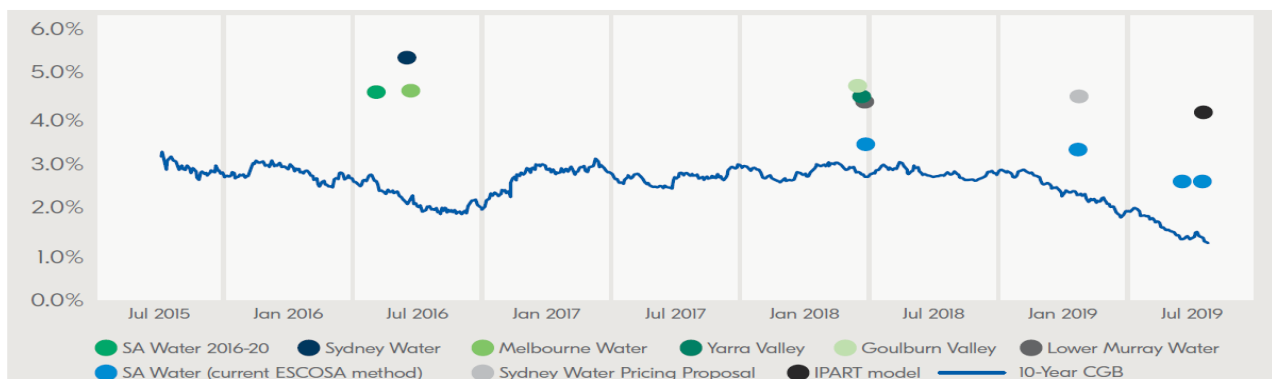
- ESCOSA’s methodology generates rate of return outcomes that differ (on the low side) to other comparable regulatory decisions;
- The averaging period of the risk-free rate should be extended from 20 days to 60 days;
- ESCOSA’s method for deriving its estimate of inflation is not fit-for-purpose and is disconnected from current revealed market expectations; and
- ESCOSA’s methodology will impact upon their overall financial viability, as assessed against a number of key financial metrics.

3.2.1 ESCOSA’s versus Other regulatory rates of return

A key argument presented by SA Water is that ESCOSA’s⁷ “current methodology generates rate of return outcomes that differ to other regulatory decisions, submitted pricing proposals and regulator published market updates, that use a post-tax real rate of return methodology (see Figure E.1). ESCOSA’s methodology provides a significantly lower rate of return compared to our interstate peers”.

In support, SA Water presents two figures⁸ (for the purposes of our report denoted **Figures 1 and 2** below and overleaf) that provide for a comparison of the WACC it is proposing, against other recent water price determination. These are reproduced below.

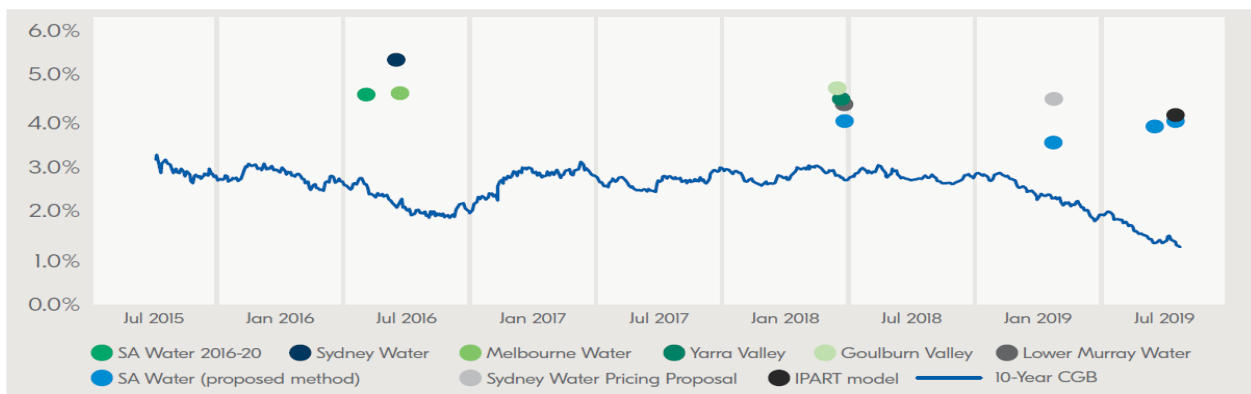
Figure 1 – Comparison of post-tax rate of return (current ESCOSA method)



7 SA Water, *Our Plan 2020-24, Appendix E: Regulatory rate of return and financial viability*, page 3

8 Ibid

Figure 2 – Comparison of post-tax rate of return (SA Water proposed methodology)



SA Water has not provided the actual rates supporting the above figures, however, the sources quoted indicate that the most recent data point presented is the “IPART Model”, with this figure at or around 3.8% to 4%. The source for this information is listed as IPART – WACC Bi-annual update.

The IPART report referenced contains a table of WACCs for different industries. The water-related figures are reproduced in **Table 4** below.

Table 4 – Regulated industries half-yearly real post-tax WACC ranges and midpoints from July 2017 to July 2019

	Jul-17	Jan-18	Jul-18	Jan-19	Jul-19
Water					
Upper bound	5.1%	4.9%	4.5%	4.4%	4.1%
Midpoint	4.5%	4.3%	4.1%	4.2%	3.8%
Lower bound	3.9%	3.7%	3.8%	4.0%	3.6%

Source: IPART, ‘WACC biannual update’, August 2019, page 5

IPART also publishes an accompanying spreadsheet supporting the report. In reviewing that spreadsheet, it appears that the above figures are generated based on:

- Lower bound: current market data;
- Midpoint: the average of the current market data and long-term averages; and
- Upper bound: long term averages.

The approach of averaging a low and high figure to come up with the final WACC aligns with previous IPART decisions⁹. Having regard to this most recent assessment, corroborated by spot checking a number of the other data points referred to by SA Water, it would appear that SA Water’s statement is correct, namely, that ESCOSA’s current methodology generates rate of return outcomes that are lower relative to other regulatory decisions.

