Deloitte.

Essential Services Commission

2013-18 Review of Water Prices

Assessment of expenditure forecasts for regional urban businesses

South Gippsland Water

Final Report

19 February 2013

Deloitte.

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Mr Marcus Crudden
Acting Director - Water
Essential Services Commission
Level 2, 35 Spring St
Melbourne VIC 3000

19 February 2013

Dear Marcus

Re: Assessment of expenditure forecasts for regional urban businesses

We are pleased to provide our Final Report setting out our assessment of South Gippsland Water's operating and capital expenditure for the 2013-2018 regulatory period. This Final Report provides our findings and recommendations. It should be read in conjunction with our *Overview* document, which sets out our approach to a number of common expenditure issues across the businesses we have reviewed.

Please do not hesitate to contact me if you have any questions regarding the report.

Yours sincerely

Paul Liggins
Partner
Deloitte Touche Tohmatsu

Contents

Executive Summary

Background

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria's water businesses for the period 1 July 2013 to 30 June 2018, referred to in this document as 'the next regulatory period' or third water plan period (WP3).

The businesses have submitted Water Plans to the ESC for the WP3 period. The Water Plans include forecasts of operating expenditure, capital expenditure and demand, proposed service standards and prices. The ESC will review the Water Plans and intends to release a draft decision in March 2013, with a final decision issued in May 2013.

Deloitte has been engaged by the ESC to review the expenditure forecasts made by 10 regional urban water businesses.

The ESC has requested that in our review of the capital expenditure forecasts we focus on the major projects that comprise a significant proportion of the total capital expenditure forecasts and provide advice on whether the expenditure meets certain criteria.

In relation to operating expenditure we have been asked to provide advice on whether changes in operating costs are consistent with the timing of major capital projects; that businesses are fulfilling their obligations and meeting customer service expectations as cost efficiently as possible; that forecast divergences can be readily explained; and one-off costs associated with the drought have been removed. The ESC has highlighted that energy, labour, IT and chemical costs should be a significant focus of the review.

Process for review

We took the following approach to undertaking this review:

- We reviewed the Water Plans and supporting documentation provided by South Gippsland Water to the ESC
- We submitted a request for further information and prepared a number of questions for South Gippsland Water
- We visited South Gippsland Water on 7 November 2012 to discuss the Water Plan and our questions
- We prepared a Draft Report which was provided to the ESC on 11 December 2012
- We held discussions with South Gippsland Water regarding the Draft Report and reviewed a written response from South Gippsland Water which was provided to us on 25 January 2013.

Approach to review

In our assessment of operating and capital expenditure proposed by each of the nominated water businesses, we have followed the direction of the *Water Industry Act (1994)* and the *Water Industry Regulatory Order* (WIRO). The WIRO requires, amongst other things that the ESC:

> *(a) be satisfied that the prices contained in the **Water Plan** which the **regulated entity** proposes it be permitted to charge for **prescribed services** over the term of the **Water Plan**, or the manner in which the **Water Plan** proposes that such prices are to be calculated or otherwise determined, are such as to:*
>
> *(i) provide for a sustainable revenue stream to the **regulated entity** that nonetheless does not reflect monopoly rents or inefficient expenditure by the **regulated entity**;*
>
> *(ii) allow the **regulated entity** to recover its operational, maintenance and administrative costs;*
>
> *(iii) allow the **regulated entity** to recover its expenditure on renewing and rehabilitating existing assets;*
>
> *(iv) allow the **regulated entity** to recover:*
>
> *(A) a rate of return on assets as at 1 July 2004 that are valued in a manner determined by, or at an amount otherwise specified by, the **Minister** at any time before 1 July 2004;*
>
> *(B) a rate of return on investments made after 1 July 2004 to augment existing assets or construct new assets;*

Recommendations - operating expenditure

We have recommended the changes set out below to South Gippsland Water's forecast operating expenditure. Note that throughout this report, unless indicated otherwise, references to South Gippsland's 'forecast' or 'proposal' refer to its original September Water Plan proposal and not any subsequent proposals or adjustments that have been received.

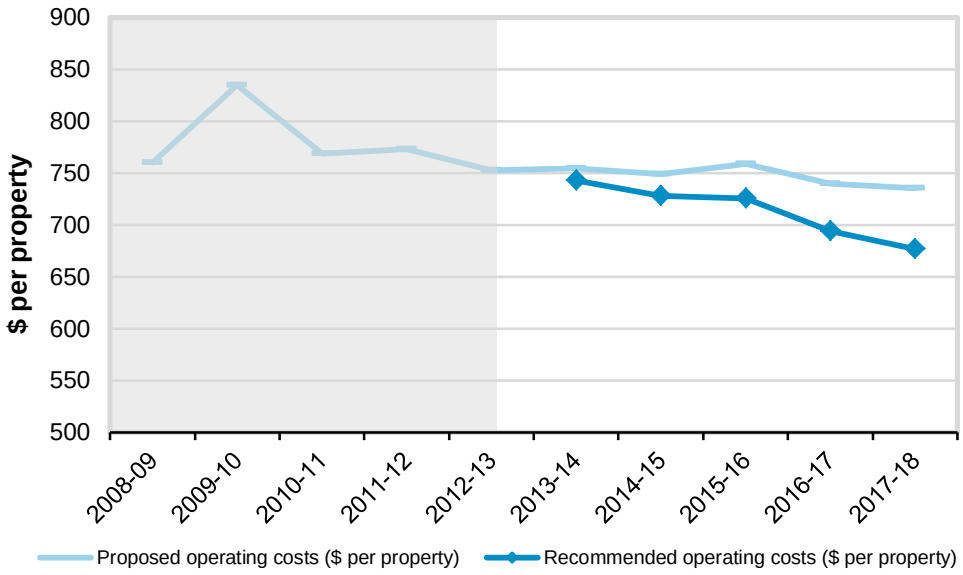
Table E1 South Gippsland Water forecast controllable operating expenditure and recommended adjustments ($m, 01/01/2013)

Operating expenditure item	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Proposed controllable operating expenditure ($m)	15.335	15.416	15.523	15.945	15.769	15.893	**78.547**
Recommended adjustments							
Labour		-0.264	-0.446	-0.658	-0.876	-1.101	**-3.346**
Electricity		-0.036	-0.045	-0.052	-0.070	-0.088	**-0.291**
Desludging		0.106	0.106	0.106	0.106	0.106	**0.530**
Living Melbourne Living Vic		-0.050	-0.050	-0.050	-0.050	-0.050	**-0.250**
Defined benefits superannuation costs		0.106	0.103	0.100	0.098	0.095	**0.501**
Chemical costs		-0.035	-0.071	-0.108	-0.146	-0.185	**-0.544**
GSLs		-0.039	-0.039	-0.039	-0.039	-0.039	**-0.195**
Metering		-0.026	0.000	0.000	0.000	0.000	**-0.026**
Total recommended adjustments		**-0.238**	**-0.442**	**-0.701**	**-0.976**	**-1.262**	**-3.619**
Recommended operating expenditure		**15.179**	**15.081**	**15.244**	**14.793**	**14.631**	**74.928**

Notes: Controllable operating expenditure excludes licence fees and environmental contribution.

Figure E1 compares our recommended operating expenditure for South Gippsland Water (on a per connection basis) with South Gippsland Water's proposal.

Figure E1 Proposed and recommended operating expenditure ($, 01/01/2013)



Performance against productivity hurdle

The ESC's Guidance Paper notes that the ESC will require all businesses to achieve a minimum of 1% per year productivity improvement on customer growth adjusted business as usual (BAU) operating expenditure for the WP3 period (the productivity hurdle).

We have interpreted BAU operating expenditure as being all operating expenditure other than expenditure that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators.

In the case of South Gippsland Water, we have assessed the following increases in operating expenditure above the 2011-12 baseline as meeting this definition:

- Electricity
- Defined benefits superannuation contributions
- New GSLs
- Additional desludging expenditure

The following table summarises the expenditure above the 2011-12 BAU for these items that we have assessed as meeting the ESC's requirements for prudency and efficiency.

Table E2 Prudent and efficient new initiatives and obligations expenditure above the 2011-12 baseline ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Electricity		0.087	0.099	0.114	0.119	0.124	0.542
Defined benefits superannuation		0.106	0.103	0.100	0.098	0.095	0.501
GSLs		0.011	0.011	0.011	0.011	0.011	0.055
Desludging		0.106	0.106	0.106	0.106	0.106	0.530
Total		**0.310**	**0.319**	**0.331**	**0.333**	**0.336**	**1.629**

Note: Electricity encompasses carbon price impacts.

Table E3 below calculates a "recommended BAU expenditure" using our total recommended operating expenditure less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators above the BAU target. This amount is then compared with the growth and productivity adjusted BAU target to obtain a view on whether or not South Gippsland Water's operating expenditure, following our adjustments, meets the ESC's productivity hurdle.

Table E3 Productivity hurdle assessment ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Recommended operating expenditure		15.179	15.081	15.244	14.793	14.631	74.928
Less prudent and efficient new initiatives expenditure		0.310	0.319	0.331	0.333	0.336	1.629
Recommended BAU expenditure		**14.869**	**14.762**	**14.913**	**14.460**	**14.295**	**73.299**
Adjusted BAU target	15.335	15.486	15.562	15.638	15.715	15.792	78.192
Amount above BAU target		-0.617	-0.800	-0.725	-1.255	-1.497	-4.893

As shown in the table, following our recommended adjustments, and accounting for expenditure above the BAU target that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators, South Gippsland Water meets the ESC's productivity hurdle.

Capital expenditure

We have recommended a reduction of $2.1m to South Gippsland Water's proposed capital expenditure. This reduction is primarily due to the application of P50 estimates to a number of its projects. In addition, although not captured in the table below, we consider that an upward adjustment of $1.96m in WP3 is necessary to take into account the delay to the Alberton sewerage scheme.

