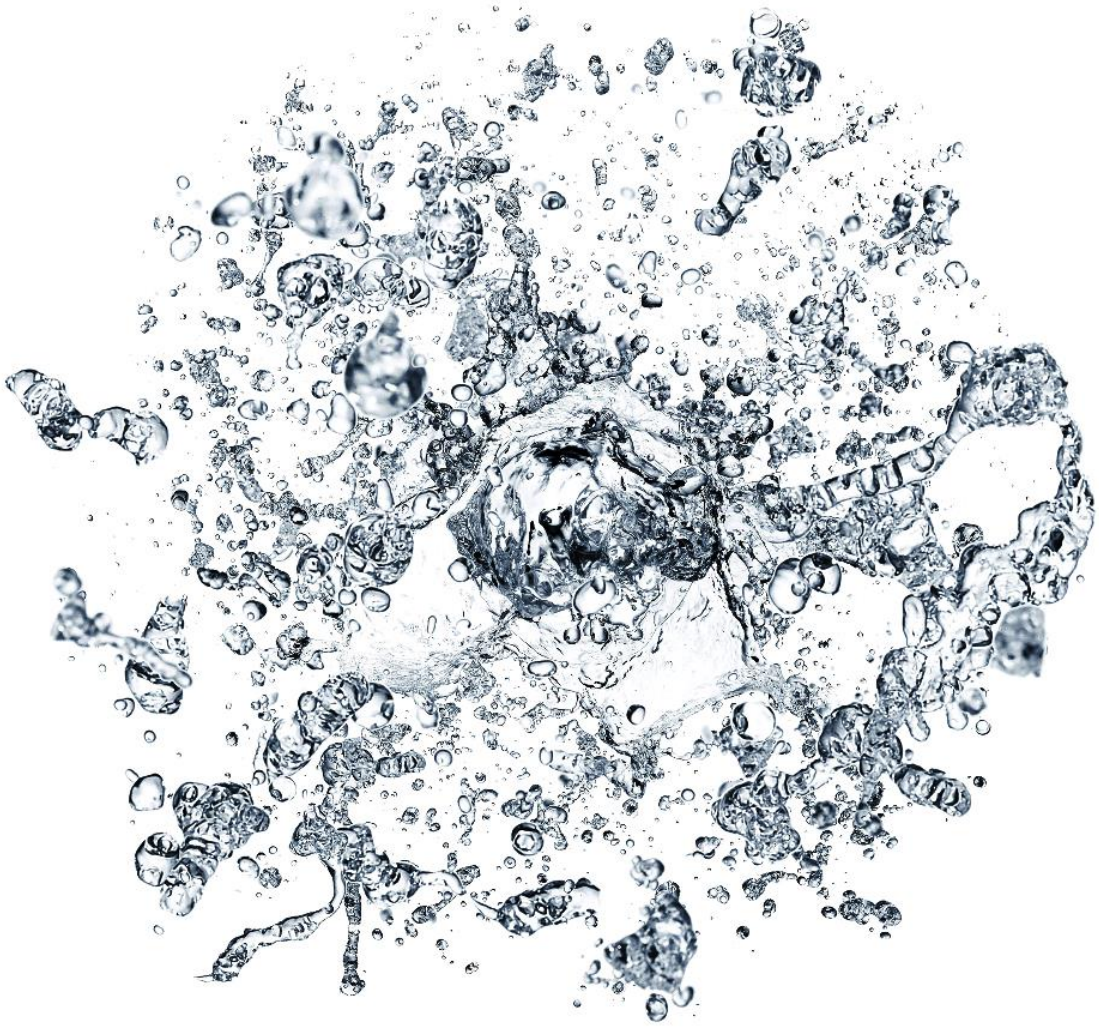
Deloitte.



Expenditure review – South Gippsland Water

Essential Services Commission

February 2020

Deloitte Access Economics

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Executive summary

About this report

The Essential Services Commission (ESC) is currently reviewing the proposed maximum prices to be charged by South Gippsland Water (SGW) for the three year period 1 July 2020 to 30 June 2023.

We (Deloitte Access Economics, assisted by Arup) have been engaged by the ESC to review SGW's operating and capital expenditure forecasts. In undertaking this review, our key responsibilities are to:

- assess the appropriateness of the expenditure forecasts in a manner consistent with the ESC's Guidance Paper for SGW's 2020 water price review[1]
- provide independent advice to the ESC regarding the appropriateness of the forecast expenditure
- where our advice indicates that a proposed expenditure level is not appropriate, propose to the ESC a revised expenditure level.

Operating expenditure

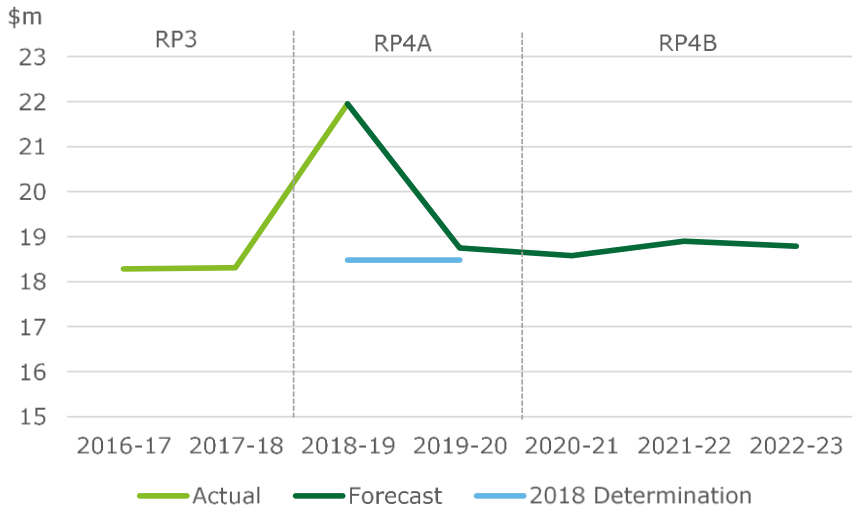
The key features of SGW's operating expenditure forecast include:

- baseline controllable operating expenditure in 2018-19 of $21.95m (before adjustments for decommissioning assets, biosolids underspend, Department of Land, Energy, Water and Planning (DELWP) funded initiatives and a wage inflation adjustment), which is higher than its 2018 price submission forecast for 2018-19 ($19.76m) and the 2018 price determination for 2018-19 ($18.48m)
- a forecast average customer growth rate of 1.6% per annum
- a cost efficiency improvement rate of 1.0% per annum
- a total of $0.71m in variations to baseline controllable expenditure over RP4B[2]
- a decline in controllable operating expenditure per connection over RP4B, after factoring in additional expenditure.

Chart i shows SGW's total controllable operating expenditure from 2016-17 to 2022-23. In 2018-19, SGW's actual operating expenditure was above the amount adopted by the ESC in 2018 (by $3.47m) but is forecast to reduce in 2019-20 and remain reasonably stable over RP4B. SGW has identified a one-off accounting provision (of $2.99m) for the future decommissioning of assets associated with the completion of the water security pipeline from Lance Creek to Korumburra and Poowong as the key reason for this increase in expenditure in 2018-19.[3,4]

[1] Essential Services Commission, *South Gippsland Water's 2020 water price review: Guidance paper* (December 2018).
[2] RP4B refers to is the 'fourth regulatory period B'. That is, the three year period 1 July 2020 to 30 June 2023.
[3] SGW, *Price submission 2020-2023* (15 November 2019).
[4] ESC, *South Gippsland Water 2018 water price review: Final decision* (19 June 2018).

Chart i: Controllable operating expenditure – SGW ($2019-20)



Source: Actual and forecast based on 2020 Price Submission, 2018 determination based on the ESC's Final Decision for South Gippsland Water 2018 Water Price Review (June 2018).

In general, we are satisfied with SGW's operating expenditure forecast, and indeed there are a number of areas where it appears that SGW's forecasts may be challenging to attain. We recommend a reduction of **$0.35m** to SGW's RP4B forecast controllable operating expenditure. The reductions in expenditure are for the urban water strategy, electricity network tariffs and operating costs for vehicles. The reasons for these recommendations are outlined in Chapter 3.

Table i: Summary of our recommendations

Controllable operating expenditure item	**Actual**	**Price submission forecast**			**Total**
	Baseline 2018-19	**2020-21**	**2021-22**	**2022-23**	**RP4B**
Proposed controllable operating expenditure ($m, original proposal)	21.95	18.58	18.90	18.79	56.27
Other recommended adjustments					
Urban water strategy consultancy		0.00	-0.06	0.00	-0.06
Vehicle operating expenditure		-0.06	-0.06	-0.06	-0.18
Electricity network tariffs			-0.05	-0.05	-0.11
Total recommended adjustments	**0.00**	**-0.06**	**-0.17**	**-0.12**	**-0.35**
Recommended controllable operating expenditure	**21.95**	**18.52**	**18.73**	**18.67**	**55.92**

Source: Deloitte Access Economics.

Capital expenditure

SGW has proposed capital expenditure of $40.99m over the RP4B period (or $73.30m over the RP4 period). This is $2.4m less than the indicative forecasts from the 2018 price review and $1.2m per year less than the long-term average. The actual capital expenditure for RP3 was $88.2m, which is was largely due to the Lance Creek Water Connection Project.[5]

[5] SGW, *2020 Price Review Model* (26 November 2019).

SGW has recently implemented changes to its capital planning and asset management approach, including:

- the introduction of a capital prioritisation process, which aims to enable the prioritisation and selection of projects and programs based on the best (least) cost to maintain or reduce risk
- a more robust condition, consequence and prioritisation process for renewals works. This includes the development of new asset management modelling of water and sewer mains including condition and consequence ratings for every asset, condition assessments of every treatment plant and pump station, and preparation of detailed Asset Class Plans.

This is a significant improvement from the last review and has enabled SGW to demonstrate prudent and efficient expenditure, particularly on renewals programs.

We are generally satisfied with SGW's proposed capital program and have only made minor adjustments, totalling $0.32m, as outlined in Chapter 4, and as follows:

- removal of escalation from the forecast capital expenditure for the Service Basin Liners and Cover project
- reduction in Vehicle Replacement Renewals costs by 11.5%.

Table ii: SGW forecast capital expenditure and recommended adjustments ($m)

Project/program Name		**2020-21 $m**	**2021-22 $m**	**2022-23 $m**	**Total $m**
Service Basin cover and liner replacements	Proposed	1.17	1.29	0.88	3.35
	Recommended	1.17	1.29	0.63	3.10
	Net Change	0.00	0.00	-0.25	-0.25
Vehicle Replacement Renewals	Proposed	0.17	0.30	0.17	0.63
	Recommended	0.15	0.27	0.15	0.56
	Net Change	-0.02	-0.03	-0.02	-0.07
Total proposed (Reviewed)		8.33	7.94	9.96	26.25
Recommended capital expenditure (Reviewed)		8.31	7.91	9.69	25.93
Recommended adjustments from proposed		**-0.02**	**-0.03**	**-0.27**	**-0.32**
Total proposed		13.46	13.02	14.52	41.00
Recommended capital expenditure		**13.44**	**12.99**	**14.25**	**40.68**

1 Introduction

1.1 Background

The Essential Services Commission (ESC) is currently reviewing the proposed maximum prices to be charged by South Gippsland Water (SGW) for the three year period 1 July 2020 to 30 June 2023. This period is referred to in this document as 'the next regulatory period' or the 'fourth regulatory period B' (RP4B). The ESC last approved SGW's maximum charges in June 2018 for the two year period from 1 July 2018 to 30 June 2020 (referred to as the 'fourth regulatory period A' (RP4A)).

Most Victorian water businesses are currently in the fourth regulatory period (RP4), which runs over five years from 1 July 2018 to 30 June 2023. In 2018, the ESC decided to approve maximum charges for SGW for a two year period citing concerns about the quality of information and data SGW provided in its price submission and in response to information requests.[6]

In November 2019, SGW submitted its price submission to the ESC for RP4B. The price submission includes forecasts of operating expenditure, capital expenditure and demand, proposed service standards and prices.

1.2 Scope of review

We (Deloitte Access Economics and Arup) have been engaged by the ESC to review SGW's operating and capital expenditure forecasts. In undertaking this review, our key responsibilities are to:

- assess the appropriateness of the expenditure forecasts in a manner consistent with the ESC's Guidance Paper for SGW's 2020 water price review[7]
- provide independent advice to the ESC regarding the appropriateness of the forecast expenditure
- where our advice indicates that a proposed expenditure level is not appropriate, propose to the ESC a revised expenditure level.

[redacted]

1.3 Approach to review

The review process has involved the following key steps. Throughout the review process, SGW has been provided with opportunities to provide further information to support its expenditure proposal.

1. An initial review of price submissions, financial model templates and associated documentation, including benchmarking SGW's pricing submission to past determinations.
2. Initial planning and a workshop with ESC staff including identifying and discussing key issues for the focus of the review.

[6] ESC, *South Gippsland Water 2018 water price review: Final decision* (19 June 2018) 5-6.
[7] ESC, *South Gippsland Water 2020 water price review: Guidance paper* (December 2018).
[redacted]

3. Preparation of queries/areas for discussion, which was subsequently provided to SGW prior to a site visit.
4. A site visit to SGW's offices on 6 December 2019. Prior to the site visit, SGW was provided with an information request for further documentation and a list of questions for discussion. A further information request was sent following the site visit.
5. A detailed review and analysis of supporting information provided.
6. A workshop with ESC staff to discuss preliminary findings.
7. A Draft Report prepared and provided to SGW, with SGW asked to respond within 5 business days of receipt.

The methodology applied in assessing SGW's operating expenditure and capital expenditure is set out in sections 3.1 and 4.1, respectively.

1.4 Structure of this report

This report is structured as follows.

- **Chapter 2** briefly summarises SGW's price submission with respect to expenditure forecasts and outlines key expenditure drivers.
- **Chapter 3** provides analysis, conclusions and recommendations on key issues with respect to SGW's operating expenditure.
- **Chapter 4** provides analysis, conclusions and recommendations on key issues with respect to SGW's capital expenditure.

Unless stated otherwise, all dollar figures shown in this report exclude the impact of inflation and are expressed in $2019-20.