Notwithstanding this, in the context of IPART’s bi-annual update, and its broader approach, the primary reason for the difference is neither the estimated inflation (2.3% IPART v 2.45% under the ESCOSA model) the equity beta (0.7 vs 0.7), the averaging period or any assessment of financial viability (all issues raised by SA Water), but rather it simply results from the fact that IPART averages two data points: one based on “current market data” and the other based on “long term averages”.

The “current market data” reflects the (current) lower risk-free rate, however, this is offset by a much higher market risk premium estimate (8.8%) than we are aware is used by any economic regulator in Australia. This means that IPART’s estimated WACC for water businesses, based on current market parameters (even after it is updated for the risk-free rate estimate that would be calculated under ESCOSA’s approach), is higher than what would be calculated under ESCOSA’s approach.

All-in-all, prima facie, Isle believe that there appears to be some evidence in support of SA Water’s assertion that the WACC calculated under ESCOSA’s approach may lead to WACC’s that are lower than comparable interstate water businesses. However, in the case of IPART, this is predominately due to the overarching (averaging) approach, as opposed to the derivation of particular input parameters.

9 For example, IPART, “Review of prices for Hunter Water Corporation From 1 July 2016 to 30 June 2020”, June 2016, page 81

3.2.2 Averaging period and treatment of inflation

Isle has also been asked to comment on two of SA Water’s particular input parameters, namely the:

- Averaging period of the risk-free rate; and
- Treatment of inflation.

In relation to the former, the risk-free rate is currently estimated using a short averaging period of 20 days. Whilst ESCOSA considers this averaging period provides the best estimate of the interest rates in the regulatory period, SA Water is proposing to use a 60-day averaging period, which they state would, to some extent, “smooth the volatility of interest rates while ensuring the risk-free rate is still a fair representation of current market rates which is deemed to be the best estimate of future interest rates¹⁰”. They reference previous ESCOSA guidance that ESCOSA is “open to the use of an approach where the regulated entity can choose an averaging period somewhere between twenty and sixty days and must do so no later than three months before the start of the regulatory period.¹¹”

All-in-all, no stakeholder can identify a single, point estimate of what is the appropriate averaging period. Rather, it needs to reflect a trade-off between a number of factors. As the Australian Energy Regulator (AER) states in its Rate of Return Instrument, “in choosing the appropriate length for the averaging period the objective is to ensure that the estimates are relevant to the on the day rate and that they are not unduly biased by short-term volatility in the CGS yields. A longer averaging period reduces the volatility but also reduces relevance, while a shorter averaging period is more relevant but also more volatile”¹². From this, they come to a similar conclusion as ESCOSA, namely that it “is for regulated businesses to have the flexibility to choose an averaging period between 20 and 60 consecutive business days¹³”. As such, Isle believe SA Water’s approach is reasonable, given the guidance provided by ESCOSA, as well as the regulatory precedence provided by the AER’s recent decision.

Regarding the treatment of inflation, SA Water considers that ESCOSA’s method for deriving its estimate of inflation is not fit-for-purpose and is disconnected from current revealed market expectations. In particular, they note that ESCOSA’s current methodology assumes a long-term view of inflation (10-years), in that it combines the use of the Reserve Bank of Australia (RBA) forecast of inflation for one year ahead and the midpoint of the RBA inflation target band (2.5 per cent) for a further nine years.

This approach aligns with other regulators, for example, the AER, in its “Regulatory Treatment of Inflation” decision described its approach as follows: “the approach we currently use is relatively simple and transparent and has been employed in all of our decisions since 2008. We use forecasts of inflation published by the Reserve Bank of Australia (RBA) for the next two years, which is the limit of this forecast series. We combine these two values with the mid-point of the RBA’s target band for inflation (currently 2.5 per cent) to extend the series out to ten years. The estimate of expected annual inflation is then the average of these ten yearly figures¹⁴.”

SA Water proposes to move away from ESCOSA’s approach (which broadly aligns with the AER) to one that relies on the RBA’s one-year inflation forecast, along with other caps to avoid what they term an “illogical real risk-free rate”. They indicate that this is consistent with market expectations, via reference to the bond breakeven approach (which is the difference between nominal Commonwealth Government bonds and inflation indexed Commonwealth Government bonds) and the inflation swap approach. Interestingly, for a number of different reasons, the AER rejected both of these approaches during its “Regulatory treatment of inflation” review.

For example, in the context of the swap method, they stated that the “estimates produced using the inflation swaps methods are likely to incorporate biases and distortions (due to hedging costs, liquidity premium and other premiums) and these biases and distortions are likely time-varying. Additionally, the RBA in its letter to us said that this method is probably unviable¹⁵”.

In relation to the bond breakeven approach, they stated that “the bond breakeven approach is the method we used to estimate inflation prior to 2008. In 2008, service providers identified a range of problems with this approach and persuaded us to move to the RBA approach (the AER’s current approach). The method suffers from a range of deficiencies including a number of biases and premiums which are significant and time varying.

10 SA Water, “Our Plan 2020-24, Appendix E: Regulatory rate of return and financial viability”, page 3

11 Ibid

12 AER, “Rate of return instrument”, December 2018, page 131

13 Ibid

14 AER, “Final position paper | Regulatory treatment of inflation”, December 2017, page 11

15 Ibid, page 12

Evidence of these deficiencies is present for the US and UK markets (more mature and liquid than the Australian market), as well as for the Australian market. Many of these deficiencies were identified by service providers in 2008 and persist. The RBA in its letter to us said that this method is probably unviable¹⁶.

Given the previous research undertaken by the AER, and the concerns expressed by the RBA as part of the AER's previous review, prima facie, neither of these two methods would appear an appropriate approach. Moreover, the use of a single year RBA forecast – which is in effect what SA Water is proposing – is unreasonable in Isle's opinion, given the short-term nature of this forecast in the context of long-term investments and funding requirements. Therefore, prima facie, there would appear to be little evidence supporting SA Water's position that its proposed approach provides a reasonable basis for determining forecast inflation.