Table E4 South Gippsland Water's forecast capital expenditure and recommended adjustments ($m, 01/01/2013)

Capital expenditure item		Water Plan forecast					Total WP3
		2013-14	2014-15	2015-16	2016-17	2017-18	
Poowong/Loch/Nyora sewerage scheme	Proposed	1.47	8.47	9.93	6.66	0.00	**26.53**
	Recommended	0.00	1.57	10.05	8.74	5.65	**26.01**
	Net change	-1.47	-6.90	0.12	2.08	5.65	**-0.52**
Northern towns supply connection works - Lance Creek to Korumburra	Proposed	0.30	3.10	4.10	4.60	3.20	**15.30**
	Recommended	0.28	2.95	4.01	4.58	3.30	**15.11**
	Net change	-0.02	-0.15	-0.09	-0.02	0.10	**-0.19**
Vehicle replacement	Proposed	0.85	0.85	0.85	0.85	0.85	**4.25**
	Recommended	0.77	0.77	0.77	0.77	0.77	**3.83**
	Net change	-0.09	-0.09	-0.09	-0.09	-0.09	**-0.43**
Northern towns supply connection works - Korumburra to Poowong	Proposed	0.05	0.20	0.80	2.36	0.00	**3.41**
	Recommended	0.00	0.05	0.21	0.86	2.61	**3.73**
	Net change	-0.05	-0.15	-0.59	-1.50	2.61	**0.32**
Reticulation sewer replacement/rehabilitation	Proposed	0.60	0.60	0.60	0.60	0.60	**3.00**
	Recommended	0.55	0.55	0.55	0.55	0.55	**2.75**
	Net change	-0.05	-0.05	-0.05	-0.05	-0.05	**-0.25**
Water renewals/replacement	Proposed	0.50	0.50	0.50	0.50	0.50	**2.50**
	Recommended	0.50	0.50	0.50	0.50	0.50	**2.50**
	Net change	0.00	0.00	0.00	0.00	0.00	**0.00**
Leongatha WWTP - refurbish de-commissioned digestion system	Proposed	2.00	0.00	0.00	0.00	0.00	**2.00**
	Recommended	1.97	0.00	0.00	0.00	0.00	**1.97**
	Net change	-0.03	0.00	0.00	0.00	0.00	**-0.03**
Wonthaggi sewer system upgrades	Proposed	0.25	0.25	0.25	0.25	0.25	**1.25**
	Recommended	0.25	0.25	0.25	0.25	0.25	**1.25**
	Net change	0.00	0.00	0.00	0.00	0.00	**0.00**
Environmental obligations	Proposed	0.25	0.25	0.25	0.25	0.25	**1.25**
	Recommended	0.25	0.25	0.25	0.25	0.25	**1.25**
	Net change	0.00	0.00	0.00	0.00	0.00	**0.00**
Foster WWTP – rising main pipeline and storage	Proposed	0.00	0.00	0.00	0.00	1.04	**1.04**
	Recommended	0.00	0.00	0.00	0.00	0.00	**0.00**
	Net change	0.00	0.00	0.00	0.00	-1.04	**-1.04**
Total proposed		9.76	16.27	19.69	17.96	8.31	**71.99**
Recommended capital expenditure		8.06	8.94	18.99	18.38	15.50	**69.86**
Recommended adjustments from proposed		-1.71	-7.34	-0.70	0.43	7.18	**-2.13**

Notes: The proposed figures in the table above reflect South Gippsland Water's original forecasts.

1 Introduction

1.1 Background

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria's water businesses for the period 1 July 2013 to 30 June 2018, referred to in this document as 'the next regulatory period'.

The businesses have submitted Water Plans to the ESC for the next regulatory period. The Water Plans include forecasts of operating expenditure, capital expenditure and demand, proposed service standards and prices.

1.2 Scope of review

The ESC has engaged Deloitte to provide it with advice on whether the regional urban water businesses' proposed expenditure forecasts are consistent with the requirements of the legislative framework.

In undertaking this review, Deloitte's key responsibilities are to:

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

Capital expenditure

In relation to capital expenditure, we have focussed on the major projects that comprise a significant proportion of the total capital expenditure forecasts. In forming a view as to whether expenditure meets the requirements in the WIRO, and consistent with advice in the ESC's Guidance Paper, we have had regard to the following items:

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

In relation to deliverability of individual projects as well as capital expenditure programs more broadly, the ESC has indicated that the following points need to be considered:

- The actual performance against previous capital expenditure programs and the business' demonstrated capacity to deliver against capital budgets
- The internal and external resources available to the water business to deliver the identified projects
- Timing of proposed capital programs in terms of deliverability, taking into account the proposed capital expenditure across the industry
- The opportunity to smooth the business's capital profiles or defer discretionary or non-essential projects from the start of the regulatory period to later in the period
- The business' risk sharing and incentive and penalty payment arrangements with its contractors.
- Whether businesses have appropriate project management systems and processes in place.

Operating expenditure

In relation to operating expenditure we have been asked to provide advice on, amongst other things, whether changes in operating costs are consistent with the timing of major capital projects; that businesses are fulfilling their obligations and meeting customer service expectations as cost efficiently as possible; that forecast divergences can be readily explained; and one-off costs associated with the drought have been removed.

The ESC has highlighted that energy, labour, IT and chemical costs should be a significant focus of the review. The Guidance Paper also outlines the ESC's intention to remove expenditure relating to drought mitigation and other related unnecessary water conservation, in light of the fact that Victoria is no longer experiencing a period of drought.

In addition, the Guidance Paper notes that ESC requires businesses to achieve at least a 1% productivity improvement on business as usual (BAU) expenditure.

Our approach to assessing operating expenditure for each business can be briefly summarised as follows:

1. **Assess 2011-12 BAU and adjust where necessary** – In general, we have removed one off expenditure, drought and other water conservation expenditure and other defined benefits, ultimately reaching an adjusted BAU expenditure for 2011-12.
2. **Assess business identified operating expenditure items increasing from 2011-12 levels and identify cuts consistent with prudent and efficient expenditure** – We have reviewed key areas of expenditure and where we are not satisfied that the expenditure is prudent or efficient we have removed it from the forecast to determine a revised operating expenditure forecast.

   In making our adjustments there are a number of areas or cost categories where issues are common across businesses – electricity cost increases being one example. We have applied a consistent approach to these areas across the businesses.

   We have not reviewed licence fee payments or environmental contribution levy payments as part of our analysis. We understand the ESC will review these items itself.
3. **Compare revised operating expenditure to target BAU (adjusted where necessary)** – Following our assessment of key areas of expenditure, we compare our total recommended operating expenditure (less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators) with a growth and productivity adjusted BAU target to obtain a view on whether or not the business meets the ESC's 1% productivity hurdle. Where a business

does not meet the productivity hurdle, we identify the further downward adjustment to expenditure required to meet the hurdle.

1.3 Structure of this report

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

- Chapter 2 provides an overview of our methodology for conducting the review, the process followed and key timelines
- Chapter 3 briefly summarises South Gippsland Water's Water Plan with respect to expenditure forecasts and outlines key drivers of expenditure such as government obligations, service standards and demand forecasts
- Chapter 4 provides our analysis, conclusions and recommendations on key issues with respect to South Gippsland Water's operating expenditure forecast
- Chapter 5 provides our analysis, conclusions and recommendations on key issues with respect to South Gippsland Water's capital expenditure forecast.

2 Overview of approach

2.1 Process for review

Our approach to undertaking the review has involved the following key steps.

2.1.1 Initial planning and workshop with the ESC

The following steps were taken in the initial planning phase of the project:

- An initial review of Water Plans, financial model templates and associated documentation was undertaken to identify key issues
- A workshop was held with ESC staff to identify and discuss key issues for the focus of the review
- A detailed review of Water Plans and templates was undertaken, with an initial set of queries produced to guide our site visits with the businesses.

2.1.2 Questions to business and site visits

Following the planning phase, we prepared questions for the businesses and arranged site visits:

- We conducted our site visit with South Gippsland Water on 7 November 2012
- The site visits were used to hold discussions with South Gippsland Water and receive further information on key issues as required.

2.1.3 Preparation of Draft Report

A Draft Report was prepared and provided to the ESC on 11 December 2012. The ESC subsequently provided the Draft Report to South Gippsland Water.

2.1.4 Response from South Gippsland Water

We held discussions with South Gippsland Water personnel regarding the Draft Report. A formal response to the Draft Report was provided by South Gippsland Water on 25 January 2013. This response accepted some elements of our Draft Report, but disagreed with other elements.

We have closely examined South Gippsland Water's response and the information it provided to support its views. We subsequently held additional discussions with South Gippsland Water to clarify certain aspects of the forecasts and its response.

2.1.5 Final Report

This Final Report sets out our views of whether South Gippsland Water's operating and capital expenditure forecasts meet the requirements of the ESC/WIRO. Where we do not believe this is the case we have prepared alternative forecasts or recommended adjustments.

2.2 Approach to assessing forecasts

Our approach to reviewing many items of capital and operating expenditure is set out in our companion *Overview* document which should be read in conjunction with this report.

3 Summary of South Gippsland Water's forecasts

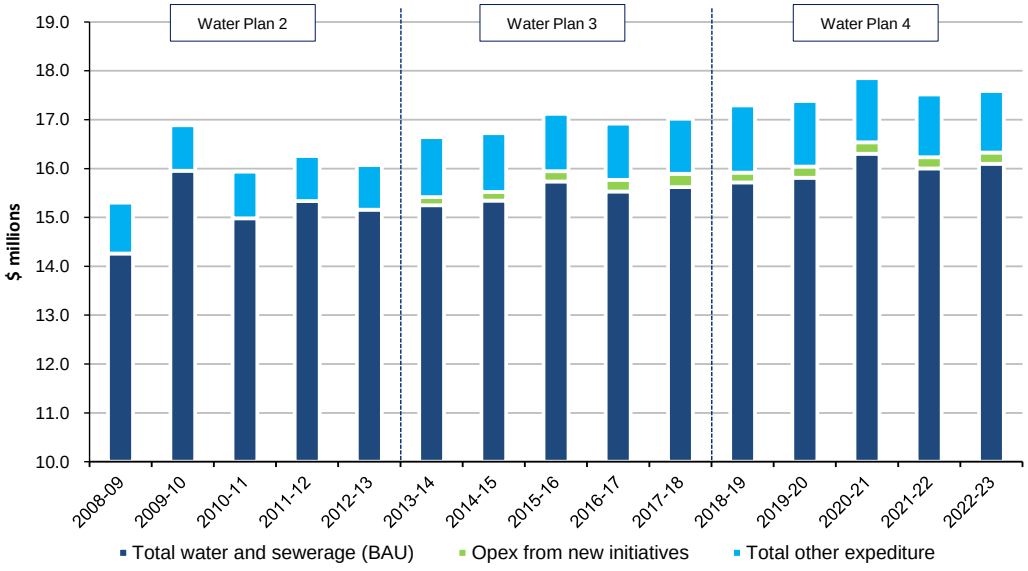
South Gippsland Water provides water and wastewater services to 20,000 customers across 4000km^2 of South Gippsland. As with its neighbour Westernport Water, peak populations in summer can double the population served. South Gippsland Water's service area includes 22 towns, including the major centres of Wonthaggi, Inverloch, Leongatha and Korumburra. It operates 10 separate water supply systems and 13 wastewater systems.

Note that throughout this report, unless indicated otherwise, references to South Gippsland's 'forecast' or 'proposal' refer to its original September Water Plan proposal and not any subsequent proposal or adjustments that have been received.