2 Summary of forecast expenditure

This Chapter provides a summary of SGW's forecast expenditure including key underpinning assumptions.

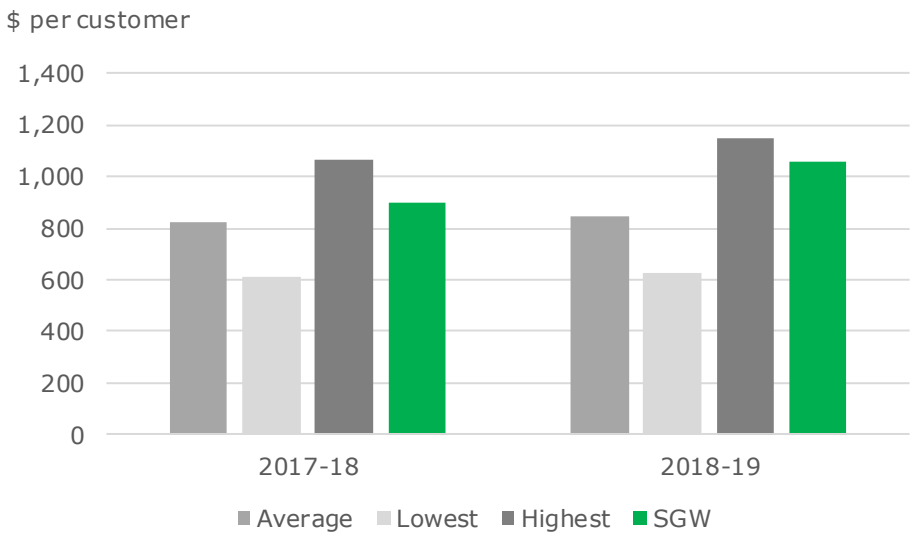
2.1 Key expenditure drivers

2.1.1 Demand and economies of scale

SGW has a relatively small customer base (20,692 customers in 2018-19) and has forecast a customer growth rate of 1.6% over RP4B. This forecast customer growth rate is similar to that proposed in RP4A (1.5%). The South Gippsland Region is slowly seeing increased housing development, particularly for retirement or family holiday homes.[9]

In 2017-18 and 2018-19, SGW's controllable operating expenditure per customer was higher than the average for regional water businesses (see Chart 2.1) and was the second highest across all businesses. It should be noted that SGW has two major customers (Burra Foods and Saputo) that accounted for approximately 24% of its water demand in these two years,[10] making comparisons to other businesses on a per customer basis difficult.

Chart 2.1: Controllable operating expenditure per water customer, regional water businesses ($2019-20)



Note: Deloitte Access Economics analysis based on water businesses' 2018-19 regulatory accounts supplied by the ESC. Average excludes City West Water, South East Water and Yarra Valley Water. Average includes South Gippsland Water. Note: SGW has two major customers (Burra Foods and Saputo) that accounted for approximately 24% of its water demand in these two years,[11] making comparisons to other businesses on a per customer basis difficult.

In 2018, SGW participated in the Water Services Association for Australia (WSAA) Operating Cost Benchmarking Study. The WSAA study ranks water businesses in various cost categories using a

[9] .id community, *South Gippsland Shire: population forecast* (accessed 10 January 2020) <https://forecast.id.com.au/south-gippsland/drivers-of-population-change>.
[10] SGW, *Price submission 2020-2023* (15 November 2019) 23.
[11] SGW, *Price submission 2020-2023* (15 November 2019) 23.

quartile system, where the first quartile indicates low costs compared to others. The review found SGW has significantly higher water treatment costs compared to the industry average[12] and perform relatively well in water network and information technology (IT) costs (see Table 2.1). However, the report suggested SGW could seek further improvement in retail costs, strategy and regulation, asset management and corporate governance.

By number of customers, SGW is among the smallest water businesses in Victoria second only to Westernport Water, and given its range of relatively dispersed supply systems, it is not expected that SGW would be in the lowest cost bracket of businesses. It is also worth noting that the WSAA report was undertaken on the basis of information available in 2017-18. There has been changes in SGW's expenditure profile since this time, particularly with chemical costs, therefore, it is important to recognise the historical nature of this benchmarking study in the context of this review.

Table 2.1: Top 10 controllable operating cost categories benchmarking results - SGW

Category	Normaliser	Quartile
Water treatment costs*	ML treated	4th
Wastewater network costs	Length of mains	2nd
Water network costs	Length of mains	1st
Retail	No. of connections	3rd
Information Technology	Full time equivalent (FTE)	1st
Strategy and regulation	No. of connections	3rd
Asset management	No. of connections	3rd
Human resources including OH&S	FTE	2nd
Corporate governance	FTE	3rd

Source: SGW, *Price submission 2020-2023* (15 November 2019) 28.

*SGW notes most plants are close to the trend for small systems. Lance Creek is an outlier with relatively high chemical costs due to poor quality raw water received via an open catchment.

[redacted]

[12] SGW has observed that this is primarily driven by the poor quality water across the South Gippsland region. [redacted]

[redacted]

[redacted]

2.1.2 Lance Creek Water Connection Project

In 2018-19, SGW completed the Lance Creek Water Connection Project, which involved installation of a pipeline from Lance Creek to Korumburra and Poowong. Through this project, SGW can utilise a Bulk Water Entitlement to access up to 1 gigalitre (GL) of water from Melbourne's supply system.

The Lance Creek Water Connection has had implications for SGW's operating expenditure profile including:

- one-off costs to decommission two redundant water treatment plants[16]
- a reduction in chemical costs through the decommissioning of water treatment plants and variations in source water quality[17] (although, SGW has also indicated that there is some uncertainty over chemical costs from this Connection[18])
- higher electricity costs associated with pumping water from Lance Creek to Korumburra, Poowong, Loch and Nyora[19]
- a reduction in labour costs associated with monitoring dam risk and water treatment plant activities.[20]

2.2 Operating expenditure

2.2.1 Overview

The key features of SGW's operating expenditure forecast include:

- baseline controllable operating expenditure in 2018-19 of $21.95m (before adjustments for decommissioning assets, biosolids underspend, DELWP funded initiatives and a wage inflation adjustment). This is higher than its 2018 price submission forecast for 2018-19 ($19.76m) and the 2018 price determination for 2018-19 ($18.48m)
- a forecast average customer growth rate of 1.6% per annum
- a cost efficiency improvement rate of 1.0% per annum
- a total of $0.71m in variations to baseline controllable expenditure over RP4B
- a decline in controllable operating expenditure per connection over RP4B, after factoring in additional expenditure.

2.2.2 Controllable operating expenditure forecast

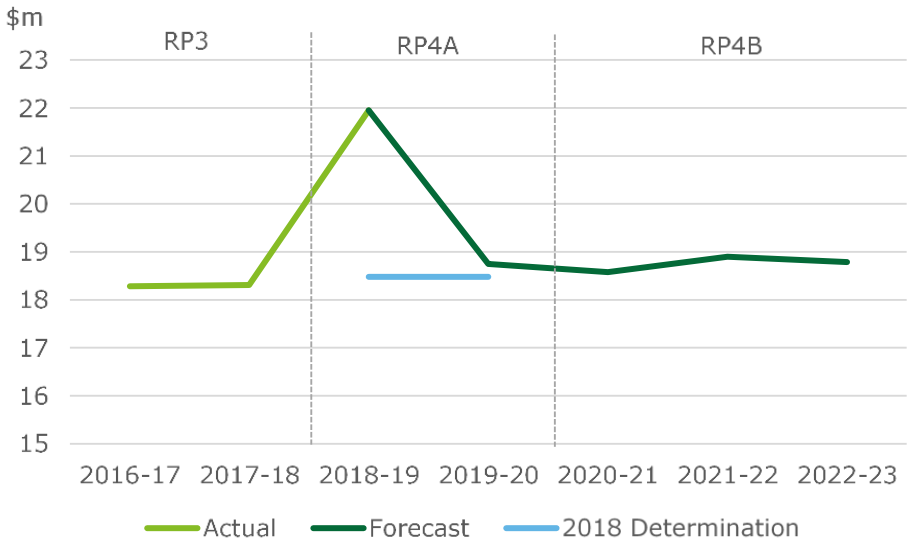
Chart 2.2 shows SGW's total controllable operating expenditure from 2016-17 to 2022-23. In 2018-19, SGW's actual controllable operating expenditure was above the amount adopted by the

[redacted]

[15] SGW response to Deloitte information request 10 December 2019.
[16] SGW, *Price submission 2020-2023* (15 November 2019) 26.
[17] SGW, Price submission 2020: *Operating cost baseline review* (2019).
[18] SGW response to Deloitte information request 10 December 2019.
[19] SGW, Price submission 2020: *Operating cost baseline review* (2019).
[20] SGW, Price submission 2020: *Operating cost baseline review* (2019).

ESC in 2018 (by $3.47m) but is forecast to reduce in 2019-20 and remain reasonably stable over RP4B. SGW has identified a one-off accounting provision (of $2.99m) for the future decommissioning of assets associated with the completion of the water security pipeline from Lance Creek to Korumburra and Poowong as the key reason for this increase in expenditure.[21,22]

Chart 2.2: Controllable operating expenditure – SGW ($2019-20)



Source: Actual and forecast based on SGW *2020 Price Review Model* (26 November 2019), 2018 determination based on the ESC's *South Gippsland Water 2018 water price review: Final decision* (19 June 2018).

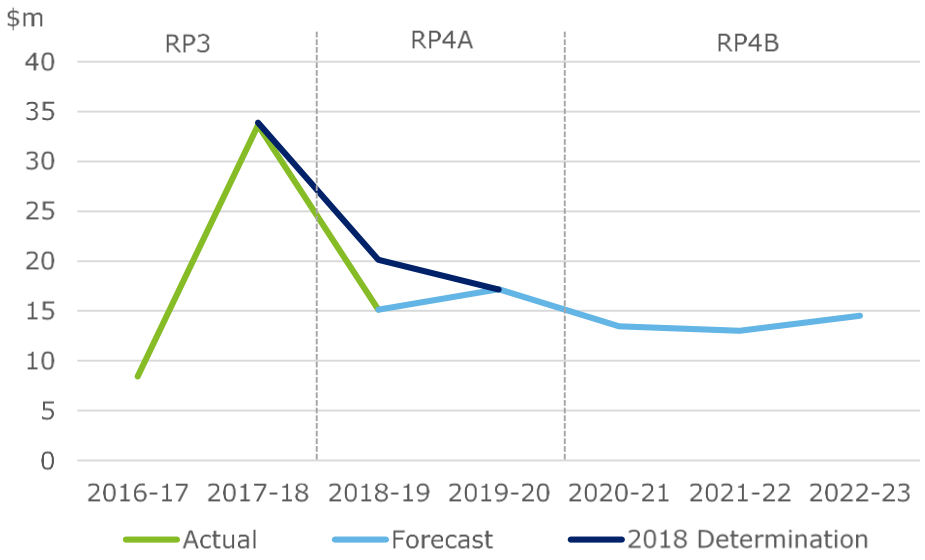
2.3 Capital expenditure

2.3.1 Overview

SGW has proposed gross capital expenditure of $40.99m over RP4B (or $73.30m over the RP4 period). As indicated by SGW, this is $2.4m less than the indicative forecasts from the 2018 price review and $1.2m per year less than the long-term average. The actual capital expenditure for RP3 was $88.2m, which was largely due to the Lance Creek Water Connection Project.[23]

[21] SGW, *Price submission 2020-2023* (15 November 2019).
[22] ESC, *South Gippsland Water 2018 water price review: Final decision* (19 June 2018).
[23] SGW, *2020 Price Review Model* (26 November 2019).

Chart 2.3: Prescribed capital expenditure – SGW ($2019-20)



Source: Actual and forecast based on SGW *2020 Price Review Model* (26 November 2019), 2018 determination based on the ESC's *South Gippsland Water 2018 water price review: Final decision* (19 June 2018).

2.3.2 Capital expenditure forecast

The key driver of capital expenditure for RP4B is renewals ($22.90m or 56% of total capital expenditure). Customer contributions represent $7.81m or 19% of total capital expenditure.

The majority of forecast capital expenditure is in programs ($22.45m, 55% of total capital expenditure) as compared to the top 10 projects ($16.57m, 40%). Three of the top 10 projects in the 2018 price submission remain in the proposed major projects in the RP4B price submission. SGW has reported that of the top 10 capital projects proposed in the 2018 price submission, seven are not included in the current submission as they are complete or due for completion in 2019-20.

The notable major projects include:

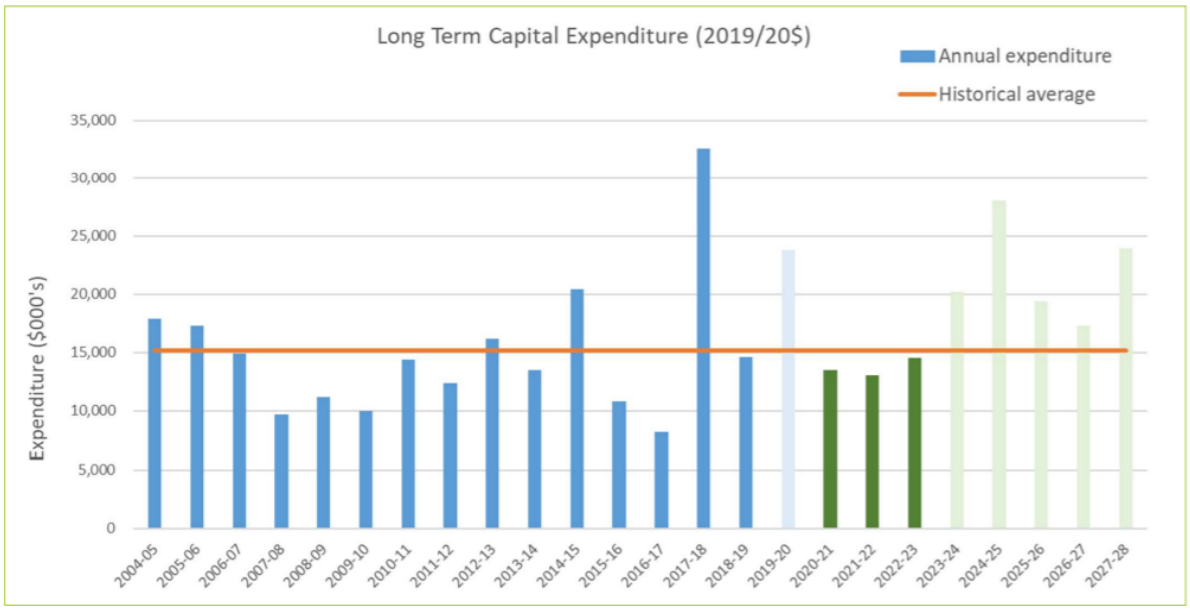
- Wonthaggi Sewer System Expansion ($4.53m)
- Inverloch Sewer System Expansion – Sewer Pump Station ($3.57m)
- Wonthaggi wastewater treatment plant (WWTP) augmentation ($3.38m)
- Service basin cover and liner replacements ($3.35m).

