Essential Services Commission

Expenditure Review – Water Plan 3

Final overview document

18 February 2013

Contents

1 Overview

1.1 Introduction

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria's water businesses for the period 1 July 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.

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

Barwon Water (BW)	Goulburn Valley Water (GVW)
Central Highlands Water (CHW)	North East Water (NEW)
Coliban Water (CW)	South Gippsland Water (SGW)
East Gippsland Water (EGW)	Wannon Water (WNW)
Gippsland Water (GW)	Westernport Water (WPW)

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;*

Our assessment also follows the guidance of the ESC, in particular that set out in the ESC's *2013 Water Price Review Guidance on Water Plans* (the Guidance Paper).

1.1.1 Purpose of this document

The purpose of this final Overview document is to set out in detail the way in which we have approached our task, including our detailed approach to dealing with some common issues.

It should be read in conjunction with the individual reports we have prepared for each business.

This final Overview document follows a draft Overview document which was provided to the ESC, and subsequently the water businesses, in December 2012. Where relevant we have cited and discussed feedback that was received in response to the draft report.

1.2 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 businesses and our approach in various areas is set out in more detail in later sections of this report.

   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.

A more detailed discussion of key operating expenditure issues is in chapter 2.

1.3 Capital expenditure

In reviewing capital expenditure forecasts 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.

Further discussion of capital expenditure issues is in chapter 3.

1.4 Procurement and cost sharing

The ESC's Guidance Paper required businesses to identify:

- How they have used shared services to deliver savings over the second regulatory period
- Competitive procurement practices, such as benchmarking in-house and outsourced activities against market rates.

The ESC indicated that it will look for evidence that all water businesses factored potential savings from shared services provision into their operating expenditure forecasts, or whether businesses have looked for opportunities to implement shared services. This may include in areas such as payroll or human resources, IT, customer service, and legal or administration costs.

Businesses identified the following areas where they engage in procurement and cost sharing activities with other entities.

Table 1-1 Procurement and cost sharing activities

Business	Activity
BW	Uses Procurement Australia for electricity and other low volume consumables (store items). Sources other goods and services from state purchasing contracts. Shared procurement of three contracts being; water and wastewater chemicals, water meters and insurance services. A number of business activities have been outsourced over the years including meter readings, lab analysis and building maintenance activities. PPP's for some key projects.
CHW	Uses Procurement Australia for energy (electricity, gas and bulk fuels), chemicals, uniforms and stationery contracts. State purchasing contracts are used for IT and network equipment. Joint venture with Coliban on Superpipe costs, and PPP's for some key projects.
CW	Car fleet services, IT hardware and software and hardware expenditure are purchased via central Victorian Government negotiated prices. Joint venture with Central Highlands Water for Goldfields Superpipe costs.
EGW	Cost sharing with SGW and WPW for customer satisfaction and ESC audit. Uses Procurement Australia for a number of purchasing items including electricity.
GW	Uses Victorian Government contracts for banking, telecommunications services and advertising. GW is not part of the Procurement Australia energy contract.
GVW	Uses Procurement Australia for electricity, gas, plumbing, electrical products, corporate uniforms, retail fuel supply and equipment hire.
NEW	Uses Procurement Australia for energy contract.
SGW	Cost sharing with WPW and EGW for customer satisfaction and ESC audit. Uses Procurement Australia for purchasing a range of items.
WNW	Uses Procurement Australia for electricity, chemicals, stationery and other miscellaneous materials. Victorian Government purchasing contracts for telecommunications, motor vehicles and accommodation. A range of business activities are outsourced such as laboratory services, meter reading, biosolids management, internal audit, building maintenance, pump refurbishment (among others).
WPW	Cost sharing with SGW and EGW for customer satisfaction and ESC audit. WPW uses MAPS/Procurement Australia for purchasing chemicals, electricity, meters and pipes.

Some businesses contract out of aspects of their operational activities – for example Gippsland Water's mechanical and electrical maintenance works are contracted to Transfield.

In assessing the water businesses' expenditure proposals, we note that the ESC does not mandate businesses to engage in shared procurement and service delivery. However, where businesses have engaged in some form of shared procurement or service delivery (such as electricity purchased under the Procurement Australia arrangements), we have used the costs achieved by these businesses as a general benchmark against which to compare other businesses.

1.5 Pass through arrangements

In undertaking our analysis of both operating and capital expenditure we have also had regard to the ability for water businesses to seek a pass through for higher than expected costs in certain circumstances. As the ESC noted in its Guidance Paper, it approved a mechanism for managing uncertain or unforeseen events for WP2. The mechanism, which applies pursuant to section 12AA of the WIRO, established a process for businesses to apply for a price adjustment to account for events that were significant and uncertain or unforeseen at the time of the original determinations. The ESC intends to adopt the uncertain or unforeseen events mechanism.

Therefore, in a number of cases we have not included certain items of expenditure in businesses' forecasts on the basis that they are significantly uncertain. Should the need for such expenditure arise, prices can be adjusted through the pass through mechanism.

We accept that using the pass through mechanism is not a 'perfect' outcome to the extent that it imposes costs and uncertainties on both businesses and their customers. However, in our view it provides a fairer outcome for customers than including expenditure in forecasts (and hence tariffs) that ultimately does not occur. The recent Melbourne experience, where desalination payments by Melbourne Water were delayed, provides a clear indication that customers are very averse to paying for costs that have not been incurred.

2 Operating expenditure

2.1 Overview of operating expenditure

This section provides a brief overview and comparison of operating expenditure across the water businesses. Note that the figures presented in this section are as proposed by the businesses and are not necessarily comparable in some areas. For example, some businesses have included defined benefits superannuation payments in their forecasts and/or historical expenditure, while others have not.

Figure 2-1 provides a summary of businesses' actual and proposed operating expenditure. As can be seen from the figure, several businesses have a 'spike' in expenditure in the base year 2011-12. Businesses with the largest increase from 2011-12 across WP3 include Goulburn Valley Water, North East Water and Wannon Water (Figure 2-2).

Figure 2-1 Total operating expenditure (excluding licence fees, bulk charges and environmental contribution) for WP2, WP3 and WP4 periods

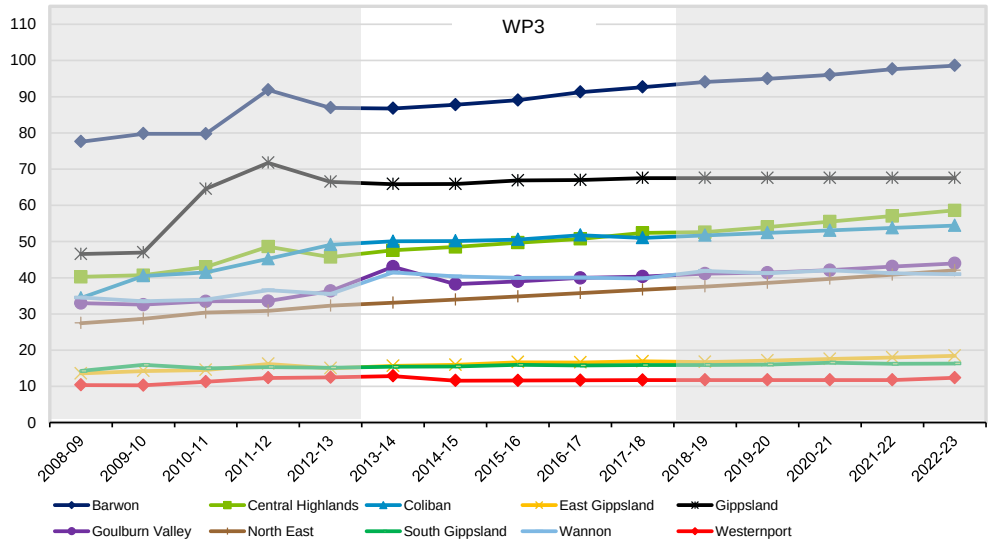
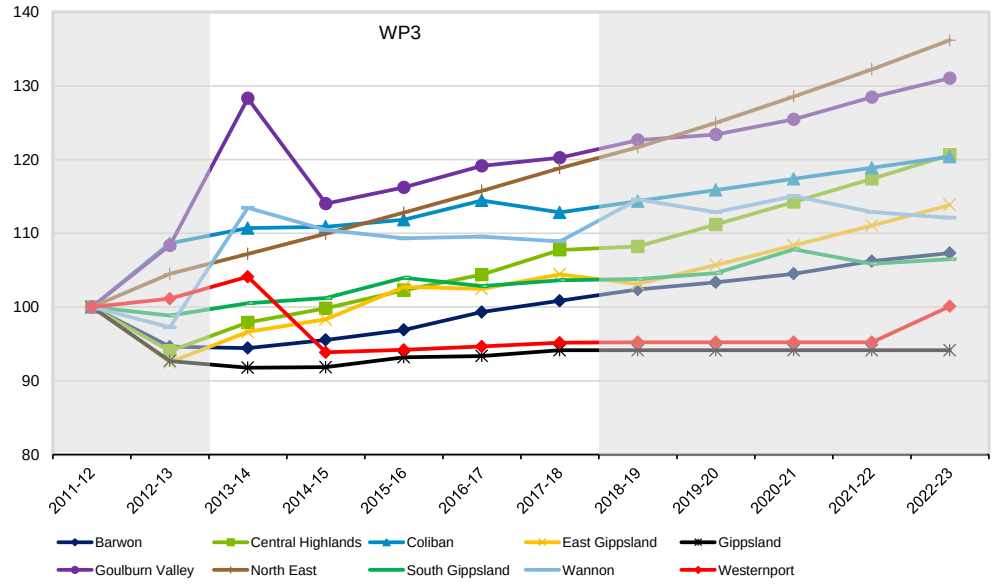


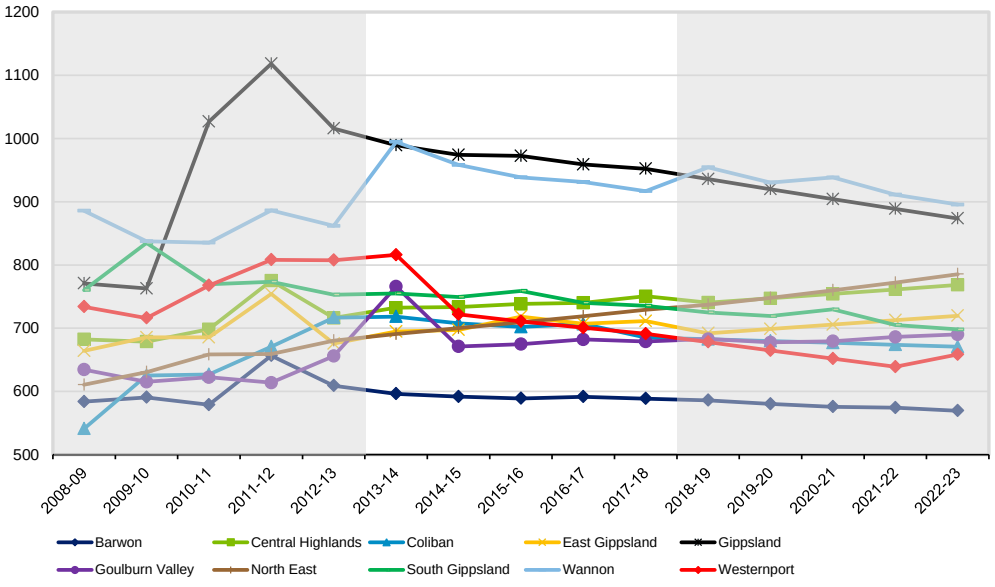
Figure 2-2 Operating expenditure (excluding licence fees, bulk charges and environmental contribution) for 2011-12, 2012-13, WP3 and WP4 periods (Index 2011-12 = 100)



As shown above two businesses - Westernport Water and Gippsland Water - propose lower expenditure in 2017-18 than in the base year 2011-12. Although in Gippsland Water's case the base year amounts are arguably high given the Gippsland Water Factory was in start-up mode.

