

**South Gippsland Water –  
expenditure review for 2018 water  
price review**

Report for the Essential Services  
Commission – FINAL REPORT

February 2018

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# Executive Summary

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria’s water businesses for the period 1 July 2018 to 30 June 2023. Deloitte has been engaged by the ESC to review the expenditure forecasts made by the metropolitan businesses and regional urban water businesses. In undertaking this review, Deloitte’s key responsibilities are to:

- Assess the appropriateness of the expenditure forecasts in relation to the key objectives of the review
- Provide independent advice to the ESC regarding the appropriateness of the forecasts
- Where Deloitte’s advice indicates that a proposed expenditure level is not appropriate, propose to the ESC a revised expenditure level.

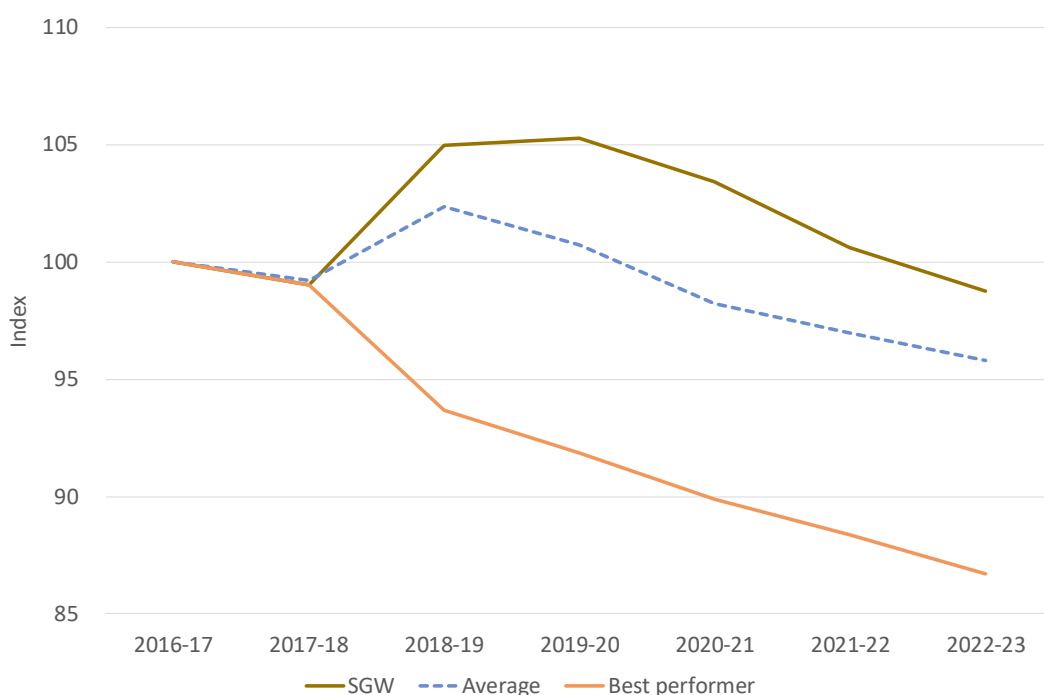
## Operating expenditure (opex)

The key features of South Gippsland Water’s opex forecast include:

- A Baseline controllable opex in 2016-17 of \$17.7m (before adjustments), which is 7% higher than the 2013 forecast for 2016-17 (\$16.5m).
- A forecast average customer growth rate of 1.5% per annum
- A cost efficiency improvement rate of 1.5% per annum, which is in the mid-range of other water businesses
- \$7.03m of additional expenditure above the baseline
- No change in controllable opex per connection over the RP4 period, after factoring in the additional expenditure.

The chart below shows that South Gippsland Water is forecasting opex increases per connection in 2018-19 and 2019-20, with reductions thereafter.

Figure 0-1 Change in controllable opex per connection – index



We have recommended a reduction of **\$4.28m** to South Gippsland’s Water’s RP4 forecast controllable opex, with the most significant cuts relating to maintenance (\$1.6m) and strategic asset management (\$0.7m) plus a \$0.9m adjustment to baseline expenditure (over 5 years). The key reasons for these recommendations are outlined in Chapter 3.

### Capital expenditure (capex)

South Gippsland Water has proposed gross capex of \$88.2m over RP4. The approved gross RP3 capex was \$73.8m and the actual gross capex for RP3 is expected to be \$85.68m.

We have recommended a reduction in capex of **\$8.71m** across WP4 compared to South Gippsland Water’s proposal, comprising:

- A reduction of the water main renewal program to RP3 levels
- The proposed budgets for the following projects are removed or reduced from the RP4 forecast:
  - Leongatha Raw Water Pipeline
  - Fish Creek Treated Water Distribution Main Renewal

The key reasons for these recommendations are outlined in Chapter 4.

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# 1 Introduction

## 1.1 Introduction

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria's water businesses for the period 1 July 2018 to 30 June 2023, referred to in this document as 'the next regulatory period' or fourth price submission period (RP4).

The businesses have submitted price submissions to the ESC for the RP4 period. The price submissions include forecasts of operating expenditure (opex), capital expenditure (capex) and demand, proposed service standards and prices.

## 1.2 PREMO framework

In RP4, the ESC is applying a new regulatory framework Performance, Risk, Engagement, Management and Outcomes (PREMO) for the first time. PREMO aims to put customer engagement at the centre of water corporation's proposals whereby service levels and expenditure must reflect outcomes that customers' value. The standard expectation here is that water corporations engage early and then re-test proposals in pricing submissions.

PREMO also provides a range of incentives on a number of levels to encourage businesses to:

- Reveal their efficient costs (and knowledge of efficiency opportunities), by rewarding businesses for both setting and achieving ambitious targets
- Avoid making ambit expenditure claims, as higher financial rewards are available for more ambitious proposals
- Prepare submissions of a high standard, to open the door for a fast-tracked regulatory process (and receive recognition for having done so).

The PREMO model incentivises businesses to self-select appropriate targets for operating parameters that make up the building block calculation. The ESC incentivises and rewards based on the relationship between the quality of the proposal and the return on equity – businesses have the flexibility to prepare their own combinations of service levels and expenditure, as long as these are fundamentally driven by delivering outcomes of value to customers.

The ESC's model also includes a fast-track process whereby the higher quality proposals are not subjected to a detailed review of expenditure (and other key items) but are instead fast-tracked to an early draft decision on price paths. In addition, of the businesses that were not fast-tracked, there is further differentiation on those businesses that only require a review on some elements of the proposal (e.g. specific items where expenditure is increasing) and those businesses that require a detailed review.

The expectations of water business proposals are further detailed in the ESC's guidance paper *2018 Water Price Review Guidance Paper November 2016 ('the Guidance Paper')*.

## 1.3 Scope of review

Deloitte has been engaged by the ESC to review the expenditure forecasts made by the metropolitan businesses and regional urban water businesses. In undertaking this review, Deloitte's key responsibilities are to:

- Assess the appropriateness of the expenditure forecasts in relation to the key objectives of the review
- Provide independent advice to the ESC regarding the appropriateness of the forecasts
- Where Deloitte's advice indicates that a proposed expenditure level is not appropriate, propose to the ESC a revised expenditure level.

In relation to opex, we have been asked to provide advice on whether the businesses are fulfilling their obligations and meeting customer service expectations as cost efficiently as possible and that forecast divergences can be readily explained. Although we have not been asked to review pricing outcomes,

which may be influenced by a number of factors in addition to expenditure, we have had regard to the factors outlined in the ESC's guidance for the level of PREMO rating that has been proposed by each business. Benchmarking has been mainly undertaken on the basis of changes from the baseline expenditure identified by businesses as prudent and efficient.

In reviewing capex, we have focussed on the major projects that comprise a significant proportion of the total capex.

## **1.4 Overview of approach**

### **1.4.1 Operating expenditure**

Our approach to assessing opex for each business can be summarised as follows:

1. Determine an appropriate baseline year (2016-17) by examining the actual expenditure incurred by water businesses in 2016-17 and considering: 1) how it compares to the benchmark established by the ESC in the 2013 price review and 2) removing any abnormal items (that are not already accounted for)
2. Benchmark the overall opex package against peers in particular opex changes from the baseline and opex per connection. This benchmarking has regard to the net effect of efficiency targets, growth rates and adjustments for new opex initiatives.
3. Identify any individual items that are resulting in an increase in forecast expenditure from the 2016-17 baseline and assess the prudence and efficiency of these items. Any proposed expenditure that is above the baseline needs to be fully explained and justified. The types of expenditure that could be considered reasonable in terms of being above the baseline include:
  - a. New obligations from regulators or government (such as changes to the Statement of Obligations, taxes, etc.)
  - b. Customer preferences – where customers are willing to pay more for improved outcomes
  - c. Significant increases in costs that cannot be managed by the business.In assessing prudence and efficiency for each business, we have also benchmarked individual expenditure items with other water businesses where possible.
4. Identify cuts consistent with prudent and efficient expenditure.

A more detailed explanation of our approach to opex is set out in Section 3.1.

### **1.4.2 Capital expenditure**

In forming a view as to whether capex meets the requirements in the WIRO, and consistent with advice in the ESC's Guidance Paper, we have had regard to the following questions:

1. Does proposed capex reflect obligations imposed by Government (including technical regulators) or customers' service expectations?
2. Are proposed new major capital works consistent with efficient long-term expenditure on infrastructure services?
3. Does the business have appropriate asset planning procedures?
4. Does the business have appropriate asset management systems in place?
5. Does the business have appropriate project management procedures in place to enable effective delivery of capital works?
6. Has a risk-based approach been adopted to develop the capex program? Is there clear evidence that projects are prioritised?
7. Are major projects consistent with long-term strategies and planning?
8. Is the timing for the proposed new capex reasonable?
9. Are individual project cost forecasts reasonable and do not include undue contingencies or provisions, and reflect current efficient rates for undertaking capex in the Victorian water sector?
10. Is the capex program deliverable in the timeframes proposed?

With respect to individual capex projects or programs, the ESC has requested that there be a focus on two items in particular – renewals expenditure and digital metering.



- **Renewals expenditure.** There are significant increases in renewals expenditure for some businesses (these businesses have also proposed a price rise). In some cases, this is linked to customer consultation, but for the most part this increase suggests that there are potential issues in asset management and planning. For these specific businesses, the focus of the expenditure review will be on decision making and decision-making tools.
- **Digital metering.** There are a number of proposals to roll out digital meters. Each proposal is reviewed in detail, particularly where businesses are undertaking full rollouts. Each business case should have a sound basis and have undertaken adequate pilots or trials (e.g. non-residential or new developments first) to better understand costs and benefits.

In arriving at recommendations for reductions for each individual business' capital program, we have had regard to the following:

- Comparison of overall historical capex with that proposed for RP4. Where proposed capex exceeds historical projections, justification for these increases should be provided, namely in a requirement to meet new or expanded obligations or customer requests/engagement which has resulted in new service standards.
- Review of four of the Top 10 project business cases to provide an overview of the business case and project development process. It is expected that the business cases should also link to customer outcomes and service levels to justify the decision-making process and selection of individual projects. Further, where individual projects are not able to demonstrate suitable business cases, reductions to those projects will be recommended.
- A review of particular capex programs where increases above historical expenditure is proposed. Where this is not based on meeting new obligations, customer expectations, or rectifying declining performance of assets (evidenced by increased events such as spills, bursts and leaks), renewals programs will be proposed to be reduced to historical levels. Further, benchmarking of renewals programs will be used to review underlying costs for these programs across the businesses.