The business cases for each of these projects has been reviewed in line with the scope and approach outlined in Section 4.1.

The proposed capital expenditure budget for the remainder of RP4 (RP4B) is generally flat with an average spend of $13.7m per year.

SGW is proposing to spend $12.7m on water infrastructure which represents a significant decrease compared to RP3 water infrastructure investment. Conversely, more expenditure is proposed on sewerage with a forecast capital expenditure of $28.3m, which is largely in line with the average spend over RP3.

Chart 2.4: SGW historical and projected capex



Source: SGW, *Price submission 2020-2023* (15 November 2019).

3 Operating expenditure assessment

This Chapter provides analysis, conclusions and recommendations on key issues with respect to South Gippsland Water's (SGW's) operating expenditure.

3.1 Overview of approach

With respect to operating expenditure forecasts, the Essential Services Commission's (ESC's) Guidance Paper outlines that a prudent and efficient operating expenditure 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 operating expenditure 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, this includes how such expenditure is reflected in proposed customer outcomes and how they represent improved customer value.

Accordingly, operating expenditure is disaggregated into four separate elements.

1. **Baseline expenditure**, which refers to operating expenditure incurred in 2018-19, adjusted upwards or downwards to reflect any specific factors that mean that expenditure in 2018-19 is not representative.
2. An adjustment for **customer growth**. The ESC generally considers that increases in operating expenditure 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.
3. 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 able to propose their own individual improvements.
4. **Cost increases** such as those arising from new obligations imposed by regulators or government, major increases in costs that are 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 forecast 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 operating expenditure 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 one-off expenditures from year-to-year associated with the normal ebb and flow of work requirements and changes in the industry and wider business environment. For example, a business may prepare a sewerage strategy in one year, prepare a water supply demand strategy in another, or do a number of once-off repairs in another year. 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 operating expenditure line items. An efficient business would be expected to absorb many of these increases within its baseline and growth allowance.

Figure 3.1 provides a hypothetical and simplified example of the above. Data is only shown for a single year, but the same principle applies across all three years of RP4B. 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

	Business A	Business 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

	Business A ($m)	Business B ($m)
2018-19 Expenditure	100.0	100.0
2018-19 Adjustments	1.0	1.0
Baseline expenditure	101.0	101.0
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

Source: Deloitte Access Economics.

The tools and approaches we have applied to consider each of the elements and the overall proposed operating expenditure package includes:

- benchmarking against historic and peer expenditure
- comparing SGW's forecasts to independent forecasts of changes in key expenditure items (for example, energy)
- an assessment of the extent to which the expenditure reflects government and regulatory policies and requirements.

3.2 Baseline controllable operating expenditure (2018-19)

In the 2018 price review, the ESC encountered difficulties in establishing a baseline in controllable operating expenditure due to errors in SGW's financial model. Accordingly, the ESC's Guidance Paper for the current price review of SGW states its expectation that baseline operating expenditure is 'fully reconciled against actual costs and its audited regulatory accounts'.[24]

In 2018-19, SGW's actual total controllable operating expenditure was $21.95m. In its 2018 price review, the ESC set a controllable operating expenditure benchmark of $18.48m for 2018-19 ($2019-20). SGW's baseline expenditure (before adjustments) was approximately $3.47m above this benchmark, a 19% over-expenditure on controllable operating expenditure. This increase is primarily due to decommissioning costs, which accounted for 13.6% of controllable operating expenditure in 2018-19.

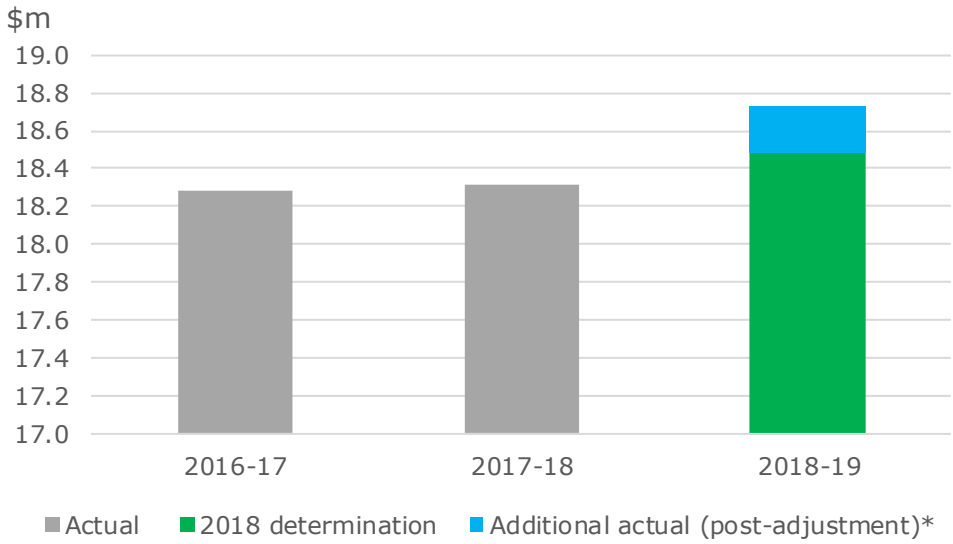
SGW has proposed a net downward adjustment to its baseline of $3.22m, resulting in a total controllable baseline expenditure of $18.73m – just $0.09m above that approved in the 2018 price review (see Chart 3.1).

After adjusting for decommissioning costs, controllable operating expenditure was around $400,000 higher in 2018-19 than 2017-18. While there were changes in most cost items, this

[24] ESC, *South Gippsland Water 2020 water price review: Guidance paper* (December 2018).

increase is generally consistent with costs associated with 4.5 extra staff that were added in 2018-19, as noted in section 3.5.3.

Chart 3.1: Comparison of adjusted baseline expenditure to actual expenditure and previous determinations, 2016-17 to 2018-19 ($2019-20)

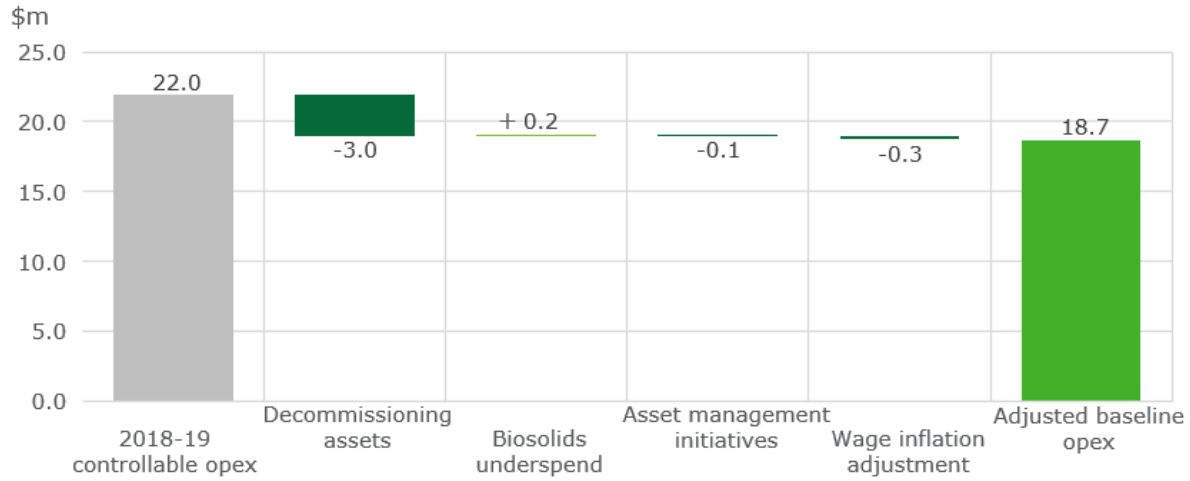


Source: Deloitte Access Economics analysis of data provided in SGW *2020 Price Review Model* (26 November 2019). Note 2018-19 actual expenditure is net of adjustments. *Post-adjustment means controllable actual operating expenditure after removal of downward adjustments.

SGW's proposed adjustments to the baseline are illustrated in Chart 3.2. The major adjustment being made to the baseline is for decommissioning costs of $2.99m associated with the Korumburra and Poowong water treatment plants. It is understood that there will be future decommissioning works but the timing is unknown and external consultation will be sought.[25] For this reason, SGW has decided to exclude forecast expenditure related to this in RP4B but is forecasting decommissioning costs of around $2.50m in early RP5.

[25] SGW, *Pricing submission 2020: Operating Cost Review* (2019).

Chart 3.2: Adjustments to baseline controllable operating expenditure, 2018-19 ($2019-20)



Source: Deloitte Access Economics analysis of data provided in SGW *2020 Price Review Model* (26 November 2019).

Of these adjustments, SGW is proposing only one additional expenditure item to the baseline (of $0.16m) to reflect an under-expenditure in 2018-19 associated with biosolids disposal. SGW has indicated that the expenditure is incurred to meet Environmental Protection Authority (EPA) requirements to reduce its biosolid stockpile over a 10 year period.[26] Expenditure associated with biosolids disposal was approved in the 2018 price review but SGW has reported that this did not occur in 2018-19 due to capacity constraints at the existing disposal facility, Gippsland Water's Soil and Organic Recycling Facility (SORF).[27] SGW expects this expenditure to resume in 2019-20.[28]

Consistent with the ESC's decision for the inclusion of this expenditure in the 2018 price decision,[29] and given that it is of a similar magnitude to that approved in 2018 ($0.16m per annum proposed for RP4B as compared to $0.21m per annum approved for RP4A), we are satisfied that the inclusion of biosolids expenditure, as additional to the baseline, is reasonable.

3.3 Cost efficiency improvement rate and growth rate

SGW has proposed a cost efficiency improvement rate of 1.0% per annum over RP4B. This is 0.5% lower than the proposed improvement rate over RP4A.

Further, SGW has forecast an average customer growth rate of 1.6% over RP4B. This similar to that proposed in RP4A (1.5%).

A comparison to other Victorian regional water businesses (in Table 3.1 – noting that the figures for all businesses except Western Water are from 2018) shows that SGW's proposed efficiency improvement rate is the lowest of Victorian regional water businesses, and it is proposing the fifth highest customer growth rate (out of 13 businesses). Accordingly, its growth-efficiency factor (the growth rate less the efficiency rate), is the second highest among all Victorian regional water businesses.

[26] SGW, *Price submission 2020-2023* (15 November 2019) 26.
[27] SGW, *Price submission 2020-2023* (15 November 2019) 26.
[28] SGW, *Price submission 2020: Operating cost baseline review* (2019).
[29] ESC, *South Gippsland Water 2018 water price review: Draft decision* (23 March 2018) 17.

Table 3.1: Efficiency factor and customer growth rate of Victorian regional water businesses, 2020-21 to 2022-23

Regional water business	Average efficiency improvement rate 2020-23	Average customer growth rate 2020-23	Growth-efficiency factor
South Gippsland Water	1.00%	1.64%	0.64%
Western Water	2.00%	4.80%	2.80%
Barwon	1.36%	1.62%	0.27%
Central Highlands	1.67%	1.67%	0.00%
Coliban	1.50%	1.70%	0.20%
East Gippsland	1.00%	1.24%	0.24%
Gippsland	1.03%	1.21%	0.18%
Goulburn Valley	3.10%	1.32%	-1.78%
GWM	1.50%	0.50%	-1.00%
Lower Murray urban	1.00%	1.03%	0.03%
North East	1.20%	1.24%	0.04%
Wannon	1.00%	0.81%	-0.19%
Westernport	1.94%	1.80%	-0.15%

Source: Deloitte Access Economics analysis based on water businesses' 2018 price submissions with exception to SGW and Western Water which are based on 2020 price submission models.

While SGW has proposed one of the highest growth-efficiency factors among Victorian regional water businesses, its baseline operating costs (after adjustments) have not increased significantly relative to approved expenditure for 2018-19 in the 2018 price review (section 3.2), and it is proposing very few forecast variations to baseline (see section 3.4). On this basis, we propose no adjustment to SGW's proposed efficiency improvement rate.

3.4 Forecast variations to baseline expenditure

SGW has proposed an overall reduction of $710,000 to forecast baseline expenditure over RP4B relative to the baseline (see Table 3.2).

Table 3.2: SGW's proposed variations to baseline expenditure, RP4B ($2019-20)

	RP4B			
Forecast adjustments to baseline expenditure	**2020-21**	**2021-22**	**2022-23**	**Total**
Electricity offset (behind-the-meter solar projects)	-0.20	-0.18	-0.18	**-0.57**
Urban water strategy consultancy	0.00	0.23	0.00	**0.23**
Electricity - contract rate reduction	-0.09	-0.14	-0.14	**-0.38**
Total	**-0.29**	**-0.09**	**-0.33**	**-0.71**

Source: SGW *2020 Price Review Model* (26 November 2019).

The reduction in forecast baseline expenditure is primarily driven by lower forecast electricity costs arising from solar projects and a forecast reduction in electricity tariffs. The assumptions underpinning SGW's proposed electricity expenditure are assessed in section 3.5.2.

The reduction in electricity costs is marginally offset by a proposed increase of $0.23m to prepare the Urban Water Strategy. SGW has indicated that this expenditure is to engage an external

consultant and is based on costs incurred to prepare the Urban Water Strategy in 2016-17, indexed to 2019-20 dollars.[30]

We consider that it is likely that past work on the strategy could be leveraged such that preparation of the updated Urban Water Strategy would not be as extensive. In response, SGW has indicated that there are some uncertainties relating to the scope of work due to a change in model (REALM to Source) and because Victorian Government guidelines are yet to be released. Therefore, SGW has argued that it is reasonable to assume the same level of expenditure.

