



**Essential Services
Commission**

2013-18 Review of Water Prices

**Assessment of expenditure forecasts
for regional urban businesses**

Central Highlands Water

Final Report

18 February 2013

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

18 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 Central Highlands 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

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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 Central Highlands Water to the ESC
- We submitted a request for further information and prepared a number of questions for Central Highlands Water
- We visited Central Highlands Water on 13-14 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 Central Highlands Water regarding the Draft Report and reviewed a written response from Central Highlands 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 Central Highlands Water's forecast operating expenditure. Note that throughout this report, unless indicated otherwise, references to Central Highlands Water's 'forecast' or 'proposal' refer to its original September Water Plan proposal and not any subsequent proposals or adjustments that have been received.

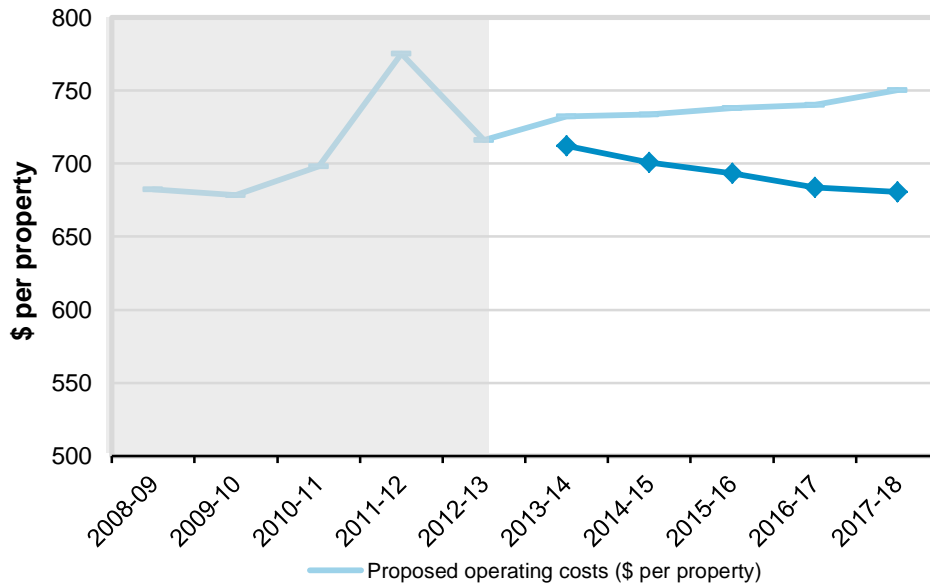
Table E1 Central Highlands Water forecast controllable operating expenditure and recommended adjustments (\$m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Proposed controllable operating expenditure (\$m)	48.597	47.581	48.516	49.703	50.729	52.362	248.891
Recommended adjustments							
Labour		-0.672	-1.201	-1.824	-2.532	-3.338	-9.567
Electricity		-0.448	-0.531	-0.446	-0.628	-0.838	-2.891
Defined Benefits		0.512	0.498	0.485	0.472	0.459	2.425
Intelligent Water Networks		-0.200	-0.200	-0.200	-0.200	-0.200	-1.000
Water Plan 4 Development		0.000	-0.150	-0.300	-0.250	-0.150	-0.850
Asset Management Plans		-0.180	-0.150	-0.100	-0.050	-0.030	-0.510
Living Victoria/Living Ballarat initiatives		0.000	0.000	-0.200	-0.200	-0.200	-0.600
Development Servicing Plans		0.000	-0.100	-0.100	-0.100	-0.100	-0.400
Biosolid Strategy Implementation		-0.150	-0.150	-0.150	-0.150	-0.150	-0.750
New Capex initiatives		-0.050	-0.050	-0.050	-0.100	-0.200	-0.450
Inflow and infiltration abatement		-0.125	-0.125	-0.125	-0.125	-0.125	-0.625
Total recommended adjustments		-1.313	-2.159	-3.011	-3.863	-4.871	-15.218
Recommended operating expenditure		46.268	46.357	46.693	46.866	47.490	233.673

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

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

Figure E1 Central Highlands Water forecast controllable operating expenditure 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 Central Highlands Water, we have assessed the following increases in operating expenditure above the 2011-12 baseline as meeting this definition:

- Electricity
- Defined benefits superannuation contributions
- Country Town Sewer Project
- Fire prevention management and road access
- Operating expenditure that is required as a result of new capital expenditure projects.
- Development Servicing Plans
- Operating expenditure from new treatment plants at Landsborough and Navarre

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 prudence 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	3.06	0.568	0.663	0.765	0.809	0.855	3.659
Defined benefits		0.512	0.498	0.485	0.472	0.459	2.425
Country Town Sewer Project		1.400	1.400	1.400	1.400	1.400	7.000
Fire prevention management/Road access		0.150	0.160	0.140	0.140	0.140	0.730
New Capex initiatives		0.050	0.050	0.050	0.100	0.200	0.450
Development Servicing Plans		0.150	0.000	0.000	0.000	0.000	0.150
Landsborough/Navarre Plants		0.180	0.180	0.180	0.180	0.180	0.900
Total proposed expenditure		3.009	2.951	3.019	3.101	3.234	15.314

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 Central Highlands 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		46.268	46.357	46.693	46.866	47.490	233.673
Less prudent and efficient new initiatives expenditure		3.009	2.951	3.019	3.101	3.234	15.314
Recommended BAU expenditure		43.259	43.406	43.674	43.765	44.256	218.359
Adjusted BAU target	43.366	43.641	43.780	43.919	44.058	44.198	219.595
Amount above BAU target		-0.383	-0.374	-0.245	-0.293	0.059	-1.235

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, Central Highlands Water meets the ESC's productivity hurdle.

Capital expenditure

We have recommended a \$2m increase to Central Highlands Water's proposed capital expenditure as set out below. This primarily reflects the increased cost of the Ballarat South Wastewater Treatment Plant Augmentation Works.

Table E4 Central Highlands Water 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	
Maryborough Water Quality Improvement	Proposed	0.500	0.000	0.000	6.500	3.195	10.195
	Recommended	0.000	0.000	0.000	0.500	6.500	7.000

Capital expenditure item		Water Plan forecast					Total WP3
		2013-14	2014-15	2015-16	2016-17	2017-18	
Project	Net change	-0.500	0.000	0.000	-6.000	3.305	-3.195
Ballarat West Urban Growth Zone	Proposed	0.727	1.654	4.291	0.830	2.640	10.142
	Recommended	0.727	1.654	4.291	0.830	2.640	10.142
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Reservoir and Dam Upgrade Works	Proposed	1.360	2.187	1.802	2.200	2.526	10.075
	Recommended	1.360	2.187	1.802	2.200	2.526	10.075
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Water and Sewer Main Renewals	Proposed	2.000	2.000	2.000	2.000	2.000	10.000
	Recommended	2.000	2.000	2.000	2.000	2.000	10.000
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Ballarat South Wastewater Treatment Plant Augmentation Works	Proposed	1.150	6.272	0.000	2.195	0.000	9.616
	Recommended	4.468	0.630	6.559	0.365	2.756	14.778
	Net change	3.318	-5.642	6.559	-1.829	2.756	5.162
Fleet Replacement - Operational	Proposed	1.500	1.500	1.500	1.500	1.500	7.500
	Recommended	1.500	1.500	1.500	1.500	1.500	7.500
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
ICT Infrastructure Replacements and Upgrades	Proposed	0.915	1.145	0.925	0.900	1.095	4.980
	Recommended	0.915	1.145	0.925	0.900	1.095	4.980
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Raw Water Pipeline Replacement	Proposed	0.000	1.230	0.279	0.791	0.780	3.080
	Recommended	0.000	1.230	0.279	0.791	0.780	3.080
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Ballarat South Flow Containment Project - Ballarat South Outfall Sewer	Proposed	0.000	0.000	0.000	1.000	2.000	3.000
	Recommended	0.000	0.000	0.000	1.000	2.000	3.000
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Lexton Water Supply Project	Proposed	2.500	0.000	0.000	0.000	0.000	2.500
	Recommended	2.500	0.000	0.000	0.000	0.000	2.500
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Total proposed		22.867	21.334	15.999	20.847	19.040	100.087
Recommended capital expenditure		25.685	15.692	22.558	13.018	25.101	102.054
Recommended adjustments from proposed		2.818	-5.642	6.559	-7.829	6.061	1.967

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 Water Plan 3 (WP3).

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 Central Highlands 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 Central Highlands 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 Central Highlands Water's operating expenditure forecast
- Chapter 5 provides our analysis, conclusions and recommendations on key issues with respect to Central Highlands 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 Central Highlands Water on 25 October 2012
- The site visits were used to hold discussions with Central Highlands 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 Central Highlands Water.