Figure 2-3 below compares costs per connection over WP3. Most businesses lie in a range between $675 and $750 per connection, but Gippsland Water, Wannon Water and Coliban Water are significantly higher. Barwon Water has markedly lower costs per connection.

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



The following sections set out how we have approached our analysis in relation to a number of common operating expenditure items.

2.2 Business as usual expenditure

2.2.1 Background

A key element of our approach, as set out in Section 1.2 above, is to define a base level of BAU expenditure and then to understand what increments or decrements in expenditure are required going forward in order to deliver new or changed service outcomes. This provides transparency about the approximate cost of changed service outcomes and their effects on prices.

The concept of BAU expenditure is that it is the level of expenditure necessary to provide a defined level of service. Implicit is the assumption that the actual activities undertaken by a business from year to year to deliver services will change and there will be a number of once-off areas of expenditure in any one year that are not required every year. For example, a business may prepare a sewerage strategy in one year, prepare a water supply demand strategy in another, and do a number of once-off repairs in another year. That is, there will be a number of minor inclusions and exclusions from year to year associated with the normal ebb and flow of work requirements and changes in the industry and wider business environment.

As the ESC has noted, Water Plans must justify any operating costs that are forecast to increase above BAU expenditure for 2011-12. If businesses cannot justify increased expenditure, the ESC indicated that will base its assessment of operating expenditure for WP3 on 2011-12 BAU expenditure.

2.2.2 Business proposals

In preparing operating cost forecasts and inputting data to the templates provided by the ESC, businesses were asked to separately identify BAU expenditure and expenditure on 'new initiatives'. In terms of operating expenditure the businesses have interpreted 'BAU' and 'new initiatives' in very different ways, as summarised in the table below.

Table 2-1 New initiatives identified in the ESC template

Business	New initiatives identified
BW	None
CHW	Approximately 20 new initiatives including country towns sewer scheme, biosolids strategy implementation, increased energy costs, superannuation guarantee levy, WP4 development, fire prevention works. Total of $25.28m across WP3.
CW	Four new operating expenditure initiatives being biosolids reuse strategy, water distribution quality improvements, defined benefits superannuation costs and cost of new hardship policy. Total of $11.72m across WP3.
EGW	Approximately 30 new initiatives including lagoon desludging, more frequent billing, GPS remote management system and a range of 'special O&M' projects which include dam safety inspections, sewerage masterplans, investigation of infiltration etc. Total of $4.18m across WP3.
GW	None
GVW	None
NEW	None
SGW	Three new initiatives – GSLs, superannuation guarantee levy, Living Victoria. Total expenditure of $1.07m across WP3.
WNW	76 new initiatives, many of which have operating expenditure implications.

Business	New initiatives identified
	Largest items include 7 new FTEs, carbon tax impact, property service pipe replacements, defined benefit payment, CCTV program, and the Portland Water Reclamation plant. Total expenditure of $19.74m across WP3.
WPW	One new initiative – contribution to SGW for sewerage augmentation. Total expenditure of $0.02m across WP3.

2.2.3 Approach to assessment

In assessing operating expenditure we have adopted the following approach:

- In defining base year (2011-12) expenditure, 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
- Where businesses have identified material increases in expenditure going forward, they need to be related to the delivery of new or changed service outcomes or otherwise be justified by reference to customer needs, risk reduction, good industry practice or a strong business case for expenditure
- We have removed from the forecasts minor additional expenditure sought by businesses that is not related to increased or changed service standards, and where such expenditure can reasonably be expected to be funded as part of the normal year to year fluctuations in expenditure.

2.3 Real price increases

In their Water Plans a number of businesses pointed to expenditure categories which they believe will increase in price in real terms over the WP3 period. In several cases they have asked for the additional real costs imposed by these items be explicitly included in the forecasts. One example is software licence costs, where some businesses have indicated that their software licence fees are increasing faster than the general level of inflation.

Businesses are compensated for increases in the general level of prices through the CPI-X mechanism which provides for the CPI to be added to price changes each year. The CPI represents the average increase in prices, and some items will increase by more than CPI, and some items by less.

As a general rule businesses have not indicated areas where prices are expected to increase by less than the CPI or sought that these real cost reductions be included in the forecasts. For example, in recent years various items of computer hardware and telecommunications costs have increased at much less than the CPI.

Thus, if we were to make adjustments to the forecasts to include only those items for which prices are forecast to increase in real terms, and make no corresponding adjustment for those which are expected to fall in real terms, businesses would receive a windfall gain at the expense of customers.

We acknowledge that the CPI is a measure of increases in prices paid by consumers, and the 'basket' of goods used to calculate the CPI will not be the same as the 'basket' of goods purchased by a water business. Nevertheless there will be a strong overlap between the two – for example wages and wage-related costs (including contractor payments) represent up to 50% of some businesses' operating expenditure, and are a key influencer of increases in the CPI.

Our position is therefore only to consider making adjustments for real price increases in expenditure areas where one or more of the following is true:

- There is some certainty that the item will experience price increases above CPI

- The increases in cost are material to the businesses' operations
- The item is unlikely to be fully captured by the increase in the CPI.

2.4 Labour costs

2.4.1 Background

Labour costs are one of the, if not the most, significant contributor to total operational expenditure proposed by businesses. For example, in 2011-12, labour costs comprised 54% of Barwon Water's total expenditure. Labour costs include such things as salaries, wages, superannuation, leave, penalty and overtime payments etc.

Labour costs are a function of both wage levels and the number of employees. For most water businesses wage increases for the vast majority of employees occur subject to enterprise bargaining agreements (EBAs) – the exception is senior employees who are engaged under separate contractual arrangements. Most businesses are currently in the process of renegotiating EBAs, with the new agreements to commence some time in 2013.

Water business EBAs are subject to approval by the Minister for Finance. The Government's wages policy is outlined in the Department of Treasury and Finance's August 2012 *Public Sector Workplace Relations Policy*, which provides, in part, as follows:

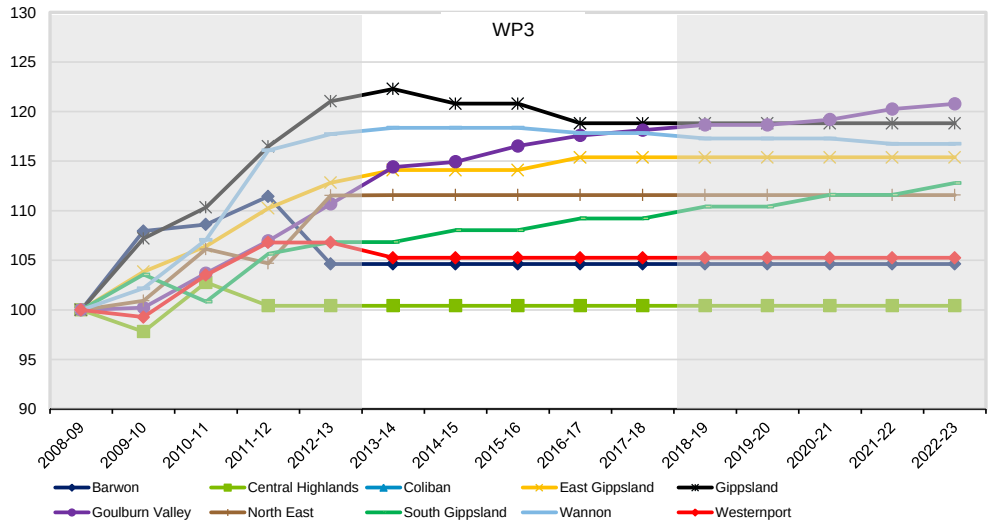
> *Departments and public sector agencies must adhere to the wages policy as follows:*
>
> *• A wage guideline rate of 2.5 per cent per annum, so that the total cost of an agreement (including conditions, allowances or any other agreement related payments) is no more than 2.5 per cent annualised.*
>
> *• There is no ceiling or limit on wage outcomes. However, enterprise agreement outcomes in excess of the wage guideline rate must be fully offset by genuine productivity gains linked to workforce reform achieved as part of the agreement negotiations. These gains must be bankable, i.e. they must generate savings that will be available to fund any outcome in excess of the wage guideline rate.*

Further, the policy notes that all wage agreements must incorporate the recent decision by the Commonwealth Government to increase the employer superannuation guarantee in 0.25 to 0.5 percentage point increments until 2019-20, when the rate will reach 12% and remain at this level.

2.4.2 Business Proposals

Labour costs rose steadily in the 2008-09 to 2012-13 regulatory period (hereafter referred to as WP2) for most businesses as a consequence of both increases in employee numbers and real wages. The increase in FTEs can be seen in Figure 2-4, using 2008-09 as a benchmark. Most businesses are proposing only minor or no increases in FTEs across WP3, with Goulburn Valley Water and to a lesser extent South Gippsland Water and East Gippsland Water being the exceptions to this rule.