We asked SGW whether it could jointly procure consultancy services with other water businesses. SGW indicated that this did not occur last time but acknowledged that it could be possible to so in the future.

In our view it is likely that prior work and data collected can be leveraged to manage costs associated with a change in model. Our recommendation is that expenditure for the Urban Water Strategy be reduced by 25% to $0.18m. SGW has indicated that it will look to obtain contract synergies through the Gippsland Regional Water Alliance.

It is noted that SGW has retained in its baseline expenditure other small consultancy expenditures it incurred in 2018-19 in relation to:[31]

- SGW's WHS culture review ($0.07m) – retained to allow for implementation of a five-year Workplace Health and Safety Improvement Plan
- the 2020 price submission ($0.09m) – [redacted] We also note that SGW will need to prepare a submission for RP5 during RP4B.

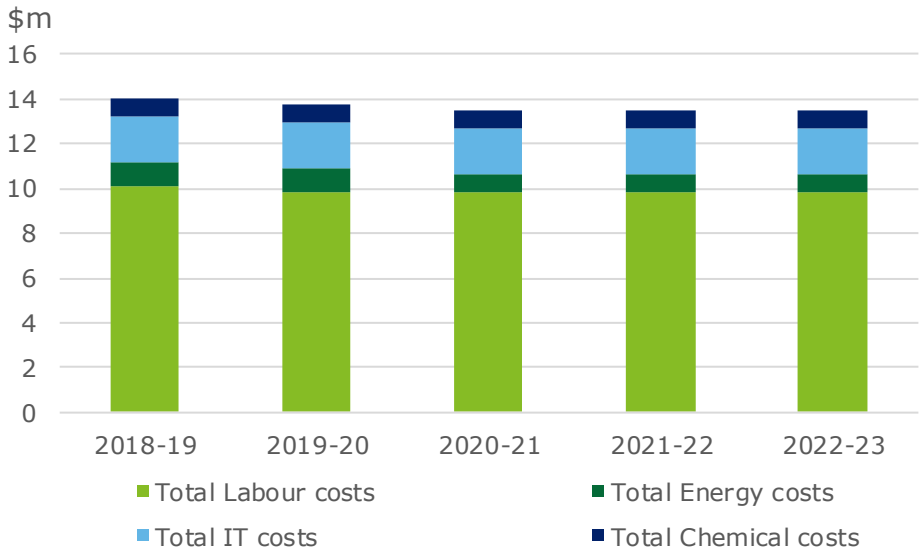
These expenditures appear to be reasonable to retain in the baseline, noting that their nature and relatively small size mean they are likely to form part of the normal 'swings and roundabouts' in operating expenditure.

3.5 Individual controllable operating expenditure items

SGW has proposed no significant increase to several major controllable operating expenditure items over RP4B, including: labour costs (which comprise 52% of total controllable operating expenditure over RP4B), energy costs (4%), chemical costs (5%) and Information Technology (IT) (11%) (see Chart 3.3). The assumptions underpinning SGW's proposed expenditure on each of these items is assessed in sections 3.5.2 to 3.5.5 below.

[30] SGW response to Deloitte Access Economics' information request (6 December 2019).
[31] Each of these expenditure items is assumed to be in 2018-19 dollars; SGW, *Operating Cost Baseline Review 2019* (2019).

Chart 3.3: Forecast key expenditure items – SGW ($2019-20)



Source: Deloitte Access Economics analysis based on SGW *2020 Price Review Model* (26 November 2019).

3.5.2 Energy costs

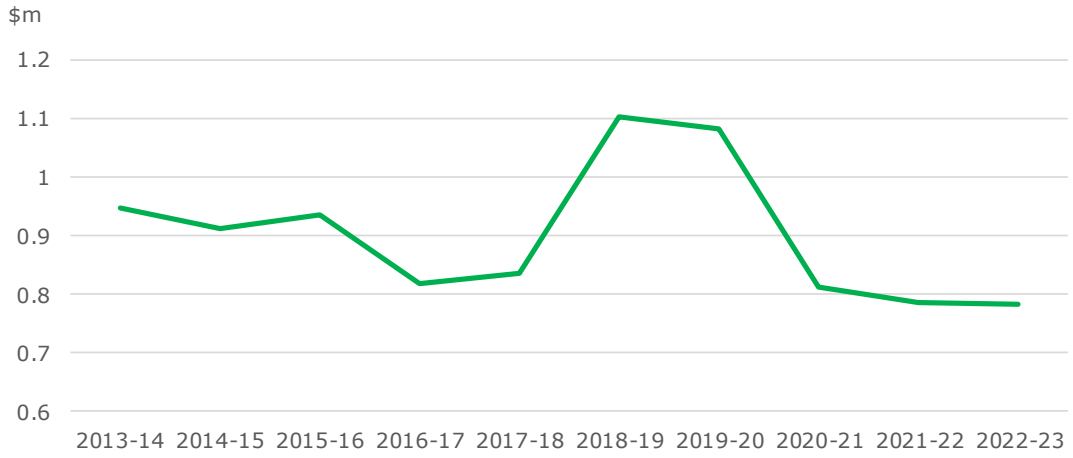
Over RP4B, SGW has forecast a total of $2.38m in energy expenditure, which accounts for 4.2% of total controllable operating expenditure.

In 2018-19, SGW's energy costs were $1.10m, accounting for 5% of controllable operating expenditure. SGW's actual electricity costs increased significantly in the baseline year, with a 32% increase in electricity expenditure in 2018-19 from 2017-18 (see Chart 3.4). SGW has indicated that this increase in electricity cost is associated with the Lance Creek pipeline, which required an increase in electricity for pumping, as well as higher electricity tariffs.[32]

Relative to the baseline, SGW is forecasting an overall decline in electricity operating expenditure over RP4B, despite increasing electricity consumption. SGW has indicated that this is driven by assumed unit-rate reductions in electricity prices and offsets in electricity consumption from the grid with behind-the-meter solar initiatives coming online in 2020-21.[33] SGW has forecast energy costs will decline to $0.78m by 2022-23.

[32] SGW, *Price submission 2020-2023* (15 November 2019) 26.
[33] SGW, *Price submission 2020-2023* (15 November 2019).

Chart 3.4: Energy expenditure – SGW ($2019-20)



Source: Deloitte Access Economics analysis based on SGW *2020 Price Review Model* (26 November 2019).

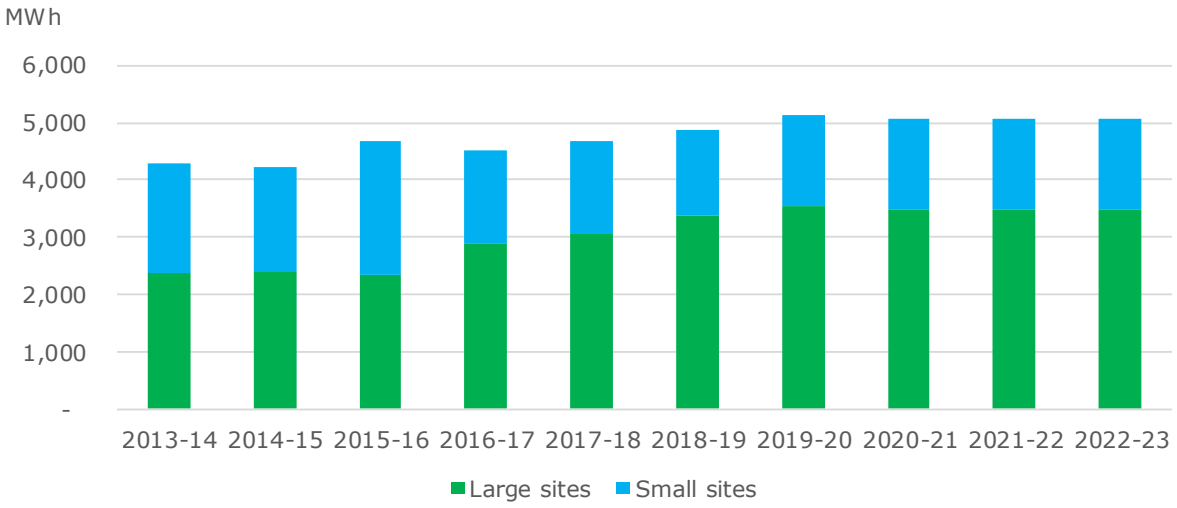
3.5.2.2 Energy consumption

In developing its forecast for RP4B, SGW has assumed an increase in total electricity consumption over RP4B from baseline, with no change forecast from 2019-20 levels. For large sites, total electricity consumption is similarly forecast to be constant over RP4B, and increasing from the baseline (see Chart 3.5).

Overall, SGW's actual energy consumption has increased since 2013-14. This is primarily driven by growth in energy consumption at large sites, particularly in 2016-17 and 2018-19. SGW forecasts that electricity consumption at large sites will peak in 2019-20 and then decline in 2020-21 due to the decommissioning of two sites, with consumption forecast to remain constant over the rest of RP4B.

At small sites, SGW's actual electricity consumption has declined since 2013-14. SGW forecasts a slight increase in energy consumption in 2019-20 and no change in electricity consumption from 2019-20 levels over RP4B.

Chart 3.5: Energy consumption, small and large sites – SGW ($2019-20)



Source: Deloitte Access Economics analysis based on SGW *2020 Price Review Model* (26 November 2019) for data up to 2017-18 and based on data provided by SGW in response to information request (11 December 2019) for data from 2018-19.

During RP4B, for large sites, SGW will use energy from two sources: the grid and behind-the-meter solar projects. SGW has four behind-the-meter solar projects at Inverloch, Lance Creek, Leongatha and Korumburra that will come online in 2020-21. These projects will offset SGW's demand for electricity from the grid. SGW has forecast that from these solar projects, SGW will consume 1,151MWh each year (33% of SGW's annual forecast electricity consumption from large sites) over RP4B. Through its behind-the-meter solar projects, SGW has assumed it will export a further 443 MWh of solar generation to the grid. SGW has included the monetary impact of its consumption of energy from these initiatives (rather than the grid) and earnings from exports to the grid in its overall electricity expenditure (see section 3.5.2.4).

3.5.2.3 Electricity prices

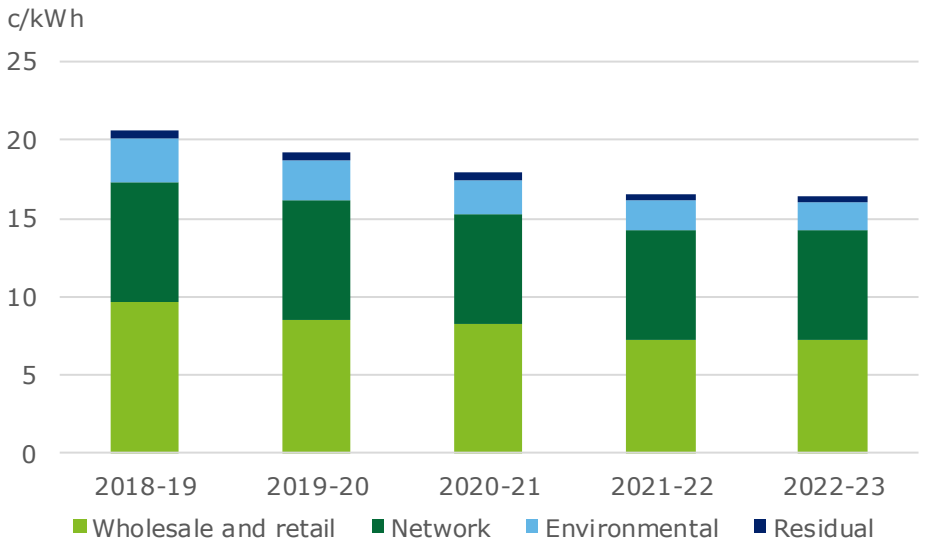
SGW has forecast electricity prices for its small sites and large sites, respectively.

For small sites, over RP4B, SGW's assumed electricity tariffs are based on 2018-19 actuals with no change in real terms.[34]

For large sites, over RP4B, SGW has forecast a decline from 2018-19 (see Chart 3.6). SGW's assumed electricity prices for large sites comprise four categories: wholesale and retail mark-up cost, network tariffs, environmental policy costs and other fees. The assumptions underpinning these costs are summarised in Table 3.3.

[34] SGW response to query (17 December 2019).

Chart 3.6: Electricity price forecast for large sites – breakdown by component ($2019-20)



Source: Deloitte Access Economics analysis based on data provided by SGW in response to information request (11 December 2019).

Table 3.3: SGW's cost assumptions for electricity tariffs for large sites

Cost category	Forecast over RP4B	Cost assumptions
Wholesale and retail mark-up cost	Forecast to decline over RP4B	• For 2020-21, based on SGW's contracted rates • For 2021-22, ASX energy futures (at $78.49/MWh peak and $55.62/MWh off-peak), with a retailer mark-up of 7% • For 2022-23, no change in real terms forecasted
Network tariffs	No change in real terms over RP4B	• Based on advice from SGW's advisors, Key Energy
Environmental policy costs	Forecast to decline over RP4B	• Environmental policy costs in 2020-21 are based on contracted rates • From 2021-22, SGW has suggested that forecasts are estimated based on available market information, based on SGW's advisors, Key Energy
Other (AEMO market fees and metering) costs	Forecast to decline in 2020-21 and increase in following years.	• No change in real terms in AEMO market fees • No change in metering costs • An increase in the Retail Service Fee in 2022-23 to $300/day. The fee is related to third party metering costs. SGW has indicated that the increase is based on available market information

Source: Deloitte Access Economics analysis based on data provided by SGW in response to information request (11 December 2019) and further queries (17 January 2020).

In reviewing SGW's electricity prices, we have considered the electricity prices proposed by Western Water (over the same regulatory period) and an industry benchmark published by the Australian Energy Market Commission (AEMC). There is considerable uncertainty around how Victorian electricity prices will change over RP4B due to a range of factors including:

- the AER's current reset of AusNet's transmission network and distribution network revenue for the 2022-27 and 2021-26 periods, respectively
- fuel prices (coal and natural gas)
- the potential entry and exit of generation capacity.