2.1.4 Response from Central Highlands Water

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

We have closely examined Central Highlands Water's response and the information it provided to support its views. We subsequently held additional discussions with Central Highlands 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 Central Highlands 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 Central Highlands Water’s forecasts

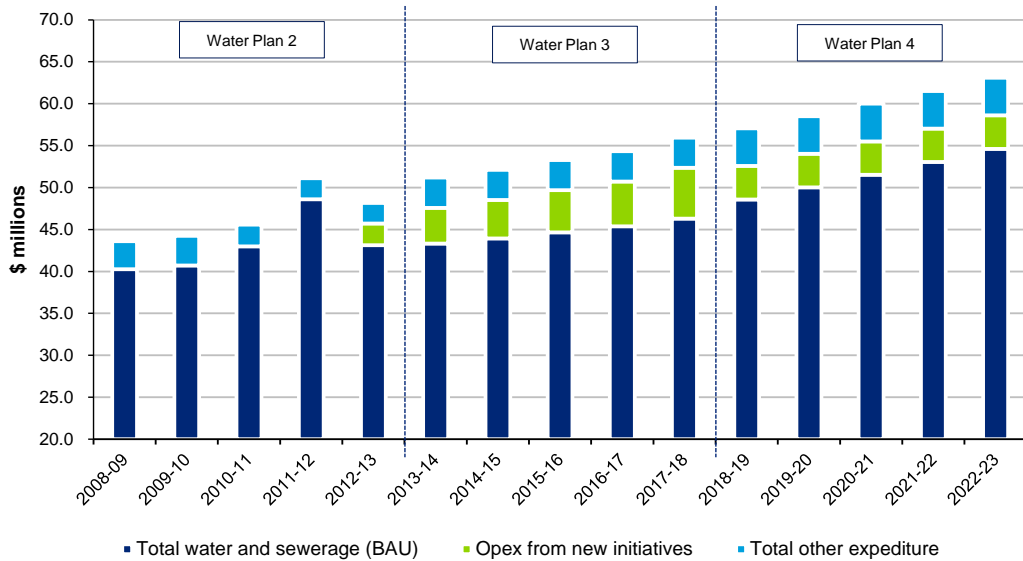
Central Highlands Water provides services to 130,000 residents and businesses. Key towns served include Ballarat, Daylesford, and Maryborough, accounting for 95% of projected retail demand in 2013-14.

3.1 Operating expenditure

Figure 3-1 shows Central Highlands Water’s operating expenditure over the WP2, WP3 and WP4 periods. Central Highlands Water’s operating costs (excluding licence fees, environmental contribution and bulk water purchases) are forecast to be a total of \$248.9m over WP3, which is an increase of 14% from WP2 (total of \$218.3m).

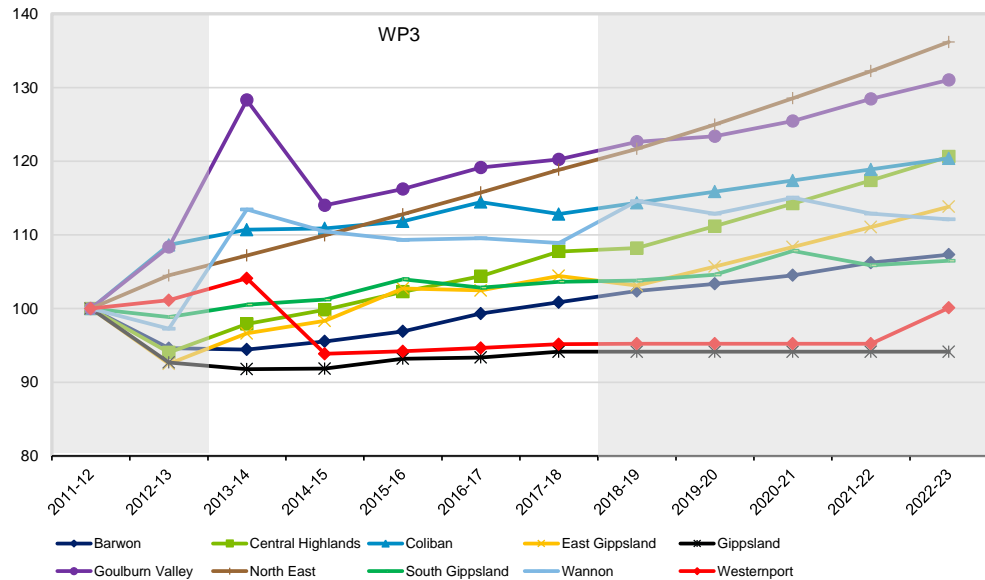
Note that throughout this report, unless indicated otherwise, references to Central Highlands Water’s ‘forecast’ or ‘proposal’ refer to its original September Water Plan proposal and not any subsequent proposal or adjustments that have been received.

Figure 3-1 Central Highlands Water actual and forecast operating expenditure (\$m, 01/01/2013)



Central Highlands Water proposed increases of operating expenditure over WP3 are equal third highest of the businesses we have reviewed (see Figure 3-2). Central Highlands identified 16 new initiatives with additional expenditure of \$25.3m which was the highest new initiatives spending of any business.

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



Operating costs (excluding licence fees, environmental contribution and bulk water purchases) are forecast to be \$47.6m in 2013-14. Central Highlands Water has identified that key drivers of operating expenditure across WP3 include:

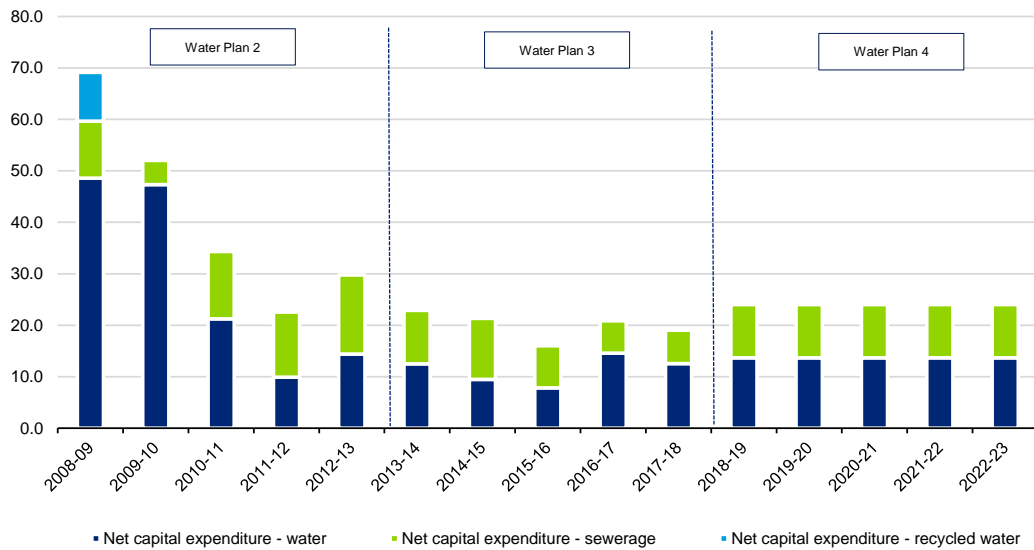
- Customer growth (of 1.8% per annum)
- Country Town Sewerage Program (\$7m in total over WP3)
- Energy costs including carbon tax and network price increases (\$6.9m)
- Biosolids Strategy implementation (\$1.5m)
- Sewer inflow and infiltration abatement (\$1.25m)
- Intelligent Water Network Initiatives (\$1.25m).

3.2 Capital expenditure

The figure below shows Central Highlands Water's actual and forecast water and sewerage net capital expenditure. Net capital expenditure is forecast to be \$100m over the WP3 period which represents a 48% decrease on WP2 actual expenditure of \$192m. This includes:

- Water expenditure of \$57m down from \$138m (a decrease of 59%)
- Sewerage expenditure of \$43m down from \$53m (a decrease of 18%)
- Recycled water expenditure of \$0 down from \$10m.

Figure 3-3 Central Highlands Water actual and forecast capital expenditure (\$m, 01/01/2013)

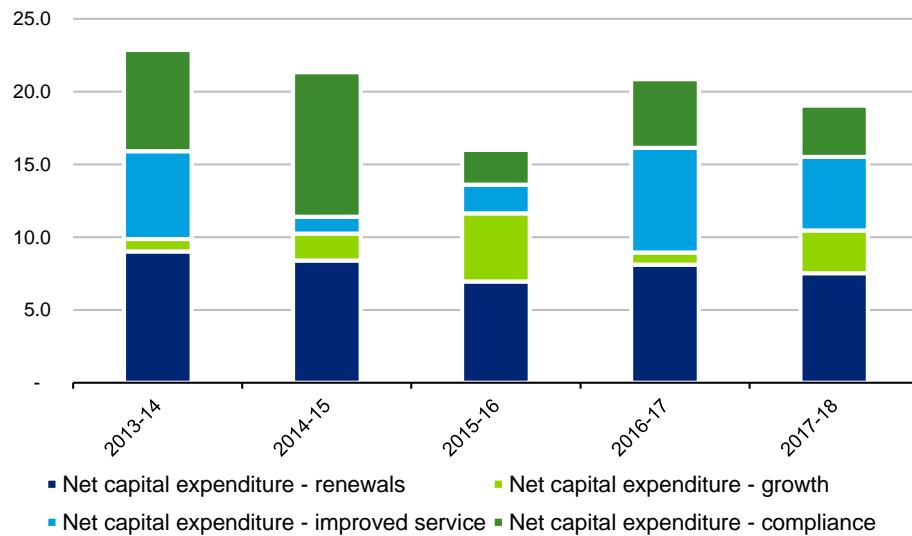


The key drivers of capital expenditure for WP3 are:

- Asset renewals (\$40m or 40% of total capital expenditure)
- Regulatory compliance (\$27.5m or 27% of total capital expenditure)
- Service level maintenance/improvement (\$21.4m or 21% of expenditure)
- Service growth (\$11.2 or 11% of total capital expenditure)

Major capital projects include:

- Maryborough Water Quality Improvement project (\$10.2m)
- Ballarat West Urban Growth Zone infrastructure (\$10.1m)
- Reservoir and dam upgrade works (\$10.1m)
- Water and sewer main replacement (\$10m)
- Ballarat South Wastewater Treatment Plant augmentation works (\$9.6m)
- Fleet replacement (\$7.5m)
- ICT infrastructure replacements and upgrades (\$5m)

Figure 3-4 Forecast capital expenditure by cost driver for WP3 (\$m, 01/01/2013)

3.3 Key drivers and obligations

3.3.1 Government obligations

Central Highlands Water has identified that it faces a number of new government obligations that were not in the BAU baseline year of 2011-12 that will impact on WP3 operating expenditure. These include:

- Introduction of the carbon tax on 1 July 2012
- The State Government's Country Town Water Supply and Sewerage Program administered by DSE. This program requires Central Highlands Water to provide centralised sewerage systems to the towns of Blackwood, Gordon, Smythesdale and Waubra, as well as an upgrade to Beaufort
- Landsborough water treatment plant, which was a new initiative as a result of a Government directive to provide treatment processes to the communities of Landsborough and Navarre.