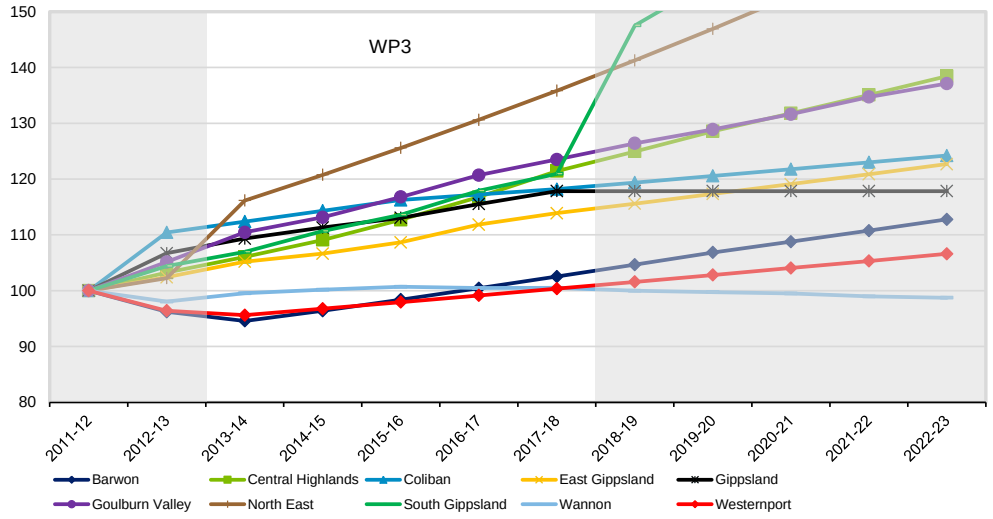
Figure 2-4 Actual and proposed FTEs 2008-09 to WP4 (Index 2008-09=100)



Note: Coliban Water did not provide FTEs for the entire WP2 period in its Water Plan.

Despite generally low increases in staff numbers, total labour costs are expected to continue to rise in WP3 for most businesses. This is primarily because many of the businesses are forecasting continued wages growth above the CPI.

Figure 2-5 Total labour costs 2011-12 to WP4 (Index 2011-12=100)



Note: excludes defined benefits superannuation contributions.

Table 2-2 summarises water businesses' existing and proposed EBAs as set out in their submitted Water Plans. Most businesses currently have EBAs which provide for 4% nominal wages growth, and are forecasting that the same arrangements will occur under new EBAs.

Table 2-2 Enterprise Bargaining Agreements, nominated expiry and additional costs

	Current EBA	EBA expiry date	Assumed annual wage increase post-EBA period/other increases e.g. salary band
BW	Target-based pay increases. BW 's maximum wage increase is 3.55% in nominal terms	1 December 2014	1% real increase each year

	Current EBA	EBA expiry date	Assumed annual wage increase post-EBA period/other increases e.g. salary band
CHW	EBA currently being re-negotiated. Current EBA has expired, therefore won't have any bearing on WP3	30 June 2015	Total wage and salaries increases are to be capped at nominal 2.5% each year of WP3
CW	Agreement allows for a 3% wage rise on 1 July 2013, as well as an additional 1% productivity payment if five of seven KPIs are met	30 June 2014	3% nominal increases each year, with some allowance for increases in salary ranges
EGW	Based on satisfactory completion of set KPIs, the EBA allows for a 4% nominal wage increase	December 2013	1.5% real growth across WP3
GW	Current EBA provides for increases of up to 4% each year	12 October 2013	Forecast for the WP3 period is based on 3.75% nominal growth per annum, plus a 1.15% career progression increase applied as a result of favourable performance appraisal
GVW	Existing EBA expired in December 2011. At the time of writing the proposed replacement EBA was yet to receive final approval from DTF. This EBA has proposed a 3.75% nominal increase for December 2011 (to be backdated) and 4% nominal in 2012 and 2013.	December 2013 (proposed)	Nominal 4% increase is assumed post the proposed EBA
NEW	Nominal annual wage increase of 4.25% or $34 a week, whichever is greater	29 August 2014	Real 4% increase, reflecting nominal increases as set out in the current EBA and an allowance for banding increments.
SGW		Expired on 25 September 2012	New EBA currently with Government for approval provides for 4% nominal wage increase. Forecast based on average 5% increase which includes staff progressing through bands
WNW	Nominal annual increase of 3.75%, with 1% tied to business performance targets (0.5%) and efficiency saving targets (0.5%)	Expires on 30 September 2013	2.5% nominal increase
WPW	Nominal annual wage increase of 4%	July 2013	Nominal 4% increase

2.4.3 Approach to assessment

As noted above, the Victorian Government's guideline provides that there should be a maximum average 2.5% nominal annual increase in total wages across the EBA period. Our draft Overview document broadly reflected this position, and provided for:

- Wage increases in existing EBAs to apply until the EBA expires
- Once a new EBA applies, a real growth in wages per FTE of 0%
- The number of FTEs to be assessed on a business-by-business basis.

In response to our Draft Report, several businesses accepted our approach, but others argued that wages forecasts should explicitly include such things as:

- A specific and additional allowance for the superannuation guarantee increase, and/or
- An allowance for wage increases as employees move through salary bands.

Since preparing our Draft Report we have held discussions with the Victorian Government. These discussions have confirmed our Draft Report position that:

- While an EBA may provide for increases in wage rates for individuals of more than 2.5%, in aggregate the total wages bill should not increase by more than 2.5%
- EBAs providing for greater than 2.5% increase in individuals' wages will therefore need to include real, bankable workplace savings that reduce the increase in total wages back to 2.5%. These savings need to be identified in the EBA, and might include, for example, the removal of restrictive work practices
- While being based on an expectation of an average 2.5% inflation, if outturn inflation exceeds 2.5% no additional wage increases should be paid
- The 2.5% includes the increase in the superannuation guarantee amount, as well as any increases in total wages as staff progress through salary bands.

In our Final Report we have therefore followed the same approach as in our Draft Report. This is arguably a generous position given the Government's position and bearing in mind in that:

2.5 Electricity costs

2.5.1 Background

Electricity is a major cost item for many water businesses with pumping and treatment processes often requiring large energy inputs.

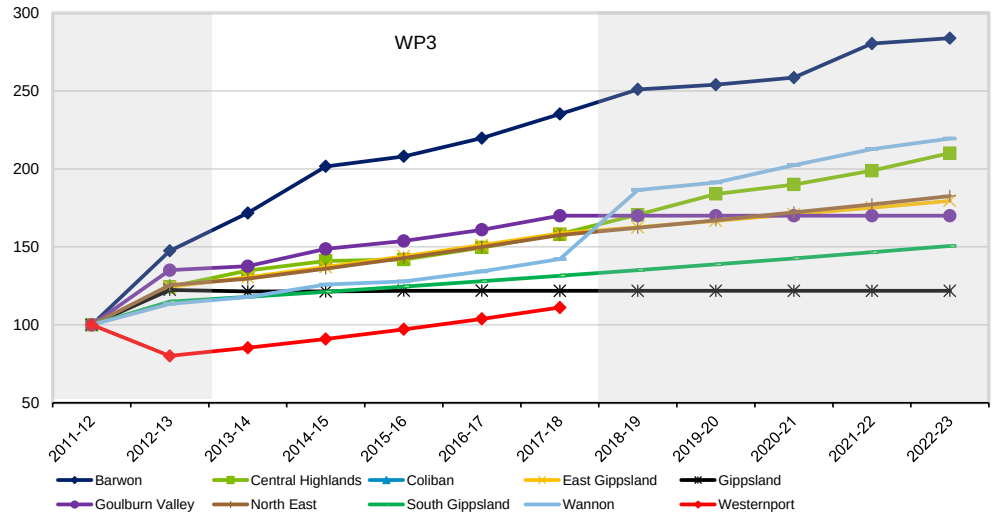
Each business has forecast increases in electricity costs over 2011-12 levels, citing factors including:

- The impact of the carbon price introduced on 1 July 2012
- Increasing network charges
- Increased volumes of electricity being used.

2.5.2 Business Proposals

In submitting their Water Plans to the ESC each business was asked to set out their forecast of electricity costs and justify any cost increases. The figure below summarises increases in electricity costs, using 2011-12 as a base year. Barwon Water has forecast the largest increase by far, with costs driven by both increased energy usage and an assumption about large price increases, particularly in 2012-13.

Figure 2-6 Total energy costs 2011-12 to WP4 (Index 2011-12 = 100)



Note: Coliban Water did not provide electricity costs for 2011-12 in its Water Plan.

While several businesses based their forecasts on a report prepared for the Water Services Association of Australia (WSAA), a wide range of different assumptions about usage and prices were made, as shown in the table below.

Table 2-3 Electricity cost increases

	Large site price increase (per kWh)	Small site price increase (per kWh)	Volume change 2011-12 to 2017-18
BW	46.4% in 2012-13, between -0.2% and 7.6% thereafter	31% in 2012-13, between 0.2% and 10.8% thereafter	35%
CHW	8.9% in 2012-13, between -1% and 7% thereafter	11.4% in 2012-13, between -0.1% and 5.3% thereafter	24%
CW	Not available	Not available	Not available
EGW	23% in 2012-13 4% pa thereafter	11% in 2012-13 4% pa thereafter	15%
GW	26% in 2012-13 0% pa thereafter	14% in 2012-13 0% pa thereafter	0.2%
GVW	43.3% in 2012-13, between 0.9% and 6.8% thereafter	13.3% in 2012-13, between 0.3% and 6.8% thereafter	11.1%
NEW	30% in 2012-13 and 5% pa thereafter	20% in 2012-13 and 5% pa thereafter	0%
SGW	18% in 2012-13 2% pa thereafter	9% in 2012-13 2% pa thereafter	6%
WNW	30% in 2012-13 18.2% in 2013-14 10.3% in 2014-15 4% in 2015-16 6.9% in 2016-17 8.1% in 2017-18	28.5% in 2012-13 0.7% in 2013-14 8.3% in 2014-15 3.3% in 2015-16 4.7% in 2016-17 5.5% in 2017-18	9%
WPW	2% pa	10% pa	-17%

Note: Coliban Water has not provided electricity price or volume increase assumptions for WP3 in its Water Plan. Wannon Water's forecasts are expressed in nominal terms – all other businesses are real.

The table below compares the average price (cents per kWh) forecast by the businesses for large sites, both historically and over WP3.