3.1 Operating expenditure

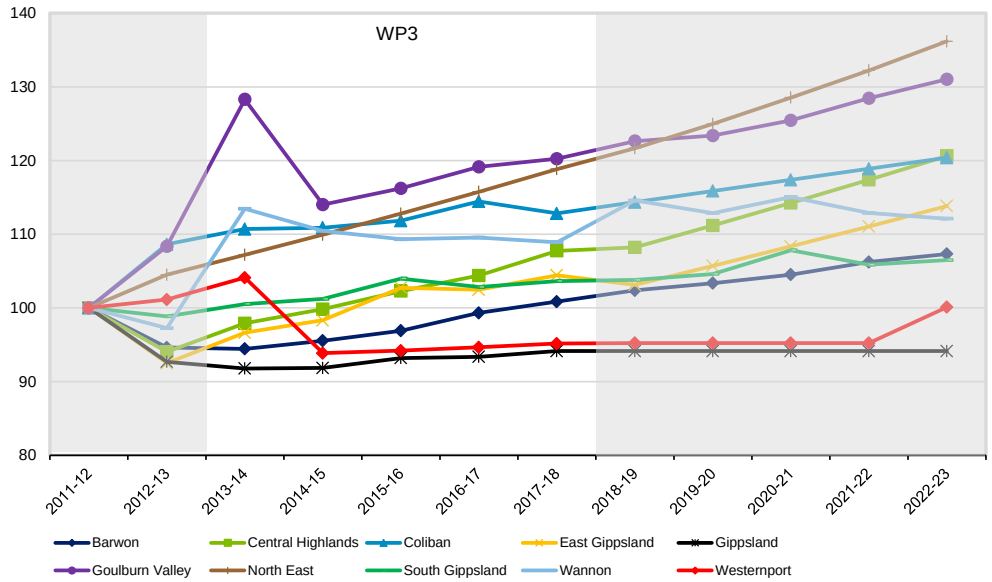
Figure 3-1 shows South Gippsland Water's proposed operating expenditure over the WP2, WP3 and WP4 periods. South Gippsland Water's operating costs (excluding licence fees and environmental contribution) are forecast to be a total of $78.5m over WP3, which is an increase of 4% from WP2 (total of $75.7m).

Figure 3-1 South Gippsland Water actual and forecast operating expenditure ($m, 01/01/2013)



South Gippsland Water has forecast a mid-range increase in operating expenditure over WP3 compared to the other businesses that we have reviewed.

Figure 3-2 Operating expenditure (excluding licence fees, bulk charges and environmental contribution) for 2011-12, 2012-13, WP3 and WP4 periods (Index 2011-12 = 100)

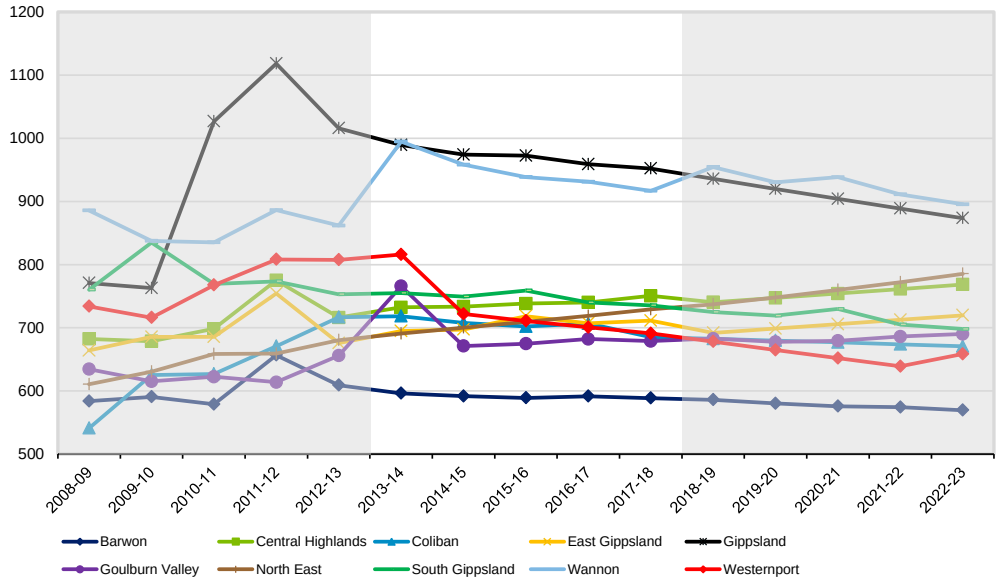


Operating costs are forecast to be $16.6m (including licence fees and environmental contribution) in 2013-14. In its Water Plan South Gippsland Water has identified that key drivers of increased operating expenditure across WP3 include:

- Additional costs associated with superannuation guarantee payments
- The cost of Living Melbourne Living Victoria and Intelligent Water Networks
- Costs associated with desludging lagoons
- Increased electricity costs
- Additional environmental contributions
- Increased costs associated with new small town sewerage schemes.

South Gippsland Water's operating costs per connection are mid-range for the businesses we have reviewed, and generally decline slightly over the WP3 period.

Figure 3-3 Operating expenditure per connection (excluding licence fees, bulk charges and environmental contribution) for WP2, WP3 and WP4 periods



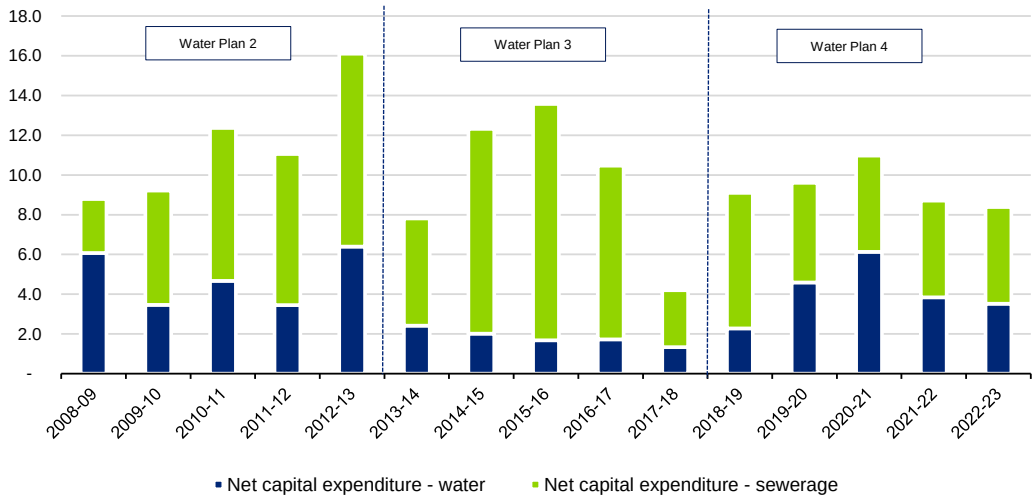
3.2 Capital expenditure

The Figure below shows South Gippsland Water's actual and forecast water and sewerage capital expenditure.

South Gippsland Water proposes to invest $72.0m during the next Water Plan, which equates to an average annual capital expenditure of $14.4m. This is slightly more than the actual average annual capital expenditure in the current regulatory period of $12.6m.

Two projects (Poowong/Loch/Nyora Sewerage Scheme and Northern Towns Water Supply Connection – Lance Creek to Korumburra) comprise 63% of total proposed expenditure (although the Northern Towns Water Supply Connection project is anticipated to be funded by government).

Figure 3-4 South Gippsland Water actual and forecast capital expenditure ($m, 01/01/2013)



Note the figure displays net capital expenditure after assumed Government contributions have been taken into account.

3.3 Key drivers and obligations

3.3.1 Service standards

South Gippsland Water has stated that it has set core service standards in line with historic performance; although we note that for most parameters targets are actually lower than recent performance. South Gippsland Water has generally exceeded its targets, with very few exceptions, over the past three years.

South Gippsland Water has proposed additional service standards covering recycled water, biosolids reuse, small town sewerage connections, environmental discharge compliance and drinking water quality.

It has also proposed that three new GSLs (in addition to the Hardship GSL required by the ESC) will apply in the WP3 period.

3.3.2 Demand

South Gippsland Water has forecast that the strong growth in property numbers it has experienced in recent years will continue at around 1.6% per annum. Demand for water is forecast to remain flat, with lower water sales to its two major customers being offset by higher sales to residential and commercial customers.

4 Assessment of operating expenditure

This chapter sets out our assessment of operating expenditure including:

- An assessment of the 2011-12 baseline expenditure (which forms the basis of the growth adjusted BAU for WP3)
- Assessment of individual expenditure items. Our approach to assessing many of the expenditure items, including labour, electricity and superannuation guarantee costs, is set out in our *Overview* document
- Assessment of business specific expenditure items that are increasing and are above BAU (i.e. new initiatives or large increases in BAU items).

4.1 Business As Usual (BAU) expenditure

As outlined in the *Overview* document our approach to assessing BAU expenditure is to define efficient expenditure in the base year of 2011-12. This procedure involves removing material once-off items that were incurred in 2011-12, as well as adding back any material items that are normally incurred but were not in 2011-12. In addition, we have specifically removed any once-off and cyclical costs related to the drought in 2011-12, consistent with the ESC Guidance paper.

Table 4-1 below shows South Gippsland Water's proposed BAU expenditure (excluding licence fees and the environmental contribution levy) for 2011-12 which is then growth and productivity adjusted for the WP3 years according to the methodology in the ESC's template. As 2011-12 was a relatively 'typical' year we do not believe that any adjustments to actual expenditure are required to calculate BAU expenditure in 2011-12.

Table 4-1 South Gippsland Water 2011-12 BAU and growth adjusted forecast ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total WP3
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	
Actual BAU	15.335						
Deloitte adjustments to BAU	0.000						
BAU baseline forecast	15.335	15.486	15.562	15.638	15.715	15.792	78.192

The ESC's Guidance Paper notes that the ESC will require all businesses to achieve a minimum of 1% per year productivity improvement on customer growth adjusted business as usual (BAU) operating expenditure for the WP3 period.

In the remainder of this chapter we assess the individual items of expenditure that South Gippsland Water has identified as increasing over the WP3 period. Following our assessment of each individual item, we compare our total recommended operating expenditure (less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators) with the growth and productivity adjusted BAU target set out in Table 4-1 to obtain a view on whether or not South Gippsland Water is meeting the ESC's productivity hurdle.

This approach ensures that our assessment of South Gippsland Water's performance against the productivity hurdle takes into account the extent to which expenditure above the BAU target is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators (i.e. is either driven by required service outcomes from customers or largely outside the control of the business).

4.2 Individual expenditure items

Individual expenditure items have been assessed for prudency and efficiency using the approach set out in the *Overview* document. We have reported these items on a 'by exception' basis, i.e. we have generally only provided commentary for those items where we have recommended adjustments.

In this section, and where the context requires, references to South Gippsland Water's 'original' forecasts reflect forecasts contained in its Water Plan of September 2012. References to South Gippsland Water's 'revised' forecasts reflect adjustments proposed by South Gippsland Water in response to our Draft Report.

4.2.1 Labour costs

South Gippsland Water's Proposal

South Gippsland Water's original forecast of total labour costs were based upon:

- Wage increases of 5% per year in nominal terms, reflecting a new EBA taking effect (retrospectively) from September 2012 as well as staff progressing through bands
- The impact of increases in the superannuation guarantee amount
- An increase of 3 FTEs from 2011-12 to 2017-18

South Gippsland Water's labour forecasts set out in its ESC template were originally submitted in nominal terms. The forecasts, expressed in real terms, are set out in the table below.