3.3.2 Service standards

Central Highlands Water proposes to maintain and improve service standards for WP3. Nine core service standards will be improved. There is no additional expenditure associated with these standards in comparison to the 2011-12 baseline year.

3.3.3 Demand

According to Central Highlands Water, post drought recovery in water demand has been minor due to changes in consumer usage behaviours and adoption of water efficient technologies. Water demand is forecast to remain relatively flat over the WP3 period.

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. Therefore we have removed 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.

We have assessed Central Highlands Water's 2011-12 baseline and have made an adjustment of \$5.19m. This was due to defined benefits payment of \$5.19m (including contributions tax). Our treatment of defined benefits is outlined in our *Overview* document.

Table 4-1 below shows Central Highlands Water's proposed BAU expenditure (excluding licence fees, the environmental contribution levy and bulk water costs) for 2011-12 which is then growth and productivity adjusted for the WP3 years according to the methodology in the ESC's template.

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

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed BAU	48.556	43.242	43.866	44.586	45.302	46.219
Deloitte adjustments to BAU	-5.190					
Deloitte adjusted BAU target	43.366	43.641	43.780	43.919	44.058	44.198

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 Central Highlands 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 Central Highlands Water is meeting the ESC's productivity hurdle.

This approach ensures that our assessment of Central Highlands 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 prudence 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 Central Highlands Water's 'original' forecasts reflect forecasts contained in its Water Plan of September 2012. References to Central Highlands Water's 'revised' forecasts reflect adjustments proposed by Central Highlands Water in response to our Draft Report.

4.2.1 Labour costs

Central Highlands Water's Proposal

Central Highlands Water has forecast total labour expenditure to be \$21m in 2017-18 which is an increase of \$3.71m above the 2011-12 baseline (of \$17.3m). Key components of Central Highlands Water's proposal for labour costs include:

- Nominal wage escalation increases of 2.5% p.a. over WP3 (current EBA expires 30 June 2015)
- A further nominal increase of 1.5% linked to productivity targets. Central Highlands Water advised that productivity targets were not necessarily linked to labour but could be efficiencies identified elsewhere in the business
- A further nominal increase of 1.25% to account for employees moving through salary bands
- Allowance for superannuation guarantee increases of \$0.780m in total over the WP3 period
- A zero increase in FTEs across WP3 in comparison to the baseline (see Table 4-3)

Analysis and Recommended adjustments

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
- Once a new EBA applies, applying a real growth in wages per FTE of 0%.
- Reviewing FTE numbers on a case-by case basis.

In respect of Central Highlands' proposal, we note that it has proposed a 1.25% increase in wages costs as staff move through salary bands and is linked to efficiency improvements. As set out in the *Overview* document the Government's view is that any increases of this nature should be absorbed within the baseline wages increase and not be additional. Further, we note that a further 1.5% of the increase is related to productivity improvements and will only be available should productivity hurdles (i.e. cost reductions) be met. On this basis we have calculated the total wages cost assuming that productivity increases offset individuals' salary increases, leaving the total wages expenses unchanged.

We have considered Central Highlands Water's labour expenditure using the approach above, and benchmarking against other businesses, and recommend that a downward adjustment of \$9.57m (total for WP3) be made to forecast labour costs as outlined in Table 4-2.

We are satisfied that Central Highlands Water's forecasts of FTEs are reasonable and have not made any adjustment to FTE numbers (Table 4-3).

Table 4-2 Central Highlands Water 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	17.328	18.375	18.905	19.527	20.236	21.041
Recommended adjustments		-0.672	-1.201	-1.824	-2.532	-3.338
Revised labour expenditure		17.704	17.704	17.704	17.704	17.704

Table 4-3 Central Highlands Water proposed FTEs

	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed FTE	187.7	187.7	187.7	187.7	187.7	187.7

4.2.2 Electricity costs

Central Highlands Water has 27 large sites and around 200 small sites. It has used Procurement Australia to tender for its electricity supply.

Central Highlands has proposed the highest cost per kWh of any business in 2012-13. A key reason for this appears to be fixed network charges associated with the Goldfields Superpipe.

Central Highlands Water's original forecast is set out in the table below. It is based on a model and report prepared by consultants MJA. The forecast 24% increase in costs in 2012-13 is driven in part by an increase in the average per kWh charge (8.9% for large sites) but more significantly by a 14% increase in usage for large sites. This appears to reflect an assumption about electricity use for the Superpipe, which was low in 2011-12 but is forecast to increase in 2012-13 consistent with Central Highlands Water's assumption that 1600ML will be pumped through the Superpipe in each year of the Water Plan.

Table 4-4 Central Highlands forecast electricity costs (\$m)

	Actual	Water Plan forecast					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Large sites	2.707	3.404	3.697	3.865	3.884	4.096	4.334
Small sites	0.354	0.401	0.430	0.450	0.457	0.481	0.508
Total	3.060	3.805	4.126	4.314	4.341	4.577	4.842
% Change	0.7%	24.3%	8.5%	4.6%	0.6%	5.4%	5.8%

Central Highlands Water's forecast was at odds with the Procurement Australia tender which estimate electricity costs for large sites of around \$2.1m in 2012-13, well below Central Highlands Water's \$3.4m forecast. In part this is explained by the fact that some of Central Highlands Water's Superpipe costs are initially incurred by Coliban Water and then passed to Central Highlands. Advice from Central Highlands is that network costs associated with the Superpipe, for which there was minimal pumping in 2011-12, (the year around which the PA tender is based) were around \$300,000.

In our Draft Report we removed approximately \$7m from Central Highlands Water's electricity forecasts, mainly to reflect:

- The lower energy prices contained in the Procurement Australia quote
- Our view about the volume of water to be pumped through the Superpipe. We considered it was not appropriate to assume that 1.6GL would be pumped each year given that there was only a 10% chance that this volume, or more, would be required.

In response to our Draft Decision Central Highlands Water provided us with an updated version of its electricity model, which:

- Reflected the Procurement Australia tender
- Reflected recent announcements from the EU relating to the design of the next phase of its carbon pricing scheme
- Corrected an error in relation to the modelling of transmission charges
- Updated distribution pricing forecasts to reflect Powercor's successful challenge to the AER
- Provided a more accurate view of costs and usage than those assumptions made by us in our Draft Report.

As a result, Central Highlands Water's electricity forecast reduced from \$22.2m in its Water Plan to \$21.4m.

We have used Central Highland Water's model to reforecast its electricity expenditure, but have made the following two key adjustments, consistent with the approach in our *Overview* document:

- We have assumed that distribution charges will increase at CPI following the expiry of the current regulatory period, and not 4% as assumed by Central Highlands Water
- We have assumed that energy prices will continue at the same real price as in the last year of the Procurement Australia quote.

The other area where we have diverged from Central Highlands Water's revised proposal is in relation to the volumes in the Superpipe. In response to our Draft Report Central Highlands provided updated modelling of volumes required to meet its customer service standards. Central Highlands Water maintained its view that it was appropriate to forecast pumping volumes of 1.6GL on the basis that *"this accepts a 10% probability that the projected Superpipe pumping volumes and costs will be less than what is required in reality to maintain levels of service in WP3"*.

We do not consider that it is appropriate to base customer prices on an electricity cost forecast which has a 90% chance of exceeding the actual cost.

This then raises the question of what is the most appropriate volume to use for pricing purposes. Our view is that given the high degree of uncertainty regarding volumes, and the high pumping costs associated with those volumes, that the most appropriate approach is to assume that the volume of water required will be the minimum for maintenance purposes – 600ML – and that any amounts higher than this be the subject of a pass-through re-opening or automatic tariff adjustment. While we understand this is not Central Highlands Water's preference we consider it best balances the interests of both customers and Central Highlands Water.

Our final forecast of Central Highlands Water's electricity costs is set out below. In total we have removed \$2.9m from Central Highlands Water's forecasts.

Table 4-5 Central Highlands forecast electricity costs (\$m)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed electricity cost	3.060	4.126	4.314	4.341	4.577	4.842
Recommended adjustments		-0.448	-0.531	-0.446	-0.628	-0.838
Revised electricity costs		3.678	3.783	3.895	3.949	4.004

4.2.3 Intelligent Water Networks

Central Highlands Water has proposed expenditure totalling \$1.25m (\$0.25m each year) over the WP3 period as a contribution to collaborative industry pilot projects for IWN. This is

by far the highest of all the ten businesses we reviewed. The next highest being \$0.1m per year with most businesses forecasting less than \$0.05m per year.

As outlined in our *Overview* document, we understand that industry expenditure on IWNs across the WP3 period is still uncertain, including the nature, costs and timing of projects to be undertaken. At the same time, we note that the IWN has the support of government and key stakeholders and may lead to efficiency improvements and improved customer service in future.

As outlined in our *Overview* document we have generally accepted all IWN proposals from businesses forecasting \$0.05m or less per annum. Therefore, as per Table 4-6, we recommend a downward adjustment of \$0.2m per annum to Central Highlands Water's operating expenditure associated with IWNs.

Table 4-6 Central Highlands Water IWN expenditure (\$m, 01/01/2013)

Operating expenditure item	Water Plan forecast				
	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed IWN expenditure	0.250	0.250	0.250	0.250	0.250
Recommended adjustments	-0.200	-0.200	-0.200	-0.200	-0.200
Revised IWN expenditure	0.050	0.050	0.050	0.050	0.050

4.2.4 Defined benefits superannuation costs

Central Highlands Water has included a once-off operating expenditure item of \$5.19m in the 2011-12 baseline year, as a result of its requirement to make an additional defined benefit superannuation contribution (including contribution tax) to Vision Super.