## 1.5 Process for review

Our review of opex and capex has involved the following key steps.

- Initial planning and workshop with the ESC
- An initial review of price submissions, financial model templates and associated documentation
- Benchmarking of water business submissions in relation to overall opex and capex and individual expenditure items
- A further workshop with ESC staff to identify and discuss key issues for the focus of the review
- Preparation of queries/areas for discussion which was subsequently provided to each water business prior to site visits
- A site visit of each water business with the key objective to discuss queries and gather information as required. South Gippsland Water's site visit was undertaken on 28 November 2017
- Detailed review and analysis of supporting information provided
- A Draft Report prepared and provided to South Gippsland Water for comment.
- A Final Report (this report) provided to the ESC to inform the draft price determinations.

Through the process review, water businesses have been given a number of key opportunities to provide information to support their expenditure proposals. This included:

- Subsequent to final pricing submissions, and prior to our site visits, we wrote to each business identifying additional supporting information required
- During our site visits, businesses had the opportunity to present and provide information
- Following our site visits, there was the opportunity to provide further information on key aspects of expenditure
- All businesses were provided with draft versions of our reports and recommendations and provided with 10 business days to provide further supporting information.

## **1.6 Structure of this report**

This report describes our approach and sets out our findings from the review of South Gippsland Water’s price submission. It is structured as follows:

- Chapter 2 briefly summarises South Gippsland Water’s price submission with respect to expenditure forecasts and outlines key drivers of expenditure such as government obligations, service standards and demand forecasts
- Chapter 3 provides our analysis, conclusions and recommendations on key issues with respect to South Gippsland Water’s opex forecast
- Chapter 4 provides our analysis, conclusions and recommendations on key issues with respect to South Gippsland Water’s capex forecast.

Note that unless stated otherwise, all dollar figures shown in this report exclude the impact of inflation and are expressed in \$2017-18.

# 2 Summary of South Gippsland Water's forecast

This chapter provides a summary of South Gippsland's forecast expenditure including key underpinning assumptions such as efficiency, growth, service standards and demand.

## 2.1 PREMO rating

South Gippsland Water has rated its submission as 'Standard' under the ESC's PREMO framework.

## 2.2 Key drivers of expenditure

### 2.2.1 Community expectations and service standards

South Gippsland Water has around 20,000 customers and conducted a four phase approach to customer engagement in preparing its submission. South Gippsland Water indicated that customers indicated support for, amongst other things:

- Maintaining service standards
- Support for customers who are struggling to pay their accounts
- A reduction in greenhouse gas emissions
- Acceptance that water restrictions are inevitable in drought years
- Improved wastewater treatment plant and network capacity in Wonthaggi, Inverloch and Foster.

### 2.2.2 Demand for services

Demand for services is increasing. This is as a result of customer growth which South Gippsland Water has forecast to be 1.5 % per annum over RP4. Much growth is residential and associated with fast-growing coastal towns, such as Wonthaggi and Inverloch, with a relatively static customer base in areas including Leongatha and Korumburra. Some increase in major customer consumption is also forecast.

New capex is being proposed to meet increasing demand from customer growth in certain towns, however a key driver of proposed capex is the renewal of reticulation systems installed in the 1950s and 1960s.

### 2.2.3 New obligations

South Gippsland Water has noted that regulatory obligations have increased some operational costs in RP3 including improvements to inspection and preventative maintenance of lifting equipment, the need to reduce biosolids stockpiles, and added maintenance requirements for sewer sidelines. It has indicated that these costs will continue. For RP4 South Gippsland Water has indicated that EPA obligations to undertake ecological risk assessments of licensed discharges will increase costs.

### 2.2.4 Other drivers

In addition to the above, South Gippsland Water has identified increasing operational (both reactive and preventative) maintenance as a key driver of increased costs in RP4 (a total increase of \$3.15m). It has also identified a range of other items, including in relation to strategic asset management (\$0.8m), the net operating costs of the Lance Creek connection to the Melbourne system (\$0.63m), and increased biosolids costs (\$0.8m).

## 2.3 Operating expenditure

### 2.3.1 Overview

The key features of South Gippsland Water's opex forecast include:

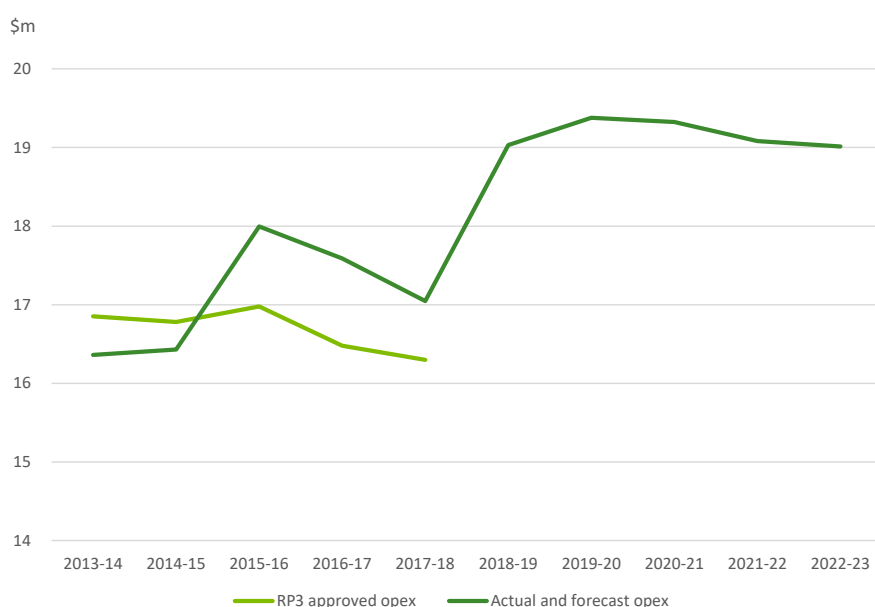
- Baseline controllable opex in 2016-17 of \$17.7m (before adjustments), which is higher than the 2013 forecast for 2016-17 (\$16.5m)
- A forecast average customer growth rate of 1.5% per annum

- A cost efficiency improvement rate of 1.5% per annum, which is in the mid-range of water businesses
- \$7.03m of additional expenditure above the baseline
- No change in controllable opex per connection over the RP4 period, after factoring in the additional expenditure.

### 2.3.2 Controllable opex forecast

The chart below shows South Gippsland Water’s total controllable opex across RP3 and RP4. South Gippsland Water’s opex was below the benchmark for the first two years of RP3, but increased significantly in 2015-16. South Gippsland Water has identified wages increases, additional opex projects and third party IT costs as the key reason for this. Opex has remained higher than the benchmark in remaining years of RP3. Going forward opex is forecast to increase significantly in 2018-19 after a reduction in 2017-18.

Figure 2-1 Controllable opex – South Gippsland Water (\$2017-18)



## 2.4 Capital expenditure

### 2.4.1 Overview

South Gippsland Water has proposed gross capex of \$88.2m over RP4. The approved gross RP3 capex was \$74m and the actual capex for RP3 is expected to be \$85.7m. This higher level of actual gross expenditure in RP3 compared to the budgeted capex is largely due to the Lance Creek Water Connection Project.

### 2.4.2 Capex forecast

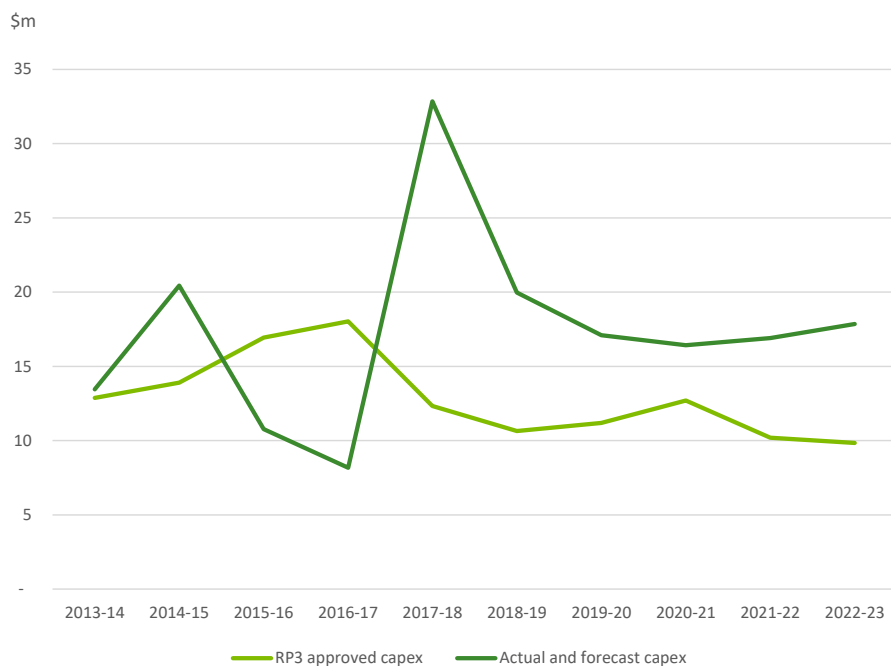
The key drivers of capital expenditure for RP4 are renewals and growth. The total renewal budget of \$51.9m represents 59% of the total capex budget. The notable major projects include

- Lance Creek Water Connection Project - \$7.06m
- Sewer System Expansion (Wonthaggi) - \$6.41m
- Sewer Main Renewal - \$9.43m

The South Gippsland Water RP3 capex program has a significant surge in 2017-18, coinciding with the completion of the Lance Creek project. The proposed capex budget over RP4 has a generally flat spending profile over 5 years.

South Gippsland Water is proposing to spend \$47.1m on water infrastructure which represents a 10% increase compared to RP3 water infrastructure investment. The proposed budget of \$41.1m for the sewer system is similar to actual sewer asset investment over RP3.

Figure 2-2 Capex forecast – South Gippsland Water (\$2017-18)



# 3 Assessment of opex

This chapter assesses South Gippsland Water’s forecast opex.

## 3.1 Overview of approach

With respect to opex forecasts, the ESC’s Guidance Paper outlines that a prudent and efficient opex forecast would have the following characteristics:

- Baseline year expenditure is reflective of efficient operating costs and is used as a basis to forecast expenditure
- Forecast opex incorporates expectations for a reasonable rate of improvement in cost efficiency
- Expenditure requirements above the baseline year (adjusted for growth and efficiency improvements) are fully explained and justified.

Under the approach adopted by the ESC, opex is disaggregated into four separate elements. The elements are:

- **Baseline expenditure** – operating expenditure incurred in 2016-17, adjusted upwards or downwards to reflect any specific factors that mean that expenditure 2016-17 is not representative.
- An adjustment for **customer growth** – the ESC generally considers that increases in opex in line with customer growth are reasonable. This is a conservative assumption, and arguably generous to the water businesses, as many costs of operating water and sewerage systems are fixed or would be expected to grow at a lower rate than customer growth.
- An **efficiency improvement factor** – reflecting general productivity improvements across the economy. Acknowledging that the customer growth allowance is generous, the ESC expects water businesses to achieve year-on-year productivity improvements. Businesses are free to propose their own individual improvements.
- **Cost increases** – for example those arising from new obligations imposed by regulators or government, major increases in costs which it is not reasonable to expect the business to absorb or manage within the ‘ebbs and flows’ of expenditure from year to year, or new initiatives that customers seek and are willing to pay for.