Table 4-2 South Gippsland Water original proposed labour expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed labour expenditure	7.165	7.663	7.927	8.140	8.439	8.665
Number of FTEs	88.8	89.8	90.8	90.8	91.8	91.8
Cost per FTE ($'000)	80.730	85.378	87.355	89.692	91.981	94.442

In response to our Draft Report, South Gippsland Water provided a revised and reduced forecast of labour costs, based around nominal increases in wages which are contained in its draft EBA which is currently with Government. This provides for 3.0% in 2013-14, 3.25% in 2014-15, and 3.5% from 2015-16 to 2017-18. In addition South Gippsland Water sought an additional 1% per annum for staff to move through salary bands.

Our approach to reviewing labour forecasts is set out in the *Overview* document and involves:

- Applying wage increases set out in existing EBAs to apply until the EBA expires. In South Gippsland Water's case this is September 2012
- Once a new EBA applies, applying a real growth in wages per FTE of 0%.
- Reviewing FTE numbers on a case-by case basis.

We note that although South Gippsland Water's draft EBA provides for nominal increases above the Government's guideline of 2.5%, we understand these increases are subject to reductions in overall labour costs being achieved. An area of potential reduction that has been identified is savings from reduced site visits on weekends.

As set out in the *Overview* document the Government's view is that any increases due to staff moving through bands should be absorbed within the baseline wages increase and not be additional.

Therefore we consider it appropriate to apply a zero real growth in wages costs (with costs of new FTEs additional) to South Gippsland Water across WP3.

Accordingly we have made reductions totalling $3.3m across the regulatory period, as set out below.

Table 4-3 Recommendations – labour expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed labour expenditure	7.165	7.663	7.927	8.140	8.439	8.665
Recommended adjustments		-0.264	-0.446	-0.658	-0.876	-1.101
Revised expenditure		7.399	7.481	7.481	7.564	7.564

4.2.2 Electricity costs

South Gippsland Water has nine large sites and around 100 small sites. South Gippsland Water has used Procurement Australia (PA) to tender for its electricity supply.

The Water Plan forecasts were based on an assumption of prices at large and small sites increasing by 18% and 9% respectively in 2012-13, and 1.73% per annum thereafter. Combined with an assumed 1% increase in usage, this means that total electricity costs are forecast to increase 2.75% annually over WP3.

Table 4-4 Water Plan electricity forecasts ($m, 01/01/2013)

	Actual	Water Plan forecast					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Large sites	0.389	0.464	0.477	0.490	0.504	0.518	0.532
Small sites	0.381	0.420	0.431	0.443	0.455	0.468	0.481
Total	**0.770**	**0.884**	**0.908**	**0.933**	**0.959**	**0.985**	**1.012**
% Change		14.80%	2.75%	2.75%	2.75%	2.75%	2.75%

As noted in our *Overview* document Procurement Australia has recommended that AGL be selected to provide electricity services and a new three year quote has been provided to South Gippsland Water.

Using the quote provided by Procurement Australia, and making certain assumptions as set out in the *Overview* document, we have recalculated South Gippsland's forecasts and made the adjustments as set out in the Table below. Note that the adjustments shown are slightly higher than proposed in our Draft Report because, as set out in our *Overview* document, we have changed our forecasts to reflect that the Procurement Australia energy prices are fixed in nominal, and not real, terms over the life of the quote.

Table 4-5 Electricity costs ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed electricity cost	0.770	0.908	0.933	0.959	0.985	1.012
Recommended adjustments		-0.036	-0.045	-0.052	-0.070	-0.088
Revised expenditure		0.872	0.889	0.907	0.916	0.925

4.2.3 Living Melbourne Living Victoria expenditure

South Gippsland Water has forecast expenditure of $50,000 per annum associated with the Living Melbourne Living Victoria expenditure. This forecast is high-level and no specific projects have been identified at this stage.

While we accept South Gippsland Water's views in response to our Draft Report that Living Melbourne Living Victoria is Government policy, the Living Melbourne Living Victoria program is focussed on metropolitan Melbourne and we are not aware of any specific programs, projects or works that will have material implications for regional water businesses. Although South Gippsland Water identified in its response that 'there will be a number of projects which SGW will be actively pursuing' it did not identify the nature of these projects.

We have therefore removed this expenditure from South Gippsland Water's forecasts as outlined in the Table below.

Table 4-6 South Gippsland Water Living Melbourne Living Victoria expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed cost	0.000	0.050	0.050	0.050	0.050	0.050
Recommended adjustments		-0.050	-0.050	-0.050	-0.050	-0.050
Revised expenditure		0.000	0.000	0.000	0.000	0.000

4.2.4 Defined benefits superannuation

South Gippsland Water has not included any defined benefits superannuation payments in its forecast.

However South Gippsland Water is required to make a payment of $1.073m to Vision Super by 1 July 2013.

As set out in our *Overview* document we believe it is reasonable for businesses to recover a defined benefits superannuation payment over a 15 year period even where, as in the case of South Gippsland Water, it has already been paid. Our methodology for calculating the payments is set out in the *Overview* document. As noted in the *Overview* document:

- We have increased the assumed rate at which funds can be borrowed from 5.5% to 5.75%
- We do not consider that recovering the full amount in WP3, as South Gippsland Water suggested in its response to our Draft Report, is appropriate.

We have therefore increased South Gippsland Water's expenditure forecast as set out below.

Table 4-7 South Gippsland Water defined benefits superannuation expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed superannuation payment	0	0	0	0	0	0
Recommended adjustments		0.106	0.103	0.100	0.098	0.095
Revised superannuation payment		0.106	0.103	0.100	0.098	0.095

4.2.5 Chemical costs

In its Water Plan South Gippsland Water has forecast a steady increase in chemical costs across WP3, as shown in the table below.

Table 4-8 South Gippsland Water proposed chemicals expenditure ($m, 01/01/2013)

	Actual	Water Plan forecast					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Forecast expenditure	1.183	1.270	1.305	1.341	1.378	1.416	1.455
% Change	9.03%	7.38%	2.75%	2.75%	2.75%	2.75%	2.75%

According to South Gippsland Water:

- The increase in expenditure in 2012-13 reflects both higher chemical prices, as well as additional chemical volumes associated with fluoridation and the Meeniyan sewerage scheme
- Future cost increases primarily reflect price increases (including the impact of the carbon price) rather than increased volumes.

In response to our Draft Report South Gippsland Water decreased its forecast of chemical cost changes to 1.5% per annum to reflect a view that chemical costs will continue to rise above CPI.

We consider South Gippsland Water's increase for 2012-13 is reasonable, but as set out in our *Overview* document, we do not consider it reasonable that chemical prices should increase in real terms across the WP3 period. We have therefore adjusted South Gippsland Water's chemical cost forecast as follows:

- We have accepted South Gippsland Water's 2011-12 and 2012-13 expenditure
- Beyond 2012-13 we have applied a 0% growth in costs to reflect the flat forecasts of water use. Our adjustments are set out in the Table below.

Table 4-9 Recommended chemical costs ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed chemicals expenditure	1.183	1.305	1.341	1.378	1.416	1.455
Recommended adjustments		-0.035	-0.071	-0.108	-0.146	-0.185
Revised chemicals expenditure		1.270	1.270	1.270	1.270	1.270

4.2.6 GSL costs

South Gippsland Water proposes to introduce three new GSLs in the WP3 period:

- Unplanned water interruptions not restored within five hours of notification ($75)
- Unplanned interruptions to sewer service not rectified within 5 hours of notification ($75)
- Sewage spill into house caused by SGW ($1000 plus clean up)

In addition, the hardship GSL has been in place since 1 July 2012.

In its Water Plan forecasts South Gippsland Water has estimated costs of $50,000 cost per annum in relation to these GSLs, which includes $24,000 for payment of GSLs, and $26,000 in administrative costs. The majority of the GSL payment costs relate to the unplanned water interruptions GSL.

In our Draft Report we reviewed the cost of the GSLs and considered that they were likely to be overstated. In particular:

- While South Gippsland Water has forecast 260 customers per annum will be affected by the unplanned water interruptions GSL, an average of only 12 customers per year have experienced such an interruption. No customers have been affected in the past 3 years

- As set out in our *Overview* document, we do not consider it appropriate for South Gippsland Water to be compensated for payments made under the hardship GSL.

Accordingly, in our Draft Report we reduced the GSL forecasts to provide for:

- The number of GSL payments to be consistent with historical averages
- Administrative costs consistent with the number of payments.

In response to our Draft Report South Gippsland Water accepted our recommendation. Our final adjustments are therefore set out in the table below.

Table 4-10 Gippsland Water GSL expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed cost	0.000	0.050	0.050	0.050	0.050	0.050
Recommended adjustments		-0.039	-0.039	-0.039	-0.039	-0.039
Revised expenditure		0.011	0.011	0.011	0.011	0.011

4.2.7 Meter reading costs

South Gippsland Water has sought an additional $28,000 per annum over BAU expenditure for costs associated with moving to a three-monthly meter reading and billing cycle from the current four-monthly cycle. The forecast is based on an assumption that the change in billing cycles will commence at the start of 2013-14.

A move to three monthly meter reading is consistent with good practice in the industry and will assist in providing more regular information to customers about their usage. The estimate of increased costs also appears reasonable. However limited work, including no customer consultation, on the proposal has been undertaken to date. Hence we consider it is unlikely the new billing regime will commence in 2013-14.

We have therefore adjusted the expenditure forecasts to reflect a 2014-15 commencement as outlined in the Table below.

Table 4-11 South Gippsland Water meter reading expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed cost	0.088	0.116	0.116	0.115	0.115	0.115
Recommended adjustments		-0.026	0.000	0.000	0.000	0.000
Revised expenditure		0.090	0.116	0.115	0.115	0.115

4.2.8 Sludge removal costs

In response to our Draft Report South Gippsland Water sought additional costs of $106,000 per annum associated with sludge removal at Lance Creek. South Gippsland Water indicated that it had become apparent that it is no longer possible to store sludge on-site following commissioning of its centrifuge and dewatering facility.

South Gippsland Water has provided documentation supporting this cost and we have incorporated it into the forecasts.

Table 4-12 South Gippsland Water desludging costs

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed cost	0.000	0.000	0.000	0.000	0.000	0.000
Recommended adjustments		0.106	0.106	0.106	0.106	0.106
Revised expenditure		0.106	0.106	0.106	0.106	0.106

4.2.9 Recommended changes to operating expenditure

Recommended operating expenditure

The table below summarises our recommended changes to forecast operating expenditure. Overall we recommend reducing South Gippsland Water's operating expenditure from $78.5m to $74.9m – a 5% reduction.