The AEMC recently published an electricity price forecast in its annual report on residential electricity price trends.[35] It forecasts electricity prices will increase slightly in 2019-20, falling significantly in 2020-21, followed by a minor increase in 2020-21. This results in electricity prices over RP4B that are lower than 2018-19 real prices.[36] These changes are driven by a range of factors including:

- a decline in wholesale prices, particularly between 2019-20 and 2020-21, followed by a slight increase from 2020-21. We note that AEMC's wholesale prices are driven by a range of costs, including scheduled entry and exits of generators, ancillary services, network losses, market fees and various hedging mechanisms
- increasing network charges, particularly from 2018-19 to 2019-20
- decreasing costs associated with environmental policies.

SGW's forecast electricity prices for small and large sites is lower than the AEMC forecast. This is to be expected as SGW is a large commercial user and commercial users generally face lower prices than residential consumers. SGW's forecasts for large sites are generally consistent with the AEMC's forecast of an overall net decrease in electricity prices from 2018-19: the AEMC has projected a 6% decrease in electricity prices in 2020-21, a similar reduction is reflected in SGW's tariffs for large sites. However, a similar reduction is not forecast for small sites.

On 31 January 2020, AusNet Services (AusNet) submitted its regulatory proposal for distribution network services to the Australian Energy Regulator (AER). AusNet proposed an average 13% reduction in distribution network tariffs (excluding inflation) in 2021, followed by no change in real terms over the rest of the network regulatory period.[37] Given that most of this reduction is related to tax and the weighted average cost of capital (WACC), we expect that similar reductions will apply to transmission prices when they are re-set from 1 July 2022.

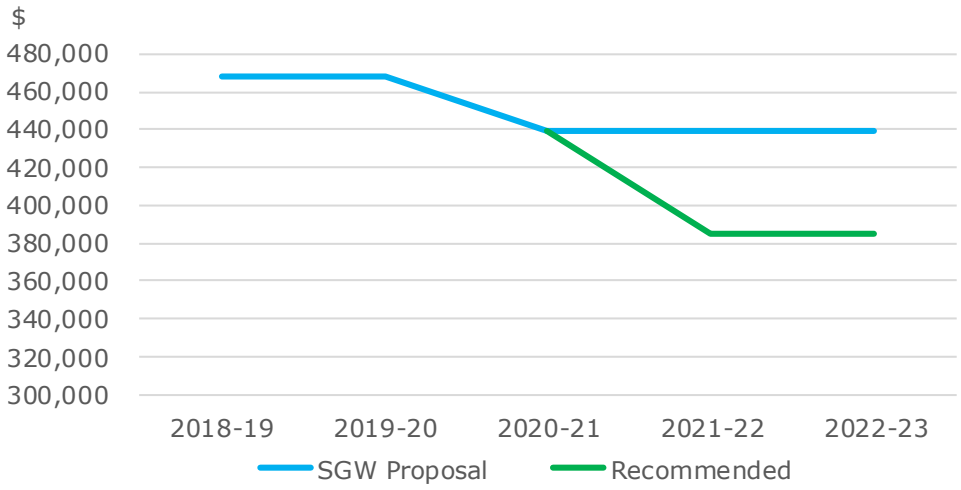
Based on this, we recommend a 13% downward adjustment on SGW's network (distribution and transmission) charges in 2021-22, followed by no change in real terms. Although we note that new transmission prices will not take effect until 2022-23, we consider it reasonable to apply this reduction to all network charges from 1 July 2021 on the basis that:

- AusNet appears to be proposing that the reduction will take effect from 1 January 2021 as it transitions from a calendar to financial year regulatory period
- given that the AER is yet to review AusNet's proposal, it is likely the actual reduction in network tariffs will be greater than 13%
- distribution charges are likely to represent a larger portion of network charges than transmission charges.

This results in a total reduction of $107,457 in SGW's electricity costs over RP4B, as shown in Chart 3.7.

[35] AEMC, *Final Report 2019 Residential Electricity Price Trends* (9 December 2019)
[36] The AEMC's forecast movement in wholesale electricity prices is broadly in line with the price of Victorian Australian Securities Exchange (ASX) base and peak energy futures. The ASX energy futures indicate a decrease in wholesale prices in 2022-23. However, it is noted that ASX energy futures prices tend to understate future price expectations to account for increased risk associated with projecting further into the future.
[37] AusNet, *Overview of our Electricity Distribution Regulatory Proposal 2022-2026* (31 January 2020) 20.

Chart 3.7: Actual and forecast network charges – SGW ($2019-20)



Source: Deloitte analysis based on data provided by SGW in response to information request (11 December 2019) and further queries (17 January 2020).

3.5.2.4 Savings associated with emission reduction activities

SGW has proposed savings in energy expenditure associated with its behind-the-meter initiatives. Over RP4B, the assumed savings are:

- $201,345 in 2020-21
- $183,134 in 2021-22
- $180,900 in 2022-23.

SGW has estimated the total electricity generated from these initiatives and separated it into energy that will be consumed by SGW (as a substitute for electricity from the grid) and energy that will be sold to the grid. The dollar rate assumed for estimating savings from the grid is based on the peak and off-peak prices estimated above (excluding network charges). For energy sold to the grid, SGW has provided peak and off-peak rates based on the wholesale and retailer prices tariffs estimated above.

SGW has referred to its participation in the Victorian Water Zero Emissions Water (ZEW) solar project (on top of the four behind-the-meter initiatives) as part of its pledge to reduce its carbon emissions by 15% by 2025. In October 2018, ZEW entered into a 11-year Power Purchasing Agreement (PPA) with a solar farm energy generator. SGW has assumed no savings in electricity consumption from the PPA, stating that the income from the sale of electricity and Large-Scale Generation Certificates (LCGs) is offset by the contracted costs of the PPA.

3.5.3 Labour costs

Labour costs make up around a half (52%) of SGW's total controllable expenditure in RP4B. In 2018-19, labour costs were $10.07m, with SGW forecasting that this will decrease to $9.82m in 2019-20.

SGW's Enterprise Bargaining Agreement (EBA), which provided a 3% annual wage increment, expires in June 2020. The Victorian Government's Wages Policy states that increases in wages and conditions should be capped at a growth rate of 2% per annum over the life of the agreement.[38] However, the policy provides for a second pathway of a single annual wage and allowance increase, capped at 2.5% for 12 months, for agencies/organisations with an expiry date on the current EBA on or before 30 June 2020. SGW has indicated that it intends to pursue this second

[38] Victorian Government, *Wages Policy and the Enterprise Bargaining Framework* (20 November 2019) <https://www.vic.gov.au/wages-policy-and-enterprise-bargaining-framework#enterprise-bargaining-framework>.

pathway for the first 12 months, and thereafter expects to adopt the policy mandating no increase greater than 2% per annum.[39]

For RP4B, SGW has forecast no increase in real terms for labour costs from the amount forecast for 2019-20.

SGW currently has 94.4 full time equivalent (FTE) staff and forecasts no change in the number of staff over RP4B. There was an increase of 4.7 FTEs from 2017-18 to 2018-19. SGW has reported that this is due to hiring to fill new positions summarised in Table 3.4.

Table 3.4: SGW additional employment between 2017-18 and 2018-19

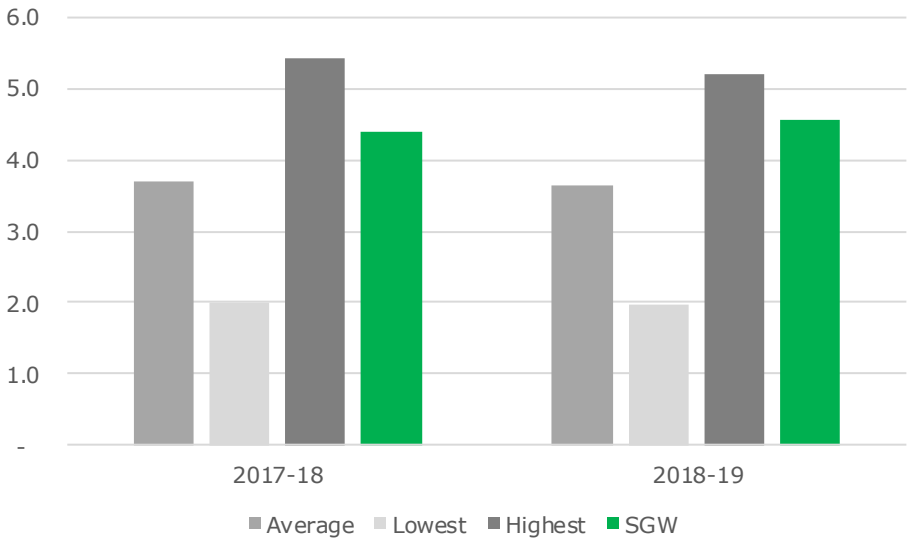
Position	Period	# FTE
Pricing Submission Manager	Fixed term role, 18 months	1.0
ICT records management	Two-year fixed term	0.5
Procurement and stores	Two-year term	1.0
Reactive network maintenance trainee	Permanent role	1.0
Learning and Development Officer	Permanent role	1.0
Total increase in FTEs		**4.5**

Source: Deloitte Access Economics analysis based on data provided by SGW in response to information request (11 December 2019).

In 2018, SGW had 4.6 FTEs per 1,000 water customers, which is higher than the average FTE requirement across other Victorian regional water businesses (of 3.7 FTEs per 1,000 water customers) (see Chart 3.8). This appears to be consistent with the observations made in section 2.1.1 in relation to the relative size and geographic dispersion of SGW and that two major customers account for almost a quarter of its water demand.[40]

[39] SGW response to Deloitte Access Economics' draft report (14 February 2020).
[40] SGW has two major customers (Burra Foods and Saputo) that accounted for approximately 24% of its water demand in these two years, according to: SGW, *Price submission 2020-2023* (15 November 2019) 23.

Chart 3.8: FTEs per 1,000 water customers across Victorian regional water businesses (2018-19)



Based on water businesses' 2018 price submissions, excludes South East Water, City West Water and Yarra Valley Water. Average includes South Gippsland Water.

Given that SGW is proposing to adopt the Victorian Government's Wages Policy and there is no change in FTE numbers over RP4B, we consider SGW's proposed expenditure on labour is reasonable. Our recommendation is that there should be no change to SGW's labour costs.

3.5.4 Chemical costs

Expenditure on chemical use for the purpose of water and wastewater treatment accounts for 5% of SGW's forecast controllable expenditure in RP4B.

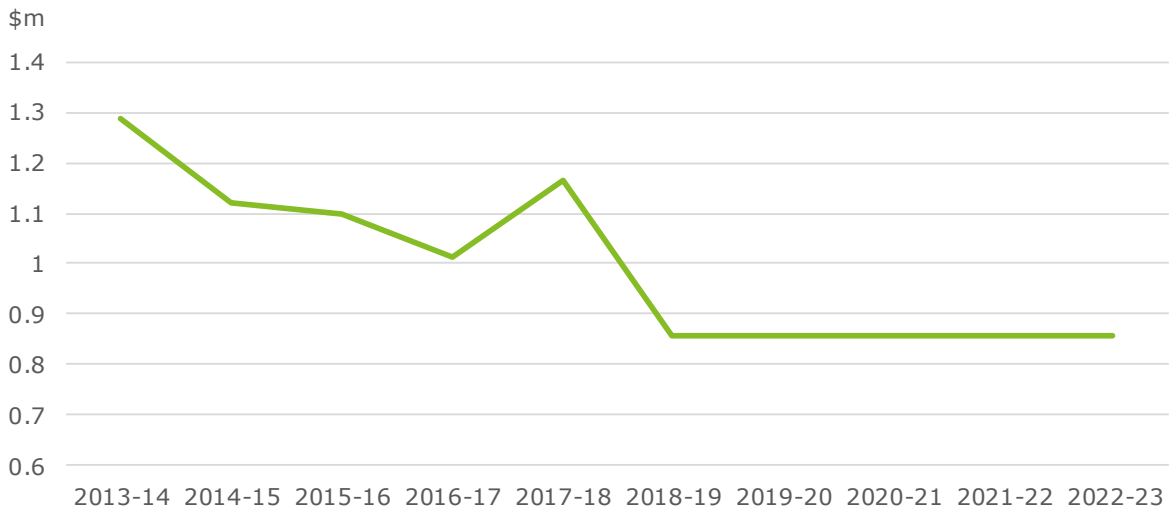
Between 2017-18 and 2018-19, SGW reduced its chemical expenditure by $0.31m to $0.86m. SGW has indicated that this was due to a decline in chemical use resulting from the blending of water from the Melbourne supply system (Cardinia and the Wonthaggi Desalination Plant) through the use of the Lance Creek Water Connection Project (which was completed half-way through 2018-19).[41] Chart 3.9 indicates that 2018-19 chemical expenditure is a continuation of a longer term trend of falling chemical costs since 2013-14 ($1.28m). It is noted that the baseline year (2018-19) was a particularly low year when expenditure is compared over this period.

In its price submission, SGW has indicated in relation to its forecast for RP4B that 'poor water quality sourced from open catchments and small reservoirs, provide minimal opportunity to reduce costs further without major infrastructure expenditure'.[42]

[redacted]

[41] SGW, *Price submission 2020-2023* (15 November 2019) 29; South Gippsland Water, *Lance Creek Water Connection* <http://www.sgwater.com.au/project_page/projects/lance-creek-water-connection/>; SGW, *Price submission 2020: Operating cost baseline review* (2019).
[42] SGW, *Price submission 2020-2023* (15 November 2019) 29.
[43] SGW, *Price submission 2020-2023* (15 November 2019) 28.
[redacted]

Chart 3.9: Actual and forecast chemical costs – SGW ($2019-20)



Source: Deloitte Access Economics analysis based on SGW *2020 Price Review Model* (26 November 2019).

Despite a steady increase in water volumes (1.4% average annual growth) and sewerage customers (1.6% average annual growth) over RP4B, SGW has proposed no change in chemical use and rates (and therefore expenditure) over RP4B relative to the baseline (2018-19).