Table 2-4 Electricity costs per kWh, large sites 2011-12 to 2017-18

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
BW	13.18	19.30	19.25	20.72	21.33	22.48	24.02
CHW	18.69	20.35	21.76	22.40	22.17	23.02	23.98
CW				Not provided			
EGW	11.97	14.69	15.27	15.88	16.51	17.16	17.84
GW	10.27	12.92	12.74	12.73	12.73	12.73	12.73
GVW	13.90	19.94	20.12	21.49	21.56	22.28	22.81
NEW	12.55	16.29	16.83	17.67	18.55	19.48	20.46
SGW	15.85	18.74	19.07	19.40	19.73	20.08	20.42
WNW	11.15	14.49	17.13	18.88	19.64	21.00	22.71
WPW	12.45	12.70	12.95	13.21	13.48	13.75	14.02

Source: ESC templates. Excludes new projects.

The average price per kWh will vary between businesses according to a range of factors including:

- Total use
- Peak versus off-peak consumption
- The relevant tariff
- Where the tariff includes a demand component, the peak demand
- The relevant distributor – some businesses are served by Powercor and the others by SP AusNet
- Contractual arrangements, including rebates.

Most regional water businesses buy electricity through bulk purchasing arrangements, with the majority using Procurement Australia to do so. The current bulk purchase agreement through Procurement Australia expires in June 2013.

2.5.3 Approach to assessment

Prior to setting out our approach to assessing the businesses' forecasts, it is useful to explain the various components of an electricity bill.

Components of the bill

A customer's electricity bill comprises three different cost elements, being:

- Wholesale ('energy') prices, which are determined in a competitive market both by bilateral contracts between generators and retailers and in the 'spot market'. Since 1 July 2012 wholesale electricity prices include the impact of Australia's carbon price.
- Network costs – including both distribution and transmission charges. These are set by the AER. The distribution costs are subject to two separate decisions – one related to general network costs and the other to metering costs.
- Other costs – which includes a range of items including:
  - Ancillary costs, including pool fees
  - Costs associated with various energy efficiency schemes

- Retailer's margin

The relative contribution of the three different cost elements for an individual customer will differ according to the customer's usage and their location. In general, the higher the usage at a particular site the higher the proportion of energy costs relative to network costs.

Distribution network costs

Distribution network tariffs are re-set annually on 1 January based on a determination made by the AER in 2010. Each of the five distributors in Victoria has a different price path. The current AER determination lasts until 31 December 2015.

Prices generally change by the CPI plus the X factor determined by the AER in its 2010 decision, although smaller adjustments are made to reflect performance (the S factor) and licence fees (L factor). The table below sets out the applicable increases for the X factor until the end of the next regulatory period.

Table 2-5 Movements in distribution pricing

Date of increase	SP AusNet	Powercor
1 Jan 2012	7.64% nominal	6.60% nominal
1 Jan 2013	CPI + 5.22%	CPI + 6.3%
1 Jan 2014	CPI + 6.1%	CPI + 6.9%
1 Jan 2015	CPI + 6.1%	CPI + 7.4%
1 Jan 2016	To be determined	To be determined
1 Jan 2017	To be determined	To be determined
1 Jan 2018	To be determined	To be determined

Note: Westernport, South Gippsland, Gippsland, East Gippsland and North East Water are in SP AusNet's distribution area; the remainder of the businesses are in Powercor's area.

Individual tariffs may increase by up to 2% more than the average increase.

In Victoria, metering prices are subject to a separate regulatory regime associated with the smart meter roll out.

Transmission network costs

Electricity transmission network tariffs are reset annually on 1 April by SP AusNet based on a determination made by the AER in 2008. The AER determination applies until 30 March 2014.

Prices generally change by the CPI plus the X factor determined by the AER in its 2010 decision, although as with distribution pricing variations can apply. The X factor is currently 1% in each year.

Table 2-6 Movements in transmission pricing

Date of increase	SP AusNet
1 Jan 2012	CPI + 1%
1 Jan 2013	CPI + 1%
1 Jan 2014	To be determined
1 Jan 2015	To be determined
1 Jan 2016	To be determined
1 Jan 2017	To be determined
1 Jan 2018	To be determined

Energy costs

Energy prices are determined in a competitive market through a range of pool prices, bilateral contracts and self-generation. Energy prices are directly impacted by the carbon price, particularly in Victoria where most energy is from high-emissions brown coal, although other factors also affect the bill.

The carbon price will impact electricity costs primarily through the energy component of the bill. Following the implementation of the carbon price spot prices in Victoria increased from around $35 to $55-65 for off-peak use, and from $50 to $75 for peak use.

2.5.4 The Procurement Australia quote

As noted above, almost all the businesses purchase electricity through Procurement Australia. The current Procurement Australia bulk purchase is through AGL and expires on 30 June 2013.

Subsequent to the preparation and submission of water plans, tenders for the subsequent three year period have been received and Procurement Australia has recommended that a new three year contact be signed.

In summary the Procurement Australia offer provides, for large sites:

- A 12% reduction from the current price of 8.076 c/kWh in 2012-13 to 7.1116 c/kWh in 2013-14 (in nominal terms) for the energy component for peak use (including the carbon price)
- A 4% increase from the current price of 4.860 c/kWh in 2012-13 to 5.0313 c/kWh in 2013-14 (in nominal terms) for the energy component for off-peak use (including the carbon price)

For small sites the 2013-14 energy charge is similar to the current charge.

In the draft Overview paper we indicated that under the Procurement Australia offer the energy component of prices remains unchanged in **real** terms for three years. We have since held discussions with Procurement Australia which has confirmed that the energy component of prices will actually remain unchanged in **nominal** terms for three years.

The Procurement Australia generally provides for lower energy prices than assumed in the WSAA report and by businesses. Hence it appears that most forecasts included in Water Plans are overstated.

2.5.5 Our approach

It is not possible to undertake independent detailed modelling of all electricity sites operated by businesses. We have used the Procurement Australia tender outcomes, as advised to individual businesses, as the basis for our electricity forecasts. We have combined these tender outcomes with known changes in network costs and applied them to data provided by each business.

We have made a number of simplifying assumptions in undertaking our calculations. For example, we have applied the AER-determined distribution network price outcomes on a financial year basis, rather than calendar year basis. This increases our forecasts compared to the likely actual outcomes. At the same time we have not included any S-factor or L-factor outcomes, including in respect of 2013 prices which (for Powercor customers) reduces our forecasts compared to the likely actual outcomes and roughly offsets the impact of the financial year assumption.

Where possible we have worked with the businesses to apply our assumptions into the businesses' own electricity models. Where this was not possible, we have made a number of broad assumptions. In the case of small sites we have assumed that:

- 40% of costs are related to energy (including carbon costs)

- 45% are related to network costs
- 10% are related to MRET costs
- 5% are related to ancillary charges.

With a small number of exceptions we have accepted forecasts of electricity volumes proposed by each business.

Forecasting both energy costs (beyond the end of the Procurement Australia tender period on 30 June 2015) and network costs (beyond the end of the current regulatory period) is extremely difficult. A number of factors suggest that there could be real decreases in these costs such as:

- Demand for electricity is decreasing and hence future capital requirements are likely to be comparatively low
- With the linking of carbon prices to the European market there could be reductions in the carbon price element electricity prices
- In the latter years of the current regulatory period the 'saw tooth' effect of regulatory pricing is such that prices are above their cost-reflective levels, and need to reduce to achieve cost reflectivity
- There have been changes to the National Energy Rules which provide the AER with a stronger ability to scrutinise and review prices.

In the draft Overview document we outlined our view for forecasting purposes it was reasonable to assume that both the energy and network components of electricity prices would remain unchanged following the expiry of the Procurement Australia and current regulatory periods respectively. In their responses a number of businesses indicated they did not agree with this approach; however none provided persuasive information to support an alternative position. We have therefore maintained our approach.

2.6 Drought expenditure

2.6.1 Background

With the ending of the drought, water restrictions are much less likely to occur and the emphasis on water conservation that was a feature of the early part of WP2 is no longer relevant. The ESC's Guidance Paper notes that:

> *Estimates of BAU expenditure for the third regulatory period must exclude costs associated with the drought. Many businesses identified the drought as reasons for increases in operating expenditure and prices for WP2. The ESC now expects costs associated with drought-related expenditure will decline in the third regulatory period such as:*
>
> - *labour costs linked to major capital works, drought management and restrictions enforcement*
> - *direct spending on water conservation initiatives (for example, appliance changeover, advertising and education)*
> - *all other things being equal, costs associated with purchasing water, reflecting less need to transport water from alternative (non-local) water sources (for example, from purchases of water on temporary markets).*

2.6.2 Approach to assessment

We have reviewed drought expenditure and removed any once-off and cyclical costs associated with the drought when determining the baseline 2011-12 BAU expenditure.

In relation to forward forecasts we have reviewed expenditure on a case-by-case basis to ensure that forecasts do not reflect items such as restrictions advertising and enforcement and appliance changeovers.

This is not to say that we have removed all expenditure associated with customer awareness and education programs. We agree that it is good long-term practice for businesses to continue with a customer engagement and education program throughout the WP3 period. In addition, businesses are likely to have some expenditure associated with identifying and reducing non-revenue water (i.e. reducing leakage from their systems). The Statement of Obligations provides a clear obligation for this activity which states that water businesses must develop and implement programs for "reducing leakage and minimising other losses of water from its works to an economically sustainable level".

However expenditure of this nature needs to be appropriately targeted and modest, and should certainly not be at the level it was in the early years of WP2.

In some regional Victorian towns, there may be isolated examples of expenditure associated with restrictions enforcement or in managing the supply/demand balance where water security has not yet been achieved. For example, a regional town might not yet be 'drought-proof' and there will be some activity in ensuring demand is at reasonable levels in order to delay the next supply augmentation. In these cases (and the amount is likely to be in small towns and therefore minor), we have allowed the expenditure.

2.6.3 Savewater expenditure

Seven of the ten water businesses under review contribute towards the Savewater Alliance. The Alliance runs a web site and undertakes a range of activities including:

- Conducting major exhibitions like at the Melbourne International Flower and Garden Show displays on behalf of government and stakeholders
- Managing the international savewater! awards®
- Partnering with key service organisations to deliver selected programs for members like the savewater!® efficiency service for businesses
- Conducting ongoing savewater!® online competitions and prize giveaways, along with quantitative market research and various other marketing activities
- Working with innovative companies to develop and supply technologies and products that improve member operating efficiencies or satisfy member needs.

In our draft Overview document we questioned the value of the Savewater Alliance to the businesses given that drought conditions had eased, and we removed this expenditure from the forecasts.

While a small number of businesses accepted our position, the majority did not agree. In response to the draft Report businesses provided information which demonstrated that:

- Businesses are required under their Statement of Obligations to provide educational material on water conservation, and the Savewater Alliance provides a cost effective way of doing so
- Savewater also provides a range of additional benefits to businesses, including access to new technologies and the ability to participate in bulk purchasing.