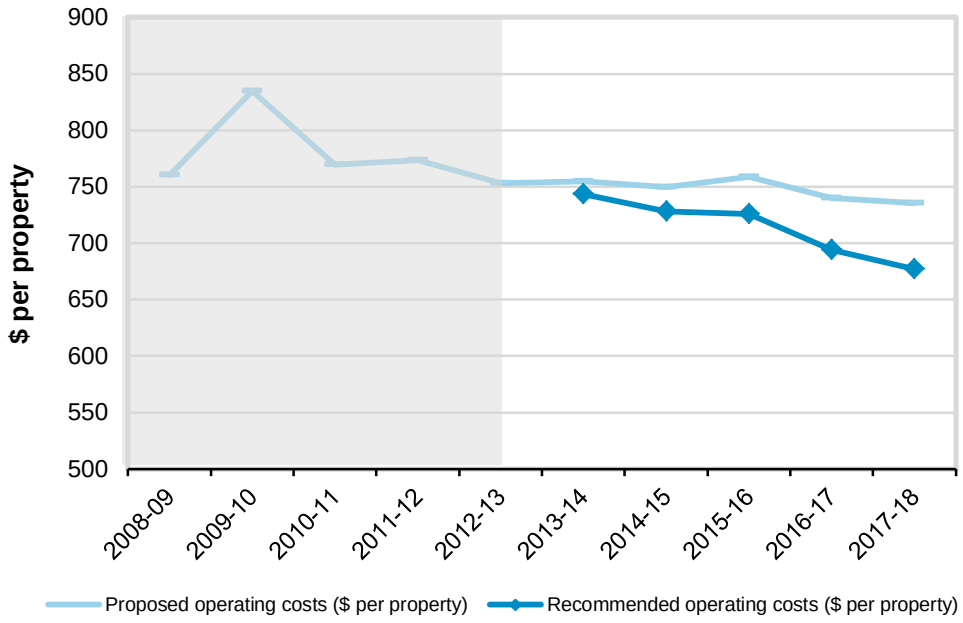
Table 4-13 South Gippsland Water forecast controllable operating expenditure and recommended adjustments ($m, 01/01/2013)

Operating expenditure item	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Proposed controllable operating expenditure ($m)	15.335	15.416	15.523	15.945	15.769	15.893	**78.547**
Recommended adjustments							
Labour		-0.264	-0.446	-0.658	-0.876	-1.101	**-3.346**
Electricity		-0.036	-0.045	-0.052	-0.070	-0.088	**-0.291**
Desludging		0.106	0.106	0.106	0.106	0.106	**0.530**
Living Melbourne Living Victoria		-0.050	-0.050	-0.050	-0.050	-0.050	**-0.250**
Defined benefits superannuation costs		0.106	0.103	0.100	0.098	0.095	**0.501**
Chemical costs		-0.035	-0.071	-0.108	-0.146	-0.185	**-0.544**
GSLs		-0.039	-0.039	-0.039	-0.039	-0.039	**-0.195**
Metering		-0.026	0.000	0.000	0.000	0.000	**-0.026**
Total recommended adjustments		**-0.238**	**-0.442**	**-0.701**	**-0.976**	**-1.262**	**-3.619**
Recommended operating expenditure		**15.179**	**15.081**	**15.244**	**14.793**	**14.631**	**74.928**

Notes: Controllable operating expenditure excludes licence fees and environmental contribution.

Figure 4-1 compares our recommended operating expenditure for South Gippsland Water (on a per connection basis) with South Gippsland Water's proposal.

Figure 4-1 Proposed and recommended operating expenditure ($ per property, 01/01/2013)



Performance against productivity hurdle

The ESC's Guidance Paper notes that the ESC will require all businesses to achieve a minimum of 1% per year productivity improvement on customer growth adjusted business as usual (BAU) operating expenditure for the WP3 period (the productivity hurdle).

We have interpreted BAU operating expenditure as being all operating expenditure other than expenditure that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators.

In the case of South Gippsland Water, we have assessed the following increases in operating expenditure above the 2011-12 baseline as meeting this definition:

- Electricity
- Defined benefits superannuation contributions
- New GSLs
- Desludging expenditure

The following table summarises the expenditure above the 2011-12 BAU for these items that we have assessed as meeting the ESC's requirements for prudency and efficiency.

Table 4-14 Prudent and efficient new initiatives and obligations expenditure above the 2011-12 baseline ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Electricity		0.087	0.099	0.114	0.119	0.124	0.542
Defined benefits superannuation		0.106	0.103	0.100	0.098	0.095	0.501
GSLs		0.011	0.011	0.011	0.011	0.011	0.055
Desludging expenditure		0.106	0.106	0.106	0.106	0.106	0.530
Total		**0.310**	**0.319**	**0.331**	**0.333**	**0.336**	**1.629**

Note: Electricity encompasses carbon price impacts.

Table 4-15 below calculates a "recommended BAU expenditure" using our total recommended operating expenditure less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators above the BAU target. This amount is then compared with the growth and productivity adjusted BAU target to obtain a view on whether or not South Gippsland Water's operating expenditure, following our adjustments, meets the ESC's productivity hurdle.

Table 4-15 Productivity hurdle assessment ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Recommended operating expenditure		15.179	15.081	15.244	14.793	14.631	74.928
Less prudent and efficient new initiatives expenditure		0.310	0.319	0.331	0.333	0.336	1.629
Recommended BAU expenditure		**14.869**	**14.762**	**14.913**	**14.460**	**14.295**	**73.299**
Adjusted BAU target	15.335	15.486	15.562	15.638	15.715	15.792	78.192
Amount above BAU target		-0.617	-0.800	-0.725	-1.255	-1.497	-4.893

As shown in the table, following our recommended adjustments, and accounting for expenditure above the BAU target that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators, South Gippsland Water meets the ESC's productivity hurdle.

5 Capital expenditure

This chapter of the report sets out our assessment of South Gippsland Water's capital expenditure proposal for WP3 including:

- An assessment of generic issues relevant to the overall prudency, efficiency and deliverability of the proposed capital expenditure program.
- A summary of major projects with a significant impact on the capital expenditure proposal (top ten by total expenditure) and assessment of each project
- A summary of our recommendations.

Our approach to assessing generic capital expenditure issues and project specific issues that are common to a number of businesses is set out in our *Overview* document.

5.1 Generic issues

In undertaking our review of South Gippsland Water's capital expenditure forecast, we have focussed on the major projects that comprise a significant proportion of the total capital expenditure forecast.

In doing so, we have also undertaken a high-level assessment of generic issues that may have an impact on the prudency, efficiency and deliverability of multiple projects or South Gippsland Water's capital expenditure program as whole.

5.1.1 Capital expenditure planning

South Gippsland Water has a rolling 10-year capital expenditure plan, which has been used to determine its capital expenditure forecast for WP3.

South Gippsland Water's approach for developing and approving capital projects is outlined in its Capital Works Project/Contract Management Process document.[1] Firstly, a Board approved Strategic Approval Statement (SAS) is required before a project can be included in the rolling10-year plan, to confirm its need. A Capital Justification Statement (CJS) is then prepared for all projects included in the 10-year plan. The CJS is the mechanism by which the Board formally approves capital expenditure for particular projects.

South Gippsland Water indicated that project prioritisation has been based on external factors and knowledge of its systems. This approach may be acceptable for a small water business, however we consider the prioritisation process could be improved with a more a structured risk-based approach to identify priority capital projects/programs for inclusion in WP3.

With the exception of the vehicle replacement program, a business case has been prepared for all major projects and programs.

5.1.2 Cost estimation and escalation

South Gippsland Water stated that consultants typically prepare cost estimates for significant capital projects. South Gippsland Water understands that cost estimates provided by consultants are the mean estimate with a contingency, which reduces as the project progresses from concept through to delivery.

South Gippsland Water did not determine P5, P50, P95 cost estimates for any projects to forecast expenditure in its initial proposal. However, South Gippsland Water has now determined P50 cost estimates for its five largest projects, in accordance with our

[1] South Gippsland Water 2012, *Capital Works Project/Contract Management Process*

recommendations. This has led to a net decrease in forecast expenditure of $0.6m for these projects.

In our Draft Report we concluded that South Gippsland Water had applied a real construction indexation factor of 2.75% to a selection of projects. South Gippsland Water has demonstrated that this is not the case and therefore forecast expenditure in the Final Report reflects expenditure without this factor.

5.1.3 Deliverability of the capital expenditure program

South Gippsland Water has proposed to invest $72.0m during WP3, which equates to an average annual capital expenditure of $14.4m. This is slightly more than the actual average annual capital expenditure in WP2 of $12.6m.

Two projects (Poowong/Loch/Nyora Sewerage Scheme and Northern Towns Water Supply Connection – Lance Creek to Korumburra) comprise 58% of proposed expenditure.

Subsequent to our Draft Report, South Gippsland Water's forecast expenditure for WP3 has increased to $73.7m, which equates to an average annual capital expenditure of $14.7m. The increase is due to the inclusion of the Alberton Sewerage Scheme ($2.1m) and additional IT capital costs ($0.1m) and incorporation of P50 cost estimates for the five largest projects (-$0.4m net change).

5.2 Major projects

Table 5-1 provides an overview of the top ten projects (by expenditure), showing the primary driver and forecast expenditure over the current and next regulatory period.

Table 5-1 South Gippsland Water top ten projects and forecast expenditure ($m, 01/01/2013)

Capital expenditure item	Primary Driver	Water Plan forecast expenditure						
		2013-14	2014-15	2015-16	2016-17	2017-18	Total	Proportion of total expenditure
Poowong/Loch/Nyora sewerage scheme	Compliance	1.47	8.47	9.93	6.66	0.00	**26.53**	37%
Northern towns supply connection works - Lance Creek to Korumburra	Growth	0.30	3.10	4.10	4.60	3.20	**15.30**	21%
Vehicle replacement	Asset renewal	0.85	0.85	0.85	0.85	0.85	**4.25**	6%
Northern towns supply connection works - Korumburra to Poowong	Growth	0.05	0.20	0.80	2.36	0.00	**3.41**	5%
Reticulation sewer replacement/rehabilitation	Asset renewal	0.60	0.60	0.60	0.60	0.60	**3.00**	4%
Water renewals/replacement	Asset renewal	0.50	0.50	0.50	0.50	0.50	**2.50**	3%
Leongatha WWTP - refurbish de-commissioned digestion system	Compliance	2.00	0.00	0.00	0.00	0.00	**2.00**	3%
Wonthaggi sewer system upgrades	Growth	0.25	0.25	0.25	0.25	0.25	**1.25**	2%
Environmental obligations	Compliance	0.25	0.25	0.25	0.25	0.25	**1.25**	2%
Foster WWTP – rising main pipeline and storage	Compliance	0.00	0.00	0.00	0.00	1.04	**1.04**	1%
Sub-Total - Top 10 Projects		**6.27**	**14.22**	**17.28**	**16.07**	**6.69**	**60.53**	84%
Other projects		3.49	2.05	2.41	1.89	1.62	11.46	
Total		**9.76**	**16.27**	**19.69**	**17.96**	**8.31**	**71.99**	
Proportion of annual expenditure		14%	23%	27%	25%	12%		

Notes: The figures in the table above reflect South Gippsland Water's original forecasts.