Background information regarding the requirement to make additional superannuation contributions is set out in our *Overview* document. As outlined in the *Overview* document we have allowed businesses to include an annuity payment in their operating forecasts to meet this obligation, calculated as the principal and interest payment on a 15 year loan at 5.75%.

Table 4-7 Central Highlands Water defined benefits superannuation expenditure (\$m, 01/01/2013)

Operating expenditure item	Actual 2011-12	Water Plan forecast				
		2013-14	2014-15	2015-16	2016-17	2017-18
Proposed superannuation payment	5.190	0.000	0.000	0.000	0.000	0.000
Recommended adjustments	5.190	0.512	0.498	0.485	0.472	0.459
Revised superannuation payment	0.000	0.512	0.498	0.485	0.472	0.459

4.3 New initiatives

New initiative expenditure items have been assessed for prudence and efficiency on a case by case basis. We have reported these items on a 'by exception' basis, i.e. we have only provided commentary for those items where we have recommended adjustments.

Central Highlands Water has identified 16 new initiative operating projects which equal \$25.27m for WP3. Of the ten regional water businesses we have reviewed, Central Highlands Water has the highest total expenditure from new initiatives.

We have undertaken a prudence and efficiency assessment of all of Central Highlands Water's 16 new initiatives. We have addressed some of the new initiatives in our consideration of generic business items in Section 4.2 including the following:

- Superannuation guarantee increases is considered under labour
- Impact of the carbon tax and energy network price increases are considered under electricity

- Intelligent Water Networks

Therefore we have not made any further adjustments to these items in this section.

4.3.1 Water Plan 4 Development

Central Highlands Water has proposed expenditure totalling \$0.85m over the WP3 period to investigate tariff options and structures in preparation for WP4. The key driver for this project is the ESC's Guidance Paper which provides support to businesses offering tariff choice to customers. Central Highlands Water's proposed program includes consultant costs for:

- Customer survey work to determine preferences with regards to tariff options and structures (estimated cost of \$0.1m)
- Financial modelling to investigate the impact of various tariff options (estimated cost of \$0.2m)
- Focus group work and customer interviews to refine tariff options (estimated cost of \$0.1m)
- Pilot programs and trials of new tariff options to a range of customer groups (estimated cost of \$0.2m)

We consider that any work to prepare for WP4 should be able to be covered under existing budgets for BAU activities. We note that none of the other ten businesses we reviewed have included an amount above BAU for investigations relating to tariff choice. We also note that, while the ESC supports businesses investigating or offering tariff choice, there is no obligation on the business to do so.

We therefore recommend a downward adjustment of \$0.85m to Central Highlands Water's operating costs to remove expenditure associated with tariff choice investigation in preparation for WP4.

4.3.2 Asset Management Plans

Central Highlands Water has proposed expenditure totalling \$0.51m over the WP3 period to improve asset management systems and process and develop asset management plans. The estimated costs are for consultancies to deliver items such as:

- Asset Management Plans and System/Service Plans
- Asset Criticality Analysis for input to risk based modelling
- Risk centric planning tasks, including Advanced Asset Management (AAM) modelling and Optimised Decision Making (ODM)
- Planned maintenance program development
- Asset management software configuration and process improvement and development
- Support and maintenance of new software modules.

Central Highlands Water advised that the WSAA Asset Management benchmarking program, the DSE asset management audit and internal audits are the key drivers for this project. In addition Central Highlands Water has developed an Asset Management Strategy and Implementation Plan which are in draft stage.

We note that many of the initiatives in the Implementation Plan have not had detailed timelines, resourcing or cost estimates developed, and that the above listed items also were not specifically costed. In the WSAA benchmarking report, the resourcing requirements for improvement opportunities were around 2-2.5 FTE for one year to implement the recommendations. There was no mention of consultancies for this work.

More generally we note within the baseline year of 2011-12 there are items that, while part of ongoing business operations, are once-off or infrequent. As an example, much of the

preparation of a Water Supply Demand Strategy (WSDS) was undertaken in 2011-12, which is not an expense that will be incurred every year of WP3. Therefore we consider that there should be scope within existing BAU budgets to undertake the development of asset management initiatives.

We recommend a downward adjustment of \$0.51m to Central Highlands Water's operating costs to remove expenditure associated with asset management plans.

4.3.3 Living Victoria – Living Ballarat

Central Highlands Water has proposed expenditure totalling \$0.6m over the WP3 period as a provision for the outcomes of the Integrated Water Cycle Plan (IWCP) that it is required to develop under the Victorian Government's Living Victoria policy. Central Highlands Water advised that the Victorian Government will fund the development of the IWCP. Central Highlands Water also note that the latest release of the Statement of Obligations requires the consideration of opportunities for increasing stormwater and recycled water use. While the actual opportunities are not yet known, Central Highlands Water has made a provisional allocation to implement the outcomes of the IWCP, and has based its cost estimates on an expansion of the Ballarat North's Class A recycled water network.

As discussed in our *Overview* document, we have removed all expenditure relating to Living Victoria for the ten regional businesses. Central Highlands Water proposed expenditure is provisional only and not related to a specific project. We also note that all businesses are required to prepare IWCP's however only two businesses have estimated expenditure in connection with Living Victoria.

We recommend a downward adjustment of \$0.6m to Central Highlands Water's operating costs to remove expenditure associated with implementation of the Living Victoria policy.

4.3.4 Development servicing plans

Central Highlands Water has proposed expenditure totalling \$0.55m over the WP3 period for the development and annual updating of Development Servicing Plans (DSP) for designated growth areas. The requirement for DSP's is an additional obligation on Central Highlands Water, identified in the ESC's *Guidance Paper for New Customer Contributions* (August 2012). DSPs outline the logical sequence of development for growth areas. These are required to be in place if the business decides to charge 'bring forward' charges to developers that wish to develop outside of the logical sequence of development. Central Highlands Water advised that it has one current DSP (Ballarat West) and that it needs to develop three additional DSPs in 2013-14 (Ballarat South, Ballan and Ballarat North). In addition to these, Central Highlands Water is required to update the DSPs on an annual basis. We understand that the cost to develop the DSP for Ballarat West (which was undertaken by a consultancy) has been used as the basis for cost estimates for development of the three new plans.

While we recognise the additional expense in the initial development of DSPs, we consider that the ongoing cost of updating the DSPs should be able to be accommodated within BAU expenditure. We therefore recommend a reduction of \$0.4m to Central Highlands Water's operating costs associated with updating DSPs.

4.3.5 Efficiency of new initiative projects

Central Highlands Water has identified three key projects totalling \$3.65m that we consider have some shortcomings in relation to efficiency of cost estimates or have limited detail in relation to the program of works. These projects are considered to be prudent, in that there is a new obligation or high business risk associated with the project (and therefore a general need for the project). However, based on our review we consider there is insufficient justification for the scale of the project and related expenditure. These projects are outlined

in the following table and the efficiency opportunities with regards to WP3 expenditure of each project are described further below.

Table 4-8 Central Highlands Water new initiative projects that have efficiency opportunities (\$m, 01/01/2013)

Operating expenditure item	Water Plan forecast					TOTAL WP3
	2013-14	2014-15	2015-16	2016-17	2017-18	
Biosolid Strategy Implementation	0.300	0.300	0.300	0.300	0.300	1.500
New capital expenditure initiatives	0.100	0.100	0.100	0.200	0.400	0.900
Inflow and infiltration abatement	0.250	0.250	0.250	0.250	0.250	1.250
Total	0.650	0.650	0.650	0.750	0.950	3.650

Biosolids Strategy Implementation

EPA Guidance on WP3 states that businesses are to make a commitment to reuse 100% of biosolids and reduce stockpiles over time. We note there is no specific target volume or date provided by the EPA therefore the extent of biosolids reuse programs is open to businesses' interpretation.

Central Highlands Water advised that in 2011-12 it reused 100% of its 'new' biosolids and reduced some of its stockpile (equivalent to 4% of annual production). National Performance Report data for 2010-11 shows that from 2008-09, Central Highlands Water has been consistently reducing its stockpiles (4%, 21% and 15% of annual production in 2008-09, 2009-10 and 2010-11 respectively). Therefore, Central Highlands Water has been meeting the EPA requirement.

Central Highlands Water's proposed biosolids expenditure for WP3 is a provisional cost estimate for work to develop and explore new partnerships, alternative end use providers, and emerging markets. The focus on this activity is to address a key business risk of having a sole provider of reuse for its biosolids, which is the current situation. We note that Central Highlands Water has proposed to dedicate any un-used expenditure from its proposed expenditure to reduce stockpiled material.

Our review identified that Central Highlands Water biosolids program is based on high-level estimates and has limited detail around the specific consultancies required and program of works to be undertaken. In addition, given that Central Highlands Water is currently meeting its obligations, we suggest that this program could be scaled back.

We therefore recommend that the project costs be adjusted downward by 50% (adjustment of \$0.75m) in the absence of supporting information to justify the scale of the program.

New capital expenditure initiatives

Central Highlands Water has identified that some of its top 10 capital projects, in particular the Ballarat West Growth Zone and Lexton Water Supply Pipeline, will have some associated operating expenditure over WP3. These projects include additional pump stations and pipelines which have associated operations and maintenance costs such as increased energy use.

Central Highlands Water did not initially identify the operating costs associated with these new projects at the project approval stage. Instead, it was identified later that these growth related projects would have associated operating costs, and a high level assumption was used to estimate operating expenditure (which was 1.5% of the total non-renewals capital program). The timing of the operating expenditure estimate was in alignment with the commissioning of the projects.