We accept these arguments and therefore we have reinstated the Savewater expenditure across all businesses.

2.7 Intelligent Water Networks

2.7.1 Background

An Intelligent Water Network (IWN) is a system that allows an operator to modernise and remotely manage their water supply network. Broadly, IWNs incorporate control and monitoring technology, as well as network automation systems to improve water supply efficiency. IWNs include SCADA systems, metering and control and alarm dialling functions, and can be applied to water systems, sewerage and water recycling systems. They can improve leak detection capabilities, and are underpinned by data analysis systems and in-home intelligence.

During the WP2 period the Victorian water industry has been investigating a range of IWN-related issues. Some businesses have been relatively active and have contributed funding to a number of activities and studies. Others have not contributed any funds, but have participated in industry working groups and meetings. IWN expenditure has also been funded by the Smart Water Fund, a collaboration between the Victorian water industry and the Victorian Government.

A Ministerial Advisory Council (MAC) recommendation was that businesses continue to be funded as appropriate to implement IWNs in their jurisdictions, although the Living Melbourne Living Victoria Program does not directly fund businesses itself to do this.

We understand the IWN project has been through two stages and is about to move into stage 3 which involves Proof of Concept and Proof of Principle trials.

In its Guidance Paper the ESC noted that, for WP3, it was unlikely that it would allow expenditure for industry-wide rollout of IWNs before pilot projects can confirm net customer benefits and willingness to pay, or demonstrate that investment in IWNs will reduce operating costs, for example.

2.7.2 Business proposals

A number of businesses have forecast specific IWN expenditure over the WP3 period. Other businesses anticipate being involved in the program but will provide in-kind support such as management time rather than actually incurring any additional expenditure.

Table 2-7 Expenditure on Intelligent Networks

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
BW	0.0	0.0	0.0	0.0	0.0	0.0
CHW	0.25	0.25	0.25	0.25	0.25	0.25
CW	0.0	0.0	0.0	0.0	0.0	0.0
EGW	0.0	0.02	0.02	0.02	0.02	0.02
GW	0.0	0.0	0.0	0.0	0.0	0.0
GVW	0.1	0.1	0.1	0.1	0.1	0.1
NEW	0.0	0.0	0.0	0.0	0.0	0.0
SGW	0.0	0.05	0.05	0.05	0.05	0.05
WNW	0.05	0.05	0.05	0.05	0.05	0.05
WPW	0.0	0.025*	0.025*	0.025*	0.025*	0.025*

*Westernport Water's proposed expenditure is capital expenditure.

2.7.3 Approach to assessment

We understand that industry expenditure on IWNs across WP3 is still uncertain, including the nature, costs and timing of projects to be undertaken. Some projects may or may not proceed depending on whether government funding is available. Forecasts made by businesses are, at this stage, generally provisional amounts.

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.

For the purposes of this Draft Report we have generally accepted all IWN proposals from businesses forecasting $50,000 or less per annum. For Central Highlands Water and Goulburn Valley Water we have reviewed their proposals in more detail.

2.8 Carbon price

2.8.1 Background

As noted above, the Australian Government introduced a carbon price on 1 July 2012. While none of the businesses that are the subject of our review are liable to pay the carbon price, some businesses may still face indirect price impacts through such things as:

- Disposal of waste to landfill – many landfill operators will be liable entities under the scheme.
- Price impacts as a result of their upstream suppliers being liable for the carbon price.

This has the potential to impact both capital and operating expenditure.

It is important to understand the impact of the carbon price as it was not present in the base year (2011-12) and hence needs to be explicitly taken into account in forward forecasts.

The impact of the carbon price will vary across input categories. Cost items likely to be most affected include Australian-manufactured products which have large energy inputs and where suppliers do not qualify for government assistance.[1]

The carbon price will change over time, with a 5% nominal increase applying on 1 July 2013 and 1 July 2014. Beyond this date, and for the remainder of the WP3 period, the carbon price is very uncertain. The Government's original intention was that a floating price, with a ceiling and a floor, would apply, but in late August 2012 it was announced that from 1 July 2015 Australia and Europe will be linking their emissions trading systems and that the price floor would not be implemented. If current prices are any indication, this could cause a sharp fall in the carbon price in 2015 – at present European carbon prices are approximately $10 per tonne of CO2. Prices are at historically low levels both due to weak European demand as a result of the ongoing financial crisis, as well as the strong Australian dollar. In announcing the linkage between the carbon schemes the Government maintained its confidence in Treasury modelling which predicts a $29 (nominal) carbon price in 2015-16. However many independent commentators are suggesting a much lower European price – around $10-$15 – is a more likely outcome. This is an estimate only – there are many highly uncertain factors including whether the European economy recovers and to what extent, whether the European Union delays the release of permits, and the strength of the Australian dollar.

It is also important to note that the effect of movements in the carbon price will be captured in the CPI and businesses will be able to adjust their prices accordingly.

[1] Due to the high carbon cost some organisations may face, and potential difficulties in passing this cost on to consumers, the government has implemented a wide reaching support package to be implemented during the three year fixed price period. The package will cover 94.5% of carbon costs for high intensity emission producers – such as steel manufacturing.

Various work has been undertaken to estimate the effect of the carbon price on water businesses. In its 2011 submission to its regulator, Sydney Water indicated that it expected its operating expenditure would be higher by about 1.2% as a result of the carbon price. In 2012 Deloitte estimated the impact on operating costs for a rural water business at around 0.7%, with the majority of this impact coming through electricity costs. Our 2012 work took into account, in part, actual input cost changes advised by individual suppliers. As a general rule we have found that actual price increases have been less than prior modelling would suggest, with many suppliers absorbing carbon price impacts.

2.8.2 Business proposals

All businesses have forecast that the carbon price will have an impact on electricity costs, with many also suggesting that it will also affect chemical costs.

The only business to suggest that a more widespread impact is likely is East Gippsland Water, which has forecast increases of around 2.5% across a wide range of inputs. These increases have been attributed to the carbon tax as well as a number of other reasons.

2.8.3 Approach to assessment

Given the relatively small impact that the carbon price appears to be having on non-energy cost inputs for water businesses, and the uncertainties regarding the future carbon price, our approach to the impact of the carbon price on operating expenditure has been as follows:

- Any broad-based expenditure increases to operating expenditure proposed by businesses as a result of the carbon price have been removed
- Where businesses are able to demonstrate material carbon price impacts on individual cost categories (for example, by providing documentation from suppliers outlining cost increases in 2012-13 as a result of the carbon price) we have included these increases in the forecasts. Where documentation has not been provided and/or costs are immaterial we have excluded any carbon impacts from the forecast
- We have assumed that the increase in input prices will be once-off. The relatively small increase in the carbon price in 2013-14 and 2014-15 is likely to be more than offset by a reduction in the price in 2015.

2.9 Living Melbourne Living Victoria expenditure

2.9.1 Background

The Government appointed a Ministerial Advisory Council (MAC) to examine water, planning and related matters in early 2011. Establishing the MAC was a key component of the Victorian Government's commitment to improving the liveability of Melbourne and Victoria's regional cities. The Government's objectives were to:

- Establish Victoria as a world leader in liveable cities and integrated water cycle management
- Drive generational change in how Melbourne uses rainwater, stormwater and recycled water
- Drive integrated projects and developments in Melbourne and regional cities to use stormwater, rainwater and recycled water to provide Victoria's next major water augmentation.

In 2011 the MAC provided to the Government:

- A Roadmap recommending the key priorities to improve the performance of Melbourne's water system.
- A Living Melbourne Living Victoria Implementation Plan which includes the final recommendations for the changes needed to create a more liveable Melbourne and Victoria through improved water planning and management for consideration by Government
- The Government supported the Implementation Plan and in 2012 created the Office of Living Victoria (OLV) to deliver the MAC's proposals in addition to a number of other actions.

2.9.2 Business proposals

A small number of regional businesses have forecast expenditure associated with implementation of the Living Melbourne Living Victoria plan.

Expenditure is not associated with specific projects, but rather is a general allowance.

Table 2-8 Proposed expenditure on Living Melbourne Living Victoria (real $m)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
CHW	-	-	-	0.20	0.20	0.20
SGW	-	0.05	0.05	0.05	0.05	0.05

2.9.3 Approach to assessment

Much of the Living Melbourne Living Victoria work package is to be co-ordinated by the OLV. The work program of the OLV is only outlined for the next 12 months, and consequently there is some uncertainty for WP3 regarding the work program for the next five years.

Further, while the Living Melbourne Living Victoria Implementation Plan may have some implications for regional cities, it is overwhelmingly focussed on metropolitan Melbourne. We are not aware of any specific programs, projects or works that will have material implications for regional water businesses. Amounts included by water businesses in their forecasts are provisional only, and do not relate to any specific works.

We have therefore removed all expenditure associated with the Living Melbourne Living Victoria program from the businesses' forecasts.

2.10 Defined benefits superannuation costs

2.10.1 Background

Each of the businesses has a number of employees on defined benefits superannuation arrangements. Although the relevant scheme (the Local Authorities Superannuation Fund, which is managed by Vision Super) closed to new members in 1993, many water business employees are members.

Due to high levels of returns the businesses were not required to make any contributions to these schemes for several years up to and including 2007-08. However, following the recent reductions/levelling out in the share market this situation has changed significantly.

Vision Super conducted its three-yearly review of the fund at 31 December 2011 and noted that the fund had a shortfall of $406 million (assuming that employers continue to contribute at 9.25% of salaries). Accordingly Vision Super determined that additional contributions from water businesses were required. It wrote to businesses in July 2012 outlining the necessary contributions and providing businesses with the option of paying:

- As a lump sum (on or before 1 July 2013 – the first day of WP3), or
- By equal instalments over a 15 year period, with interest being charged at 7.5%, or
- A combination of the two.

2.10.2 Business proposals

In their Water Plans businesses proposed to treat the recent call for additional superannuation contributions in different ways for regulatory purposes:

- Barwon Water, Central Highlands Water, Gippsland Water, East Gippsland Water, South Gippsland Water and North East Water proposed to make the contribution part of their pre-WP3 expenditure for regulatory purposes and hence effectively absorb it with no impact on current or future prices
- Wannon Water and Westernport Water have sought to include the payment as a once-off operating expenditure item in 2013-14, thus raising prices in WP3
- Goulburn Valley has sought to include a once-off payment as an operating expenditure item in 2013-14, plus a smaller sum in each year from 2014-15 to 2017-18 as an additional allowance for future shortfalls
- Coliban Water has included an operating expenditure amount in each year of the WP3 period based on paying off the required contribution over a five year period.