In relation to forecast chemical expenditure for RP4B, SGW has indicated that:

- chemical costs are not highly sensitive to increases in water production in the short term
- there is uncertainty associated with SGW's chemical use due to:
  - the use of the Lance Creek operating system (with the introduction of the Melbourne Supply System resulting in fluctuations in chemical use)
  - seasonal variations (e.g. blue green algae outbreaks).[45]

In relation to the uncertainties, SGW has indicated it is accepting the risk of higher chemical costs than forecast and it will absorb any variations in chemical expenditure.[46]

The Lance Creek Connection Project was completed half way through 2018-19, meaning that the expenditure on chemicals in 2018-19 does not reflect a full year with the system in operation. However, it is difficult to conclude that this means the reduction in chemical use is understated given that it depends on factors such as the amount of water used from this source and water quality.

On balance our recommendation is to propose no change to forecast chemical expenditure.

3.5.5 IT costs

IT expenditure accounts for 11% of SGW's forecast controllable expenditure in RP4B.

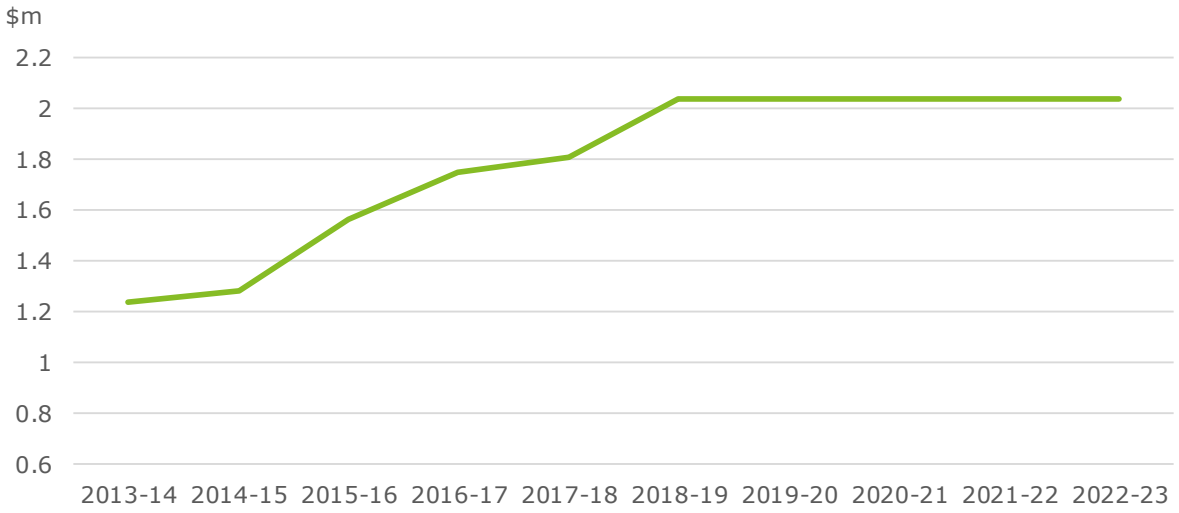
Between 2017-18 and 2018-19, SGW's actual IT expenditure increased by 12.4%, and has followed an increasing trend over several years (see Chart 3.10).[47] SGW has indicated that this is due to the use of cloud services, capability for cyber security, resourcing associated with delivering larger system upgrades and establishing improve business intelligence capability.[48]

Across utility businesses, there is a trend of increasing operating expenditure on IT. For example, in 2019, the AER observed that across distribution network businesses average ICT operating

[45] Based on SGW response to Deloitte info request (10 December 2019).
[46] Based on SGW response to Deloitte info request (10 December 2019).
[47] SGW, *Price submission 2020-2023* (15 November 2019) 30.
[48] SGW response to Deloitte Access Economics information request (10 December 2019).

expenditure from 2015 to 2017 was 72% higher than the average ICT operating expenditure from 2009 to 2011.[49]

Chart 3.10: Actual and forecast IT costs – SGW ($2019-20)



Source: Deloitte Access Economics analysis based on SGW *2020 Price Review Model* (26 November 2019).

For RP4B, SGW has proposed no change in IT expenditure, in real terms, relative to the baseline (2018-19). SGW has indicated that there is a need for further IT investments to support the organisation. However, in the interests of customer affordability, it is seeking alternative means of delivering this capability.[50]

[redacted]

Our view is that SGW's IT expenditure forecast is likely to be conservative, given increasing trends observed elsewhere and in the past for SGW. In our view there is a greater than 50% chance that costs will be higher than forecast. No adjustments are therefore recommended to SGW's IT expenditure.

3.5.6 Vehicle costs

SGW's vehicle expenditure has been considered in previous expenditure reviews, with Deloitte Access Economics previously noting that SGW's vehicle expenditure is high.

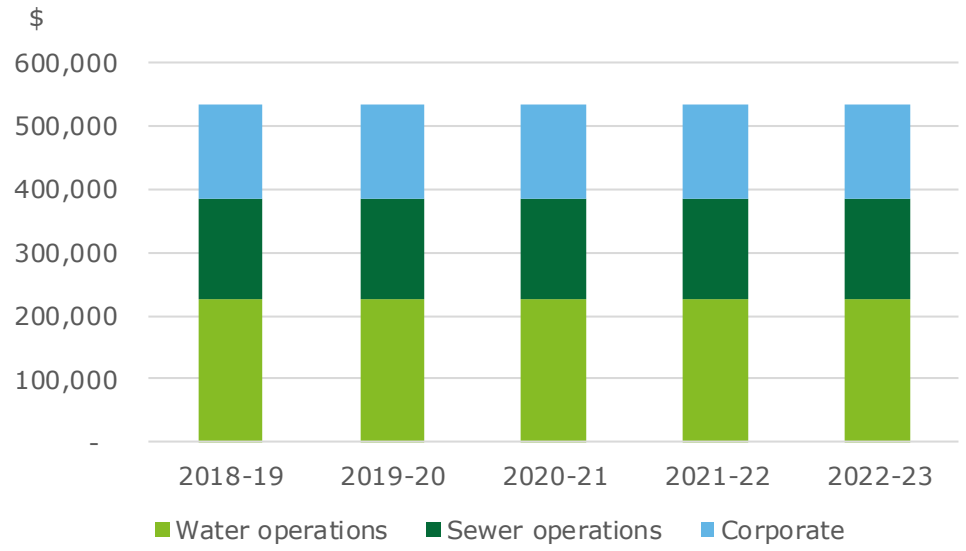
According to SGW's November 2019 Vehicle Asset Class Plan, SGW allocated $533,000 to vehicle operating expenditure in 2018-19, equating to vehicle costs of $5,648 per FTE employed. The Plan notes that SGW has 83 vehicles for 94.7 FTEs.

A 2018 review of SGW's fleet noted a range of options for reducing fleet costs and the Plan notes that strategies were underway to act on the findings.

[49] Australian Energy Regulator, *Consultation Paper: ICT Expenditure Assessment* (May 2019) 12.
[50] SGW response to Deloitte Access Economics information request (10 December 2019).
[redacted]

The majority (72%) of vehicle expenditure is allocated to water and sewer operations while the remaining (28%) is allocated to corporate operations (see Chart 3.11). SGW has proposed no change in vehicle expenditure over RP4B.[52]

Chart 3.11: Vehicle operating expenditure – SGW ($2019-20)



Source: Deloitte Access Economics analysis based on SGW, *Vehicles Asset Class Plan* (November 2019) 11.

[redacted]

In part, SGW's vehicle expenditure reflects SGW's dispersed network. SGW has indicated that most operators have their own dedicated vehicle to meet out-of-hours services.[55] At this stage, SGW is not proposing any change to the number of operator vehicles, however, it has recognised that improvements can be made to reduce the amount of travel from the depot to the job site through mobility technology. Such changes are not reflected in the RP4B forecasts.

A key driver of higher than average vehicle expenditure appears to be the relatively high proportion of employees who have access to a vehicle as part of their compensation package, including corporate staff who do not require a vehicle to undertake their work. SGW indicated that this is in part due to legacy employee contracts, including some dating back to the original formation of SGW. The business has recognised that there is a need for rationalisation in this area. However, it noted that if access to vehicles for existing employees was removed, the compensation to employees (i.e. through wage increases) would offset reduction in expenditure on vehicles over the regulatory period.[56] With respect to vehicle expenditure, SGW stated that the implementation of operational efficiencies (of 1%) includes vehicle expenditure.

We acknowledge that the high fleet expenditure in part reflects legacy contracts, that SGW has recognised the need to change its policies with regards to vehicles, and that it may be difficult for SGW to transition away from the current level of vehicle operating expenditure (or equivalent

[52] SGW, *Vehicles Asset Class Plan* (November 2019) 11.
[53] Corrected utility revenue is calculated as total revenue for utility minus bulk service charges.
[redacted]
[55] Provided by SGW in consultation with Deloitte Access Economics (6 December 2019).
[56] SGW response to Deloitte Access Economics information request (10 December 2019).

wages compensation) in the short-to-medium term. However, we cannot form a view that the current proposed vehicle costs for RP4B are prudent and efficient, and that this is a cost that SGW's customers should continue to bear. Vehicle costs are very high compared to industry norms, and salary benchmarking we conducted as part of the 2018 review suggests that SGW's average wages are at or slightly above industry averages – the provision of a vehicle does not appear to be to compensation for lower wages.

Accordingly, our recommendation is to reduce forecast vehicle operating expenditure. We propose to reduce costs 11.5%, equivalent to half the number of cars in the corporate and infrastructure teams.

3.5.7 Other operating costs

In our review we have not identified any other cost forecasts that appear imprudent or inefficient.

3.6 Recommendations summary

Table 3.5 summarises the recommended changes to operating expenditure above baseline expenditure. We recommend a reduction of $0.35m to SGW's RP4B forecast controllable operating expenditure. This is based on a 25% reduction in expenditure for the Urban Water Strategy, 13% reduction in electricity network tariffs, and an 11.5% reduction in vehicle expenditure.

Table 3.5: Summary of our recommendations

Controllable operating expenditure item	Actual	Price submission forecast			Total
	Baseline 2018-19	2020-21	2021-22	2022-23	RP4B
Proposed controllable operating expenditure ($m, original proposal)	21.95	18.58	18.90	18.79	56.27
Other recommended adjustments					
Urban water strategy consultancy		0.00	-0.06	0.00	-0.06
Vehicle operating expenditure		-0.06	-0.06	-0.06	-0.18
Electricity network tariffs			-0.05	-0.05	-0.11
Total recommended adjustments	**0.00**	**-0.06**	**-0.17**	**-0.12**	**-0.35**
Recommended controllable operating expenditure	**21.95**	**18.52**	**18.73**	**18.67**	**55.92**

Source: Deloitte Access Economics.

4 Capital expenditure assessment

This Chapter of the report sets out our assessment of South Gippsland Water's (SGW's) capital expenditure proposal for the RP4B period including:

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

All expenditure is shown in 2019-20 dollars.

4.1 Overview of approach

Our approach to assessing capital expenditure is set out in Section 1, 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 which have formed the basis of our review:

- 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

SGW has proposed capital expenditure of $40.99m over the RP4B period (or $73.30m over the RP4 period). This is $2.4m less than the indicative forecasts from the 2018 price review and $1.2m per year less than the long-term average. The actual capital expenditure for RP3 was $88.2m, which is was largely due to the Lance Creek Water Connection Project.[57] The annual capital expenditure is in line with or below SGW's long-term capital expenditure.

SGW has recently implemented a major change in its capital planning and asset management approach, with significant analysis of the planning, assessment and prioritisation of projects.

SGW has implemented a Capital Prioritisation process which aims to enable the prioritisation and selection of projects and programs based on the best (least) cost to maintain or reduce risk. The Prioritisation process includes consideration of Project Driver, Corporate Risk Drivers, Customer risks, number of customers impacted, estimated capital cost, consequence of failure (e.g. failure to complete project or if risk was to eventuate), and a weighted score based on these inputs. Based on the score on each individual project, the projects are ranked according to risk and cost with the highest ranking being included within the Capital Program.

SGW has also implemented more robust condition, consequence and prioritisation process for renewals works. This includes the development of new asset management modelling of water and sewer mains including provided condition and consequence ratings for every asset, condition assessments of every treatment plant and pump station, and preparation of detailed Asset Class Plans. This is a significant improvement from the last review and has enabled SGW to demonstrate prudent and efficient expenditure, particularly on renewals programs.

4.3 Major projects and programs

Table 4.1 provides an overview of the Top 5 projects and Water and Sewer programs, showing the primary driver and forecast expenditure over the RP4B years of RP4.

Table 4.1: SGW's major projects over RP4B

Project/program Name	Service	Major cost driver	2020-21 $m	2021-22 $m	2022-23 $m	Total $m
Major Projects						
Sewer System Expansion (Wonthaggi) Mains	Sewerage	Growth	1.06	1.48	1.99	4.53
Sewer System Expansion (Inverloch) SPS	Sewerage	Growth	2.54	1.03	-	3.57
Wonthaggi WWTP augmentation	Sewerage	Growth	-	0.45	2.92	3.38
Service Basin cover and liner replacements	Water	Renewals	1.17	1.29	0.88	3.35
Facilities Strategy	Sewerage	Renewals	-	-	0.61	0.61
Sub-total Top 5 Projects						*15.42*
Major Programs						

[57] SGW, *2020 Price Review Model* (26 November 2019).

Project/program Name	Service	Major cost driver	2020-21 $m	2021-22 $m	2022-23 $m	Total $m
Sewer Reticulation - replacement / rehabilitation	Sewerage	Renewals program	0.8	0.8	0.8	2.4
Wastewater Treatment Plants Renewals	Sewerage	Renewals program	0.53	0.53	0.53	1.6
Sewer Pump Stations Renewals	Sewerage	Renewals program	0.35	0.35	0.35	1.05
Water Reticulation – Mains Renewals	Water	Renewals Program	0.8	0.8	0.8	2.4
Water Transfer and Distribution Mains Renewals	Water	Renewals program	0.36	0.36	0.36	1.08
Water Treatment Plant Renewals	Water	Renewals program	0.55	0.55	0.55	1.65
Sub-total Water and Sewer programs						*10.2*

4.4 Water Renewal Program

4.4.1 Project description

SGW undertakes renewal works on Water Reticulation, Water Transfer and Distribution Mains, and Water Treatment Plants. The Renewals Program is an allocation for works across the period based on the predicted needs to maintain service standards. The proposed Water Mains Renewal Program expenditure is $3.48m over the RP4B period. Another $1.65m over the period is proposed for Water Treatment Plant renewals which is $0.43m less than the 2018 price review.