Our task is primarily to review both the baseline expenditure and the cost increases, and then to consider these in the context of the net impact of all the above factors. For example, we are more likely to consider an opex forecast to be reasonable for a business with a low efficiency improvement factor, but an intention to absorb additional expenditure items within its overall expenditure budget, rather than a business with a higher efficiency factor but cost increases for a large range of items that are not being required by regulators or sought by customers.

The concept of baseline expenditure is that it is the level of expenditure necessary to provide a defined level of service. Implicit is the assumption that the actual activities undertaken by a business from year to year to deliver services will change and there will be a number of once-off areas of expenditure in any one year that are not required every year. For example, a business may prepare a sewerage strategy in one year, prepare a water supply demand strategy in another, and do a number of once-off repairs in another year. That is, there will be a number of minor inclusions and exclusions from year to year associated with the normal ebb and flow of work requirements and changes in the industry and wider business environment. Given this, and the additional allowance provided for customer growth, it is therefore not the case that businesses should simply be able to recover increases in all opex line items. An efficient business would be expected to absorb many of these increases within their baseline and growth allowance.

The box below provides a hypothetical and simplified example of the above. Data is only shown for a single year, but the same principle applies across all five years of the RP4 period. Under the example

below, and all other things being equal, we would be more likely to recommend reductions to Business A’s expenditure, despite it having a nominally higher efficiency factor.

Figure 3-1 Example of adjustments to baseline expenditure in ESC template

	<b>Business A</b>	<b>Business B</b>
Customer growth (%)	2.0%	1.0%
Proposed efficiency factor (%)	3.0%	1.5%
Growth-efficiency factor (%)	-1.0%	-0.5%
Cost increases (\$m)	4	0.3

	<b>Business A (\$m)</b>	<b>Business B (\$m)</b>
2016-17 Expenditure	100.0	100.0
2016-17 Adjustments	1.0	-2.0
Baseline expenditure	101.0	98.0
Growth-efficiency adjustment	-1.0	-0.5
Growth adjusted expenditure	100.0	97.5
Cost increases	4.0	0.3
Proposed expenditure	104.0	97.8
Change compared to baseline	3.0	-0.2

The tools and approaches we have applied to consider each of the elements and the overall proposed opex package include:

- Benchmarking – of both the level of costs, and changes in costs, against historic and peer expenditure
- Comparing business forecasts to independent forecasts of changes in key expenditure items (for example labour and energy)
- Reflecting government and regulator policies and requirements
- Considering information on current service levels, customer preferences and willingness to pay
- Reviewing individual items of expenditure on a case-by-case basis.

Generally, we note that from an opex perspective, cost pressures on water businesses at this time are weak. Many cost increases that were anticipated at the commencement of RP3 largely did not eventuate. Increases to energy costs aside, inflation is currently weak, wages growth across the economy is at historically low levels, and there are few if any material changes in regulatory obligations that will increase costs. Only a small number of businesses have major capital works that will materially increase operating costs.

While we have examined the costs proposed by each business on its merits, we do hold the view that the current environment provides a strong opportunity for businesses to tightly control their costs and achieve (growth-adjusted) efficiencies. There are a range of systemic opex issues that are material for all businesses. Regardless of whether there are cost increases for these items, they have been reviewed for each business:

- **Labour costs.** Given labour costs are a significant component of opex, each businesses labour forecast has been reviewed, in particular how EBAs have been treated, Victorian Government wages policy, salary progressions, vacancy rates and other expectations from the government.
- **Energy costs.** Energy costs are expected to increase for all businesses particularly in the first year or two of RP4, however the magnitude of the increase is presently uncertain. Given this inherent uncertainty, our review provides indicative adjustments only. Final adjustments will be made by the ESC between its draft and final reports based on actual contract quotes.
- **Emission reduction programs.** Businesses have been asked by the Victorian government to reduce emissions from energy use via various means and most have proposed to do so. We have reviewed these proposals and checked that reductions in energy use are accounted for (capex

and opex must be aligned), appropriate feed in tariffs are used, and any Government funding support (e.g. expanded VEET) is reflected.

- **Savings in RP3.** A number of businesses appear to have made temporary savings in RP3, but have not maintained them through the end of RP3, and are not forecasting to maintain them for RP4. We have identified where this is the case.

### 3.2 Errors and adjustments to the submitted template

Following identification of errors, South Gippsland Water resubmitted its excel template to the ESC multiple times. This resulted in an increase to its baseline opex as well as a range of other changes, with the resubmitted opex forecasts different from the original submission. The opex adjustments are outlined in Table 3-4. References to South Gippsland Water’s proposal in this report are to its resubmitted template.

The resubmitted template has made assessment of opex somewhat tricky, as it includes a negative opex item that is effectively a balancing item brought about by the need to reconcile total opex sought with the new higher baseline. It means that the individual expenditure items sought above the baseline, will be too high.

### 3.3 Assessment of baseline expenditure

As outlined above, the first step in our approach to assessing baseline expenditure is to define efficient expenditure in the base year of 2016-17.

South Gippsland Water’s actual total controllable expenditure was \$17.70m in 2016-17. South Gippsland Water has made a net downward adjustment to its baseline of \$0.12m, resulting in a total controllable baseline expenditure of \$17.59m. This is due to senior employee recruitment expenses incurred in this year.

In its 2013 price review, the ESC set an opex benchmark of \$16.5m for 2016-17 (\$2017-18). South Gippsland Water’s baseline expenditure (before removal of recruitment costs) is approximately \$1.2m above this benchmark, which in percentage terms is the highest over-expenditure of any of the water businesses. Most water businesses’ expenditure in 2016-17 was well under the ESC benchmark.

While South Gippsland Water made savings in some areas, the main reasons for its above-benchmark expenditure were:

- Increased labour costs associated with new positions (approximately \$1m in 2016-17) and
- Higher opex project expenditure, including sewer side lines, Korumburra emergency water supply and preparation of its RP4 submission (in total \$860,000).

In relation to its baseline expenditure, we note that the new positions, sewer side line expenditure and Korumburra emergency water supply expenditure are expected to continue into the future. However, the WP4 expenditure will not. As a general rule, we have not made reductions to the baseline for other water businesses’ expenditure with regards to preparing their RP4 submission, however South Gippsland Water’s expenditure was around \$280,000 (\$190,000 in external costs, plus \$90,000 internal costs). This is around 1.5% of its total costs in 2016-17, and is high compared to other businesses. However, we do recognise that smaller businesses such as South Gippsland Water are more likely to need external assistance than larger businesses who have greater capacity internally.

South Gippsland Water has estimated total external expenditure for RP4 of \$500,000 across three years, or an average of \$100,000 per annum. Recognising that regulatory price submissions are only required every five years, and taking into account external expenditure incurred or forecast in other years, we consider it appropriate to include \$100,000 in the baseline to reflect these costs, but to remove \$180,000. This will provide South Gippsland Water with \$0.5m for external price submission costs across RP4, the same as in the current period. Had we retained \$280,000 in the baseline, this would effectively provide South Gippsland Water with \$1.4 million in price submission costs in RP4, which is not prudent and efficient.

This adjustment is outlined in Table 3-4.



### 3.4 Benchmarking opex to other water businesses

A key component of our methodology is to benchmark the opex outcomes of the water businesses. Figure 3-2 below compares the regional urban water businesses change in controllable opex per connection over RP4.

The figure below shows that South Gippsland Water (SGW in the chart) is forecasting opex changes that are above the average for regional businesses. Table 3-1 compares all of the Victorian water businesses and shows that South Gippsland Water is forecasting a change in opex per connection of zero, which is at the lower end of the industry.

Figure 3-2 Change in controllable opex per connection - index

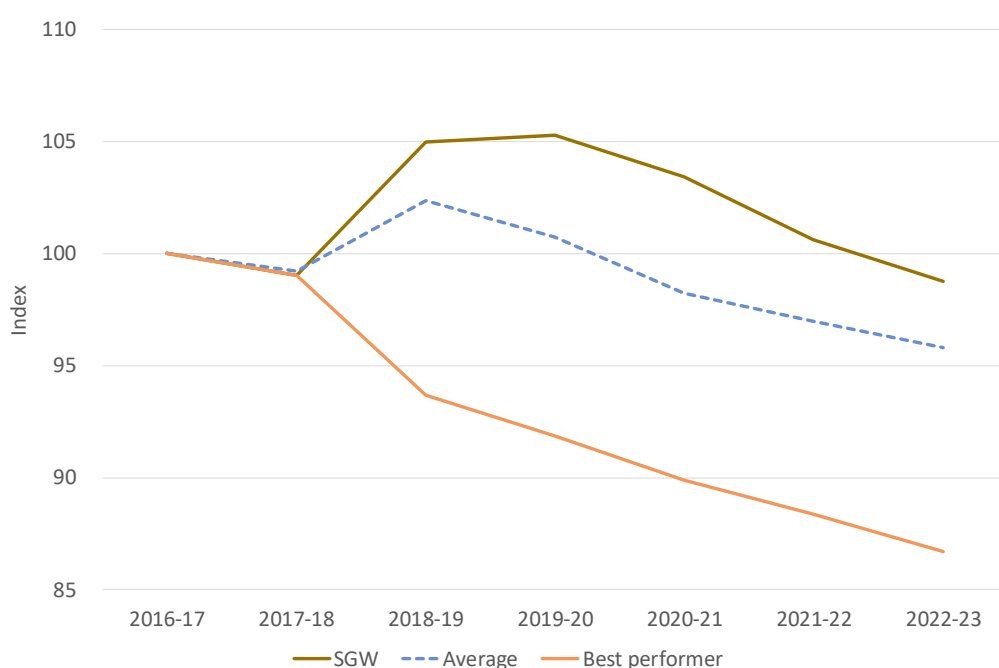


Table 3-1 Comparison of Victorian water businesses’ change in controllable opex

Water business	Efficiency target	Growth rate (% per annum)	Forecast variations to baseline	Change in controllable opex per connection
	(avg. % per annum)		(total RP4 \$m)	(avg. reduction % per annum)
Westernport	2.7%	1.9%	0.00	2.6%
Yarra Valley	2.5%	1.7%	8.61	2.2%
South East	2.3%	2.3%	9.58	1.8%
Goulburn Valley	3.1%	1.3%	10.12	1.5%
Barwon	2.3%	1.6%	22.67	1.3%
Lower Murray – urban	1.0%	1.1%	0.26	1.2%

Water business	Efficiency target	Growth rate (% per annum)	Forecast variations to baseline	Change in controllable opex per connection
	(avg. % per annum)		(total RP4 \$m)	(avg. reduction % per annum)
City West	2.0%	2.6%	20.66	1.1%
Coliban	1.5%	1.7%	8.55	1.0%
North East	1.2%	1.2%	6.24	0.9%
East Gippsland	1.2%	1.3%	1.91	0.9%
GWMWater – urban	1.5%	0.5%	8.73	0.8%
Central Highlands	1.6%	1.6%	12.71	0.6%
South Gippsland	1.5%	1.5%	7.03	0.0%
Gippsland	1.0%	1.2%	16.78	-0.2%
Wannon	1.0%	0.8%	25.41	-1.8%

Note: GVW forecast variations are adjusted for its \$2.3m p.a. efficiency dividend

In dollar terms, South Gippsland Water's total controllable opex per water connection was the highest of all businesses in 2016-17 (with the exception of Gippsland Water which has a small number of very large industrial customers, and whose per connection costs are well above those of other businesses). Based on South Gippsland Water's forecasts it will remain in the highest two or three businesses (again, excluding Gippsland Water) across the RP4 period.