2.10.3 Approach to assessment

Our approach to dealing with the defined benefits payments in our draft report was guided by the following principles/factors:

- The additional superannuation requirements were not included in businesses' forecasts of expenditure for the WP2 period. They represent a material increase in costs which was not factored into prices
- Payments should be treated consistently across the businesses for regulatory (and hence pricing) purposes
- The payments are to deal with a shortfall which Vision Super considers can be addressed over a 15 year period. Therefore it is unreasonable to expect current customers to foot the entire bill for the increased contributions
- As the advice from Vision Super notes, the future is uncertain and additional contributions could be required if the experience is worse than expected. Conversely, it is not impossible that if the share market recovers then the fund could move back to a surplus position over the medium term.

In our draft report we therefore included an assumption of a defined benefit superannuation amount in each year of the WP3 period, calculated as the principal and interest payment on a 15 year loan at 5.5%. This approach was applied consistently across all businesses, including those that did not include any costs in their Water Plan for the WP3 period.

There was a wide range of responses from businesses to our approach, which are summarised below. For those businesses that opposed an assumed payment of 15 years, some pointed to the likelihood of further calls as a reason for doing so.

Table 2-9 Business responses to Deloitte approach to defined benefits superannuation costs

	Business response
BW	Agreed with Deloitte approach and that a consistent approach should be adopted across businesses
CHW	Sought to recover the full amount across WP3

	Business response
CW	Sought to recover the full amount across WP3
EGW	Accepted the Deloitte approach
GW	Agreed with Deloitte approach, but indicated that the 5.5% borrowing rate was too low and the 1.1% FAL needs to be incorporated in the calculation
GVW	Maintained its position of recovering the full amount in year 1 of WP3, plus provision of an allowance of $150,000 each year of WP3 for potential future shortfalls
NEW	Accepted Deloitte approach.
SGW	Sought to recover the full amount across WP3
WNW	Sought recover of the full amount in year 1 of WP3. Noted that borrowing over 15 years does not lead to lowest long term NPV. Indicated that the assumed 5.5% borrowing rate was too low
WPW	Acknowledged that a 15 year approach could be used, but that a 5.5% borrowing rate is too low

We have reviewed our approach in light of submissions by the businesses. There are a range of approaches that could be taken to the superannuation payments, and different methods could be adopted for different businesses, including:

- Including the payment as operating expenditure in year 1 of WP3
- Spreading the payment equally over each year of WP3
- For those businesses who did not seek to recover the amount, and those who have already paid the amount, not including any payment in the forecasts. This could be justified on the basis that those businesses which have managed to make the payment from existing reserves, or are able to do so, do not need additional funding.

In relation to the last point above, we remain of the view that the additional superannuation requirements represent a material increase in costs which were not factored into prices for the WP2 period. If businesses are not funded for these payments then they will need to reduce prudent expenditure in other areas, reduce service standards, or increase borrowing.

In respect to manner in which the payment should be factored into the expenditure forecasts, this ultimately comes down to the burden that should be placed on current versus future customers. Including the entire payment amount in the first year of WP3 will result in higher prices in WP3 than spreading it over 15 years.

We accept the argument that Wannon Water has raised that for a businesses that has reserves on hand, in a cash flow sense it will usually be better off (or at least no worse off) from a NPV perspective making a lump sum payment rather than borrowing over 15 years. This is because the interest rate on borrowings is higher than the business could receive on a term deposit, and the businesses in question generally do not pay dividends and hence do not need to consider the cost of equity (from a cash flow perspective).

Nevertheless, we believe that using a 'benchmark' 15 year period for all businesses represents balanced outcome which treats each business equally, allows recovery of the payment, and does not impose an undue burden on customers in the short term.

In respect of the assumed borrowing rate to be used, we have increased it from 5.5% to 5.75%, which is the rate that Goulburn Valley Water has advised that it is able to borrow at (including the financial accommodation levy).

We remain opposed to including allowance for future additional calls in the forecasts for two reasons:

- While the stock market is inherently volatile, we note that since Vision Super undertook its 31 December 2011 actuarial investigation, the All Ordinaries index, a key measure of Australian stock market returns, increased from 4111.0 to 4940.5 on 6 February 2013. This represents an increase of just over 20% across 13 months and should substantially reduce the need for further calls, at least in the short term.
- In any case, we do not consider that customers should be required to contribute towards potential costs that may not eventuate and are inherently uncertain in relation to timing and magnitude. Should there be a future call of a material level, we recommend that it be dealt with via a pass-through application.

2.11 Fluoridation

2.11.1 Background

Under the *Health (Fluoridation) Act 1973,* water providers can be directed by the Victorian Department of Health (DoH) to fluoridate their water supply in accordance with the *Code of practice for fluoridation of drinking water supplies* and the *Australian Drinking Water Guidelines.*[2]

In the WP2 period DoH has directed water businesses to ensure that all supply systems for more than 5,000 customers are fluoridated, and has provided grant funding to businesses to assist with the capital costs of doing so. The installation of new plants has enabled DoH to achieve 90 per cent water fluoridation coverage across Victoria, bringing Victoria into line with other states.

Businesses are required to recover the ongoing costs of fluoridation which includes operations, maintenance, chemicals and asset replacement costs.

The DoH grant funding has now ceased and we understand that there are no more funds available to extend fluoridation to smaller systems.

2.11.2 Business proposals

All businesses that have fluoridation plants constructed or in the process of being completed have included the forecast operating expenditure associated with those plants in their water plans.

However, a number of businesses have also included expenditure associated with the potential construction of fluoridation facilities.

For example, Goulburn Valley Water has identified eight water treatment plants that it considers are likely to be required to upgrade their fluoridation systems. It has provided for expected increases in funding requirements accordingly. It has predicted operating costs relating to fluoridation obligations to increase from $64,000 each year in 2013-15 to $96,000 per annum in 2015-18.[3] It also predicts additional costs to its existing Tongala fluoridation plant for an upgrade necessary to comply with the *Fluoride Code of Practice,* and forecasts operating costs attributable to the construction of new fluoride plants ranging from $31,000 in 2014-15, to $219,000 in 2017-18.

2.11.3 Approach to assessment

Our approach regarding fluoridation related operating expenditure is as follows:

- We have accepted the inclusion of any additional expenditure above 2011-12 levels for projects that have already been constructed or had funding confirmed by the

[2] Environmental Health Unit, Department of Human Services (2008), *Water Fluoridation in Victoria,* pp 49-53

[3] Goulburn Valley Water (2011), *Final Water Plan 2013 to 2018,* p 50

Department of Health, subject to a review of the efficiency of the proposed operational expenditure.

- For projects which have not been confirmed, we have removed any expenditure that may have been included in the forecasts. In our view the future construction of additional fluoridation plants is sufficiently uncertain that it would not be prudent to include such expenditure in the forecasts.

2.12 Framework for water treatment operators competencies best practice guidelines

2.12.1 Background

A 2010 joint initiative of the Victorian Department of Health and the Victorian Water Industry Association, this framework outlines the minimum competencies required of operators involved in water treatment activities.[4] These competencies are based on a water supply system public health risk classification considering microbiological hazards in particular. Water treatment operators must successfully complete the required training courses to be approved as compliant.

The framework is not mandatory, but represents recommendations with which all Victorian water providers have agreed to comply.

2.12.2 Business proposals

A number of businesses have forecast additional expenditure associated with complying with the framework, including in relation to training, additional staff and higher wages. Goulburn Valley Water proposed by far the highest expenditure in its Water Plan, proposing an additional $260,000 per annum.

2.12.3 Approach to assessment

We have assessed businesses' forecasts of additional expenditure on a case-by-case basis taking into account the following:

- FTEs – Where businesses have sought additional FTEs we have considered whether it would be feasible for the existing employee base to fulfil these obligations
- Wages – Consistent with our approach to wages outlined above, we have not explicitly included any additional provision for wage increases associated with the framework
- Training costs – We have considered whether it is reasonable that training be funded from within BAU training budgets or whether the additional requirements are sufficiently large as to require additional funding.

2.13 Chemical costs

2.13.1 Background

Water businesses use chemicals as part of both water and wastewater treatment processes. The type of chemicals used depends on the treatment methods applied, but chemicals typically purchased by regional water businesses include alum, caustic soda, ammonia, chlorine gas, polymer and potassium permanganate.

[4] Department of Health, (2010.), *Victorian framework for water treatment operator competencies Best practice guidelines*, August, pp 3-10

As the ESC identified in its Guidance Paper, chemical costs increased significantly for a number of businesses across the WP2 period. This appears to have occurred both as a result of increased chemical use, but primarily from price increases in chemicals. South Gippsland Water noted that chemical prices had increased by 24% on average in the last three years, although price changes advised for the period August 2012 to January 2013 were relatively modest.

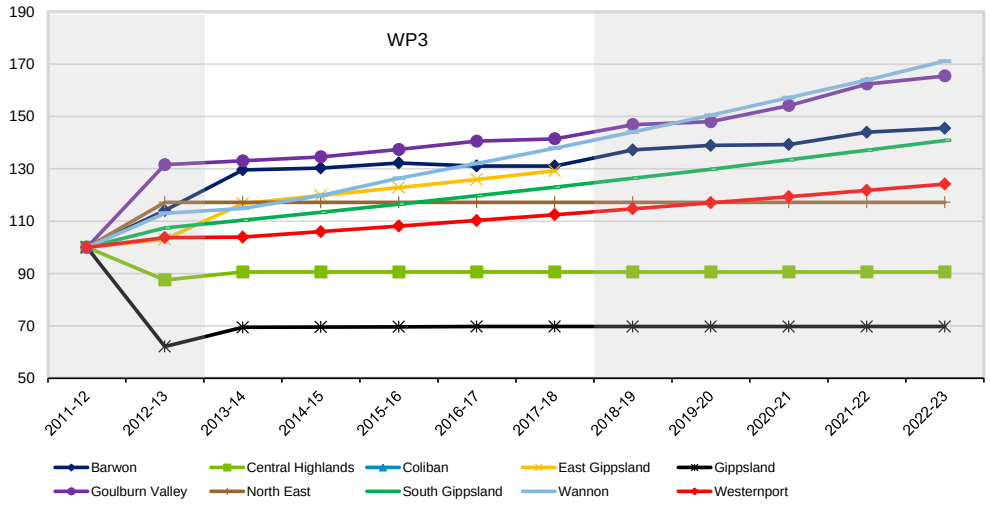
There are few competitive options in terms of chemical suppliers in regional Victoria, with most regional businesses purchasing chemicals from Orica either directly or via Procurement Australia. Unlike electricity where three year contracts are quite typical, prices appear to be set for 6 months only.