We consider that detailed estimates on operating costs should form part of the approval process for any capital project, and engineering reports (or equivalent) should be produced to estimate the incremental operating cost impost on the business. While we recognise that Central Highlands Water is likely to face some increases in costs from the new projects, in

the absence of more detailed information on cost estimates, we have been unable to verify the appropriateness of the assumptions and therefore recommend a 50% downward adjustment to Central Highlands Water's proposed expenditure (adjustment of \$0.45m over WP3).

Inflow and infiltration abatement

Central Highlands Water has identified that inflow and infiltration of stormwater into the sewer system represents a business risk in relation to capacity of the sewer system to contain its flows. In particular, over the last 2 to 3 years, above average rainfall has resulted in emergency discharges from several of its treatment plants (i.e. Section 30A discharges) and sewer overflows at various locations in the sewer conveyance system. Central Highlands Water has developed an Inflow and Infiltration strategy (currently in draft form) to specifically address inflow and infiltration in Ballarat South Sewer Network, with its program of inspection works carried out in 2012-13. It is now intended to carry out this kind of program for other systems in Central Highlands Water.

While we note that inflow and infiltration is currently an issue for a number of businesses (particularly due to recent above average rainfall), Central Highlands Water has supplied limited supporting information around the particular systems that are high priority (from a risk and cost perspective) and the cost-benefit analysis of the program (given it is a large program). Without such information, it is difficult to justify the scale of the program. Central Highlands Water is also proposing additional CCTV expenditure and modelling that could be provided within BAU. We also note that while other businesses will also face similar inflow and infiltration issues, none have suggested a program of this scale above BAU expenditure.

In the absence of detailed supporting information to justify the scale of the program we recommend that the project costs are adjusted downward by 50% (adjustment of \$0.625m).

4.3.6 Summary of adjustments to new initiatives

Table 4-9 below provides a summary of the above discussion and adjustments to Central Highlands Water's new initiatives. We propose a total downward adjustment of \$4.18m for WP3. Note also that there have been some new initiatives that were included in Section 4.2, such as labour (covering new employees and super guarantee increases), electricity (covering carbon tax), defined benefits and intelligent water networks.

Table 4-9 Central Highlands Water new initiative expenditure for WP3 (\$m, 01/01/2013)

Operating expenditure item	Water Plan forecast					TOTAL WP3
	2013-14	2014-15	2015-16	2016-17	2017-18	
Recommended adjustments						
Water Plan 4 Development	0.000	-0.150	-0.300	-0.250	-0.150	-0.850
Asset Management Plans	-0.180	-0.150	-0.100	-0.050	-0.030	-0.510
Living Victoria/Living Ballarat initiatives	0.000	0.000	-0.200	-0.200	-0.200	-0.600
Development Servicing Plans	0.000	-0.100	-0.100	-0.100	-0.100	-0.400
Biosolid Strategy Implementation	-0.150	-0.150	-0.150	-0.150	-0.150	-0.750
New capital expenditure initiatives	-0.050	-0.050	-0.050	-0.100	-0.200	-0.450
Inflow and infiltration abatement	-0.125	-0.125	-0.125	-0.125	-0.125	-0.625
Total recommended adjustments	-0.505	-0.725	-1.025	-0.975	-0.955	-4.185

4.4 Summary of our recommendations - operating expenditure

We have recommended a total downward adjustment of \$15.2m to Central Highlands Water's WP3 forecast controllable operating expenditure as per the table below.

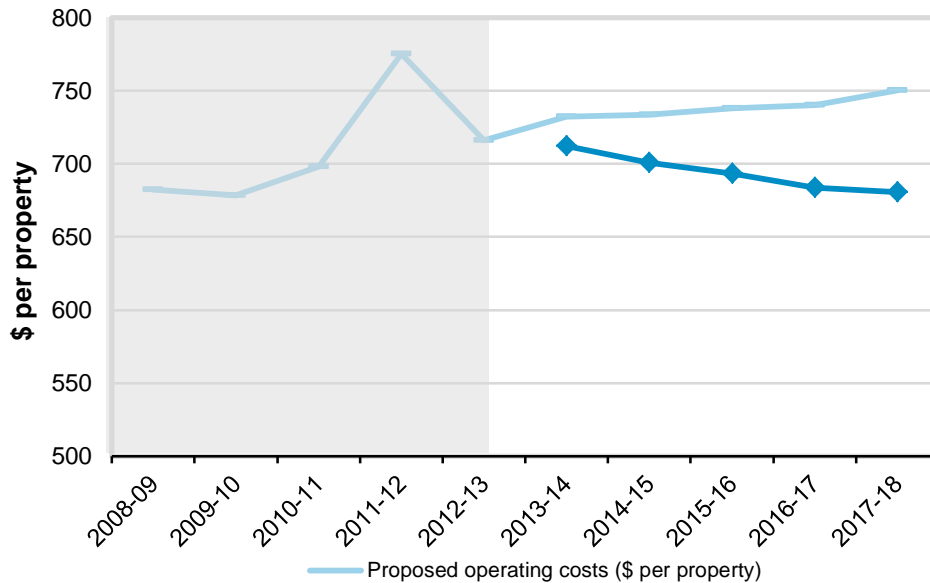
Table 4-10 Central Highlands Water forecast controllable operating expenditure and recommended adjustments (\$m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total WP3
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	
Proposed controllable operating expenditure (\$m)	48.597	47.581	48.516	49.703	50.729	52.362	248.891
Recommended adjustments							
Labour		-0.672	-1.201	-1.824	-2.532	-3.338	-9.567
Electricity		-0.448	-0.531	-0.446	-0.628	-0.838	-2.891
Defined Benefits		0.512	0.498	0.485	0.472	0.459	2.425
Intelligent Water Networks		-0.200	-0.200	-0.200	-0.200	-0.200	-1.000
Water Plan 4 Development		0.000	-0.150	-0.300	-0.250	-0.150	-0.850
Asset Management Plans		-0.180	-0.150	-0.100	-0.050	-0.030	-0.510
Living Victoria/Living Ballarat initiatives		0.000	0.000	-0.200	-0.200	-0.200	-0.600
Development Servicing Plans		0.000	-0.100	-0.100	-0.100	-0.100	-0.400
Biosolid Strategy Implementation		-0.150	-0.150	-0.150	-0.150	-0.150	-0.750
New Capex initiatives		-0.050	-0.050	-0.050	-0.100	-0.200	-0.450
Inflow and infiltration abatement		-0.125	-0.125	-0.125	-0.125	-0.125	-0.625
Total recommended adjustments		-1.313	-2.159	-3.011	-3.863	-4.871	-15.218
Recommended operating expenditure		46.268	46.357	46.693	46.866	47.490	233.673

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

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

Figure 4-1 Central Highlands Water forecast controllable operating expenditure 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 Central Highlands Water, we have assessed the following increases in operating expenditure above the 2011-12 baseline as meeting this definition:

- Electricity
- Defined benefits superannuation contributions
- Country Town Sewer Project
- Fire prevention management and road access
- Operating expenditure that is required as a result of new capital expenditure projects.
- Development Servicing Plans
- Operating expenditure from new treatment plants at Landsborough and Navarre

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 prudence and efficiency.

Table 4-11 Prudent and efficient new initiatives and obligations expenditure above the 2011-12 baseline (\$m, 01/01/2013)

Operating expenditure item	Actual 2011-12	Water Plan forecast					Total WP3
		2013-14	2014-15	2015-16	2016-17	2017-18	
Electricity	3.06	0.568	0.663	0.765	0.809	0.855	3.659
Defined benefits superannuation		0.512	0.498	0.485	0.472	0.459	2.425
Country Town Sewer Project		1.400	1.400	1.400	1.400	1.400	7.000

Operating expenditure item	Actual 2011-12	Water Plan forecast					Total WP3
		2013-14	2014-15	2015-16	2016-17	2017-18	
Fire prevention management/Road access		0.150	0.160	0.140	0.140	0.140	0.730
New capital expenditure initiatives		0.050	0.050	0.050	0.100	0.200	0.450
Development Servicing Plans		0.150	0.000	0.000	0.000	0.000	0.150
Landsborough/Navarre Plants		0.180	0.180	0.180	0.180	0.180	0.900
Total proposed expenditure		3.009	2.951	3.019	3.101	3.234	15.314

Note: Electricity encompasses carbon price impacts.

Table 4-12 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 Central Highlands Water's operating expenditure, following our adjustments, meets the ESC's productivity hurdle.

Table 4-12 Productivity hurdle assessment (\$m, 01/01/2013)

Operating expenditure item	Actual 2011-12	Water Plan forecast					Total WP3
		2013-14	2014-15	2015-16	2016-17	2017-18	
Recommended operating expenditure		46.268	46.357	46.693	46.866	47.490	233.673
Less prudent and efficient new initiatives expenditure		3.009	2.951	3.019	3.101	3.234	15.314
Recommended BAU expenditure		43.259	43.406	43.674	43.765	44.256	218.359
Adjusted BAU target	43.366	43.641	43.780	43.919	44.058	44.198	219.595
Amount above BAU target		-0.383	-0.374	-0.245	-0.293	0.059	-1.235

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, Central Highlands Water meets the ESC's productivity hurdle.

5 Capital expenditure

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

- An assessment of generic issues relevant to the overall prudence, 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 Central Highlands 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 prudence, efficiency and deliverability of multiple projects or Central Highlands Water's capital expenditure program as whole.

5.1.1 Capital expenditure planning

Capital planning process

- Central Highlands Water is moving into a formal 10 year capital planning cycle with an annual review process and a specific process for the commencement of each regulatory period
- Capital planning is supported by a Project Management Handbook (May 2011) and a 10 Year CapEx Program Annual Development Procedure
- All projects must have a 'Project Definition Document' which, once reviewed and approved, is then risk assessed and ranked relative to the capital program
- The majority of projects are sent to the preferred engineering services provider to undertake options assessment and concept / detailed design.