South Gippsland Water provided us with a copy of a benchmarking report for 28 water businesses undertaken by Third Horizon in 2016. This benchmarking demonstrated a range of results, but overall South Gippsland Water appeared to be a relatively high cost provider in many areas, with examples being some corporate expenditure (such as fleet (per employee), compliance, strategy and regulation). At the same time, South Gippsland Water had low expenditure in some corporate areas – such as communications and IT costs (per employee).

As one of the smallest water businesses in Victoria (and one of the smallest in the Third Horizon study), and given its range of relatively dispersed supply systems, we would not expect South Gippsland Water to be the lowest cost business. However, the fact that South Gippsland Water is one of the top two highest cost businesses, its opex costs increased significantly over RP3 and it has forecast one of the lowest net efficiency savings per connection across WP4, suggest that South Gippsland Water's opex forecasts may not be prudent and efficient.

### 3.5 Individual opex items

South Gippsland Water has identified \$7.03m of forecast variations to baseline expenditure in total for RP4. In part due to the way that South Gippsland Water has corrected its template for errors identified in the original calculation of its baseline expenditure, the variations include a number of additional expenditure items which together total between \$1.5m and \$2.0m each year, as well as a negative 'balancing adjustment' of \$0.30m each year. The additional expenditure items (in aggregate across the five years of RP4) are:

- Labour – real wages growth - \$0.12m
- Electricity - \$0.23m
- Maintenance and reliability increases - \$3.15m
- Strategic asset management - \$0.66m
- IT costs - \$1.55m

- Lance Creek operating costs - \$0.63m
- Customer support programs - \$0.25m
- Secure water supply - \$0.33m
- Stakeholder collaboration and partnerships - \$0.33m
- Catchment management \$0.25m
- Biosolids management - \$0.8m
- Ecological risk assessments - \$0.25m

These items are explored further below.

### 3.5.1 Labour

South Gippsland Water’s labour costs account for half its opex costs. South Gippsland Water has forecast labour cost increases above the baseline of \$0.12m over RP4. This is a relatively modest increase and in part reflects an increase of 3.7 FTEs in 2017-18. A comparison of other businesses shows South Gippsland Water to be lowest of those businesses that proposed increases to labour.

Table 3-2 Comparison of labour forecast for RP4 of the Victorian water businesses

<b>Water business</b>	<b>Forecast variations to baseline operating expenditure (total RP4 \$m)</b>	<b>Total controllable opex (total RP4 \$m)</b>	<b>Labour variations as a % of total controllable opex</b>
Wannon	11.85	201.8	5.9%
Gippsland	10.59	364.2	2.9%
Goulburn Valley	5.90	220.2	2.7%
North East	3.62	196.6	1.8%
Barwon	7.90	453.3	1.7%
GWMWater	2.85	161.1	1.8%
Central Highlands	3.80	266.0	1.4%
East Gippsland	0.32	90.4	0.4%
South Gippsland	0.12	95.8	0.1%
City West	-	534.7	0.0%
South East	-	622.6	0.0%
Yarra Valley	-	674.4	0.0%
Coliban	-	301.3	0.0%
Westernport	-	66.5	0.0%
Lower Murray – urban	-0.37	103.2	-0.4%

South Gippsland Water’s FTEs increased broadly in line with customer growth in RP3 (including the increase in 2017-18), and are forecast to be unchanged across RP4. At the same time its labour costs per FTE and per connection are slightly above the average for the regional businesses.

Noting the modest wage increase and the flat FTE forecast in particular, we have not made any adjustments to South Gippsland Water’s labour cost forecasts.

### 3.5.2 Electricity and carbon neutrality program

South Gippsland Water has forecast expenditure for electricity to increase by a net amount of \$0.2m in RP4 compared to the 2016-17 baseline. This is made up of increases in the first three years of the period, followed by small decreases for the last two years.

Overall, this reflects an increase of 0.2% of total proposed controllable opex. The table below presents a comparison of South Gippsland’s forecast energy variations relative to the baseline to the other water businesses over RP4.

Table 3-3 Comparison of energy forecast for RP4 of the Victorian water businesses

Water business	Energy costs as a % of 2016-17 controllable opex (\$m)	Forecast variations to baseline operating expenditure (total RP4 \$m)	Total controllable opex (total RP4 \$m)	Energy variations as a % of total controllable opex
Wannon	7.6%	5.1	201.8	2.5%
Central Highlands	7.4%	5.5	266.0	2.1%
Coliban	6.6%	5.5	301.3	1.8%
Gippsland	4.7%	6.2	364.2	1.7%
Lower Murray – urban	8.3%	1.6	103.2	1.6%
Barwon	4.7%	5.0	453.3	1.1%
Goulburn Valley	9.6%	1.7	220.2	0.8%
North East	10.1%	1.3	196.6	0.7%
City West	1.5%	3.0	534.7	0.6%
GWMWater	7.9%	0.8	161.1	0.5%
South Gippsland	4.5%	0.2	95.8	0.2%
East Gippsland	5.1%	0.1	90.4	0.1%
South East	3.3%	-	622.6	0.0%
Yarra Valley	4.0%	-	674.4	0.0%
Westernport	4.2%	-	66.5	0.0%

There are two main elements that feed into South Gippsland Water’s proposed variation for electricity:

- Forecast increases in the price of electricity
- Reduction in electricity consumption from the installation of behind-the-meter solar PV capacity

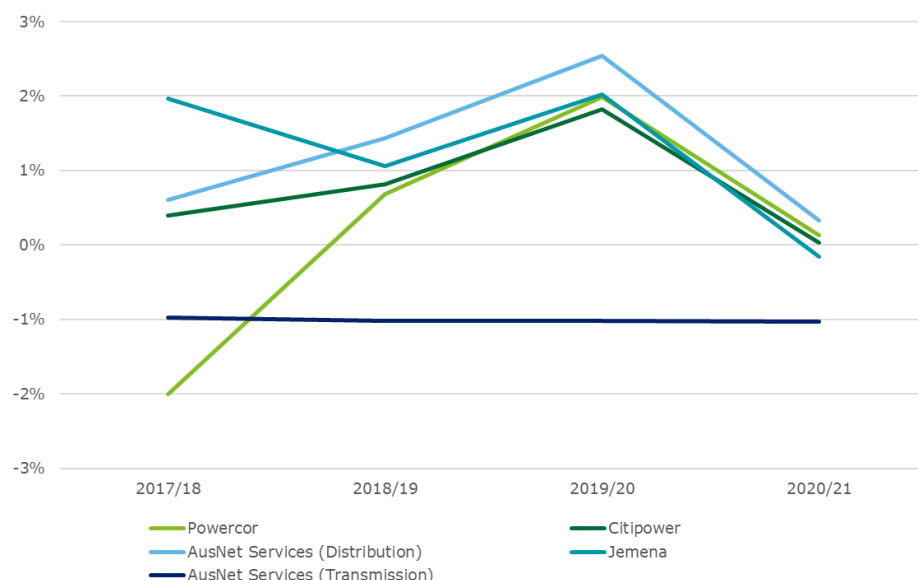
Some key aspects the electricity forecast are outlined below.

- South Gippsland Water’s current contract to purchase electricity expires on 30 June 2018. It forecasts electricity costs to increase due to higher wholesale electricity prices, and notes that current market rates are in excess of its existing contract. However, it is not specified how it has relied on different sources to form a view on forecast retail electricity prices, particularly in the later years of RP4.
- South Gippsland Water has stated that it intends to vary forecast electricity prices once contract prices are known.
- Electricity consumption and expenditure is forecast separately for each large and small site, and added together to provide total values.
- Behind-the-meter solar installations are planned at a number of sites (Lance Creek, Leongatha, Korumburra, Inverloch Waste Water Treatment Plant and Lohr Avenue Sewer Pump Station) with a total proposed capital cost of \$2.63m. These are forecast to save energy expenditure, and provide revenue through the sale of LGC’s from the larger installations.

Electricity prices in Victoria have risen significantly over the last year, driven largely by increases in wholesale electricity prices. There is considerable uncertainty around how prices will change over RP4, due to a range of factors including policy uncertainty, fuel prices including coal and natural gas, and the potential entry and exit of generation capacity. This makes it difficult to accurately forecast electricity prices for the purposes of the price submission.

In Victoria, transmission network services are provided by AusNet Services, and distribution network services are provided by one of the five distribution network service providers (DNSPs, AusNet Services, CitiPower, Powercor, Jemena and United Energy) in different parts of the state. Network prices are determined by the Australian Energy Regulator (AER). The AER made final decisions on revenue allowances for the five DNSPs in May 2016 for the 2016-20 period<sup>1</sup>, and made a final decision for AusNet Services (transmission) in April 2017 for the 2017-22 period. The annual change in smoothed revenue allowances for each of the network businesses is presented in Figure 3-3 below.

Figure 3-3 Annual change in expected revenue (smoothed, real \$2017/18)



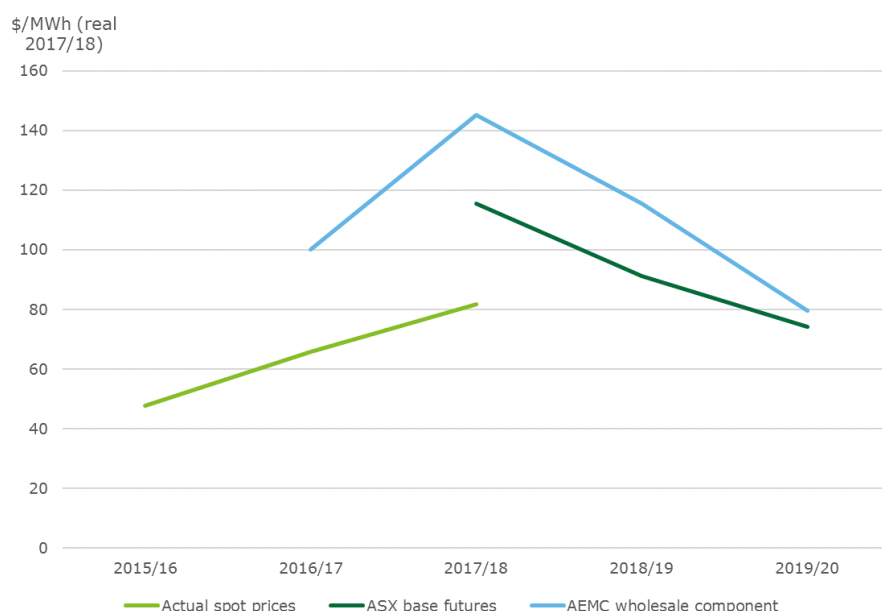
Source: Deloitte analysis of AER decisions

<sup>1</sup> The AER made a mathematical error in the inflation calculation in these decisions. It has proposed to revoke the decisions and substitute new determinations correcting the error by March 1 2018. We don’t expect this to have a material impact on electricity prices.