We have viewed correspondence from Orica dated July 2012 which indicates that some product prices have been increased to reflect the carbon price, but the extent of further increases will not be known until changes in Orica's own input costs are known.

2.13.2 Business proposals

Businesses were asked to identify their chemical costs in the ESC template. While some have forecast modest increases, for others the changes are more significant – Goulburn Valley and Wannon Water being particular examples.

Figure 2-7 Chemical costs (Index, 2011-12=100)



A key reason for the increases is assumptions made about increases in chemical prices, with a number of businesses assuming that chemical prices would rise in real terms across the WP3 period. In almost all cases the reason given was that as prices increased in WP2 then it was reasonable to expect that increases would continue in WP3.

2.13.3 Business proposals

Table 2-10 Changes in chemical prices/costs

	Chemical cost assumption
BW	14% increase in chemical costs in each of 2012-13 and 2013-14
CHW	3.5% increase in 2013-14 followed by no real change for rest of WP3
CW	No data provided. Coliban Water has advised that no additional expenditure has been allocated to chemicals costs for WP3
EGW	A 2.5% real increase in chemical prices has been assumed

	Chemical cost assumption
GW	Assumes chemical prices remain constant in real terms – increased costs due to increased amounts of chemicals used
GVW	A 31.6% increase in costs in 2012-13, (price and volume related). Increases of 0.6% to 2.3% in real terms across WP3, mainly related to volumes for specific sites, with some chemical prices expected to increase
NEW	A 17.2% increase in 2012-13 (volume related, following a similar decrease from the previous year) with prices and total costs remaining constant in real terms thereafter
SGW	A 7% increase in chemical costs in 2012-13, followed by a real 2.75% per annum
WNW	A 2.75% real increase in chemical prices has been assumed
WPW	Assumes 2% real increase in chemical costs from a combination of increased use and increased prices

2.13.4 Approach to assessment

Different chemicals have different price drivers, depending on such factors as:

- Whether they are produced locally or imported. If they are imported then the exchange rate is a key driver. If they are made locally, and depending on the energy required to produce them, the carbon price may have created a once-off increase in prices in 2012-13
- The cost of several chemicals is related to the oil price – sulphur being a case in point
- General global economic activity
- Some chemicals are by-products of other processes and hence prices vary according to the price of the base product – for example the price of alumina is a key determinant of the price of alum.

Chemical prices can be volatile. For example global sulphur prices rose to US$763 per tonne in mid-2008 but fell to just $37.50 in January 2009.

We have undertaken a brief review of price forecasts for a number of different chemicals, but there is no clear pattern of likely price changes. Forecasting the price of chemicals is difficult, in part because chemicals are a by-product of demand and supply for other goods. As a result industry experts often differ on forecast price movements.

In our draft report we adopted the view that it was reasonable to assume for forecasting purposes that chemical prices will remain at current levels. We did not support the view that price increases for some chemicals in recent years necessarily meant that prices will continue to rise in future.

In response some businesses accepted our approach but others continued to argue that prices would continue to rise in real terms. However no businesses were able to justify this position other than on the basis that prices had increased historically. No additional information – for example, new prices from suppliers that reflect the full impact of the carbon price – was provided.

While we accept that prices for chemicals have risen in recent years, we do not think this is a sufficiently persuasive argument to forecast continued increases. In particular, it is likely that recent rises will have, in part, been due to increasing electricity prices. As discussed above, we consider that electricity prices will level off in coming years.

We have therefore maintained the approach set out in our Draft Report and for the purposes of adjusting businesses' forecasts we have:

- Included an allowance for a small real increase in chemical prices in 2012-13 over base year prices
- Assumed no real changes in chemical prices thereafter.

We have reviewed changes in chemical volumes on a case-by-case basis. We have therefore adjusted downwards the forecasts for those businesses that have assumed real price increases during WP3.

2.14 GSL payments

2.14.1 Background

Guaranteed service level (GSL) schemes require businesses to provide a payment or rebate to customers receiving a level of service that is much worse than that experienced by most customers. The underlying objective of GSLs is to provide an incentive to the business to address the incidence of inferior performance rather than compensation for customers.

The most significant change to the GSL schemes during the WP2 period, with implications for WP3, was that the ESC mandated all businesses to introduce a hardship related GSL.

2.14.2 Hardship related GSL

The hardship related GSL is defined as:

> *Restricting the water supply of, or taking legal action against, a residential customer prior to taking reasonable endeavours to contact the customer and provide information about help that is available if the customer is experiencing difficulties paying.*

If a water business breaches the hardship related GSL by failing to meet any of the steps set out by the ESC in its hardship related GSL process flow, it is required to make a payment of $300 to the relevant customer, either by direct payment or a rebate on their bill.[5]

In September 2010, the ESC mandated the adoption of the hardship related GSL from 1 January 2011 for the three metropolitan retail water businesses, Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, North East Water and Westernport Water.

In establishing this GSL the ESC provided additional clarity around the requirements of the Customer Code. Amendments were made to clarify what constituted 'reasonable endeavours' to contact the customer, including the requirement that at least one attempt at personal contact be made.

In May 2012, the ESC released its final decision on its *Hardship Related Guaranteed Service Level Review*. In its final decision, the ESC decided to extend the hardship related GSL scheme to all 16 urban retail water businesses from 1 July 2012.[6] This therefore included the following regional urban businesses at this point:

- Barwon Water
- Wannon Water
- South Gippsland Water
- Central Highlands Water.

[5] Essential Services Commission (2012), *Hardship Related Guaranteed Service Level Scheme Review – Final Decision*, May, p.1

[6] Essential Services Commission (2012), *Hardship Related Guaranteed Service Level Scheme Review – Final Decision*, May

2.14.3 Business proposals

The following table sets out the GSLs proposed by businesses for the next regulatory period, and any operating expenditure amounts identified for payments or implementation of the scheme.

Table 2-11 GSLs proposed for Water Plan 3

Business	GSLs	Payment	Comment
BW	Hardship related	$300	Introduced 1 July 2012
	Water supply reliability – No more than five unplanned water supply interruptions per customer per year	$72	Existed in WP2
	Sewerage service reliability – No more than three unplanned sewerage service interruptions to a customer's property per year	$72	Existed in WP2
	Sewerage service reliability – No more than two sewer spills on a customer's property per year	$553	Amended from three spills in WP2
CHW	Hardship related	$300	Introduced 1 July 2012
	Rectifying any unplanned interruption to a customer's water supply within five hours of CHW becoming aware of the interruption	$50	Existed in WP2
	Not more than five water supply interruptions for each customer in any twelve month period	$50	Existed in WP2
	If a water service pipe, for which CHW has responsibilities to maintain under the Customer Charter, is leaking, CHW will fix it within five business days of becoming aware of the leak	$50	Existed in WP2
	Rectifying any interruption to a customer's sewerage service within five hours of CHW becoming aware of the interruption	$50	Existed in WP2
	Not exceeding three sewerage service interruptions for each customer in any twelve month period	$50[7]	Existed in WP2
CW	Hardship related	$300	Introduced 1 Jan 2011
	More than 5 unplanned water supply interruptions in 12 months	$50	New for WP3
	More than 3 sewer interruptions in 12 months	$50	New for WP3
	Sewer spill in a house not contained within 1 hour of notification	$1,000	New for WP3
EGW	Hardship related	$300	Introduced 1 Jan 2011
	Failure to respond to customer within 10 days	$30	New for WP3
	Exceeding planned interruption time	$65	New for WP3
	Failure to update customer billing details	$30	New for WP3

[7] Unconfirmed – Water Plan refers to Customer Charter, which notes "this section is under review". Template suggest $50 for all, including hardship

Business	GSLs	Payment	Comment
	EGW caused sewer spill into dwelling	$1,000	New for WP3
CGW	Hardship related	$300	Introduced 1 Jan 2011
GVW	Hardship related	$300	Introduced 1 Jan 2011
	All unplanned water interruptions restored within 5 hours of notification	$50	New for WP3
	No more than 5 unplanned water interruptions within any 12 month period	$50	New for WP3
	All sewage spills in a house contained within 1 hour of notification	$1,000	New for WP3
	No more than 3 sewerage interruptions within any 12 month period	$50	New for WP3
NEW	Hardship related	$300	Introduced 1 Jan 2011
	No more than 5 unplanned water interruptions within any 12 month period	$50	New for WP3
	Sewage spills in a house contained within 1 hour of notification	$1,000	New for WP3
SGW	Hardship related	$300	Introduced 1 July 2012
	Unplanned water interruptions restored within five hours of notification	$75	New for WP3
	Unplanned interruptions to sewer service rectified within 5 hours	$75	New for WP3
	If South Gippsland Water causes a sewage spill within a customer's house, South Gippsland Water will pay the customer $1,000. South Gippsland Water will also clean up the property and provide alternative accommodation as required.	$1,000	New for WP3
WNW	Hardship related	$300	Introduced 1 July 2012
	If there are more than five unplanned interruptions to the service providing water to the customer's property in any 12-month period	$50	Existed in WP2
	A sewerage spill in a customer's house that is not contained within 1 hour of notification to Wannon Water	$500	Existed in WP2
WPW	Hardship related	$300	Introduced 1 Jan 2011
	No more than 5 unplanned water interruptions within any 12 month period	$50	New for WP3
	Sewage spill in a house contained within 1 hour of notification	$500	New for WP3
	Sewage spill onto property contained with 5 hours of notification	$250	New for WP3

The table below summarises the costs that businesses have included in their forecasts for GSLs. A number of businesses have zero costs – in most cases they recognise that they

will need to make some payments, but have not included costs in their forecasts and hence there will be no impact on prices.