3.2.3 Financial viability of SA Water

Finally, SA Water indicates that *“based on a rate of return of 2.52 per cent (current ESCOSA methodology) we assess that we will be below the acceptable benchmark range Baa2 (Moody's) or BBB (Standard & Poor's)). Under our proposed method that derives a 3.59 per cent rate of return, we would be within the benchmark BBB rating which aligns with ESCOSA's assumption used to calculate the rate of return¹⁷”*. We take this assessment on face value. SA Water goes on to say that the *“assessment indicates under the current ESCOSA rate of return methodology, we would not be able to achieve the target for the Funds from Operations (FFO) over Net Debt ratio in the 2020-24 regulatory period¹⁸”*. However, the analysis does indicate that it would pass the thresholds set for a number of other financial ratios.

Whilst it is fundamentally important that an efficient business should be able to continue to remain financially viable under the State's water industry regulatory regime, this should in theory occur under the regulatory framework, and to the extent that it hasn't occurred in the case of SA Water, it is difficult to draw definitive conclusions as to whether or not the driver for SA Water not meeting a number of individual financial viability ratio thresholds is due to inaccuracies in any individual parameter (and in turn the final outturn WACC), or whether it is due to other business specific factors. Given this, Isle would recommend that ESCOSA give particular consideration to the impact that its decision will have on the financial viability of an efficient water business operating in the South Australian environment; rather than simply responding to the outputs of a set of specific metrics. To this end, we note that in a previous report to the Essential Services Commission (VIC), NERA provided the ESC with a number of high-level recommendations relevant to the assessment of financial indicators and ranges that should be used in any financeability assessment of water businesses. The ESC state in its report that these were¹⁹:

- *Maintaining an investment grade credit rating over time is an appropriate objective for a financeability assessment of a regulated water service provider.*
- *If a financeability constraint is identified, a cash flow adjustment should be made only if the constraint is not a result of poor management practices, such as excessive gearing or poor financial decisions.*
- *Any financeability assessment should be undertaken on the basis of competitive neutrality (that is, no allowance should be made to the ranges adopted for each financial indicator based on government ownership).*

The ESC states that NERA also recommended that *“any adjustment to prices on the grounds of financial viability should be implemented on a net present value (NPV) neutral basis. That is, price increases for viability in the near term should be paid back to customers through lower prices later²⁰”*.

In summary, Isle would support the adoption of a set of principles similar to those noted above, and in particular that any near-term price increase to support financial viability should be 'paid back' to customers in the long term.

16 Ibid

17 SA Water, *“Our Plan 2020-24, Appendix E: Regulatory rate of return and financial viability”*, page 7

18 Ibid, page 8

19 ESC, *“Assessing the Financeability Of Victorian Water Businesses”*, Consultation Paper, December 2013, page 9

20 Ibid

4. Flow through of savings to consumers and businesses

4.1 Objective

Isle has been asked by Business SA to provide indicative estimates (where relevant) of the impact that a number of potential adjustments to SA Water's submission may have on SA Water's revenue requirement, and in turn, their customer bills. In particular, Business SA has asked that we:

- Analyse the veracity of how, what they have termed, 'Project Zero', is treated in the regulatory proposal and what savings will flow back to consumers and over what time-frame;
- Comment on the savings SA Water would pass on should the full savings from South Australia's Independent State Water Price Inquiry be factored into SA Water's regulatory proposal, including for waste-water assets; and
- Clearly delineate SA Water's proposed revenue reductions between factors that are within and outside of its control.

4.2 Analysis and conclusions

4.2.1 Project Zero

It is our understanding that 'Project Zero' involves SA Water making a large investment in a number of energy production and storage devices, not the least being solar PV and battery installations.

Conceptually, such investments should lead SA Water to reduce its demand on the grid which in turn will lead to reductions in its retail energy bills. Furthermore, such investments should allow SA Water to more actively respond to electricity sector price signals, including from the wholesale market and the retail electricity market, which may provide additional revenue streams in support of its investments.

In its 'Our Plan 2020-24' document, SA Water states that its investment is part of an overall approach to energy management which has five components²¹:

- *Demand scheduling – to control when we use energy, reducing when electricity market prices are high and increasing when electricity market prices are low;*
- *Energy efficiency – to reduce the amount of energy we use to deliver services to our Customers;*
- *Energy storage – storing energy for our own use or to sell to the grid when prices are high, avoiding costs and generating revenue;*
- *Own generation – generating electricity for use in our operations or to sell to the grid, for example from solar panels and biogas engines; and*
- *Energy market – participation and making operational decisions that will save costs, including network charges.*

Isle concurs that these are the types of energy initiatives are proven and currently being implemented in varying degrees across the broader Australian water industry, they will provide benefits through improved energy management and will lead to savings in OPEX.

Following on from this, SA Water explicitly states that its investment is expected to work towards a \$0 net energy cost future and save approximately \$47 million per year on energy. They also explicitly state that this has "been built into our budgets for 2020-24 and beyond..... we are completing implementation in 2020-24 as we invest the remaining \$104 million of the total \$379 million project cost²²".

We infer from this that much of the investment has already been made, hence the timings of the savings should manifest early on in the forthcoming regulatory control period. To this end, SA Water indicates on page 22 of its 'Our Plan 2020-24' document that the full amount of these savings are assumed to occur every year from 2020-21 (refer our **Table 5** overleaf).