Overall, the revenue allowances for the network business is relatively flat, with small real increases for most of the DNSPs, and a small real decrease for AusNet Services Transmission. South Gippsland Water is in the AusNet Services distribution network, which has small real revenue increases from 2017/18 onwards (slightly greater than 1% average). The change in price for particular customer types may differ from this overall trend, however this does not provide strong evidence of real price increases in the network component of prices.

Wholesale prices are harder to forecast accurately, with a wide range of forecasts produced by different bodies over the past year. The Australian Energy Market Commission (AEMC) recently published a wholesale electricity price forecast (including spot prices, hedging, ancillary services and market fees) in its annual report on residential electricity price trends, based on analysis prepared by Frontier Economics.<sup>2</sup> It forecasts wholesale prices to peak in 2017-18, before decreasing, falling below the real 2016-17 price by 2019-20. This forecast movement in wholesale electricity prices is broadly in line with the price of Victorian ASX base energy futures which are approximately \$115 for the remainder of 2017-18, decreasing to \$74.2 by 2019-20. These values are presented in Figure 3-4, along with actual average spot prices up to December 31 2018.

Figure 3-4 Wholesale electricity prices and electricity futures in Victoria



Source: Deloitte analysis of: AEMO data collected through NEOExpress, AEMC 2017 Residential Electricity Price Trends data, and ASX energy futures data accessed 17/01/2018

However, some publicly available reports provide quite different outlooks from the AEMC report. A September 2017 report prepared for the Australian Energy Market Operator (AEMO) by Jacobs forecast wholesale market prices to continue to increase to a peak in 2019-20, with retail prices following a similar trajectory.<sup>3</sup> The divergence of views on wholesale costs reflects the overall uncertainty in the market, as well as quickly changing market conditions and expectations. In our analysis, we have placed more weight on the AEMC outlook as this is the more recent analysis.

In reviewing South Gippsland Water’s proposal, we have considered the evidence provided by South Gippsland Water and recent forecasts of network and wholesale price movements. We consider that South Gippsland’s proposed electricity expenditure variations for 2018-19 and 2019-20 (which reflect an effective price increase of approximately 25% on 2016-17 prices based on reported expenditure and consumption at existing sites) are reasonable. Our preliminary recommendation is that these be

<sup>2</sup> AEMC, 18 December 2017, *Final Report 2017 Residential Electricity Price Trends*

<sup>3</sup> Jacobs, 21 September 2017, *Retail electricity price history and projected trends*

approved, subject to updated contract offers before the final decision. We do not consider there is strong evidence to support a continued price increase beyond 2019-20, however South Gippsland Water has proposed to manage these costs regardless through its emissions reduction program, with a small net decrease (\$0.6m) from the baseline across the final three years of RP4. We consider this a reasonable outcome for customers. South Gippsland Water has also reported strong support from its community for investment in protecting the environment. Therefore, we recommend that this expenditure be approved. We note that the ESC intends to make a decision on allowable energy cost increases using updated contract offers post the finalisation of our reports. Therefore, our recommendations are indicative only.

### **3.5.1 Operational maintenance increases**

By far the largest above-baseline expenditure increase that South Gippsland Water has proposed relates to increases in operational maintenance. South Gippsland Water has stated that:

*In order to maintain service levels, increased operational maintenance is required to maintain new assets acquired in the current regulatory period, continue to repair breakdowns and increase preventative maintenance to maximise and/or extend assets beyond their useful life.*

South Gippsland Water has sought an average of \$630,000 per annum above baseline expenditure for:

- Expenditure associated with sewer sidelines
- Additional operation and maintenance expenditure associated with the Poowong, Loch and Nyora Sewerage Scheme, the Alberton Sewerage Scheme, Meeniyon Sewerage Scheme, and subdivisions for both water and sewer.

South Gippsland Water proposes to undertake projects including:

- Proactive sewer network inspection, cleaning and maintenance
- A targeted mechanical/electrical preventative maintenance program
- Using asset data to guide corrective maintenance and asset renewal
- Setting up panel maintenance contracts

Increases in breakdown maintenance, at around \$316,000 per annum (an increase of 75% over baseline spending) make up around half the increase. Preventative maintenance will increase by around \$350,000 per annum (140%). Corrective maintenance will increase by \$52,000 per annum (33%). Some maintenance items, for example tools and minor equipment and repairs and maintenance at facilities, have cost reductions compared to baseline.

South Gippsland Water engaged consultants Assetivity to evaluate the proposed planned maintenance program. The Assetivity report *Statutory and Regulatory Asset Requirements Definition*, dated November 2017, concluded that:

- *Proposed increases in preventative and corrective maintenance budgets align to customer outcomes, regulatory obligations or as a result of increasing the asset base*
- *Additional operational and maintenance budget is justifiable to ensure the corporation meets customer and regulatory requirements for the \$89m of gifted, handed over and new assets constructed during WP3. There have been inadequate adjustments during WP3 to cater for the operational and maintenance requirements for greenfield assets.*
- *Improvement processes which SGW are currently undertaking will help to:*
  - *Evaluate the performance of assets over time using Work Orders and adjust maintenance programs and associated budgets to meet ongoing requirements*
  - *Drive customer value in key areas with focus on preventative programs for key asset groups based on a formalised risk ranking process.*

*In summary, we believe that the additional budgets requested are considered justifiable and aligns to satisfying customer expectations and regulatory requirements based on the maintenance and operational process improvements currently being implemented or proposed.*

The Assetivity report makes the following points:

- South Gippsland Water’s December 2015 Maintenance Management Strategy Plan and its February 2017 Strategic Asset Management Plan highlighted the need for more preventative maintenance to reduce breakdowns and improve equipment reliability. At present, internal resources are used more for breakdown maintenance leaving little time to properly perform or implement the required preventative programs.
- Corrective maintenance seems low compared to breakdown maintenance, which is currently too high (up to 55% of the maintenance budget).
- There has been a historic underspend on asset renewals when compared to other providers.

While the Assetivity report clearly has value, we note its limitations including that:

- The introduction to the report notes that “The report cannot however comment on the validity of the amounts proposed”
- The report bases a large part of its analysis largely on the existence of ageing infrastructure and the addition of new assets, without reference in many cases to asset condition (although we note that this information may not be available at this time).
- The report justifies many of the projects on the basis that they are activities that need to be undertaken by a water authority to provide services. We do not dispute this however there is no detailed cost analysis or programs or projects, and in our view, the items identified appear to be ‘business as usual’ activities, and the approach to determining the adjustments is not closely aligned to the ESC’s guidance, which requires the baseline year to be adjusted by:
  - Removing any one-off or non-recurring expenditure items incurred in that year, or adding any normally occurring items that did not occur in that year
  - Removing any further ongoing cost savings or efficiency commitments that will be realised in the final year of RP3 (2017-18).

In examining South Gippsland Water’s forecasts we have reviewed South Gippsland Water’s customer performance data from the ESC’s 2015-16 *Water Performance Report*. Several of the network reliability and efficiency indicators provide a guide as to the condition of South Gippsland Water’s network and the need for additional preventative and corrective maintenance. This report demonstrates that South Gippsland Water:

- Is mid-range across the Victorian water industry for water supply interruptions per 100km mains (and steady)
- Has the third highest water supply customer interruption frequency (planned and unplanned). South Gippsland Water had the highest improvements in unplanned interruptions in 2015-16.
- Water main bursts and leaks are relatively steady at 41 per 100km of mains
- Has the longest duration of planned water supply interruptions of all businesses, but is mid-range for duration of unplanned interruptions
- Has the third highest water customer minutes off supply of all businesses, although this does not seem to be increasing
- Has the fifth highest, and increasing, number of sewer blockages.

The number of sewer blockages aside, the above data does not suggest an urgent need to increase preventative and corrective maintenance.

In response to a question about whether a reduction in breakdown maintenance could be expected if the increases in corrective and preventative maintenance proceed, South Gippsland Water indicated that this will occur in the long term, but not within the next five years. We consider this rather conservative.

On balance, we accept that historic preventative and corrective maintenance has been relatively low and that South Gippsland Water’s assets are ageing, in part due to relatively low renewals expenditure. Third Horizon data shows that South Gippsland Water has very low water maintenance costs per kilometre, mid-range costs per kilometre of wastewater pipeline, and low maintenance spend per mechanical and electrical asset.

However, we do not consider that South Gippsland Water has provided the objective evidence to support such a large increase in maintenance and hence we do not consider that the ESC’s requirements for expenditure to be considered a ‘new initiative’ have been satisfied. We note that:



- While South Gippsland Water’s customer service standards are not the best in the industry, with the exception of sewer blockages they are relatively stable
- There is limited available condition assessment data provided to support the increase
- Increased opex associated with new projects should be able to be catered for within the growth allowance.

We have approved half of the increase sought by South Gippsland Water to move preventative and corrective maintenance to mid-range levels. This adjustment is outlined in Table 3-4. This will allow a substantial increase in in cleaning, inspection and general maintenance, which should not only improve service standards, but provide an evidence base for required maintenance in RP5.

### **3.5.2 Strategic Asset Management**

South Gippsland Water has sought \$0.66m in additional opex to develop outdated hydraulic models and develop organisation processes around asset costing. \$0.25m has been sought for the development of long term wastewater strategies for Corner Inlet and Baxter’s Beach.

We note the rationale for the increased expenditure but consider that asset planning very much reflects normal ongoing activities for a water business. No new obligations have been imposed on South Gippsland Water and the size of the expenditure is not so high as it cannot be absorbed within the baseline. South Gippsland Water has developed a number of plans, strategies and undertaken reviews in the current regulatory period, and this expenditure will be reflected in the baseline.

We have therefore removed this expenditure from the forecast. This adjustment is outlined in Table 3-4.

### **3.5.3 Opex from Lance Creek upgrade**

South Gippsland Water’s template identifies an increase in opex of \$0.63m across RP4 which represents the net opex effect of the Lance Creek project. This change excludes a number of other cost changes including to labour, the fixed element of the bulk entitlement, and electricity cost changes, which are categorised elsewhere.

We have reviewed the changes to opex for this project and are satisfied that given the size and scope of the project, it is reasonable for them to be included as additions to baseline opex.

### **3.5.4 IT Costs**

South Gippsland Water has forecast a total of \$1.55m in opex above the baseline to account for increases in IT spending. This spending is to cover:

- A SCADA engineer and support officer. South Gippsland Water reviewed its SCADA systems in 2016 and an external consultant identified that upgrades were desirable in order to improve operational performance, reduce environmental risks and enable a proactive approach to asset management
- Increased data transfer costs
- Increased software costs
- Consultants
- Communications

In assessing these increases above the baseline, we note that many of the increases simply relate to improving internal business processes/efficiency – rather than a new obligation or directly linked to a customer outcome. We also note that the majority of other businesses have not included IT increases above the baseline. Given other businesses are facing similar IT cost pressures to South Gippsland Water, this suggests that these businesses are generally able to manage cost changes within existing budgets, through reallocation or reprioritisation of resources.

At the same time, while we have not examined its IT systems in any detail, we do note that historically South Gippsland Water’s IT spend has historically been low (particularly prior to 2015-16 and when considered on a per employee basis). This is confirmed by the Third Horizon benchmarking. Our observation is that South Gippsland Water’s IT systems and capabilities do appear to be low when compared to other businesses and we accept that some ‘catch-up’ expenditure is necessary.