Based on the analysis conducted by SGW, a renewal rate of 3.6km of Water Reticulation Mains and 1.5km for Water Transfer and Distribution Mains has been proposed.

4.4.2 Analysis

SGW has demonstrated an improved and robust approach to the planning of Water Mains Renewals. SGW has implemented the use of a new asset management software modelling tool, PARMS (Pipeline Asset & Risk Management System), developed by CSIRO in the year 2000.

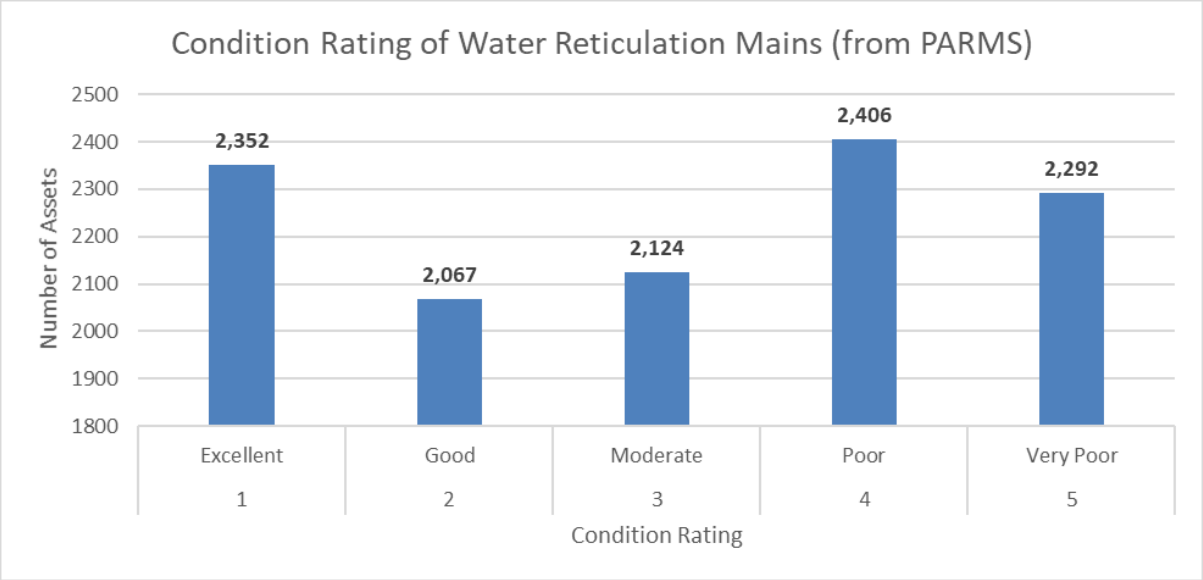
SGW has completed an extensive analysis of network service history and predicted failure using the PARMS modelling tool. This analysis provided a high-level assessment of renewal and service failure of SGW's Water Reticulation and Water Transfer and Distribution Mains and facilitated the determination of renewal levels to manage these failures over a 25 year period.

With the implementation of this approach, SGW has assessed each water asset class and provided a condition and consequence rating to each asset in this program. This is based on the following:

- installation year, Material, Diameter, Length
- water pressure, Valve Shutoff block
- Area Classification, Zone, Soil type, distance to school, hospital, Waterways, Sewer pipes
- failure data with Asset ID, Failure ID, Failure date
- SGW Cost and Consequence data.

An example of the Condition Rating for Water Reticulation Mains is provided in Chart 4.1.

Chart 4.1: Condition Rating data for Water Reticulation Mains



Source: SGW, *Water Reticulation Main Asset Class Plan* (August 2019)

Asset Class Plans for the Water Reticulation and Water Transfer and Distribution Mains have been prepared, which document the asset management approach, SGW's performance against service standards, proposed capital expenditure and program for improvement.

Based on the analysis conducted by SGW, a renewal rate of 3.6km of Water Reticulation Mains and 1.5km for Water Transfer and Distribution Mains has been proposed. This has been predicted to maintain the current service standards and reduce the long-term risk of under or over investment in renewals.

P50 cost estimates for Water Mains Renewals have been based on delivery of similar projects, benchmarking against other local water utilities, and engineering advice. The Water Mains Renewals cost is estimated to $682/m which is considered to be reasonable for the assets comprising the program, including a 15% contingency.

Similarly, SGW has undertaken condition assessments of each of their eight Water Treatment Plants with a view to prioritising works which will reduce risk of failure and maintain performance. The condition assessments included inspection and review of:

- structures
- mechanical equipment
- electrical equipment
- instrumentation
- other systems.

4.4.3 Recommendation

SGW has proposed a total expenditure of $3.48m for Water Reticulation and Transfer and Distribution Mains over the RP4B period. This is above the 2018 price determination for these assets, however, SGW has demonstrated a prudent and efficient approach to the assessment and planning of the Water Mains Renewals Program. We do not propose any adjustments to the forecast.

SGW has also proposed $1.65m for Water Treatment Plant Renewals over the 2020 to 2023 period, which is $0.43m below the 2018 price review. The Water Treatment Plant renewals expenditure is considered to be well-informed, prudent and efficient. We do not propose any adjustments to the forecast.

4.5 Sewerage Renewals Programs

4.5.1 Project description

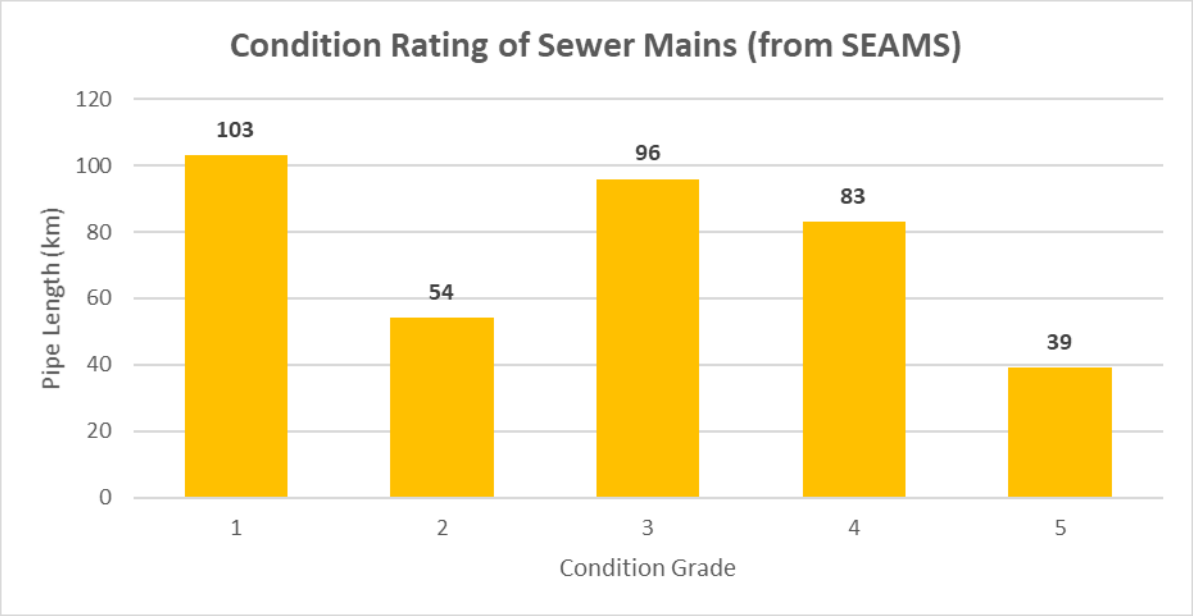
SGW's sewerage renewals programs include works on Sewer Reticulation Replacement and Rehabilitation, Wastewater Treatment Plant, and Sewer Pump Stations. The Renewals Program is an allocation for works across the period based on the predicted needs to maintain service standards. The proposed Sewerage Renewals expenditure is $5.05m over the RP4B period.

4.5.2 Analysis

SGW has significantly improved their approach to sewerage renewals having implemented a more robust, data-driven and optimised approach to renewals. In particular, SGW has utilised a trial program for sewer renewal modelling, SEAMS (Software Engineering for Adaptive and Self-Managing Systems). Significantly more statistical assessment has been undertaken based on asset attributes, failure work orders and CCTV inspection data.

On the basis of the modelling and analysis undertaken by SGW, risk assessments and condition assessments has been generated. Subsequently this has informed the prioritisation of sewer renewals and proposed forecast expenditure. An example of the condition ratings generated for sewer mains is shown in Chart 4.2 with condition ratings from 1 to 5 (from best to worst condition).

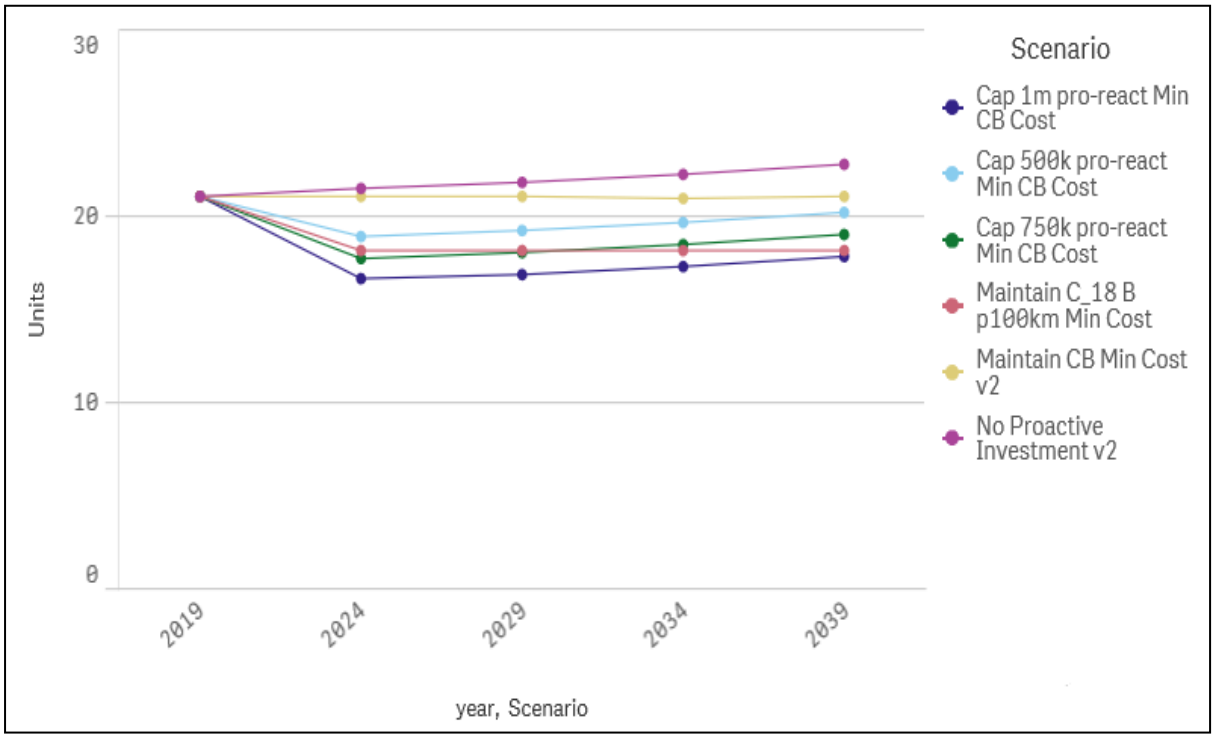
Chart 4.2: SGW's condition rating data from SEAMS for sewer mains



Source: SGW, *Sewer Main and Ancillary Assets – Asset Class Plan* (October 2019).

SGW has proposed a level of investment, informed through the detailed analysis, which is forecast to maintain their current performance and service standards. SGW has demonstrated a prudent approach to the development of the sewerage renewals programs. Further, the level of investment based on maintaining existing services levels and based on the detailed Asset Class Plans, SGW has demonstrated a reasonable approach to investment without being overly conservative. Chart 4.3 highlights the evaluation undertaken by SGW to inform the level of investment to maintain current service levels (the chart shows the number of spills per year based on level of investment).

Chart 4.3: Level of service compared with investment scenario for sewer gravity mains



Source: SGW, *Sewer Main and Ancillary Assets – Asset Class Plan* (October 2019)

4.5.3 Recommendation

SGW has proposed a total expenditure of $5.05m for Sewerage Renewals over the RP4B period. This is below the 2018 price determination for this same program. SGW has demonstrated a prudent and efficient approach to the assessment and planning of the Sewerage Renewals program. SGW has also demonstrated a significantly improved approach to the prioritisation of investment individual projects. We do not propose any adjustments to the forecast.

4.6 Wonthaggi Sewerage System Augmentation

4.6.1 Project description

SGW proposed to invest $5.7m over the RP4 period to augment sewers in Wonthaggi to accommodate for growth and development, as well as improving the efficiency of the overall sewerage system. The planned expenditure for the RP4B period is proposed to be $4.5m.

The Wonthaggi township is currently experiencing accelerated growth. The Bass Coast Shire Council has released a 30 to 50 year Precinct Structure Plan (PSP) with the rate of development and connection to the sewerage network placing demands that the existing system was not designed for. The growth in the area is forecast to increase from 8,000 to 20,000 over this period based on the PSP and Victoria In Future planning estimates.

Further, the existing Wonthaggi sewerage network is non-compliant to the EPA standard of wet weather flow containment and the expected additional development and resultant sewage flows will exacerbate this situation. Therefore, network capacity upgrade works are necessary to service the expected growth and return the system to a standard of service which is compliant to the required level of service for wet weather flow containment.

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.

This project proposes pipe capacity upgrades, new pipeline diversions, various pump station works with additional wet weather detention storage. The works are a continuation of augmentation of the Wonthaggi sewerage system commenced during the price submission period RP3.