21 SA Water, *Our Plan 2020-24*, page 35

22 Ibid

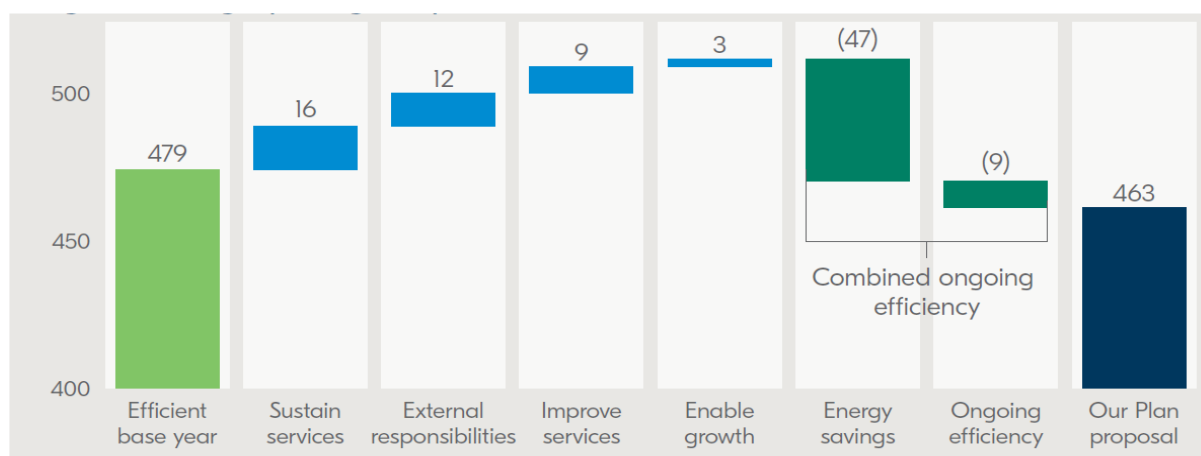
Table 5 - SA Water’s Operating Cost Savings from 2018-19 base year

Summary of efficiencies	2020-21 \$million real	2021-22 \$million real	2022-23 \$million real	2023-24 \$million real	Average \$million
0.5% ongoing efficiency target	(1.7)	(3.3)	(5.0)	(6.6)	(4.2)
Procurement contract savings	(5.1)	(5.1)	(5.2)	(5.2)	(5.1)
Energy savings (including revenue)*	(46.7)	(47.2)	(47.2)	(45.8)	(46.7)
Total annual savings	(53.5)	(55.7)	(57.4)	(57.6)	(56.0)
% of total annual operating costs	(12%)	(12%)	(12%)	(12%)	(12%)
Total opex less efficiencies	445	461	470	476	463

December 2018 dollars
*Zero Cost Energy Future

On page 21 of its submission, SA Water indicates that the impact of these savings allow it to more than offset cost increases related to other aspects of its business (refer **Figure 3** below).

Figure 3 - SA Water’s Average operating costs per annum 2020-24



In summary, SA Water appears to have adopted assumptions that would see 100% of their forecast energy cost savings immediately flow back to their consumers. For the avoidance of doubt, we are not in a position to identify whether or not the dollar amount of savings (~\$47m per annum) is reasonable, given the investment. However, Isle would note that in reality, savings are unlikely to be constant over such a time period, given likely market-driven fluctuations in wholesale energy prices and Frequency Control and Ancillary Services (FCAS) prices (amongst others). To the extent that these savings are less than forecast due to energy market conditions, it will be SA Water’s customers that are (negatively) impacted in regulatory periods beyond the 2021-24 period. Conversely, if they are more, then customers will be advantaged. This is analogous to any investment that seeks to reduce a business’ exposure to market-driven costs.

4.2.2 Impact of including the recommendations from the Independent State Water Price Inquiry

As part of the 2018 State Election, the government announced that it would establish an independent inquiry into water pricing in South Australia (Inquiry). The Inquiry was to help advise the government if the amounts SA Water is permitted to raise (from its drinking water retail service) reflect the cost of providing those services. SA Water states in its ‘Our Plan 2020-24’ document that it has not taken into the outcome of the Government’s inquiry into the regulated asset base²³.

The Inquiry itself made a number of recommendations, in particular, it recommended that the “value of the opening RAB established in the Second Pricing Order in May 2013 is not reasonable, and should be changed²⁴”. In further indicated that ESCOSA had modelled the impact of their advice, and concluded that “if the roll-forward of the June 2013 RAB value to 30 June 2018, using the actual capex, CPI and depreciation values for the period since 1 July 2013 (but replacing the opening RAB value of \$7.77 billion [in December 2012 dollars] with the \$7.25 billion value proposed by the Inquiry)....the resulting value for a 30 June 2018 RAB would be approximately \$7.95 billion [in June 2018 dollars]”²⁵.

23 SA Water, *Our Plan 2020-24*, page 2

24 L. Owens, *Abridged Advice – Final Report of the SA Water Pricing Inquiry*, June 2019, page 2

25 Ibid

Appendix D of SA Water’s proposal (refer our **Table 6** and **Table 7** below) shows SA Water’s proposed rolled forward regulatory asset base (excluding the recommendation of the Inquiry).

Table 6 – SA Water’s rolled forward water regulatory asset base value (December 2018 real \$ ’million)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Opening value	8,678.3	8,649.7	8,708.9	8,788.4	8,948.9	9,203.1	9,267.9	9,329.0
Capital expenditure	161.3	252.0	276.0	358.1	454.9	273.5	275.6	273.1
Disposals	0.5	0.0	0.4	0.4	0.4	0.4	0.4	0.4
Depreciation (end year value)	189.4	192.8	196.1	197.3	200.2	208.3	214.1	219.9
Closing value	8,649.7	8,708.9	8,788.4	8,948.9	9,203.1	9,267.9	9,329.0	9,381.7

Table 7 - SA Water’s rolled forward sewerage regulatory asset base value (December 2018 real \$ ’million)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Opening value	4,049.0	4,049.8	4,073.2	4,189.6	4,288.6	4,278.5	4,298.0	4,354.1
Capital expenditure	102.8	128.3	224.9	210.6	100.8	134.0	174.4	157.9
Disposals	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Depreciation (end year value)	101.8	105.0	108.4	111.6	110.9	114.4	118.2	122.3
Closing value	4,049.8	4,073.2	4,189.6	4,288.6	4,278.5	4,298.0	4,354.1	4,389.6

The adoption of a \$7.95 billion [in June 2018 dollars] as at 30 June 2018 would result in a reduction in SA Water’s RAB of around \$700m for WATER [\$8.708 billion²⁶ - ~\$8 billion²⁷], an approximate reduction of around 8%. If a similar percentage adjustment was also made to SA Water’s sewerage RAB, the approximate reduction would be around \$325m (8% of \$4.07m).