5.3 Poowong/Loch/Nyora sewerage scheme

5.3.1 Business proposal

This project relates to the construction of a sewerage scheme for the townships of Poowong, Loch and Nyora.

Key drivers

South Gippsland Water has identified compliance as the primary driver for this project.

South Gippsland Water has been directed to sewer Poowong, Loch and Nyora under its Statement of Obligations.

The State Government has identified the need for improved wastewater management in these townships and included the towns for high priority funding under the State Government's Country Towns Water Supply and Sewerage Program.

Options analysis

Various consulting engineers' reports and documents have been prepared to define the activities relating to this project. All relevant reports and documents have been referenced in the business case.

These assessments have been used to identify the preferred option, which includes a Modified Conventional Sewerage (MCS) scheme for collection of the wastewater, with pumped mains from each town to a central lagoon treatment facility, and reuse of the effluent for land. It has been proposed that the treatment and reuse facility be located near Nyora.

Consideration has been given to cost, social acceptability, environmental sustainability, growth potential and land suitability in the selection of the preferred option.

Proposed costs

The cost estimate for the Poowong, Loch Nyora sewerage scheme has escalated significantly from the time the scheme was first proposed and approval sought for the business case. There is greater certainty in the cost estimate now that the scope of the work is nearing final definition. The risk of the overall scheme cost estimate variance has reduced, as scheme component details are better defined.

The current cost estimate is nearly twice the cost estimated in 2007. There has been an increase in costs in most areas of the project. The current preliminary cost estimate is deemed to have an accuracy of +/- 25% and a contingency of 20% has been applied. South Gippsland Water proposes to provide a more detailed cost estimate to its Board in December 2012, which will have a contingency of +/- 10%.

South Gippsland did not originally provide a P50 estimate in its Water Plan however this has now been determined and was provided in South Gippsland's submission to our Draft Report.

Proposed timing

The forecast completion date for this project is June 2017. This is contingent on a Planning Scheme Amendment for the site of the wastewater treatment plant being issued by September 2013. Currently survey, investigations, detailed design, land purchase and ongoing community consultation are being undertaken with a view to be finished by mid-2013. South Gippsland Water has indicated that the proposed planning scheme amendment is likely to be challenged.

5.3.2 Analysis and recommended adjustments

South Gippsland Water has recently delivered the Meeniyan sewerage scheme. Experience gained from this project has been used to inform forecast expenditure for the Poowong, Loch and Nyora sewerage scheme.

In accordance with our recommendation in the Draft Report, South Gippsland Water determined a P50 cost estimate for the project, which has led to a decrease in forecast expenditure.

In our Draft Report we recommended deferring expenditure by one year due to the high likelihood that project delivery would be delayed due to anticipated opposition to the proposed planning scheme amendment. In response, South Gippsland Water proposed to retain the expenditure timeline proposed in its submission, citing that:

- The project schedule already included an allowance of one year for planning approvals
- Existing community and political expectation would not support recommended delays.

Subsequent discussions with South Gippsland Water revealed that a broader review of wastewater treatment and reclaimed water management options for the scheme was currently being undertaken, which would delay the project.

We are still not satisfied that the project can be delivered in line with South Gippsland Water's proposed expenditure profile and recommend deferring expenditure by one year.

Recommendation

In accordance with our analysis above, we recommend:

- Revising forecast expenditure to reflect the P50 cost estimate provided by South Gippsland Water after its initial proposal
- Deferring expenditure by one year.

These adjustments are shown in Table 5-2 below.

Table 5-2 Proposed and recommended expenditure for Poowong/Loch/Nyora sewerage scheme ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Poowong/Loch/Nyora sewerage scheme	Proposed	1.47	8.47	9.93	6.66	0.00	26.53
	Recommended	0.00	1.57	10.05	8.74	5.65	26.01
	Net change	**-1.47**	**-6.90**	**0.12**	**2.08**	**5.65**	**-0.52**

5.4 Northern towns supply connection works - Lance Creek to Korumburra

5.4.1 Business proposal

This project relates to the construction of a treated water trunk supply main (450mm diameter, 19.7 km) and booster pump station from Lance Creek Water Treatment Plant (WTP) to the existing Clear Water Storage at Korumburra WTP.

Key drivers

Discussions with South Gippsland Water have indicated that growth is the primary driver for this project.

Four main drivers for the project were identified in the business case:

- Increased volatility associated with raw water supply
- Population growth increasing demand
- Water quality issues, especially the occurrence of trihalomethanes
- Compliance with ANCOLD guidelines to address dam safety deficiencies.

Options analysis

The business case states that South Gippsland Water focussed its assessment on two main options to address the supply shortfall identified in its Water Supply Demand Strategy:[2]

- Connection of the northern systems to the Melbourne system supply
- Continued development of existing surface supply systems.

GHD prepared a high level preliminary cost estimate for each of these options to a confidence level of ± 50%. These estimates were used by MJA to undertake a cost effectiveness assessment to identify the option that achieves a target outcome at the least net cost. The MJA assessment identified connection of the northern systems to the Melbourne system supply as the preferred option.

Proposed costs

Then Northern Towns Supply Connection is a key project in South Gippsland Water's Water Supply and Demand Strategy and was identified in a separate business case as the preferred solution to provide future supplies to South Gippsland Water's northern towns. The project has been assumed to be fully funded by government, therefore has no price impact.[3]

Forecast expenditure has been based on high level preliminary cost estimates (confidence level of ± 50%) provided by GHD.

According to the business case, capital expenditure forecasts are in nominal dollars, not real dollars.

South Gippsland did not originally provide a P50 estimate in its Water Plan however this has now been determined and was provided in South Gippsland's submission to our Draft Report.

Proposed timing

The planned timing and sizing of infrastructure is based on the local growth forecasts of the Draft Water Supply Demand Strategy.

South Gippsland Water has indicated that it will not commence construction without Government funding. It has however proceeded with planning and designs for the project on the assumption that Government funding will be confirmed.

A letter from Hon Minister Walsh[4] indicates that the State Government is supportive of South Gippsland Water's funding bid for the Northern Towns Supply Connection project.

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[2] SKM 2011, South Gippsland Water Water Supply Demand Strategy 2011
[3] South Gippsland Water 2012, *South Gippsland Water Water Plan III*, p.51
[4] Minister for Water, Letter from Peter Walsh (dated 6 June 2011)

5.4.2 Analysis and recommended adjustments

South Gippsland Water stated that the project has been assumed to be fully funded by yet to be confirmed funding, therefore has no price impact.

In accordance with our recommendation in the Draft Report, South Gippsland Water determined a P50 cost estimate for the project, which has led to a decrease in forecast expenditure.

Recommendation

In accordance with our analysis above, we recommend revising forecast expenditure to reflect the P50 cost estimate provided by South Gippsland Water after its initial proposal. This adjustment is shown in Table 5-3 below.

Table 5-3 Proposed and recommended expenditure for Northern towns supply connection works - Lance Creek to Korumburra ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Northern towns supply connection works - Lance Creek to Korumburra	Proposed	0.30	3.10	4.10	4.60	3.20	15.30
	Recommended	0.28	2.95	4.01	4.58	3.30	15.11
	Net change	**-0.02**	**-0.15**	**-0.09**	**-0.02**	**0.10**	**-0.19**

5.5 Vehicle replacement

5.5.1 Business proposal

This project relates to the ongoing replacement of fleet vehicles.

Key drivers

South Gippsland Water has identified asset renewal as the primary driver for this project.

Program description

South Gippsland Water generally trade in cars at 80,000 km and operational vehicles at 120,000 km, based on a recommendation from its fleet service provider, Webfleet.

Proposed costs and timing

Forecast expenditure has been based on the gross cost of maintaining the current fleet in accordance with South Gippsland Water's Corporation vehicles policy and Provision of Corporation Vehicles procedure. Revenue gained from trading-in vehicles has been captured in the revenue component of the financial model.

Forecast expenditure has been based on recent historical expenditure (last three years).

A P50 cost estimate has not been provided for this program.

5.5.2 Analysis and recommended adjustments

We have not conducted any detailed analysis, but on the basis of some limited benchmarking with other regional businesses with similar service areas, the forecast expenditure for vehicle replacement appears high. For example, East Gippsland Water's forecast capital expenditure is nearly 30% less for a similar customer base and spread of systems. The issue for South Gippsland appears to be not the capital cost of individual vehicles, or its replacement policy, but rather the sheer number of vehicles to be replaced.

South Gippsland Water indicated its recently established productivity committee identified that fleet was an area where savings could be achieved. We agree with this view.

Recommendation

In accordance with our analysis above, we recommend reducing forecast expenditure by 10%. This adjustment is shown in Table 5-4 below.

Table 5-4 Proposed and recommended expenditure for vehicle replacements ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Vehicle replacement	Proposed	0.85	0.85	0.85	0.85	0.85	4.25
	Recommended	0.77	0.77	0.77	0.77	0.77	3.83
	Net change	**-0.09**	**-0.09**	**-0.09**	**-0.09**	**-0.09**	**-0.43**

5.6 Northern towns supply connection works - Korumburra to Poowong

5.6.1 Business proposal

This project relates to the construction of a treated water trunk supply main (300/250 mm diameter, 8.5km) and booster pump station from existing Clear Water Storage at Korumburra WTP to the existing Clear Water Storage at Poowong WTP.

Key drivers

Refer to section 5.4 (Northern towns supply connection works - Lance Creek to Korumburra).

Options analysis

Refer to section 5.4.

Proposed costs

Refer to section 5.4.

Proposed timing

Refer to section 5.4.

Forecast expenditure indicates that this project will be completed one year in advance of the Lance Creek to Korumburra pipeline being completed.

5.6.2 Analysis and recommended adjustments

In accordance with our recommendation in the Draft Report, South Gippsland Water determined a P50 cost estimate for the project, which has led to an increase in forecast expenditure.

In addition to our analysis and recommended adjustments in section 5.4.2 (Northern towns supply connection works - Lance Creek to Korumburra), in our Draft Report we recommended deferring expenditure by one year so the completion of this project would coincide with the completion of the Lance Creek to Korumburra pipeline project. This would allow the asset to be used upon completion, rather than remaining unused until the Lance Creek to Korumburra pipeline is completed.

In response, South Gippsland advised that they would be reluctant to defer expenditure by one year as they are currently experiencing significant reductions in dam levels and have

just introduced water restrictions on the 31 January 2013. They reinforced that the Northern Towns connection is critical to provision of water supply in the region.

After further discussions with South Gippsland Water, we are still not satisfied that the completion of the Korumburra to Poowong pipeline ahead of the Lance Creek to Korumburra pipeline would alleviate relevant communities from water restrictions.

Recommendation

In accordance with our analysis above, we recommend:

- Revising forecast expenditure to reflect the P50 cost estimate provided by South Gippsland Water after its initial proposal
- Deferring the project by one year.

These adjustments are shown in Table 5-5 below.