The capital expenditure driver is nominated by SGW as Compliance and Growth, with the project required to address under-capacity issues and meet forecast future demands in the sewer network.

This project was also considered in the 2018 price review.

4.6.2 Analysis

SGW has presented a detailed preliminary business case and demonstrated reasonable justification for the project. Some works are in delivery and the design for other components is reasonably well progressed.

As noted in the 2018 price review, population growth in recent years is escalating in Wonthaggi particularly in the north. The forecasted areas of growth since 2011 are generally consistent with what has occurred, slightly exceeding the projected growth. Predictions in 2011 were for 70 lots per annum, while actual growth in Wonthaggi from 2011 to 2016 was 84 lots per annum and in 2017 within the first five months the actual growth was 80 lots.

It is our assessment that SGW has taken reasonable pricing risk and has not included excess contingency or been overly conservative in its estimates. Cost estimates have been based on advice prepared by engineers KBR in 2017, and SGW has taken on cost escalation risk, basing its forecast capital expenditure on this advice.

4.6.3 Recommendation

SGW has presented reasonable justification and demonstration of the prudency and efficiency of the project. We do not propose any adjustments to the proposed expenditure for this project.

4.7 Wonthaggi WWTP Augmentation

4.7.1 Project description

Wastewater treated at Wonthaggi Wastewater Treatment Plant is pumped to an ocean discharge point at Baxters Beach, about 3km from the plant. Growth in the town has resulted in an increase in flow to the treatment plant. The capacity of the outlet pumping system (pump station and rising main) is now insufficient and during periods of higher sewage flow, treated effluent accumulates in lagoons at the plant and can overflow. Spills of treated effluent into a local waterway have happened in 2019, 2017 and 2013. Spills are a non-compliant with respect to the Discharge Licence issued by the EPA and subject to enforcement action by the EPA.

The scope of this project is the renewal and upgrade of the treated effluent pump station and a corresponding increase in capacity of the treated effluent rising main. The changes will allow the treatment plant to accommodate current flows while complying with Licence requirements. Capacity will also be provided to accommodate forecast growth in the town.

The capital expenditure driver is nominated by SGW as Growth, noting that Environmental Compliance is also a significant consideration for the project.

The P50 cost estimate for the project is $3.4m, delivered in 2021-22 and 2022-23.

This project was also considered in the 2018 price review.

4.7.2 Analysis

SGW has presented a robust business case for the project, outlining the basis for the growth in influent volumes to the treatment plant, the cause for overflows and spills from the treatment plant and the options considered in addressing the issue. The project details, drivers, and costs are well documented. SGW also noted that another overflow occurred in 2019 following spills in 2017 and 2013.

4.7.3 Recommendation

Based on the information provided by SGW, the proposed Wonthaggi WWTP Augmentation project is well-justified. We do not propose any adjustments to the proposed expenditure for this project.

4.8 Inverloch Sewerage System Augmentation

4.8.1 Project description

Inverloch is an important tourist destination in the region and is one of the faster-growing towns serviced by SGW. 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.

The Inverloch sewerage system has experienced sewage spills during wet weather events below the recommended containment standard of 18.1% Annual Exceedance Percentage (AEP) intensity. In 2013, there was a significant spill on customer property due to wet weather and hydraulic modelling completed in 2018 suggests that this is highly likely to reoccur. Further, the capacity augmentation proposed will ensure the network can safely convey new development and population growth over the next 20 years to 2039.

This project proposes capacity upgrades to the Veronica Street, Pier Road and Meanderri Drive sewer pump stations with additional emergency storage capacity that can detain flows in wet weather and in acute dry weather failure scenarios.

The proposed works are expected to address the risk of sewerage spills due to wet weather events including growth in the catchment area.

The capital drivers for this project are Compliance with EPA containment standards for wet weather, Renewal of deteriorated pump station assets, and Growth in accommodating the increase in local residents in the long term.

The P50 cost estimate for this project is $4.8m, with $3.4m of expenditure planned in the 2020-21 and 2021-22 financial years. SGW has allocated $1.2m for 2019-2020 works.

This project was also considered in the 2018 price review.

4.8.2 Analysis

SGW has presented a robust preliminary business case for the project, outlining the basis for the growth in influent volumes to the pump stations, the compliance requirements for wet weather overflows and the options considered in addressing the issue.

The project is well-progressed with functional designs being in progress or completed for the works and additional geotechnical investigations underway.

4.8.3 Recommendation

SGW has demonstrated a robust business case and basis for the project. We consider the project to be prudent and efficient. We do not propose any adjustments to the proposed expenditure for this project.

4.9 Water Storages Basin Liner and Cover Replacements

4.9.1 Project description

SGW's clear water storage (CWS) basins are part of the water supply system infrastructure. The main function of water storage is to provide buffer capacity between a water treatment plant and customers. SGW manage six clear water storage basins with floating covers.

The floating covers are in a poor condition and the likelihood of water contamination has increased in recent years. The deterioration has also increased the OH&S risk for workers conducting maintenance on and around the basins.

Visual condition assessments were undertaken in 2016 on all of the CWSs. Based on the results of the visual inspection, more detailed material testing was undertaken on samples of the Reinforced Polypropylene (RPP) CWS basin liners and floating covers in 2017 by ExcelPlas (supplier of covers

and liners). The results of the detailed condition assessments identified a number of issues which can be categorised under the following areas of assessment:

- OH&S Concerns
- Structural Integrity
- Water Quality Risks.

This project comprises the replacement of the liners and covers of all six of SGW's concrete lined CWS basins, as highlighted, with floating roof covers incorporating:

- Wonthaggi Low Level 9ML CWS Basin
- Poowong Water Treatment Plant 2ML CWS Basin
- Fish Creek 1.1ML CWS Basin
- Toora 1ML CWS Basin
- Foster 3ML CWS Basin
- Devon North 3.4ML CWS Basin.

The Wonthaggi, Poowong, Fish Creek and Toora CWS Basin liners and covers will be replaced in the period from 2020 to 2023. Foster and Devon North basins are proposed for completion in RP5

The current floating covers will be replaced with a modern more durable flexible material to provide a service life of 30 to 35 years.

The capital drivers for this project are nominated as Renewal and Compliance. SGW has noted concern regarding ongoing water quality issues in the event of failures of the covers.

The P50 cost estimate for the works is $5.5m, with $3.4m proposed for the 2020 to 2023 period.

4.9.2 Analysis

SGW has presented a detailed Preliminary Business Case for these works, which summarises the project need and details the activities and works to be undertaken for each site. The documentation presents a clear and concise basis of the works and demonstrates a prudent approach.

Cost estimates for each of the basin projects has been provided and are summarised in Table 4.2.

Table 4.2: Water storages basin liner and cover replacements – SGW proposed costs

Site	Basin Floating Cover Area (m2) (SGW provided)	Capital Cost, $ (2019) (SGW provided)	Cost per area ($/m^2) (Calculated)
Toora CWS Basin	742	$ 566,000.00	$ 762
Fish Creek CWS Basin	946	$ 605,000.00	$ 639
Poowong WTP CWS Basin	2025	$ 883,000.00	$ 436
Foster CWS Basin	2728	$ 974,000.00	$ 357
Devon North CWS Basin	3044	$ 1,163,000.00	$ 382
Wonthaggi LL CWS Basin	5016	$ 1,293,000.00	$ 257
Total capital expenditure		$ 5,484,000.00	

We have assessed a number of other basin and liner cover projects including Gippsland Water's works across their water supply basins. We would typically expect floating cover and liner replacements to be in the order of $200-400/m^2. The costs provided by SGW are in the order of

25-60% higher than other recent projects and cost estimates. It is noted that some of the nominated projects are smaller in scale and would still carry the same or similar indirect costs associated with the larger projects and therefore be more expensive based on an area. It is also noted that the scope of each project varies in the extent of works.

Additionally, SGW has included escalation costs within the cost estimates which is conservative given the nature of the project and timing for delivery.

4.9.3 Recommendation

The Service Basin Liners and Covers project appears to be a prudent project, however, the costs appear to be somewhat conservative. It is recommended that the escalation is removed, and the projects are bundled where possible to reduce the indirect costs which are likely to be a higher proportion of costs on the smaller sites (see Table 4.3).

Table 4.3: Our recommendation for water storages basin liner and cover replacements

	2020-21 $m	2021-22 $m	2022-23 $m	Total RP4B $m
Proposed capital expenditure	1.17	1.29	0.88	3.35
Recommended	1.17	1.29	0.63	3.1
Net Change	-	-	(0.25)	(0.25)

4.10 Facilities Strategy

4.10.1 Project description

SGW has a number of offices, depots and stores around their operating region. SGW utilises seven key facilities which are:

- Foster Main Building
- Foster Kinder Building
- Korumburra Depot
- Leongatha Depot
- Leongatha Office/Store
- Toora Depot
- Wonthaggi Depot.

A number of the buildings were inherited from predecessor water boards and have been repurposed by SGW. Many of the current facilities require investment, repair and upgrades, including essential safety functionality.

Based on this, SGW has sought to develop a facilities strategy to provide a recommendation for the future approach for the consolidation of the facilities. A key consideration of the strategy was that SGW staff and teams are distributed among numerous sites, leading to more travel and limiting opportunities for formal and informal communication and collaboration between staff. As an example, SGW operates from 128 buildings, including some 45 buildings and sheds that are used as stores, workshops or offices across the business. This situation is considered ineffective and does not drive cost efficiency.

The strategy has recommended a consolidation of buildings, including the relocation of office-based services, depot and stores. SGW's capital expenditure forecast for the RP4B period is $0.6m to carry out the design and tendering for the building works in year 2022-23. The delivery of the strategy is forecast to take place in RP5, with a capital cost of $7.2m.

The capital expenditure driver is nominated by SGW as Renewals.

4.10.2 Analysis

SGW has presented a robust business case for the project and has demonstrated a considered and informed review of the existing building stock and approach for consolidation. This includes

detailed assessments of existing buildings and costs to undertake individual repairs under different options. The business case also clearly sets out the considerations of centralisation including business efficiency, travel requirements for staff, impact on key stakeholders and the surrounding communities.

At the same time, the strategy is not proposed to be implemented for several years, [redacted] It could be argued that given these uncertainties, it might be prudent not to include the $0.6m in the forecast.

However, we have taken the view that [redacted] consolidation of the existing building stock is desirable and therefore it is reasonable to include the $0.6m in the forecast.

4.10.3 Recommendation

We do not propose any adjustments to the proposed expenditure for this project.

4.11 Vehicle Replacement Renewal

4.11.1 Recommendation

As discussed in Chapter 3, we believe that SGW's fleet size is not prudent and efficient. Consistent with the reduction in operating expenditure, we propose to reduce vehicle replacement capital costs by 11.5%.

4.12 Recommendation summary

We have made the following adjustments to SGW's proposed capital program:

- removal of escalation from the forecast capital expenditure for the Service Basin Liners and Cover project
- reduction in Vehicle Replacement Renewals costs by 11.5%.

Our proposed adjustments changes are summarised in Table 4.4.

Table 4.4: SGW forecast capital expenditure and recommended adjustments ($m)

Project/program Name		2020-21 $m	2021-22 $m	2022-23 $m	Total $m
Sewer System Expansion (Wonthaggi) Mains	Proposed	1.06	1.48	1.99	4.53
	Recommended	1.06	1.48	1.99	4.53
	Net Change	0.00	0.00	0.00	0.00
Sewer System Expansion (Inverloch) SPS	Proposed	2.54	1.03	-	3.57
	Recommended	2.54	1.03	-	3.57
	Net Change	0.00	0.00	0.00	0.00
Wonthaggi WWTP augmentation	Proposed	-	0.45	2.92	3.38
	Recommended	-	0.45	2.92	3.38
	Net Change	0.00	0.00	0.00	0.00
Service Basin cover and liner replacements	Proposed	1.17	1.29	0.88	3.35
	Recommended	1.17	1.29	0.63	3.10
	Net Change	0.00	0.00	-0.25	-0.25
Facilities Strategy	Proposed	-	-	0.61	0.61
	Recommended	-	-	0.61	0.61

Project/program Name		2020-21 $m	2021-22 $m	2022-23 $m	Total $m
	Net Change	0.00	0.00	0.00	0.00
Sewer Reticulation - replacement / rehabilitation	Proposed	0.8	0.8	0.8	2.4
	Recommended	0.8	0.8	0.8	2.4
	Net Change	0.00	0.00	0.00	0.00
Wastewater Treatment Plant Renewals	Proposed	0.53	0.53	0.53	1.6
	Recommended	0.53	0.53	0.53	1.6
	Net Change	0.00	0.00	0.00	0.00
Sewer Pump Stations Renewals	Proposed	0.35	0.35	0.35	1.05
	Recommended	0.35	0.35	0.35	1.05
	Net Change	0.00	0.00	0.00	0.00
Water Reticulation – Mains Renewals	Proposed	0.8	0.8	0.8	2.4
	Recommended	0.8	0.8	0.8	2.4
	Net Change	0.00	0.00	0.00	0.00
Water Transfer and Distribution Mains Renewals	Proposed	0.36	0.36	0.36	1.08
	Recommended	0.36	0.36	0.36	1.08
	Net Change	0.00	0.00	0.00	0.00
Water Treatment Plant	Proposed	0.55	0.55	0.55	1.65
	Recommended	0.55	0.55	0.55	1.65
	Net Change	0.00	0.00	0.00	0.00
Vehicle Replacement Renewals	Proposed	0.17	0.30	0.17	0.63
	Recommended	0.15	0.27	0.15	0.56
	Net Change	-0.02	-0.03	-0.02	-0.07
Total proposed (Reviewed)		8.33	7.94	9.96	26.25
Recommended capital expenditure (Reviewed)		8.31	7.91	9.69	25.93
Recommended adjustments from proposed		**-0.02**	**-0.03**	**-0.27**	**-0.32**
Total proposed		13.46	13.02	14.52	41.00
Recommended capital expenditure		**13.44**	**12.99**	**14.25**	**40.68**

Source: Arup.

Limitation of our work

General use restriction

This report is prepared solely for the use of the Essential Services Commission. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of set out in our engagement letter of 11 November 2019. You should not refer to or use our name or the advice for any other purpose.

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