Table 8 below summarises our high-level estimate²⁸ of the impact that this would have on SA Water’s customer base over the next regulatory period.

Table 8 - Indicative Impact of Changes to RAB

Change	Reduction in RAB	Indicative Impact on Rev. Req. ²⁹	Indicative Residential Customer Impact ³⁰	Indicative Non Residential Customer Impact	Indicative Commercial Customer Impact
Reduction in Water RAB	\$700m	Return on capital: \$26m Return of capital: \$17m [Equates to ~5.3% reduction]	Low Usage = \$31 Average Usage = \$42 High Usage = \$82 Very High Usage = \$123	Low Usage = \$22 Average Usage = \$307 High Usage = \$1036 Very High Usage = \$3726	Low Usage = \$21 Average Usage = \$134 High Usage = \$407 Very High Usage = \$1684

26 This is the 2017/18 closing value, hence an equivalent June 2018 figure.

27 This reflects the estimated impact of a 6-month inflation adjustment to the \$7.95 billion figure quoted, which we note is in June 2018 dollars, not December 2018 dollars.

28 Isle did not have access to SA Water’s regulatory model to undertake this assessment, hence, we relied on high-level modelling to assess the likely impact.

29 This is based on proportioning down SA Water’s average (over the regulatory period) forecast return on and of capital – as reported in Table D.1 of Appendix D of its ‘Our Plan 2020-24’ submission - by 8%. This is a broad representation of the impact, and excludes any tax-related impacts (amongst other things).

30 All indicative impacts are based on proportioning down SA Water’s estimated 2020-21 bills (as per Appendix F of its submission) by the estimated percentage reduction in its revenue requirement. For the avoidance of doubt, this approach implicitly assumes that SA Water would reduce all its tariff components by the same proportion, which is clearly a simplifying assumption.

Reduction in Sewerage RAB	\$325m	Return on capital: \$12m	Low Property Value = \$20	Low Property Value = \$22	Low Property Value = \$28
		Return of capital: \$9m [Equates to ~6% reduction]	Average Property Value = \$27	Average Property Value = \$143	Average Property Value = \$123
			High property Value = \$54	High property Value = \$460	High property Value = \$301
			Very High Property Value = \$90	Very High Property Value = \$1348	Very High Property Value = \$1271

4.2.3 Delineate SA Water’s proposed revenue reductions between factors that are within and outside of its control

Isle has been asked by Business SA to delineate SA Water’s proposed revenue reductions between factors that are within and outside of its control.

As a starting point, we have analysed two graphs that have been presented by SA Water in Appendix D of its submission (for the purposes of our report denoted **Figure 4** and **Figure 5** below), which categorise the drivers of changes in its allowable revenue between its current regulatory period and the next (2020-24) regulatory period.

Figure 4 - Drivers of change in SA Water proposed revenue allowance (Water) - comparison of 2020-24 allowable revenue with 2016-20 determination

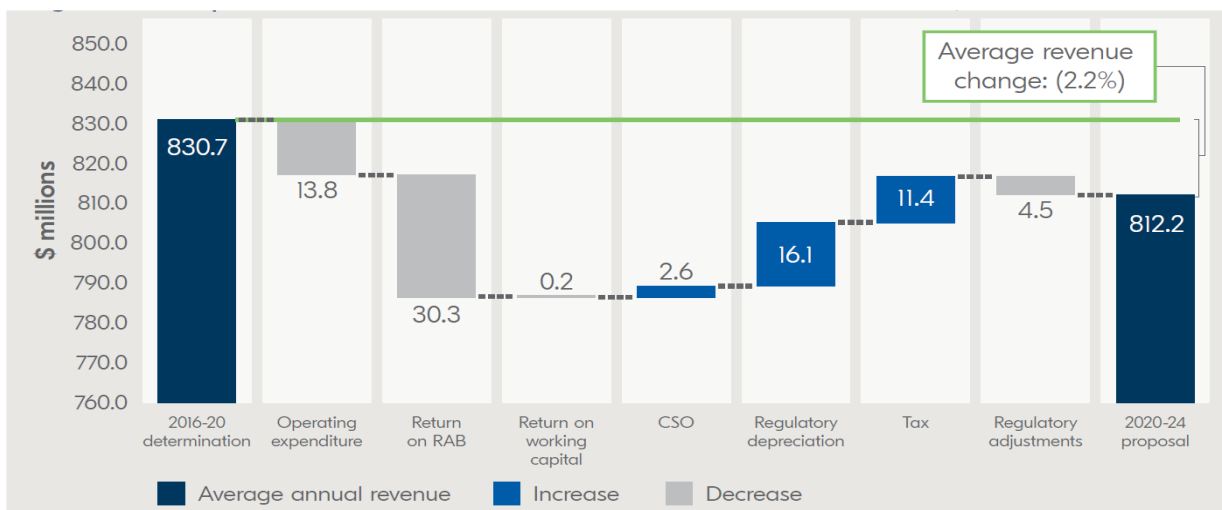
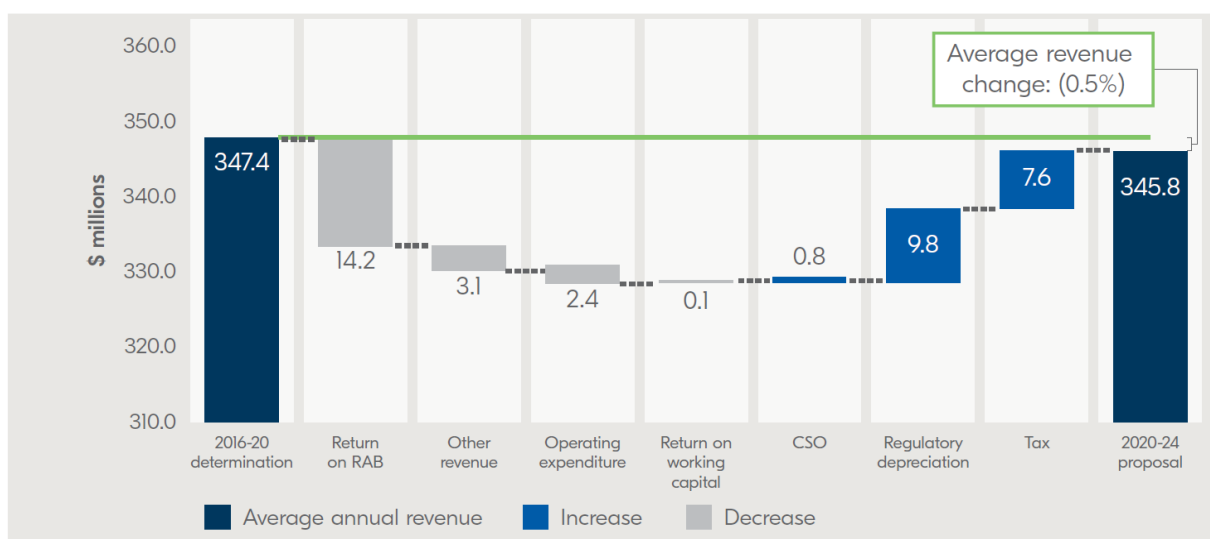