Table 5-5 Proposed and recommended expenditure for Northern towns supply connection works - Korumburra to Poowong ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Northern towns supply connection works - Korumburra to Poowong	Proposed	0.05	0.20	0.80	2.36	0.00	3.41
	Recommended	0.00	0.05	0.21	0.86	2.61	3.73
	Net change	**-0.05**	**-0.15**	**-0.59**	**-1.50**	**2.61**	**0.32**

5.7 Reticulation sewer replacement/ rehabilitation

5.7.1 Business proposal

This program relates to an ongoing prioritised works program for the rehabilitation, inflow and infiltration curtailment and relining of ageing and deteriorating sewer mains throughout the entire South Gippsland Water region.

Key drivers

South Gippsland Water has identified asset renewal as the primary driver for this project.

The existing sewer system consists of extensive lengths of ageing assets, which are degraded and are reaching or have exceeded their intended functional design life. According to South Gippsland Water those that have passed their functional operating life span are likely to be exhibiting increased levels of service interruption and maintenance requirements.

Program description

South Gippsland Water has allocated an annual scheduled program with a nominated budget of $0.6m, which is generally used for relining of 100 mm and 150 mm diameter sewers for a nominal length of approximately 3.2 km. The sections to be repaired, relined or replaced are based on the recommendations within the relevant Inflow/Infiltration reports and internal condition logging reports. Prioritised Works are nominated on an annual basis and distributed between several towns working towards the end goal of minimising inflow/infiltration and repairing deteriorating and ageing sewer mains.

Proposed costs and timing

South Gippsland Water has forecast annual expenditure of $0.6m p.a. during WP3. This is approximately 10% higher than expenditure in recent years.

South Gippsland Water indicated that it would implement a new asset management system (Hansen8) in 2013. It is understood that the new asset management system will be used to determine asset renewal requirements.

Competitive tenders are invited for each identified section of rehabilitation works. The amount of upgrade works completed in a particular year is a function of the tender prices for individual components and is limited to the annual budget.

A P50 cost estimate has not been provided for this program.

5.7.2 Analysis and recommended adjustments

South Gippsland Water has forecast expenditure of $3.00m for sewer replacement/rehabilitation during WP3, which equates to the renewal/replacement of approximately 3.2 km of water mains. This is approximately 40% (by length) of sewers that will have passed their service life by 2017 (8.4 km) according to data provided by South Gippsland Water.

Despite this, we believe it would be unreasonable to increase expenditure from $0.55m p.a. to $0.60m p.a. until there is supporting (asset failure) data from the new the asset management system to justify an increase. We recommend reducing forecast expenditure to the current budget.

Recommendation

In accordance with our analysis above, we recommend reducing forecast expenditure to the current budget. This adjustment is shown in Table 5-6 below.

Table 5-6 Proposed and recommended expenditure for Reticulation sewer replacement/rehabilitation ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Reticulation sewer replacement/rehabilitation	Proposed	0.60	0.60	0.60	0.60	0.60	3.00
	Recommended	0.55	0.55	0.55	0.55	0.55	2.75
	Net change	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.25**

5.8 Water renewals/replacement

5.8.1 Business proposal

This program relates to the renewal and replacement of water mains.

Key drivers

South Gippsland Water has identified asset renewal as the primary driver for this project.

South Gippsland Water's existing water system consists of extensive lengths of ageing assets, which are degraded and are reaching or have exceeded their intended functional design life. According to South Gippsland Water, assets that have passed their functional operating life span are likely to be exhibiting increased levels of service interruption and maintenance requirements. Pipeline breaks and required works can also have a temporary effect on local service water quality.

Program description

South Gippsland Water has used historical expenditure to determine future requirements.

South Gippsland Water has an annual scheduled program with a nominated budget of $0.50m, which is generally used for the replacement of 80 mm, 100 mm and 150 mm diameter water mains for a nominal length of approximately 2.5 km.

South Gippsland Water indicated that it would be implementing a new asset management system (Hansen8) in 2013. It is understood that the new asset management system will be used to determine asset renewal requirements.

Proposed costs and timing

South Gippsland Water's forecast expenditure for water main renewals has been based on historical expenditure ($0.5m p.a.). A cost estimation is carried out for each prioritised asset renewal activity, which is used to determine the list of activities to be delivered within the financial year. The identified replacement/rehabilitation activities are executed by the in-house water main laying crew.

A P50 cost estimate has not been provided for this program.

5.8.2 Analysis and recommended adjustments

South Gippsland Water has forecast expenditure of $2.5m for water main renewal/replacement, which equates to the renewal/replacement of approximately 12.5 km of water mains. This is approximately one third the length of water mains that would have passed their service life by 2017 (36.5 km) according to data provided by South Gippsland Water.

We have not observed data that shows an increase in water main breaks.[5]

It is imperative that South Gippsland Water utilises its proposed asset management system to determine asset renewal requirements into the future. In the interim we agree with the decision to continue water main renewal/replacement at current levels.

Recommendation

We recommend that proposed expenditure for the water renewals/replacement program be accepted unchanged, as shown in Table 5-7 below.

Table 5-7 Proposed and recommended expenditure for Water renewals/replacement ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Water renewals/replacement	Proposed	0.50	0.50	0.50	0.50	0.50	2.50
	Recommended	0.50	0.50	0.50	0.50	0.50	2.50
	Net change	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.9 Leongatha WWTP - refurbish de-commissioned digestion system

5.9.1 Business proposal

Refurbishment of the existing decommissioned anaerobic digester to allow the reinstatement of sludge digestion facilities at the Leongatha wastewater treatment plant (WWTP).

[5] South Gippsland Water 2012, *South Gippsland Water Water Plan III*, p.31

Key drivers

South Gippsland Water has identified compliance as the primary driver for this project.

In 2005, the Leongatha WWTP was upgraded from a biofiltration process to an activated sludge biological nutrient removal (BNR) process with ultraviolet disinfection. Since this time South Gippsland Water has had difficulty operating the plant successfully and achieving compliance with its EPA licence due to offensive odours and non-compliant effluent quality. Refurbishment of the WWTP digestion system will allow South Gippsland Water to operate the plant successfully and achieve compliance.

Options analysis

The failure of the sludge digestion facilities at Leongatha WWTP in 2010 has required the plant to operate in extended aeration mode since that time. However difficulties with the plant operation, including high solids in the aeration basin and elevated solids loading on the clarifier has made the continued operation in this mode untenable.

This led to KBR being engaged to investigate alternative options to reinstate separate sludge digestion facilities at the plant. KBR evaluated options from both a process perspective and capital and operating cost perspective.

KBR recommended the refurbishment of the anaerobic digester as its preferred method of restoring the process capacity of the Leongatha WWTP, which South Gippsland Water has subsequently adopted.

Proposed costs

Using the KBR assessment, South Gippsland Water estimated the capital cost to refurbish the existing Anaerobic Digestion System to be $2.9m. The KBR assessment indicated that cost estimates provided had an accuracy of ±30%. South Gippsland has indicated that it would explore two delivery mechanisms; management of works by South Gippsland Water utilising a technical consultant and several local contractors for construction; or delivery by a Design and Construct contract.

South Gippsland did not originally provide a P50 estimate in its Water Plan however this has now been determined and was provided in South Gippsland's submission to our Draft Report.

Proposed timing

South Gippsland Water required the anaerobic digestion system to be upgraded to achieve compliance with its Corporate Licence. Project milestones provided in the business case indicate that the construction is proposed to commence in 2012-13, indicating the urgency of the works.

5.9.2 Analysis and recommended adjustments

South Gippsland Water has considered many different approaches to resolve the compliance issue at the Leongatha WWTP before seeking a capital solution. This demonstrates the business has taken a prudent approach.

In accordance with our recommendation in the Draft Report, South Gippsland Water determined a P50 cost estimate for the project, which has led to a slight decrease in forecast expenditure.

Recommendation

In accordance with our analysis above, we recommend revising forecast expenditure to reflect the P50 cost estimate provided by South Gippsland Water after its initial proposal This adjustment is shown in Table 5-8 below.

Table 5-8 Proposed and recommended expenditure for Leongatha WWTP - refurbish de-commissioned digestion system ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Leongatha WWTP - refurbish de-commissioned digestion system	Proposed	2.00	0.00	0.00	0.00	0.00	2.00
	Recommended	1.97	0.00	0.00	0.00	0.00	1.97
	Net change	**-0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.03**

5.10 Wonthaggi sewer system upgrades

5.10.1 Business proposal

This program relates to capital expenditure associated with a staged improvement implementation program over a 50-year horizon for augmenting the Wonthaggi sewerage system. The staged improvement implementation program primarily consists of upsizing sections of existing sewers, implementing new sewers and rising mains, improving or upgrading existing pump stations, and providing emergency storage facilities.

Key drivers

South Gippsland Water has identified growth as the primary driver for this project.

Overall upgrade and augmentation is required to address the existing deficiencies associated with the Wonthaggi sewer reticulation system and to cater for the rapid escalating current and future targeted development within the township.

Program description

As noted the staged program has been based on a 50-year forward planning horizon that considered all components of the sewer network. This program however has only identified works specifically related to sewer upgrades identified for implementation during WP3.

It has been proposed that approximately 2,770 m of existing sewers (ranging from DN150 to DN300) be upgraded in capacity (DN225 to DN450) during WP3 to ensure compliance with the EPA State Environment Protection Policy (SEPP), specifically that sewerage systems contain the flows generated during a 1 in 5 year Average Recurrence Interval (ARI) rainfall event.

Proposed costs

Indicative cost estimates have been prepared by consultants Halcrow to a confidence level of ±10–15% by using a combination of published rates for civil construction, budget cost rates provided by construction contractors, and historical rates for recently constructed work.

The Halcrow report identified a staggered capital works program designed in accordance with requirements identified in the modelling results. South Gippsland Water has modified the program to provide a more uniform annual expenditure. It reflects a portfolio of works with reasonable expenditure that is consistent with its overall capital expenditure program. The business case shows that forecast expenditure for South Gippsland Water program is nearly half that proposed by Halcrow during WP3.

A P50 cost estimate has not been provided for this program.

Proposed timing

This program commenced in 2011-12 and comprises a staged schedule of works with upgrades to occur progressively over WP3 and WP4.

5.10.2 Analysis and recommended adjustments

We are satisfied that South Gippsland Water has taken a prudent approach to upgrading Wonthaggi's sewer system to accommodate growth.

Recommendation

We recommend that proposed expenditure for the Wonthaggi sewer system upgrades be accepted unchanged, as shown in Table 5-9 below.

Table 5-9 Proposed and recommended expenditure for Wonthaggi sewer system upgrades ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Wonthaggi sewer system upgrades	Proposed	0.25	0.25	0.25	0.25	0.25	1.25
	Recommended	0.25	0.25	0.25	0.25	0.25	1.25
	Net change	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.11 Environmental obligations

5.11.1 Business proposal

This program reflects capital expenditure associated with the installation of detention storages, alarms and telemetry, alternative power supply configuration (generator input) and upgrade of pumps.