Asset Management

- Central Highlands Water's asset management systems are less system focused and more action focused
- Asset management processes are not well documented but actions are in place to address this
- General maintenance and renewal strategies are in place and working robustly
- Network Plans produced for water and wastewater outline management processes.

5.1.2 Cost estimation and escalation

Consultants GHD were engaged to develop P5, P50 and P95 cost estimates for five of the Top 10 projects however these estimates have not been used in WP3. Typically they are higher than Central Highlands Water's own estimates.

A description of the method using @Risk includes:

- Concept or preliminary design estimates used to develop unit rates for line items
- Minimum and maximum contingency levels set, typically 20% below and 40-50% above unit rate
- Minimum and maximum unit rates developed using contingency levels
- @Risk analysis run to develop P50 cost estimate
- Difference between P50 and concept or preliminary design estimate calculated
- All line items inflated by % difference identified above to calculate P50 cost estimates for each line item.

It appears that no cost escalation factors were used in the development of capital cost estimates.

5.1.3 Deliverability of the capital expenditure program

Central Highlands Water proposes to invest \$100.09m during the next Water Plan, which equates to an average annual capital expenditure of \$20.02m. This is about half of WP2 actual capital expenditure of \$199.1m and the actual average annual capital expenditure in the current regulatory period of \$39.82m.

Central Highlands Water uses a preferred engineering consultant to provide the majority of concept and detailed design services for capital projects. Standard delivery mechanisms are typically chosen for capital projects.

Given these factors, Central Highlands Water is not expected to encounter problems delivering this significantly reduced capital program.

5.2 Major projects

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

Table 5-1 Central Highlands Water top ten projects and forecast expenditure (\$m, 01/01/2013)

Capital expenditure item	Primary Driver	Water Plan forecast expenditure					Total	% of total
		2013-14	2014-15	2015-16	2016-17	2017-18		
Maryborough Water Quality Improvement Project	Compliance	0.500	0.000	0.000	6.500	3.195	10.195	10.2%
Ballarat West Urban Growth Zone Infrastructure	Growth	0.727	1.654	4.291	0.830	2.640	10.142	10.1%
Reservoir and Dam Upgrade Works	Compliance	1.360	2.187	1.802	2.200	2.526	10.075	10.1%
Water and Sewer Main Renewals	Renewals	2.000	2.000	2.000	2.000	2.000	10.000	10.0%
Ballarat South Wastewater Treatment Plant Augmentation Works	Compliance	1.150	6.272	0.000	2.195	0.000	9.616	9.6%
Fleet Replacement - Operational	Renewals	1.500	1.500	1.500	1.500	1.500	7.500	7.5%
ICT Infrastructure Replacements and Upgrades	Renewals	0.915	1.145	0.925	0.900	1.095	4.980	5.0%
Raw Water Pipeline Replacement	Renewals	0.000	1.230	0.279	0.791	0.780	3.080	3.1%
Ballarat Sewer Flow Containment Project – Ballarat South Outfall Sewer	Compliance	0.000	0.000	0.000	1.000	2.000	3.000	3.0%
Lexton Water Supply Project	Compliance	2.500	0.000	0.000	0.000	0.000	2.500	2.5%
Subtotal - Top 10 Projects		10.652	15.987	10.797	17.916	15.736	71.088	71.0%
Other minor projects		12.109	6.049	4.653	2.994	2.946	28.752	28.7%
Total		22.870	21.340	16.000	20.850	19.030	100.090	
Proportion of annual expenditure		23%	21%	16%	21%	19%		

Source: Copy of WP3 CapEx List_Rev AC_Final (BI_12_72341).xlsx

Notes: - Other primary drivers include Government and customer contributions.
- Total row taken from Water Plan 3 document so totals may not match:

5.3 Maryborough Water Quality Improvement Project

5.3.1 Business proposal

Central Highlands Water is proposing to improve the Maryborough water supply system by installing a treatment plant for Moolort bore water at a total cost of \$10.2m.

Key drivers

The key driver for this project is Compliance to ensure the water supplied meets the water quality targets related to Total Dissolved Solids (TDS) and hardness. A secondary driver is growth to ensure that future demands can be adequately serviced.

During the past drought, it was necessary for Central Highlands Water to supplement existing water supplies for Maryborough with a groundwater bore at Moolort. Water quality from the bore, however, has high TDS and hardness with additional taste, odour and other issues resulting in a failure to meet a 'good standard' of water¹. Water quality complaint data provided shows a spike in complaints in 2008-09 and ongoing poor customer perceptions of water quality (taken from annual customer surveys).

Central Highlands Water's water balance modelling indicates that the current surface water supply system may not provide an adequate level of security and will increasingly rely on the Moolort bores to ensure future anticipated demands are met.

Options analysis

A number of options were assessed to resolve these water quality issues in a workshop and brainstorming sessions with all feasible options still to be fully investigated. For the purposes of WP3 and identifying proposed expenditure, a salt reduction and treatment facility at the Moolort bore was chosen as the preferred option.

An interim option of blending supply from the Moolort bore with existing storages may allow a supplement of up to 10% bore water without treatment.

Proposed costs

Costs for the preferred option were sourced from three technology suppliers through budget quotations. An additional budget quotation was sought by Inside Infrastructure in their review of this project.

A budget breakdown identifies the primary line items required for the preferred option however the cost items are relatively broad.

The costs include a risk contingency of 10%, a general contingency of 30%, and an allowance of 5% for Central Highlands Water's internal delivery costs.

Proposed timing

Central Highlands Water stated that a procurement strategy for the proposed works was completed in October 2012 which finalised the required timing for the project. Design works require completion by the end of 2013-14 to ensure the project is ready for when the Moolort bores are required.

¹ Central Highlands Water 2012, Project Definition – Maryborough Water Quality Improvement Project, completed 26 September 2012, pg 1

5.3.2 Analysis and recommended adjustments

Drivers

The stated key driver for this project is compliance with water quality however customer complaint and water quality data does not conclusively support this purpose. A spike in complaints in 2008-09 corresponded with a change to a disinfection method known for causing some quality issues. Complaints dropped back to 'normal' levels in 2009-10 and 2010-11 even with the Moolort bore still operating (to September 2010). Central Highlands Water provided customer survey results for 2008-2010 demonstrating lower than average customer rating of high water quality however this is not an objective measure. Recent water quality performance data was also referenced however it has not been sighted or quantified.

Low supply conditions are not likely to be an issue in the short term and the existing storages normally supplying the Maryborough system are fully functional which would appear to decrease the urgency of this project. It is recognised, however, the Maryborough system will increasingly rely on supply from the Moolort bores and with this, overall water quality may potentially decrease. However, the timing of this has not been established.

Options analysis

Options analysis is still at an early stage of development with no preferred option selected, and no preliminary or concept design analysis work done to date. Central Highlands Water identified that further work was also required to consider operational processes and potential emergency supply sources. Design work is proposed for 2013-14 to develop and assess options.

Proposed costs

The proposed costs for this project are preliminary and based on tendered budget costs but not on a fully assessed preferred option.

Proposed timing

The proposed timing of this project is outlined only in an unsighted procurement strategy with no design yet done.

Recommendation

There is still a high degree of uncertainty over this project. The primary driver of Compliance cannot be adequately justified and while a secondary driver of current and future water security is may be more valid it has not been quantified. Given the significant uncertainty over this project and lack of full justification, it is recommended that the majority of the proposed expenditure be deferred out of WP3. It is recommended that the current allowance of \$0.5m in 2013-14 for investigations work be deferred to 2016-17 to allow for some investigation and design work to occur closer to the likely construction period.

Our proposed and recommended expenditure is shown in Table 5-2 below.

Table 5-2 Proposed and recommended expenditure for Maryborough Water Quality Improvement Project (\$m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Maryborough Water Quality Improvement Project	Proposed	0.50	0.00	0.00	6.50	3.20	10.20
	Recommended	0.00	0.00	0.00	0.50	6.50	7.00
	Net change	-0.50	0.00	0.00	-6.00	3.31	-3.20

5.4 Ballarat West Urban Growth Zone Infrastructure

5.4.1 Business proposal

Central Highlands Water proposes to construct works to supply the Ballarat West Urban Growth Zone at a total cost of \$10.14m.

Key drivers

The key driver for this project is growth.

Options analysis

Central Highlands Water has prepared a water servicing strategy and a sewerage strategy for the Ballarat West Urban Growth Zone which outlines the various water supply and wastewater collection options considered for this area. Modelling has also been undertaken to identify infrastructure requirements and to assess staging scenarios.

Proposed costs

Proposed costs for works over WP3 have been determined within the water and sewerage strategies and within Master Plans developed for the project.

Proposed timing

The Project Description document for this project provides a breakdown of the proposed works over WP3.

5.4.2 Analysis and recommended adjustments

Recommendation

The justification for this project is clear and we do not propose any adjustments to expenditure. Proposed and recommended expenditure is shown in Table 5-3 below.

Table 5-3 Proposed and recommended expenditure for Ballarat West Urban Growth Zone Infrastructure (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Ballarat West Urban Growth Zone	Proposed	0.727	1.654	4.291	0.830	2.640	10.142
	Recommended	0.727	1.654	4.291	0.830	2.640	10.142
Infrastructure	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.5 Reservoir and Dam Upgrade Works

5.5.1 Business proposal

Central Highlands Water is proposing to undertake a program of works related to dam safety at a total cost of \$10.08m.

Key drivers

The key driver for this project is Compliance with the Statement of Obligations and the Australian National Committee on Large Dams (ANCOLD) guidelines for dam management processes.

Dam safety guidelines are continuously improved and Central Highlands Water needs to demonstrate to DSE a program of ongoing works to ensure all dams and reservoirs meet the relevant guidelines.