Figure 5 - Drivers of change in SA Water proposed revenue allowance (Sewerage) - comparison of 2020-24 allowable revenue with 2016-20 determination



Based on our experience, we know that a number of these categories are predominately driven by exogenous (external) factors, for example the regulatory rate of return is predominately driven by market parameters affecting the cost of debt and equity. In line with this, SA Water notes that: *“the current low interest rate environment is having a significant impact on allowable revenues. Lower interest rates mean the rate of return we are allowed to earn on our regulatory asset base is lower. On average, the return on asset building block is 8.5 per cent (\$30.3 million) per year less for water and 8.5 per cent (\$14.2 million) per year less for sewerage services³¹.”*

SA Water goes on to say that the *“lower regulatory rate of return is being earned across a slightly higher regulatory asset base which reflects additional investment of around \$900 million across the 2016-20 and 2020-24 regulatory periods to deliver outcomes not envisaged at the time of the 2016-20 determination..... the “higher regulatory asset bases are increasing the depreciation building block which will be on average 8.3 per cent (\$16.1 million) per year higher for water and 9.2 per cent (\$9.8 million) per year higher for sewerage^{32”}.*

It is difficult to isolate the contribution that factors outside of SA Water’s control have made to SA Water’s capital expenditure during the 2016-20 period (relative to forecast) as well as in the next regulatory period. For example, SA Water notes a number of drivers for increased capital expenditure including, but not limited to delivering a new source of fit for purpose water to the northern regions of Adelaide and securing water supplies in the Eyre Peninsula region through investment in desalination and increasing the resilience of its water main network.

However, SA Water’s proposed depreciation schedule, by asset class, is instructive (refer **Table 9** below), as it indicates that over half of the increase in depreciation in water is driven by energy assets (\$16.1m per year versus \$10.3m contribution of energy assets), and just under half in sewerage.

Table 9 – Extract of SA Water’s Proposed Depreciation, by asset class (December 2018 real \$ ‘million)

	Water				Sewerage			
	2020-21	2021-22	2022-23	2023-24	2020-21	2021-22	2022-23	2023-24
Pipes	80.0	80.8	81.7	82.7	39.8	39.9	40.4	40.8
Non-pipes	63.5	66.8	69.0	71.2	52.0	53.4	55.3	57.4
Adelaide Desalination Plant	30.3	30.3	30.3	30.3	-	-	-	-
Adelaide Desalination Plant – short lived assets	0.3	0.9	1.5	2.1	-	-	-	-
Energy assets	10.3	11.9	11.9	11.9	4.4	5.1	5.1	5.1
Corporate depreciable	15.9	17.7	19.7	21.7	14.7	15.9	17.5	19.1
Total mid-year value	200.2	208.3	214.1	219.9	110.9	114.4	118.2	122.3

* Total mid-year value discounted by half a year’s regulatory rate of return.

** Numbers may not add due to rounding.

It is clear that the expenditure that has led to this increase in depreciation is “discretionary” per se, therefore, we have focused our analysis on this cost component, although importantly, the previous Opex information contained in our **Figure 3** indicates that this expenditure has also enabled SA Water to reduce their operating costs .

Given the above, based on the information presented, a broad estimate of SA Water management’s contribution to overall changes in the revenue requirement is to assess the impact of its ‘Project Zero’ as well as its on-going operating efficiency savings. **Table 10** below provides an estimate of their respective contributions.

31 SA Water, *Our Plan - Appendix D: Required Revenue*, page 3

32 Ibid

Table 10 - Indicative Impact of Discretionary Decisions made by SA Water

Change	Estimated impact on revenue requirement
Opex Energy Savings p.a	\$47m
<i>Plus</i> On-going Opex efficiency savings	\$9m
<i>Less</i> Depreciation – energy assets (combined water and sewerage)	~\$15m
<i>Less</i> Estimated Rate of return – energy assets	$\$350\text{m}^{33} * 0.0359^{34} = \12.5m
TOTAL	\$28.5m

For the avoidance of doubt, the analysis above only focuses on one component of discretionary expenditure which happens to (in this case) benefit customers. There are likely to be other expenditures, in particular, capital expenditure that is predominately driven by customer willingness to pay outcomes, that upon review by ESCOSA, may be deemed to have been “discretionary”. No allowance has been made for changes in these types of expenditures.