We also consider that IT upgrades should assist South Gippsland Water to develop an evidence base for asset renewals and preventative and corrective maintenance in the future.

We have therefore not made any adjustments to South Gippsland Water's proposed increases in IT spending.

### **3.5.5 Customer support programs**

South Gippsland Water has forecast a total of \$0.25m in opex above the baseline for customer support programs. This program includes offering flexible payment options, debt elimination schemes, a dollar for dollar payback arrangement, hardship grants and water efficiency audits. South Gippsland Water indicated that its customer engagement demonstrated that there was support for delivering social obligations and contributing towards customer hardship programs.

This increase in expenditure is on top of a dedicated debt collection officer who was engaged during the current regulatory period.

In our view increasing opex to allow for direct financial assistance to customers, such as payment matching and debt waivers, is not consistent with prudent and efficient expenditure and does not provide appropriate incentives to the business. In requesting an ongoing and increasing level of expenditure (to be funded by the broader customer base) to cover the costs of non-payment of bills, South Gippsland Water is proposing to transfer the risk of non-payment to its customers. We also note that the ESC has historically not provided expenditure allowances to businesses for the purpose of providing direct financial assistance to customers.

We also note that some of this is not expenditure to be incurred by the business but rather represents a reduction in revenue collected.

We therefore recommend that a reduction to opex for RP4 to remove this item. This adjustment is outlined in Table 3-4

### **3.5.6 Other opex items**

South Gippsland Water has forecast costs above the baseline for various other opex items including:

- Stakeholder collaboration and partnerships - \$0.33m across RP4
- Catchment management - \$0.25m
- Secure water supply - \$0.33m
- Biosolids - \$0.80m
- Ecological risk assessments - \$0.25m

We have assessed each of these initiatives individually.

In respect of the proposed stakeholder collaboration and partnerships, catchment management and secure water supply elements of the forecast, we consider these to be ongoing activities which are not associated with new obligations. As with the strategic asset management category above, we do not consider that any additional expenditure is warranted over and above the expenditure on similar project and programs that will be reflected in the baseline.

In respect of biosolids, we accept there is increasing community and EPA pressure to reduce biosolids that have built up over time. While South Gippsland Water's baseline reflects expenditure to deal with biosolids as they are produced, it does not include expenditure to reduce existing stockpiles. While we note that a well-managed biosolids and sludge management strategy should not generally require additional expenditure above a growth-adjusted baseline, we note the views of South Gippsland Water that an increase in expenditure from historical levels is required to comply with EPA regulations. We also note that the size of this increase (\$0.8m) is relatively material for a small business such as South Gippsland Water. We have therefore not made any adjustments to the forecasts in respect of biosolids.

Finally, South Gippsland Water has sought \$50,000 per annum to prepare ecological risk assessments for its wastewater treatment plants. South Gippsland Water has argued this is required in order to meet EPA requirements set out in guidance to water businesses for the price review, seeking that businesses

provide evidence to demonstrate the impact that licensed discharges have on the environment. We note that several water businesses have absorbed these costs within their baseline, and discussions with the EPA reveal that this is not a new obligation and has been in place for the past two regulatory periods. Several businesses have had to undertake risk assessments in the current regulatory period and hence expenditure will be reflected in their baseline, although we understand this is not the case for South Gippsland Water. At the same time, we note that following approaches from the Gippsland businesses, the EPA is providing more detailed guidance as to its requirement on this topic. Advice from the EPA is that relatively simple risk assessments may cost in the order of \$10,000 to \$15,000, more complex ones in the order of \$50,000, and highly complex ones from \$80,000 to \$90,000. For the purposes of this review we have not made any adjustment to South Gippsland Water’s forecasts.

### 3.6 Other matters

In the 2013 review of South Gippsland Water’s expenditure, it was noted that South Gippsland Water’s fleet expenditure was high on a per employee basis. Although we understand some changes to fleet policy have been made (for example, less frequent vehicle replacement) this remains the case and although we have not made any adjustments to South Gippsland Water’s forecasts, we would encourage South Gippsland Water to review its fleet expenditure.

Similarly, we understand that South Gippsland Water’s depot and staffing arrangements still largely reflect its predecessor water businesses and we would recommend a review to ensure that they optimal. We note that South Gippsland Water’s average customer minutes off supply are high and more optimal depot locations and capabilities may enable an improvement in this area

### 3.7 Recommended changes to forecast opex

The table below summarises the changes to opex above baseline expenditure. We have recommended a reduction of \$3.38m to South Gippsland Water’s RP4 forecast controllable opex. In addition, we have made a \$0.9m adjustment to the baseline (over 5 years), resulting in a total opex reduction of \$4.28m.

Table 3-4 South Gippsland forecast controllable opex and recommended adjustments (\$m)

Opex item	Actual		Price submission forecast				Total
	Baseline 2016-17	2018-19	2019-20	2020-21	2021-22	2022-23 RP4	
Proposed controllable operating expenditure (\$m, original proposal)	17.35	19.14	19.49	19.43	19.19	19.12	<b>96.37</b>
Net Corrections to template	0.24	-0.11	-0.11	-0.11	-0.11	-0.11	-0.54
Proposed controllable operating expenditure (\$m, revised template)	<b>17.59</b>	<b>19.03</b>	<b>19.38</b>	<b>19.32</b>	<b>19.08</b>	<b>19.01</b>	<b>95.83</b>
<b>Other recommended adjustments</b>							
Baseline adjustment - external price review costs	-0.18	-0.18	-0.18	-0.18	-0.18	-0.18	-0.90
Maintenance		-0.29	-0.33	-0.30	-0.33	-0.32	-1.57
Customer support		-0.05	-0.05	-0.05	-0.05	-0.05	-0.25
Stakeholder collaboration & partnerships		-0.11	-0.11	-0.04	-0.04	-0.04	-0.33
Catchment management		-0.05	-0.05	-0.05	-0.05	-0.05	-0.25
Secure water supply		-0.05	-0.10	-0.10	-0.05	-0.05	-0.33
Strategic Asset Management		-0.08	-0.08	-0.33	-0.08	-0.08	-0.66

Opex item	Actual		Price submission forecast				Total RP4
	Baseline 2016-17	2018-19	2019-20	2020-21	2021-22	2022-23	
<b>Total recommended adjustments</b>		<b>-0.81</b>	<b>-0.90</b>	<b>-1.04</b>	<b>-0.77</b>	<b>-0.76</b>	<b>-4.28</b>
<b>Recommended opex</b>		<b>18.22</b>	<b>18.48</b>	<b>18.29</b>	<b>18.31</b>	<b>18.25</b>	<b>91.55</b>

Notes: Controllable opex excludes licence fees, environmental contribution and bulk water costs.

## 4 Assessment of capex

This chapter of the report sets out our assessment of South Gippsland Water’s capex proposal for RP4 including:

- Our approach to the assessment of capex
- An overall assessment of capital planning and asset management approach
- A summary of major projects with a significant impact on the capex proposal and assessment of each project
- A summary of our recommendations.

### 4.1 Our approach to the assessment of capex

Our approach to assessing capital expenditure is set out in Section 1.4.2., while this section provides some specific detail on the requirements of the ESC Guidance Paper. In relation to capital expenditure, the Guidance Paper includes the following instructions to businesses:

- Avoid including speculative capital expenditure. That is, where projects are not fully scoped, costed or internally approved (for example, though an approved business case) businesses should consider including only development costs, development costs with a notional allowance for construction, or not at all (relying instead on adjustments for uncertain and unforeseen events)
- Include only capital expenditure that that would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering service outcomes, taking into account a long-term planning horizon (**prudent and efficient forecast capital expenditure**). Prudent and efficient capital expenditure has the following characteristics:
  - is based on a P50 cost estimate
  - has an optimised contingency allowance
  - for renewals, is based on a reasonable rate of improvement in cost efficiency
  - has the risk of project delays and cost overruns managed through contractual arrangements
- Identify expenditure by major service category and by cost driver – renewals, growth and improvements/compliance – including current and forecast expenditure
- Identify expenditure by either major projects (top 10), capital programs (ongoing work) or other capital expenditure (smaller projects or programs)
- Provide supporting information for projects / programs including:
  - Project name, scope, and major service and asset category
  - Justification for project including cost driver
  - Start and completion dates (for projects)
  - Total capital cost itemising government and customer contributions by each year
  - Historical annual costs and explanations for increases / decreases in average annual expenditure (for programs)
  - Objectives of project as aligned with customer outcomes
  - Business case outlining options considered and approach to identifying optimal solution
  - Risk assessment approach
  - Incentive / penalty arrangements (for projects)
  - Tendering arrangement (for projects)
  - List of projects included in program for next regulatory period with business cases and options analyses (for programs)
- Justify the total forecast capital expenditure with reference to the characteristics of prudent expenditure identified above, taking into account forecast demand, benchmarking, and the substitution possibilities between capital expenditure and operating expenditure.

We have applied these specific requirements to our assessment of each business’s forecast capital expenditure.

## 4.2 Overall assessment of capital planning and asset management

South Gippsland Water has proposed capex of \$88.2m over RP4. The approved RP3 capex was \$73.8m, and the actual capex for RP3 is expected to be \$85.68m. This higher level of actual expenditure in RP3 compared to the budgeted capex is largely due to the Lance Creek Water Connection Project. The forecasted capex for this project was \$20.56m in the RP3 submission. The revised capex for the project is \$29.71m by the end of 2017-18. Increases in capex in RP4 compared to RP3 are largely due to the Top 10 major projects which represent almost 36% of total capex.

South Gippsland Water had five projects classified as major projects by the ESC for RP3. All five projects were implemented in RP3 with two projects completed on time and three projects completed late or are expected to be completed late.

South Gippsland Water, like many other water companies reviewed, has continued with the traditional approach of capital planning. The capital projects and programs were raised to support growth, maintain level of service (renewal) or meet compliance. The preferred options were identified via typical multi-criteria approach, considering financial, risks, environmental and community. We don't believe any of the projects or programs are developed as a direct result of customer consultation. However, we do recognise the proposed projects may ultimately meet customer needs.

The asset management practices may have opportunities for improvements. The water and sewer main renewal programs are still largely based on age and material. A significant increase in the renewals budget is proposed to manage the asset age profile. However, South Gippsland Water was not able to demonstrate that ageing assets are causing increases in service interruptions. The proposal to construct a new pipeline to provide additional capacity without assessing the capacity and condition of existing assets also raises questions of the asset management system and processes.

South Gippsland Water has recently completed a review of its strategic asset management system. Historically, condition assessments have been opportunistic, but they are now undertaken in areas based on past history, information captured from existing work orders and asset age. On average South Gippsland Water inspects approximately 1-2% of assets per year.

## 4.3 Major projects and programs

The following table provides an overview of the Top 10 projects and Top 10 programs, showing the primary driver and forecast expenditure over RP4. Note that these figures in the template are from South Gippsland's Water's most recent template; for a small number of projects numbers in the business cases are different.