Options analysis

The proposed works are required to address specific dam safety guidelines and are relatively well defined with few alternative options available.

Concept and detailed designs are progressively completed for all works.

Proposed costs

The cost estimates for the program of works have been either developed or updated for the 2013-2018 Dam Management Plan.² The costs are generally preliminary estimates suitable for budgeting purposes until concept and detailed designs are completed.

Proposed timing

A detailed project delivery plan is presented in the Project Definition Document³ which has scheduled works for each year of WP3. Construction works have generally been offset over the period.

5.5.2 Analysis and recommended adjustments

Recommendation

The need for these works is clear and well justified in the supporting documentation. While cost estimates are at a preliminary stage they are based on contractor experience and previous projects. As a result, we do not propose any adjustments to expenditure. Proposed and recommended expenditure is therefore shown in Table 5-4.

Table 5-4 Proposed and recommended expenditure for Reservoir and Dam Upgrade Works (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Reservoir and Dam Upgrade Works	Proposed	1.360	2.187	1.802	2.200	2.526	10.075
	Recommended	1.360	2.187	1.802	2.200	2.526	10.075
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

² Central Highlands Water 2012, 2013-2018 Dam Management Plan, last updated 8 October 2012

³ Central Highlands Water 2012, Project Definition – Dam Safety Upgrade Program, prepared 25 September 2012.

5.6 Water and Sewer Main Renewals

5.6.1 Business proposal

Central Highlands Water proposes to allocate a total of \$10m to water and sewer main renewals over WP3.

Key drivers

The key driver for these two projects is renewals with aging mains replaced prior to complete failure to ensure service levels do not fall below target levels.

Sewer mains are inspected with CCTV on a defined schedule based on age, material, life expectancy and risk rating. The results of inspections inform the condition assessment of each main with good condition assets scheduled for further inspections and poor condition assets scheduled for renewal.

Water mains are allocated an initial replacement year based on the date constructed, material, and life expectancy. A risk assessment then determines a risk rating for each main. Low risk mains have 20 years added to their initial replacement year, medium risk mains have 10 years added and high risk mains are not adjusted. CCTV inspections are being implemented for high risk water mains to identify actual asset conditions.

Options analysis

Sewer mains assessed for renewals may be fully relined or patched depending on the asset condition.

Water mains reaching the end of their replacement life are replaced by pipe bursting and dragging a new pipe.

Proposed costs

Cost estimates for sewer mains are based on extrapolating the results of past inspections and specifically the proportions of different condition grades against the proposed length of mains to undergo CCTV inspection each year. A common unit rate is used for renewals of \$150 per metre and smoothing of expenditure is applied to achieve an ongoing \$0.50m each year.

Cost estimates for water mains are based on the total predicted replacement profile over WP3 smoothed to a regular allocation each year of \$1.00m. An additional \$0.50m each year is to be allocated to replacing unlined cast iron mains.

Proposed timing

Both programs are ongoing over WP3 with the works completed to a set annual budget.

5.6.2 Analysis and recommended adjustments

Recommendation

The method used by Central Highlands Water to determine renewals requirements is relatively simplistic but is supported to an increasing degree by actual asset condition data. Proposed costs are consistent with actual expenditure in WP2. As a result, we do not propose any adjustments to expenditure.

Proposed and recommended expenditure is shown in Table 5-5 below.

Table 5-5 Proposed and recommended expenditure for Water and Sewer Main Renewals (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Water and Sewer Main Renewals	Proposed	2.000	2.000	2.000	2.000	2.000	10.000
	Recommended	2.000	2.000	2.000	2.000	2.000	10.000
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.7 Ballarat South Wastewater Treatment Plant Augmentation Works

5.7.1 Business proposal

Central Highlands Water proposes to augment the Ballarat South Wastewater Treatment Plant to increase hydraulic capacity and increase load capacity for biological nutrient removal at a total cost of \$9.62m over WP3. An updated total cost estimate provided by Central Highlands Water now proposes a total of \$14.78m over WP3.

Key drivers

The key driver for this project is compliance – to meet hydraulic capacity and effluent quality requirements. A secondary driver is growth – to meet predicted future flows and loads, particularly from new developments including the Ballarat West Urban Growth Zone.

Options analysis

An updated Augmentation Strategy⁴ has been recently completed for this project which outlines the assessment of options and selection of the preferred solutions. Options assessed were limited to solution variations within specific work packages defined by Central Highlands Water.

An updated Project Definition Document⁵ also outlines a list of works required for WP3.

Proposed costs

The proposed costs for this project are identified in the updated augmentation strategy and are updated costs including market prices from a recently completed Design and Construct tender process.

Proposed timing

The updated augmentation strategy and project definition document outline a revised timeline with the majority of works occurring in 2013-14, 2015-16, and 2017-18 with minor works in 2014-15 and 2016-17.

5.7.2 Analysis and recommended adjustments

Drivers

The drivers for this project are relatively clear and well justified. Recent correspondence from the EPA indicating strong support for the project was also provided.

⁴ AWT 2012, Ballarat South WWTP Augmentation Strategy, completed April 2012

⁵ Central Highlands Water 2011, Project Definition – BSTP Augmentation Works, 15 September 2011

Options analysis

The options assessed in the 2013 Augmentation Strategy are relatively well set out and justified (within the context that Central Highlands Water tightly defined the work packages). An option to construct a new treatment plant was investigated however the capital cost was significantly greater than any other option.

Proposed costs and timing

The proposed costs included in WP3 have been updated with a 54% increase in expenditure from \$9.62m to \$14.78m. It is not clear exactly where this increase derives from as we have not been provided with the original 2011 augmentation strategy on which the current augmentation strategy is based. However it appears that a large proportion of the increase relates to the deferral of expenditure originally proposed for WP2 into WP3.

A significant amount of expenditure was planned to be tendered in WP2 however the contracts were not executed due to a number of risks identified, a lack of innovation in the contract outputs and costs that were significantly higher than estimated.

Recommendation

The drivers for this project are clear and the importance of this project in the context of the Ballarat West growth zone is acknowledged. Whilst the proposed cost has increased significantly from the original WP3 figure, it appears that this increase is simply related to the deferral of expenditure from WP2.

We do not propose any adjustments to the updated capital cost, apart from updating the original WP3 figure to the latest figure available.

Proposed and recommended expenditure is shown in Table 5-6 below.

Table 5-6 Proposed and recommended expenditure for Ballarat South Wastewater Treatment Plant Augmentation Works (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Ballarat South Wastewater Treatment Plant Augmentation Works	Proposed	1.150	6.272	0.000	2.195	0.000	9.616
	Recommended	4.468	0.630	6.559	0.365	2.756	14.778
	Net change	3.318	-5.642	6.559	-1.829	2.756	5.162

5.8 Fleet Replacement - Operational

5.8.1 Business proposal

Central Highlands Water is proposing to progressively replace operational fleet over WP3 at a total cost of \$7.5m.

Key drivers

The key driver for this project is Renewals to ensure the operational fleet is able to undertake the full range of maintenance, customer service and emergency response functions.

Central Highlands Water has a Board endorsed Vehicle Policy⁶ that governs the procurement, use and disposal of operational vehicles. This policy was made effective on 25 March 2008 and specifies that vehicles be replaced every two years or 60,000km.

⁶ Central Highlands Water 2008, Board Policy – Vehicle Policy, effective 25 March 2008

A vehicle register is maintained identifying each asset in the fleet and the expected changeover date.

Options analysis

Central Highlands Water currently purchases vehicles and adds them to the asset register. Alternative options include leasing or hiring cars on an as needs basis. The Vehicle Policy identifies these options but indicates that the Fleet Manager has discretion to determine the option with the least whole of life cost.

Proposed costs

Central Highlands Water has allocated an annual sum of \$1.5m to cover the replacement of vehicles.

Proposed timing

This is an ongoing program of replacements with timing dependent on the expected changeover date for each vehicle.

5.8.2 Analysis and recommended adjustments

Drivers

The driver for this project is relatively clear and well justified. The Board policy needs updating, however Central Highlands Water has indicated that a business process efficiency review will be commencing in 2012-13 and that vehicle procurement practices are likely to be reviewed.

Options analysis

No evidence of an options analysis considering the whole of life costs of purchasing, leasing or hiring vehicles has been provided however the business efficiency review mentioned above is likely to cover these issues.

Proposed costs

Given this project's status as a top 10 project, some supporting details on costs would be expected, however, while there is no explained basis for the proposed cost allocation, the expenditure is a reduction on WP2 which allocated just over \$2m each year (for plant and vehicle replacement).

Recommendation

This project is a top 10 project however this status is not reflected in the supporting documentation provided or the details of proposed expenditure. It is recommended that work is undertaken to improve the documentation and the basis for proposed expenditure once the business efficiency project is completed and its recommendations implemented. We note that other regional water businesses replace their vehicles less frequently than every 60,000 km/2 years.

Given that the proposed expenditure is a reduction on WP2, we do not propose to adjust the forecast. Proposed and recommended expenditure is shown in Table 5-7 below.

Table 5-7 Proposed and recommended expenditure for Fleet Replacement - Operational (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Fleet Replacement - Operational	Proposed	1.500	1.500	1.500	1.500	1.500	7.500
	Recommended	1.500	1.500	1.500	1.500	1.500	7.500
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.9 ICT Infrastructure Replacements and Upgrades

5.9.1 Business proposal

Central Highlands Water is proposing to undertake ICT infrastructure replacements and upgrades at a total cost of \$4.98m.

Key drivers

The key driver for this project is Renewals to ensure ICT systems are maintained and Central Highlands Water's core systems remain functional.

ICT renewals have historically been deferred due to a focus on drought related projects in WP2. An ICT Enabling Strategy WP3⁷ outlines the key focus areas for WP3 and covers a wider range of works than this project.