33 This reflects our estimate of the average RAB for energy assets over the 4 year regulatory period, based on a \$379m total project cost (page 35 of ‘Our Plan’), and \$15m per annum in depreciation.

34 This reflects SA Water’s proposed WACC.

Appendix A: Capital Benchmarking

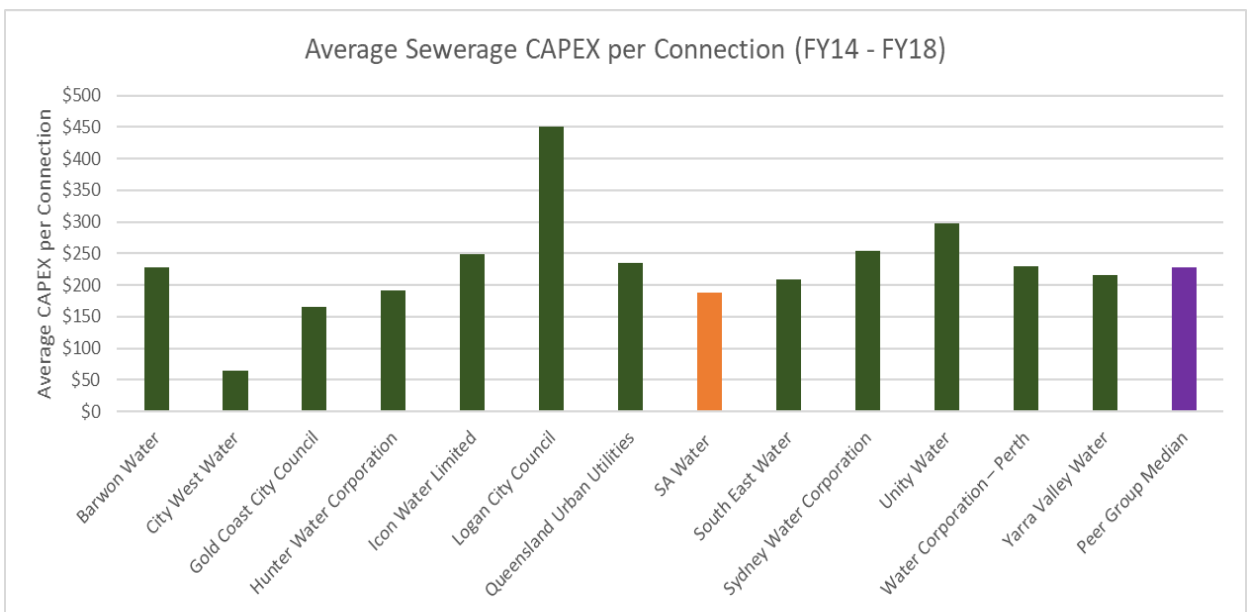
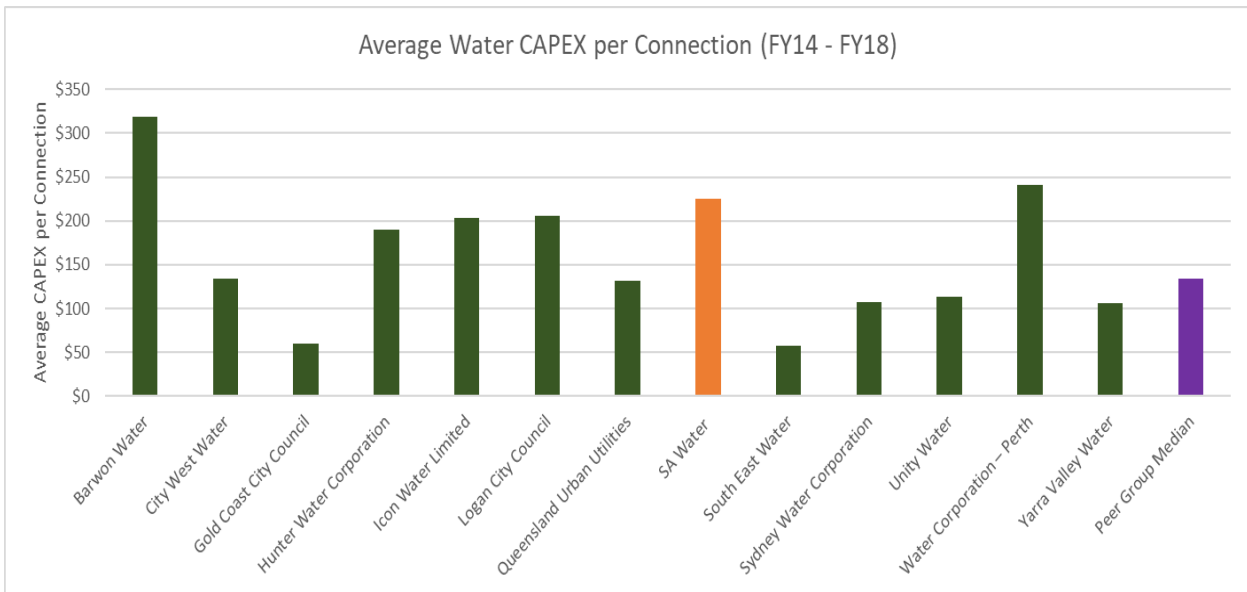
Peer Group

MAJOR Water Business (according to the Bureau of Meteorology National Performance Report)	Head Office Location
Barwon Water	Geelong, Victoria
City West Water	Melbourne, Victoria
Gold Coast City Council	Gold Coast, Queensland
Hunter Water Corporation	Newcastle, New South Wales
Icon Water Limited	Canberra, New South Wales
Logan City Council	Logan, Queensland
Queensland Urban Utilities	Brisbane, Queensland
SA Water	Adelaide, South Australia
South East Water	Melbourne, Victoria
Sydney Water Corporation	Sydney, New South Wales
Unity Water	Caboolture, Queensland
Water Corporation – Perth	Perth, Western Australia
Yarra Valley Water	Melbourne, Victoria