Table 4.1 South Gippsland Water forecast capex

Capex item	Primary Driver	Price submission forecast expenditure (\$m)						
		2018-19	2019-20	2020-21	2021-22	2022-23	Total RP4	% of total
Lance Creek Water Connection Project (LCWC)	Growth	7.06	0.00	0.00	0.00	0.00	7.06	8.0%
Sewer System Expansion (Wonthaggi) Mains	Growth	0.87	1.15	2.01	1.43	0.94	6.41	7.3%
Leongatha Raw Water Transfer Main Renewal	Asset Renewal	0.00	0.20	1.30	3.49	0.00	4.99	5.7%

Capex item	Primary Driver	Price submission forecast expenditure (\$m)						
		2018-19	2019-20	2020-21	2021-22	2022-23	Total RP4	% of total
Sewer System Expansion (Inverloch) SPS	Growth	0.00	0.31	2.46	0.69	0.73	4.19	4.8%
Carbon Emission Reduction Upgrades	Compliance	0.05	1.60	0.45	0.40	0.13	2.63	3.0%
Wonthaggi WWTP Treated Effluent Rising Main	Growth	0.00	0.00	0.00	0.34	2.00	2.34	2.7%
Fish Creek Treated Water Distribution Main Renewal	Asset Renewal	0.05	0.05	0.10	1.01	1.01	2.22	2.5%
WTP Disinfection Upgrade Projects	Compliance	1.06	1.06	0.00	0.00	0.00	2.11	2.4%
Lawler Street Sewage Pump Station renewal	Asset Renewal	1.25	0.50	0.00	0.00	0.00	1.75	2.0%
Wonthaggi WWTP Inlet Pump Station Renewal	Asset Renewal	0.70	1.00	0.00	0.00	0.00	1.70	1.9%
<b>Subtotal - Top 10 Projects</b>							<b>35.40</b>	<b>40.1%</b>
Sewer Retic & Rising Mains	Asset Renewal	1.09	1.24	1.37	1.86	3.87	9.43	10.7%
Water Retic & Rising Mains	Asset Renewal	1.91	1.69	1.53	1.46	1.53	8.11	9.2%
Intangible	Growth	1.57	1.17	1.10	1.07	1.05	5.96	6.8%
Water Treatment	Asset Renewal	0.31	0.40	1.50	1.22	1.47	4.90	5.6%
WW Treatment	Asset Renewal	0.63	0.59	0.90	1.03	1.73	4.89	5.5%
Sewage PS and Outfall Pipelines & PS	Asset Renewal	0.35	0.92	0.57	0.67	1.33	3.84	4.4%
Storages	Asset Renewal	1.19	1.08	0.35	0.58	0.41	3.59	4.1%
Motor Vehicle	Asset Renewal	0.65	0.65	0.65	0.65	0.65	3.25	3.7%

Capex item	Primary Driver	Price submission forecast expenditure (\$m)						
		2018-19	2019-20	2020-21	2021-22	2022-23	Total RP4	% of total
Plant & Equipment	Asset Renewal	0.32	0.53	1.45	0.32	0.32	2.94	3.3%
Facilities	Asset Renewal	0.30	2.35	0.00	0.00	0.00	2.65	3.0%
<b>Subtotal - Top 10 Programs</b>							<b>49.55</b>	<b>56.2%</b>
Other Capex							3.28	3.7%
<b>Total</b>							<b>88.23</b>	

#### 4.4 Renewals expenditure

##### 4.4.1 Description of project

South Gippsland Water proposes to significantly increase the scope of water main renewal from 3km per year to approximately 6.2km per year (a total of 31km over RP4). Supporting information provided indicated less than 3km of water distribution and reticulation main renewal per year over RP3 (14.8km total). The justification for the water main renewal is largely based on pipe material and age. The long-term trend shows the water burst and leak rates are generally stable.

South Gippsland Water also proposes to significantly increase the scope of sewer main renewal from 2km per year to 7.5km per year. Supporting information indicates less than 0.9km of sewer main renewal per year over RP3 (4.4km total). The justification of sewer main renewal remains largely based on pipe material and age.

##### 4.4.2 Analysis

South Gippsland Water’s analysis shows that there is a significant backlog of water and sewer main renewal required. However, this appears to be based largely on the age of assets. Limited condition assessment appears to have been undertaken. At the same time, we note that the recorded sewer blockage data shows a clear trend of increasing blockages.

As discussed in Chapter 3, the ESC’s performance report shows that South Gippsland Water is in the middle of the pack for water supply interruptions per 100km. However, it is 14<sup>th</sup> in water supply reliability measured in average customer minutes off supply. South Gippsland Water has the fifth highest sewer blockages.

The proposed budget for RP4 water main renewal significantly higher than the RP3 water main renewal budget and scope. However, there is no clear evidence of an increase in leaks and bursts. The longer than typical “Average Customer Minutes off Supply” KPI could be improved by response time as the Water Supply Interruption per 100km KPI measure is mid-range compared to the rest of the Victorian water businesses.

The proposed RP4 Sewer Renewal budget is approximately 190% of the RP3 sewer main renewal. South Gippsland Water delivered 10km of sewer renewal over 5 years in RP3 with a unit rate of \$226/m. This is one of the lowest renewal unit rates achieved by water companies. The proposed sewer renewal scope and budget is estimated at an even lower unit rate of \$115/m. South Gippsland Water is proposing to achieve a large portion of the sewer renewal by sewer relining which is potentially more cost-effective.

##### 4.4.3 Recommendation

Based on the information provided to date by South Gippsland Water there is insufficient evidence to justify a large increase in water main renewals. It is, therefore, recommended that a reduction in water



main renewals capex to historical levels, with further justification required from South Gippsland Water as to the merit and organisational capability to meet the program proposed.

Our understanding is that proposed spending on water mains in RP4 is \$0.94m per annum, against an actual spend of \$0.5m per annum in RP3. We have therefore proposed a reduction of \$0.44m per annum to return expenditure to RP3 levels.

This adjustment is reflected in Table 4-1.

No change is proposed to the sewer renewal program, in view of the trend in blockages. However, as noted above, South Gippsland Water will need to significantly improve the cost efficiency of the sewer renewal to achieve the planned scope within the allocated budget.

## **4.5 Lance Creek Water Connection Project**

### **4.5.1 Description of project**

The project involves connection of the largest South Gippsland Water reservoir at Lance Creek to the towns of Korumburra, Poowong, Loch and Nyora. The Lance Creek reservoir has an existing connection to the Melbourne supply system, providing water security for these townships for the next 50 years. The project will result in the repurposing of two water treatment plants and the recommissioning of four water storages and provides the lowest whole of life cost method to provide a secure water supply to the regions northern townships.

### **4.5.2 Analysis**

The business case documented two options. The preferred option of the Lance Creek Water Connection Project was investigated and justified. The alternative option included upgrading the existing storage reservoir and water treatment plant, which was shown to cost more than the preferred option. In addition, the alternative option did not provide the security of supply that could be provided by connecting to the Melbourne system.

### **4.5.3 Recommendation**

The business case is robust, the expenditure forecast looks reasonable, and we note the project has received funding approval by the state government. We have therefore made no adjustments to the forecast.

## **4.6 Sewer System Expansion Wonthaggi**

### **4.6.1 Description of project**

South Gippsland Water is proposing to invest \$6.41m over the next five years to augment sewers in Wonthaggi to accommodate for growth and development, as well as improving the efficiency of the overall sewerage system.

The planned augmentation works are a continuation of work planned for the third regulatory period. The plans will accommodate forecast growth to the north and east of Wonthaggi with works staged to provide capacity supporting growth on a just-in-time basis. The works include expansion of critical sections of the sewer in the town, based on capacity and utilisation of existing assets, predicted growth rates and known areas with marginal capacity. The work will assist in avoiding future instances of sewer spills from maintenance structures (manholes) and spills that impact the customer.

### **4.6.2 Analysis**

The proposed Wonthaggi Sewer System Expansion project appears to be well documented and justified.

In 2017, South Gippsland Water updated the Wonthaggi sewerage system hydraulic model. The results of the recalibrated model confirmed the 2011 result and in most instances the updated model flows are higher than those predicted in 2011. The urgent need for works has been demonstrated by the number of spills that occur in the system.

Population growth is escalating in Wonthaggi particularly in the north. The areas of growth since the 2011 report are generally consistent with what has occurred, slightly exceeding the projected growth. The 2011 report predicted 70 lots pa, while actual growth in Wonthaggi from 2011 to 2016 was 84 lots pa and in 2017 within the first 5 months the actual growth was 80 lots.

### 4.6.3 Recommendation

The Wonthaggi Sewer System Expansion project appears to be necessary to maintain service standards and cater for growth, and no adjustments to forecast expenditure are recommended.

## 4.7 Leongatha Raw Water Transfer Main Renewal

### 4.7.1 Description of project

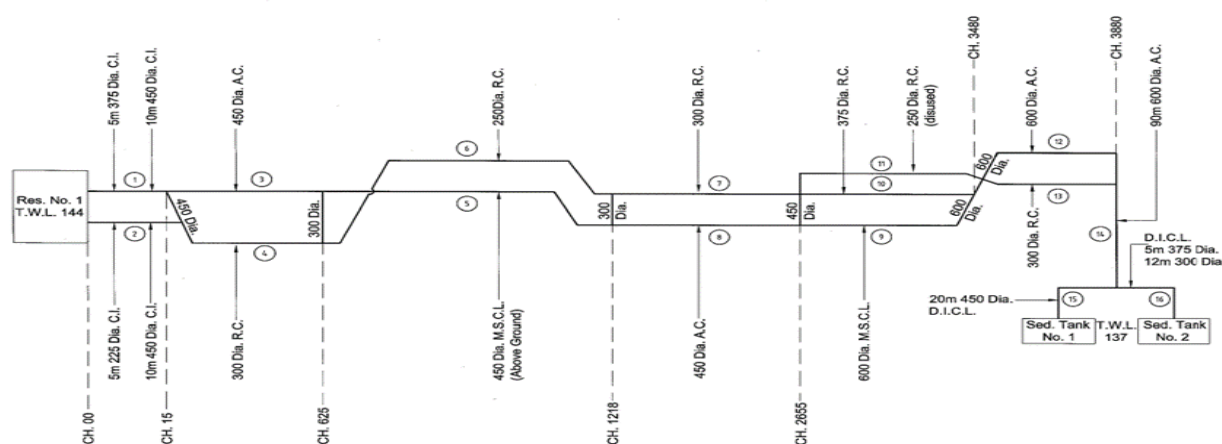
The sole source of water supply to Leongatha is via a raw water transfer main fed from four on-stream reservoirs on Ruby Creek to the Leongatha water treatment plant. Constructed in 1950, this concrete water transfer main has suffered a number of bursts and leaks in the last fifteen years. The asset is of critical regional significance as it provides water to the large Murray Goulburn dairy in Leongatha. The time available to complete any repairs on the main is limited as the treated water storages hold less than one day of supply for the town and dairy. The main has been subject to an increasing number of leaks and bursts in recent years.

South Gippsland Water proposes to invest \$4.99m over 5 years for the renewal and augmentation of this ageing pipeline to ensure long-term water supply reliability to customers and future population growth. This work is noted as being supportive of South Gippsland’s customer objectives regarding reliability.

### 4.7.2 Analysis

The preferred option is a 3.8km pipeline. The other two options identified are essentially the same option with smaller diameter pipes. We note that the smaller diameter pipeline options would not provide the same transfer capacity.