The key components of this project are direct ICT infrastructure renewals, increasing storage requirements, disaster recovery infrastructure, and maintaining the Microsoft Enterprise Agreement.

Options analysis

The proposed works are generally replacements of existing items. Alternatives have been investigated where existing assets are no longer available or supported or where the alternatives best meet the key focus areas.

Proposed costs

Cost estimates for the proposed works have been broken down to asset specific estimates in a number of supporting spreadsheets. No details on the source of costs has been provided.

Proposed timing

The ICT Enabling Strategy presents a schedule for works to be completed under this project with work evenly spreads across the five year WP3 period.

5.9.2 Analysis and recommended adjustments

Drivers

The key driver for this project is relatively clear and is explained in the ICT Enabling Strategy.

Options analysis

No specific details of options assessments have been provided.

Proposed costs

The cost breakdowns included in the supporting documentation for ICT infrastructure replacement and End User ICT equipment replacement are not consistent with the ICT Enabling Strategy.

⁷ Central Highlands Water 2012, Information & Communications Technology WP3 Enabling Strategy, dated 1 November 2012.

Costs for the Microsoft Enterprise Agreement are forecast to increase by \$20,000 each year from 2014-15. However, there is a \$50,000 increase from 2013-14 to 2014-15. Central Highlands Water has indicated that this once-off increase is required to ensure all software is appropriately licensed with the results of a preliminary audit identifying a number of unlicensed products.

Additional costs have been allocated in the ICT Enabling Strategy to cover other small ICT projects that might arise during WP3. Central Highlands Water has stated that these projects cover five key strategic initiatives and the expected outcomes of these initiatives, which have been identified.

Proposed timing

Proposed expenditure is relatively smooth over the WP3 period.

Recommendation

We do not propose to adjust the ICT Infrastructure Replacements and Upgrades expenditure for the reasons identified above. Proposed and recommended expenditure is shown in Table 5-8 below.

Table 5-8 Proposed and recommended expenditure for ICT Infrastructure Replacements and Upgrades (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
ICT Infrastructure Replacements and Upgrades	Proposed	0.915	1.145	0.925	0.900	1.095	4.980
	Recommended	0.915	1.145	0.925	0.900	1.095	4.980
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.10 Raw Water Pipeline Replacement

5.10.1 Business proposal

Central Highlands Water is proposing to replace a critical section of the Evansford Raw Water Main from Evansford Reservoir to Talbot at a total cost of \$3.08m.

Key drivers

The key driver for this project is renewal – to ensure that these high risk mains remain in serviceable condition. Risk assessments have ranked all raw water pipelines with two sections of main ranked the highest risk score of 25, the Evansford Main and the Sugarloaf Main (which was replaced in the last year of WP2).

Options analysis

Central Highlands water has advised that there are no alternative options for replacing these major pipelines.

Proposed costs

The cost estimates for the works are at a budgeting level only but are based on costs for a similar section of main that was recently replaced in a nearby area.

Proposed timing

The proposed works are scheduled to commence in 2014-15 and will be completed in 2017-18.

5.10.2 Analysis and recommended adjustments

Recommendation

The high risk score of this particular main requires that the work be scheduled as an immediate priority for replacement, however no works are proposed in the first year of WP3. We note that operational activities continue to keep the main in a serviceable condition until replacement. No adjustments are recommended for this project.

Proposed and recommended expenditure is shown in Table 5-9 below.

Table 5-9 Proposed and recommended expenditure for Raw Water Pipeline Replacement (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Raw Water Pipeline Replacement	Proposed	0.000	1.230	0.279	0.791	0.780	3.080
	Recommended	0.000	1.230	0.279	0.791	0.780	3.080
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.11 Ballarat Sewer Flow Containment Project – Ballarat South Outfall Sewer

5.11.1 Business proposal

Central Highlands Water proposes to undertake works related to containment of flow in the Ballarat South Outfall Sewer at a total cost of \$3.0m.

Key drivers

The key driver for this project is compliance – to ensure that EPA requirements for 1 in 5 year flow containment are achieved.

Options analysis and costs

The proposed works over WP3 involve the detailed design and implementation of capital solutions to address issues identified during inflow and infiltration investigations of the Ballarat South system.

Proposed timing

The timing of the works is set for the final two years of WP3.

5.11.2 Analysis and recommended adjustments

Drivers

The key driver for this project is relatively clear. Inflow and infiltration works are expected to reduce the overall capital requirement and provide better value for money to customers.

Options analysis

The reassessment of potential options for the overall project in light of updated studies and investigations is a prudent decision.

Proposed costs

No supporting documentation has been provided to explain the proposed design and construction costs. Central Highlands Water has referenced a Sewer Strategy Upgrade Report dated January 2012 however this was not provided for review.

Proposed timing

The timing of the works to coincide with supporting studies and investigations is prudent.

Recommendation

Whilst no supporting documentation for the proposed costs has been provided, the intention of the works is supported and it is expected that the proposed works will result in a reduction in capital expenditure proposed in WP4. As such, we do not propose any adjustments to this expenditure.

Proposed and recommended expenditure is shown in Table 5-10 below.

Table 5-10 Proposed and recommended expenditure for Ballarat Sewer Flow Containment Project – Ballarat South Outfall Sewer (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Ballarat Sewer Flow Containment Project – Ballarat South Outfall Sewer	Proposed	0.000	0.000	0.000	1.000	2.000	3.000
	Recommended	0.000	0.000	0.000	1.000	2.000	3.000
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.12 Lexton Water Supply Project

5.12.1 Business proposal

Central Highlands Water proposes to construct a water supply pipeline from Waubra (Gordons Hill bore) to Lexton at a cost of \$2.5m.

Key drivers

The key driver for this project is compliance – to ensure a suitable quality water supply is provided to Lexton. The current water supply system yields poor quality raw water which the current Lexton water treatment plant cannot effectively treat. In addition, the existing system has poor reliability and an alternative source would improve water security for the town.

Options analysis and costs

A number of supply options were investigated with connection to the Waubra system preferred. A new bore installation at Gordons Hill provides a reliable, higher quality source. The proposed costs for WP3 cover the completion of investigations into the Gordons Hill bore and the construction of the pipeline to Lexton.

Proposed timing

This work follows on from WP2 and is scheduled for 2013-14. The works required are awaiting the completion of the Gordons Hill bore.

5.12.2 Analysis and recommended adjustments

Recommendation

No adjustments are required. Proposed and recommended expenditure is shown in Table 5-11.

Table 5-11 Proposed and recommended expenditure for Lexton Water Supply Project (\$m, 01/01/2013)

Project		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Lexton Water Supply Project	Proposed	2.500	0.000	0.000	0.000	0.000	2.500
	Recommended	2.500	0.000	0.000	0.000	0.000	2.500
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

5.13 Summary of our recommendations

Our recommendations on adjustment to Central Highlands Water's capital expenditure forecast over the next five year regulatory period are outlined in Table 5-12 and summarised below:

- Ballarat South Wastewater Treatment Plant Augmentation Works expenditure be increased from \$9.62m to \$14.78m to reflect the most up to date supporting documentation provided.
- Maryborough Water Quality improvement project be reduced by \$3.2m and deferred to the end of WP3 to reflect the uncertainty over project selection

Table 5-12 Central Highlands 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	
Maryborough Water Quality Improvement Project	Proposed	0.500	0.000	0.000	6.500	3.195	10.195
	Recommended	0.000	0.000	0.000	0.500	6.500	7.000
	Net change	-0.500	0.000	0.000	-6.000	3.305	-3.195
Ballarat West Urban Growth Zone	Proposed	0.727	1.654	4.291	0.830	2.640	10.142
	Recommended	0.727	1.654	4.291	0.830	2.640	10.142
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Reservoir and Dam Upgrade Works	Proposed	1.360	2.187	1.802	2.200	2.526	10.075
	Recommended	1.360	2.187	1.802	2.200	2.526	10.075
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Water and Sewer Main Renewals	Proposed	2.000	2.000	2.000	2.000	2.000	10.000
	Recommended	2.000	2.000	2.000	2.000	2.000	10.000
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Ballarat South Wastewater Treatment Plant Augmentation Works	Proposed	1.150	6.272	0.000	2.195	0.000	9.616
	Recommended	4.468	0.630	6.559	0.365	2.756	14.778
	Net change	3.318	-5.642	6.559	-1.829	2.756	5.162
Fleet Replacement - Operational	Proposed	1.500	1.500	1.500	1.500	1.500	7.500
	Recommended	1.500	1.500	1.500	1.500	1.500	7.500
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
ICT Infrastructure Replacements and Upgrades	Proposed	0.915	1.145	0.925	0.900	1.095	4.980
	Recommended	0.915	1.145	0.925	0.900	1.095	4.980
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Raw Water Pipeline Replacement	Proposed	0.000	1.230	0.279	0.791	0.780	3.080
	Recommended	0.000	1.230	0.279	0.791	0.780	3.080
	Net change	0.000	0.000	0.000	0.000	0.000	0.000

Capital expenditure item	Water Plan forecast						
	2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3	
Ballarat South Flow Containment Project - Ballarat South Outfall Sewer	Proposed	0.000	0.000	0.000	1.000	2.000	3.000
	Recommended	0.000	0.000	0.000	1.000	2.000	3.000
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Lexton Water Supply Project	Proposed	2.500	0.000	0.000	0.000	0.000	2.500
	Recommended	2.500	0.000	0.000	0.000	0.000	2.500
	Net change	0.000	0.000	0.000	0.000	0.000	0.000
Total proposed	22.867	21.334	15.999	20.847	19.040	100.087	
Recommended capital expenditure	25.685	15.692	22.558	13.018	25.101	102.054	
Recommended adjustments from proposed	2.818	-5.642	6.559	-7.829	6.061	1.967	

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.