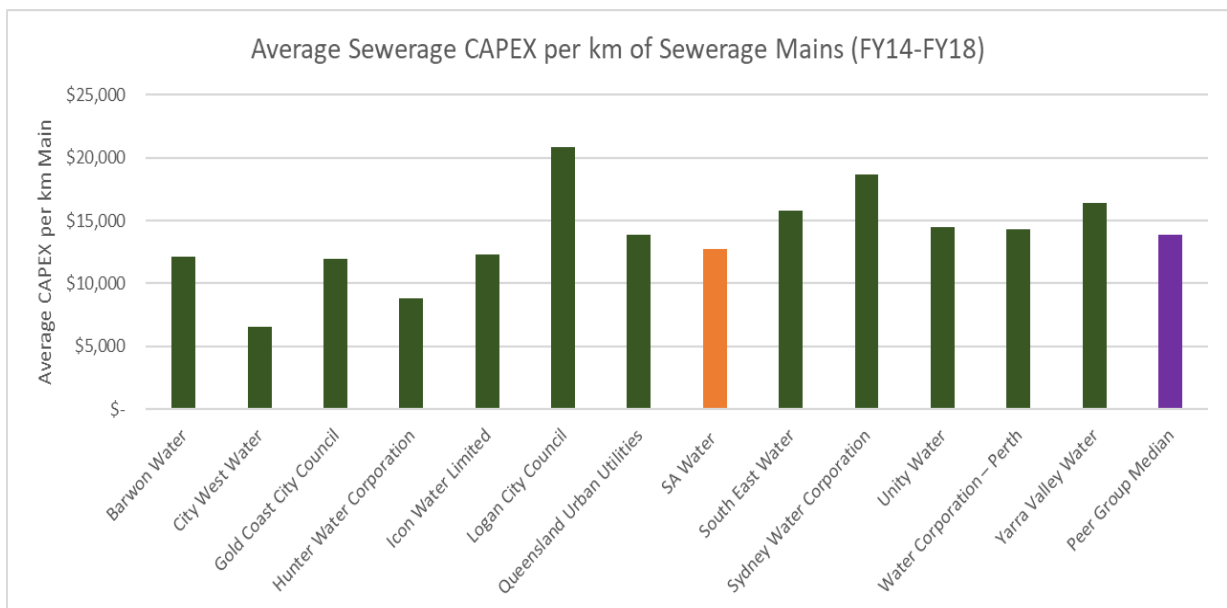
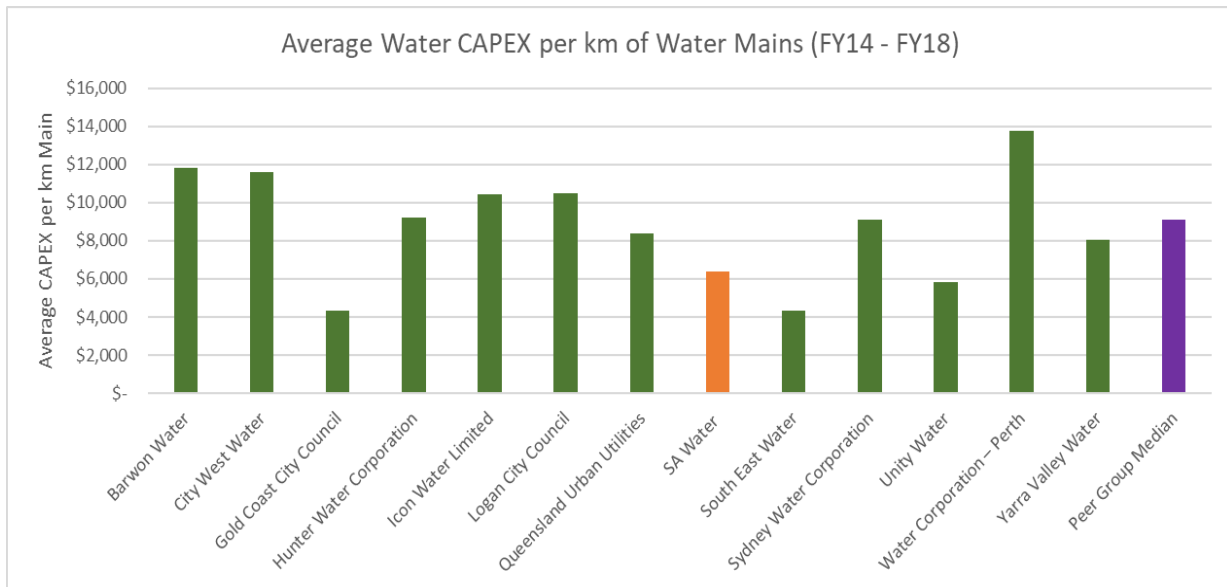
Summary of Results (FY14 – FY18)

	Average Water CAPEX / Connection	Average Sewerage CAPEX / Connection	Average Water CAPEX / Km Main	Average Sewerage CAPEX / Km Main	Average Water CAPEX / ML	Average Sewerage CAPEX / ML
SA Water	\$ 225.15	\$ 188.68	\$ 6,400.36	\$ 12,700.21	\$ 899.75	\$ 1,006.28
Median	\$ 133.73	\$ 227.65	\$ 9,111.91	\$ 13,865.55	\$ 605.09	\$ 1,121.49
Diff (\$)	\$ 91.41	-\$ 38.97	-\$ 2,711.55	-\$ 1,165.35	\$ 294.67	-\$ 115.21
Diff (%)	68%	-17%	-30%	-8%	49%	-10%

Charts - Average CAPEX per Connection



Charts - Average CAPEX per km of Main



Charts - Average CAPEX per ML Supplied and Collected