Key drivers

South Gippsland Water has identified compliance as the primary driver for this project.

This program has been established to upgrade existing and ageing sewer pump stations to meet EPA obligations with regard to control of spillage and containment up to a one in five year average recurrence interval (ARI) storm event. Many of South Gippsland Water's older sewer pump stations have insufficient storage to contain such flows or are in need of refurbishment to ensure operational reliability and current standards are met.

Program description

Sewerage strategies have been developed by consulting engineers for many of South Gippsland Water systems to determine augmentation requirements to meet EPA obligations, and have been used to identify proposed works under this program. The strategies have been developed using outputs from system hydraulic models and have investigated options, such as upsizing of gravity sewer mains, increasing pump rates, refurbishment of existing pump wells and provision of underground emergency storage tanks.

Proposed augmentations have been prioritised according to environmental risk assessments and asset condition evaluations.

Proposed costs and timing

South Gippsland Water has forecast annual expenditure of $0.25m p.a. during WP3 and WP4, which it considers to be consistent with its long-term expenditure profile. Cost estimations for required works have been based on initial condition inspection assessments and estimations on works (upgrade/refurbishment) required for each to meet environmental obligations and acceptable operational standards.

A P50 cost estimate has not been provided for this program.

5.11.2 Analysis and recommended adjustments

We are satisfied that South Gippsland has taken a prudent approach to addressing this issue and that the program of works is reasonable

Recommendation

We recommend that proposed expenditure for the Environmental obligations program be accepted unchanged, as shown in Table 5-10 below.

Table 5-10 Proposed and recommended expenditure for Environmental obligations ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Environmental obligations	Proposed	0.25	0.25	0.25	0.25	0.25	1.25
	Recommended	0.25	0.25	0.25	0.25	0.25	1.25
	Net change	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.12 Foster WWTP – rising main pipeline and storage

5.12.1 Business proposal

This project relates to the construction of rising main pipeline and new pump station to transfer treated wastewater from the Foster WWTP to new maturation and reuse facilities on land to the south west of the existing WWTP.

Key drivers

South Gippsland Water has identified compliance as the primary driver for this project.

The existing Foster WWTP currently has difficulty complying with South Gippsland Water's EPA licence, specifically in relation to suspended solids and *E.coli* parameters. Biological and hydraulic overloading problems contribute to algal growth and insufficient detention time to achieve disinfection requirements, which lead to non-compliance.

South Gippsland Water received an EPA Issue of Pollution Abatement Notice (PAN) due to non-compliance of the Foster WWTP with its licence.[6]

Options analysis

According to the business case, 15 upgrade options have been investigated by consultants KBR. Options that utilise the existing ocean outfall were discounted by KBR after EPA advised that it would not support approvals for these options. The remaining options were assessed using a multi-criteria analysis (MCA). Based on this assessment South Gippsland selected the following preferred option:

- Short term: Lagoon-based treatment remains at existing site with maturation lagoons constructed at a new site, and scientific studies
- Long term: Full reuse through construction of winter storage at new site. Emergency discharge to creek near Promontory Road.

[6] EPA 2011, *Letter from EPA to South Gippsland Water RE: Issue of Pollution Abatement Notice (21 January 2011)*

South Gippsland Water has selected this option due to reduced operating costs, and allows the ongoing use of existing assets and incremental upgrade Importantly, further scientific studies could be undertaken to support discussions with EPA on a long term path towards ceasing discharge from the ocean outfall.

Proposed costs

Capital and operations and maintenance cost estimates have been prepared using a combination of information from suppliers and KBR's experience from current and past projects for each of the options mentioned previously. The estimates have been prepared to a nominal accuracy of ±30%.

A P50 cost estimate has not been provided for this project.

Proposed timing

Forecast expenditure indicates the works associated with the preferred option (short term) will commence in 2017-18 and be completed in early WP4.

South Gippsland Water advised that the EPA agreed in principle to a staged upgrade program for the Foster WWTP on the basis that South Gippsland Water could provide scientific evidence that the discharge (in particular suspended solids from algae and *E.Coli*) is having a minimal effect on the receiving environment.

South Gippsland Water advised that this strategy allows South Gippsland Water to continue to use the outfall should the scientific studies show minimal impact on the receiving environment. This provides South Gippsland Water with the flexibility to delay the construction of the project from 2012 to 2017-18.

5.12.2 Analysis and recommended adjustments

South Gippsland Water has successfully negotiated with the EPA to defer works until 2017-18. Should the scientific studies show minimal impact on the receiving environment, the works could be deferred further or even cancelled. Given this, we did not believe South Gippsland Water customers should pay for capital works that may not be required in the future. In our Draft Report we recommended this project be removed from the capital expenditure program until there is greater certainty regarding augmentation requirements. In response, South Gippsland Water recommended that proposed expenditure be retained on the basis that:

- South Gippsland Water has had discussions with the EPA and already extended deferral of $10m in capital expenditure across WP3, WP4 and WP5 to minimise impacts on pricing
- EPA breaches have occurred during WP2 and part of its negotiations with EPA was to have a staged approach for this project.
- South Gippsland Water believes that the EPA would not support our recommendation.

We are still not satisfied that there is adequate certainty regarding augmentation requirements and recommend removing this project from the WP3 capital expenditure program.

Recommendation

In accordance with our analysis above, we recommend deferring forecast expenditure associated with the Foster WWTP upgrade until there is greater certainty regarding augmentation requirements. This adjustment is shown in Table 5-11 below.

Table 5-11 Proposed and recommended expenditure for Foster WWTP – rising main pipeline and storage ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Foster WWTP – rising main pipeline and storage	Proposed	0.00	0.00	0.00	0.00	1.04	1.04
	Recommended	0.00	0.00	0.00	0.00	0.00	0.00
	Net change	**0.00**	**0.00**	**0.00**	**0.00**	**-1.04**	**-1.04**

5.13 Other issues

In our Draft Report we concluded that South Gippsland Water had applied a construction indexation factor of 2.75% to a range of projects, including six projects outside of the ten major projects that were reviewed. Accordingly, we recommended revising forecast expenditure (-$0.26m in total for the six additional projects) to reflect expenditure without this factor. South Gippsland Water has subsequently demonstrated that a construction indexation factor has not been applied and therefore forecast expenditure in the Final Report reflects expenditure without this adjustment.

South Gippsland Water identified additional capital costs in its response to our Draft Report, which included:

- $0.13m required to upgrade its IT network to support a significant increase in remote workforce
- $2.06m required to complete the Alberton Sewerage Scheme, which has been carried over from WP2.

We have noted the additional IT expenditure ($0.13m), however have not reviewed the project due to its relatively small expenditure.

The Alberton Sewerage Scheme consists of a new pressure sewer reticulation system to collect wastewater from Alberton and rising main for transfer to the existing Tarraville WWTP. South Gippsland Water expected the Alberton Sewerage Scheme to be delivered in WP2, however a delay in obtaining Planning Amendments has delayed the project. The project is now planned to commence in 2012-13 and be completed in 2014. While time has not permitted us to review the project in any detail, the revised schedule appears reasonable.

South Gippsland Water has escalated the cost of the scheme Rawlinson's Building Price Index, however, we consider it would be more appropriate to use CPI. We recommend that forecast expenditure be adjusted to reflect this, which would result in additional expenditure of $1.96m in WP3.

5.14 Summary of our recommendations

Our recommendations on adjustment to South Gippsland Water's capital expenditure forecast over the next five-year regulatory period are outlined below.

Table 5-12 South Gippsland Water's forecast capital expenditure and recommended adjustments ($m, 01/01/2013)

Capital expenditure item		Water Plan forecast					
		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Poowong/Loch/Nyora sewerage scheme	Proposed	1.47	8.47	9.93	6.66	0.00	**26.53**
	Recommended	0.00	1.57	10.05	8.74	5.65	**26.01**
	Net change	-1.47	-6.90	0.12	2.08	5.65	**-0.52**
Northern towns supply connection works - Lance Creek to Korumburra	Proposed	0.30	3.10	4.10	4.60	3.20	**15.30**
	Recommended	0.28	2.95	4.01	4.58	3.30	**15.11**
	Net change	-0.02	-0.15	-0.09	-0.02	0.10	**-0.19**
Vehicle replacement	Proposed	0.85	0.85	0.85	0.85	0.85	**4.25**
	Recommended	0.77	0.77	0.77	0.77	0.77	**3.83**
	Net change	-0.09	-0.09	-0.09	-0.09	-0.09	**-0.43**
Northern towns supply connection works - Korumburra to Poowong	Proposed	0.05	0.20	0.80	2.36	0.00	**3.41**
	Recommended	0.00	0.05	0.21	0.86	2.61	**3.73**
	Net change	-0.05	-0.15	-0.59	-1.50	2.61	**0.32**
Reticulation sewer replacement/rehabilitation	Proposed	0.60	0.60	0.60	0.60	0.60	**3.00**
	Recommended	0.55	0.55	0.55	0.55	0.55	**2.75**
	Net change	-0.05	-0.05	-0.05	-0.05	-0.05	**-0.25**
Water renewals/replacement	Proposed	0.50	0.50	0.50	0.50	0.50	**2.50**
	Recommended	0.50	0.50	0.50	0.50	0.50	**2.50**
	Net change	0.00	0.00	0.00	0.00	0.00	**0.00**
Leongatha WWTP - refurbish de-commissioned digestion system	Proposed	2.00	0.00	0.00	0.00	0.00	**2.00**
	Recommended	1.97	0.00	0.00	0.00	0.00	**1.97**
	Net change	-0.03	0.00	0.00	0.00	0.00	**-0.03**
Wonthaggi sewer system upgrades	Proposed	0.25	0.25	0.25	0.25	0.25	**1.25**
	Recommended	0.25	0.25	0.25	0.25	0.25	**1.25**
	Net change	0.00	0.00	0.00	0.00	0.00	**0.00**
Environmental obligations	Proposed	0.25	0.25	0.25	0.25	0.25	**1.25**
	Recommended	0.25	0.25	0.25	0.25	0.25	**1.25**
	Net change	0.00	0.00	0.00	0.00	0.00	**0.00**
Foster WWTP – rising main pipeline and storage	Proposed	0.00	0.00	0.00	0.00	1.04	**1.04**
	Recommended	0.00	0.00	0.00	0.00	0.00	**0.00**
	Net change	0.00	0.00	0.00	0.00	-1.04	**-1.04**
Total proposed		9.76	16.27	19.69	17.96	8.31	**71.99**
Recommended capital expenditure		8.06	8.94	18.99	18.38	15.50	**69.86**
Recommended adjustments from proposed		-1.71	-7.34	-0.70	0.43	7.18	**-2.13**

Notes: The proposed figures in the table above reflect South Gippsland Water's original forecasts.

6 Limitation of our work

General use restriction

This Report is prepared solely for the internal 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 the Essential Services Commission's review of Water Plans. You should not refer to or use our name or the advice for any other purpose.