Figure 4-1 Raw Water Pipeline Schematics



Based on the schematic presented in the Hydraulic Capacity Assessment Report there is only 7m difference in the top water level of the source and discharge reservoir, which provides very limited gravity capacity over 4km. The project business case noted a WTP treatment capacity of 135L/s and future demand of 164L/s.

Based on the existing pipeline information documented in the business case, the existing 450/600 pipeline appears to have sufficient capacity to meet the demand of 164L/s. Hence the ageing RC pipeline can be abandoned without impacting transfer capacity. It is not clear if the 450/600 pipeline requires refurbishment. South Gippsland Water is recommended to investigate if there is any blockage in the pipeline if the desired flow rate can’t be achieved. Alternatively, a booster pump station is likely to be a more efficient option.

The proposed budget of \$4.99m for a 3.8km DN600 pipeline gives a unit rate of over \$1300/m. This is relatively high for a regional water business.

### **4.7.3 Recommendation**

The risk to supply security posed by the current supply arrangements is recognised, however, the current business case does not provide sufficient justification for the preferred option. South Gippsland Water should provide a more detailed examination of alternative supply options, including revision of the hydraulic capacity report (prepared in 2006), to provide sufficient justification that it is the most efficient approach.

It is recommended that \$0.5m of the \$4.99m is approved for South Gippsland Water to investigate the hydraulic capacity, potential blockage and alternative strategies for the Leongatha raw water supply. This adjustment is reflected in Table 4-1.

## **4.8 Sewer System Expansion and Renewal (Inverloch Sewer Pump Stations)**

### **4.8.1 Description of project**

South Gippsland Water proposes to invest \$4.19m in the expansion and renewal of sewer pump stations and emergency storages in Inverloch to ensure sufficient capacity for future growth and to maintain the reliability and functionality of aged assets in line with customer expectations. Inverloch is an important tourist destination in the region and is one of the faster-growing towns serviced by South Gippsland Water. The town is growing through a combination of in-fill development and new developments in an easterly direction. The sewerage system is broadly linear, transferring water from an east to west direction via a number of pump stations. These pump stations need to be augmented with larger pumps and storages to support the projected growth. South Gippsland Water has indicated that a number of the pump stations have components at or beyond their nominal end of life. South Gippsland Water has assigned a relatively high priority score to the investment in the Inverloch sewerage scheme to support the region's development and avoid spills near the town's high amenity value beaches.

### **4.8.2 Analysis**

The proposed pump stations upgrade is based on the Inverloch 50 Year Future Strategy prepared by Halcrow Pacific in 2011. South Gippsland Water is in the process of updating the Inverloch sewerage system hydraulic model based on current flows, up to date flow monitoring and up to date population figures.

The primary driver for the project is asset renewal. Additional information provided by South Gippsland Water demonstrated that the condition of the sewer pump stations in the Inverloch system desperately need to be renewed due to poor condition. Several assets of the pump stations have an Asset Condition Rating of 4 (poor). A number of the pump stations also fail to meet the 1 in 5 Year storm containment requirement.

### **4.8.3 Recommendation**

South Gippsland Water has demonstrated that the Inverloch Sewer Pump Stations need to be upgraded in the near future to maintain service standards and meet future growth load. Hence we have made no adjustments to the proposed budget for the Inverloch Sewer Pump Station.

## **4.9 Wonthaggi WWTP Treated Effluent Pumping**

### **4.9.1 Description of project**

A discussion of the augmentation of sewers in Wonthaggi to accommodate growth was provided above. To accommodate the growth and development of Wonthaggi, South Gippsland Water is also planning a staged program of upgrades to the wastewater treatment plant. The upgrades will include equipment renewal, treatment process and hydraulic capacity augmentation. Planned works have been staged to deliver capacity on a 'just-in-time' basis. A requirement has been identified by South Gippsland Water to augment the pumps and rising main that transfer treated effluent from the plant to the discharge location at Baxters Beach, approximately 3 km away.

### **4.9.2 Analysis**

South Gippsland Water provided the "Review of Long-Term Wastewater Strategy for Wonthaggi, Cape Paterson and Inverloch" report and the "Wonthaggi Outfall Pump Station and Rising Main Cost Estimate" report as supporting documents for the proposed Wonthaggi WWTP Treated Effluent Pumping project.

The document is a high-level strategy report for the three WWTPs, which also included the recommendation for upgrading the effluent rising main and pump station upgrade. The proposed augmentation of the treated effluent rising main is in response to the inflow rate into the plant exceeding the outflow capacity, which has led to the water level in treatment lagoons rising. Since 2013, there have been two previous incidents where this has led to lagoon overflow. This problem will be exacerbated in 2018-19 when South Gippsland Water increases the capacity of the inlet pump station and sewerage system to accommodate growth (and renew an aged asset).

We also note that there is a \$0.6m difference between the budget reported in the top 10 projects table (\$2.34m) and brief summary of the individual project (\$2.94m)

#### **4.9.3 Recommendation**

Based on the information provided by South Gippsland Water, the proposed Wonthaggi WWTP Treated Effluent Pumping Project is reasonably well justified. It is recommended that the proposed budget for this project is included for RP4.

### **4.10 Fish Creek Treated Water Distribution Main Renewal**

#### **4.10.1 Description of project**

In 2017, South Gippsland Water developed a 50-year water supply and demand strategy (the Urban Water Strategy). This identified that two of its systems could not supply the level of water security sought by customers. The Battery Creek system that supplies Fish Creek is one of these two at-risk systems. Rather than investing in augmentation of supplies, South Gippsland Water has determined that improved water security for the town can be achieved by reducing leakage from the treated water distribution main. The distribution main, along with some of the town's reticulation system, is at or beyond the end of the service life and is due for renewal regardless of the water security issue. By addressing the renewal need, South Gippsland Water believes that the existing water security issue can also be addressed and augmentation of the system deferred.

South Gippsland Water is planning to invest \$2.22m over the next five years on the renewal of the treated water distribution main.

#### **4.10.2 Analysis**

South Gippsland Water provided the Preliminary Business Case for the Fish Creek Treated Water Distribution Main Renewal.

The renewal of the Fish Creek Treated Water Distribution Main aims to limit the amount of water supply interruptions by replacing those mains that are near the end of their useful life. The current system incurs significant losses due to leakage and failure of ageing original AC pipes. The primary objective of the renewal is to reduce leakage and total demand of the system. South Gippsland Water is aiming to reduce leakage from 30% to 15% which will provide sufficient demand reduction to avoid upgrading the supply system to meet future demand. A total of 14 km of AC treated water distribution mains are identified for replacement with PVC or PE.

Typically, leakage reduction is achieved by leak detection to identify large leaks and pressure management to reduce minor leaks from joints. Pressure management may not be applicable in all situations. However, leak detection is likely to be beneficial in the first instance to provide significant leakage reduction given the nominated leakage rate of 30% which is relatively high. South Gippsland Water indicated that some leak location works had been completed in the past. It is not clear if the located leaks were repaired. Continuing the leak detection and repairing the detected leaks will likely provide the leakage reduction that South Gippsland Water intend to achieve (i.e. reduction from 30% to 15%). Partial water main renewal may still be necessary if the asset condition is generally poor.

#### **4.10.3 Recommendation**

We recognise that the primary objective of the project is providing long-term water security. The proposed water main renewal is a cheaper alternative, but not the cheapest, compared to increasing raw water supply by raising the Battery Creek Reservoir dam wall. South Gippsland Water has not demonstrated that the proposed water main renewal is the most efficient option to achieve the objective of reducing leakage from 30% to 15%.

It is recommended that an allowance is first provided for leak detection as a first step in reducing leakage in the Fish Creek system. On that basis, it is recommended that the \$200k budget proposed over the first three years is retained for investigations. However, we recommend that the \$2.02m proposed for Year 4 and Year 5 of RP4 is deferred pending the outcome of the leak detection investigations.

#### 4.11 Summary of recommendations

Recommendations for adjustments to South Gippsland Water’s capex forecast over RP4 are set out below. The following reductions to the capital program that South Gippsland Water has proposed are:

- Reduction of the water main renewal program to RP3 levels
- The proposed budgets for the following projects are removed or reduced from the RP4 forecast:
  - Leongatha Raw Water Pipeline
  - Fish Creek Treated Water Distribution Main Renewal.

Table 4-1 South Gippsland Water forecast capex (\$m)

Capex item		Price submission forecast					Total RP4
		2018-19	2019-20	2020-21	2021-22	2022-23	
Lance Creek Water Connection Project (LCWC)	Proposed	7.06	0.00	0.00	0.00	0.00	7.06
	Recommended	7.06	0.00	0.00	0.00	0.00	7.06
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Sewer System Expansion (Wonthaggi) Mains	Proposed	0.87	1.15	2.01	1.43	0.94	6.41
	Recommended	0.87	1.15	2.01	1.43	0.94	6.41
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Leongatha Raw Water Transfer Main Renewal	Proposed	0.00	0.20	1.30	3.49	0.00	4.99
	Recommended	0	0.2	0.3	0	0	0.50
	Net change	0.00	0.00	-1.00	-3.49	0.00	-4.49
Water Reticulation Renewal Allocation	Proposed	1.91	1.69	1.53	1.46	1.53	8.11
	Recommended	1.47	1.25	1.09	1.02	1.09	5.91
	Net change	-0.44	-0.44	-0.44	-0.44	-0.44	-2.20
Reticulation Sewer Replacement / Rehabilitation Allocation	Proposed	1.09	1.24	1.37	1.86	3.87	9.43
	Recommended	1.09	1.24	1.37	1.86	3.87	9.43
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Sewer System Expansion (Inverloch) SPS	Proposed	0	0.31	2.46	0.69	0.73	4.19
	Recommended	0	0.31	2.46	0.69	0.73	4.19
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Vehicle Replacement Renewal	Proposed	0.65	0.65	0.65	0.65	0.65	3.25
	Recommended	0.65	0.65	0.65	0.65	0.65	3.25
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

Capex item	Price submission forecast						Total RP4
	2018-19	2019-20	2020-21	2021-22	2022-23		
Water Treatment Plant Asset Renewal Allocation	Proposed	0.31	0.40	1.50	1.22	1.47	4.90
	Recommended	0.31	0.40	1.50	1.22	1.47	4.90
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Wonthaggi WWTP Treated Effluent Pumping	Proposed	0.00	0.00	0.00	0.34	2.00	2.34
	Recommended	0.00	0.00	0.00	0.34	2.00	2.34
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Fish Creek Treated Water Distribution Main Renewal	Proposed	0.05	0.05	0.1	1.01	1.01	2.22
	Recommended	0.05	0.05	0.1	0	0	0.20
	Net change	0.00	0.00	0.00	-1.01	-1.01	-2.02
Total proposed (Reviewed)	11.94	5.69	10.92	12.15	12.20	52.89	
Recommended capex (Reviewed)	11.50	5.25	9.48	7.21	10.75	44.18	
<b>Recommended adjustments from proposed</b>	<b>-0.44</b>	<b>-0.44</b>	<b>-1.44</b>	<b>-4.94</b>	<b>-1.45</b>	<b>-8.71</b>	
Total proposed	<b>19.96</b>	<b>17.09</b>	<b>16.42</b>	<b>16.91</b>	<b>17.85</b>	<b>88.23</b>	
<b>Recommended Capex</b>	<b>19.52</b>	<b>16.65</b>	<b>14.98</b>	<b>11.97</b>	<b>16.4</b>	<b>79.52</b>	

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