Table 2-12 GSL payments and expenditure proposed for Water Plan 3 ($000s, 01/01/2013)

Business	Costs identified	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
BW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
CHW	Payments	20.52	9.50	9.50	9.50	9.50	9.50
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
CW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
EGW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
GW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
GVW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
NEW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation	0.00	0.00	0.00	0.00	0.00	0.00
SGW	Payments	0.00	33.00	33.00	33.00	33.00	33.00
	Implementation	0.00	17.00	17.00	17.00	17.00	17.00
WNW	Payments	0.00	0.00	0.00	0.00	0.00	0.00
	Implementation		52.82	52.82	52.82	52.82	52.82
WPW	Payments	0.00	10.00	10.00	10.00	10.00	10.00
	Implementation	0.00	10.00	10.00	10.00	10.00	10.00

2.14.4 Approach to assessment

It is reasonable for businesses to include the cost of implementing and paying GSLs in their operating expenditure forecasts, and we have assessed each of the businesses proposals to do so on a case-by-case basis. In doing so we have had regard to the following:

- In its Guidance Paper the ESC noted that it has previously estimated that the costs of implementing and operating a GSL payment should be between $1 and $2 per customer per annum, and should fall over time.[8] Accordingly, we have used this as a high-level benchmark when assessing GSL scheme costs and costs that are inconsistent with this benchmark have been removed
- Subject to the point below, any expenditure for payments must be consistent with historical data on numbers of payments, or where there is a new GSL, generally consistent with historical service standards and service standard targets for the next regulatory period
- The Guidance Paper also noted that, where projected payments are the outcome of poor performance, the ESC believes they can be excluded because these are not an efficient administrative or operational cost. Businesses should not be compensated for

[8] Essential Services Commission (2011), *2013 Water Price Review – Guidance on Water Plans, October*, p.27

poor performance but should be given incentives to avoid the problems occurring. Accordingly, we have compared forecasts of payment numbers across businesses and where they are unduly high for a particular GSL for a particular business we have reduced them accordingly

- Where businesses have had materially the same GSLs in place in WP2 as proposed in WP3 we consider it reasonable to assume that no additions to BAU expenditure are required
- For the majority of businesses we have not allowed businesses to recover any additional costs associated with either administrative costs (for example, visits to premises) or payments for the hardship GSL.
    - In relation to administrative costs because, as most of the businesses had the GSL in place for the base year 2011-12, these costs should be included in the BAU expenditure
    - In relation to payments under the hardship GSL, we do not believe that businesses should receive compensation for being in breach of the Customer Code. Further we anticipate that any payments are likely to be so small in number as to be immaterial
- For those businesses that did not have the hardship GSL in place for 2011-12 we generally accepted the inclusion of additional administrative costs associated with the GSL. However we have assessed the appropriateness of the scale of expenditure proposed.

2.15 IT expenditure

2.15.1 Background

IT costs include expenditure on items such as:

- The implementation or upgrade of new or existing IT systems
- Software
- Hardware
- Other related costs, including contractor costs

Some businesses include costs associated with SCADA in their IT costs.

As the ESC noted in its Guidance Paper, IT costs represent a significant proportion of businesses' operating expenditure and grew significantly over the WP2 period.

In 2010 the Victoria Auditor General's Office (VAGO) delivered a report on the use of infrastructure control systems in the water and transport industry. The report's conclusions were that:

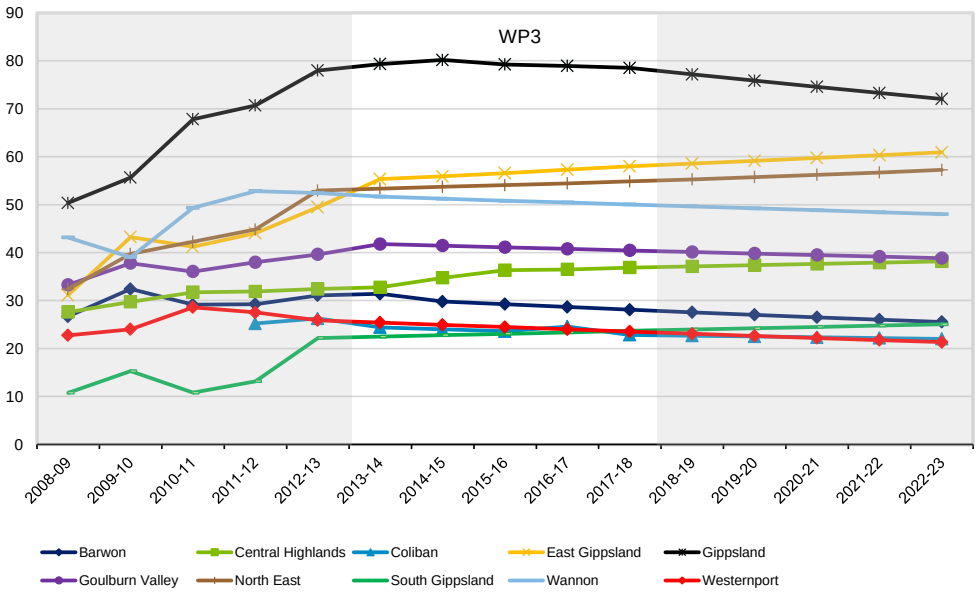
> *The risk of unauthorised access to water and transport infrastructure control systems is high. This access could compromise these systems and affect the stable delivery of essential services to the community.*
>
> *Operators do not have:*
>
> *• the physical and electronic controls to detect and prevent inappropriate access to their infrastructure control systems*
>
> *• appropriate governance arrangements, such as risk, emergency and business continuity management, policies and procedures, and monitoring and reporting mechanisms to assure management that their infrastructure control systems are secure.*

Several businesses have cited the need to reduce security risks as a reason for higher IT and SCADA expenditure in WP3.

2.15.2 Business proposals

Most businesses expect their IT costs to continue to grow in the WP3 period. The figure below compares IT costs per customer, noting that different businesses may define IT costs in different ways, with a key point of difference being whether SCADA is considered part of IT or not.

Figure 2-8 Total IT costs per customer



2.15.3 Approach to assessment

We have reviewed IT costs on a case-by-case basis using the following principles:

- We accept it is reasonable for businesses to move to software systems that are consistent with industry good practice or generally accepted standards in the wider business community. Where existing systems are becoming unsupported by vendors it will usually be prudent for businesses to upgrade such systems
- Similarly some IT cost increases may be necessary to address business risk (e.g., security) or are unavoidable due to increases in licence fees
- While there will be benefits from improving SCADA systems, there comes a point at which improvements to SCADA systems are of marginal benefit. This is particularly the case given that SCADA skills in the regional water industry appear to be at a premium and are quite costly in some cases. Additional SCADA costs need to translate to improved service outcomes, cost savings or significantly decreased risks
- Some hardware and software costs (personal computers, data storage etc.) are continuing to reduce in cost in time and such savings need to be reflected in forecasts.

3 Capital Expenditure

3.1 Overview of capital expenditure

At an aggregate level capital expenditure across the businesses we have reviewed is forecast to fall significantly in WP3 compared to WP2 (Figure 3-1). This follows the completion of a number of major projects in WP2 including the Goldfields Superpipe, Gippsland Water Factory and the Melbourne to Geelong Interconnector.

Goulburn Valley Water and South Gippsland Water are the only businesses proposing increases in capital expenditure in WP3 compared to WP2 (Figure 3-2).

Figure 3-1 Total capital expenditure ($m)

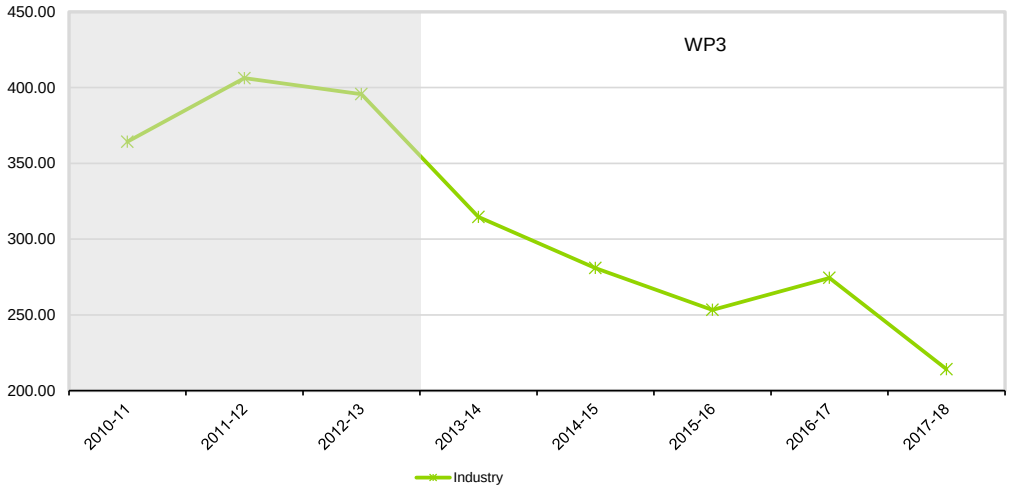
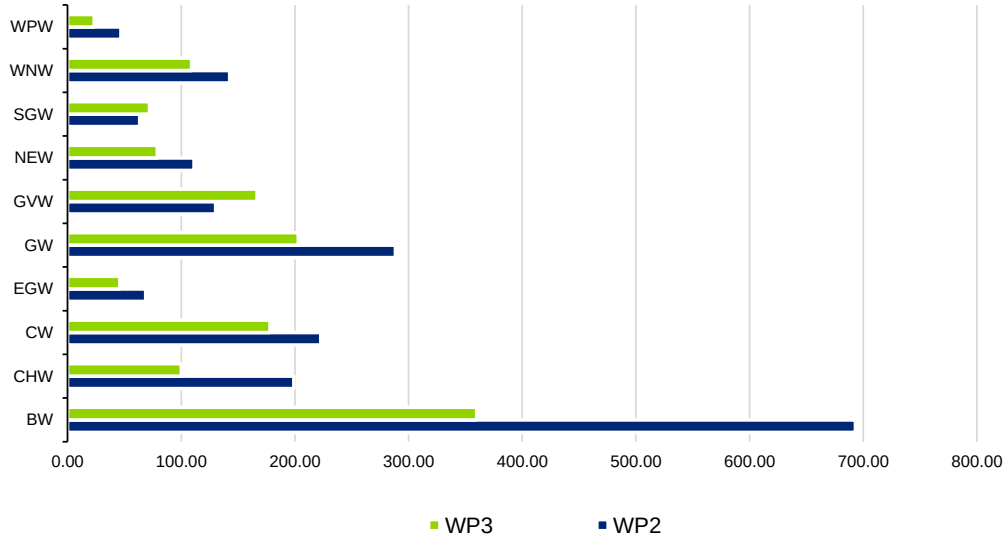


Figure 3-2 Total capital expenditure by business, WP2 compared to WP3



3.2 Capital cost escalation

3.2.1 Background

At the time that the WP2 forecasts were being prepared, capital expenditure in the Victorian water sector was increasing significantly. A number of major projects – both in Melbourne and regional Victoria – were commencing and needed to be completed within compressed timeframes in order to meet water security needs. This placed significant pressure on engineering, construction and consulting resources in the industry, and as result construction prices increased at rates exceeding the general inflation rate.

However, as evidenced by the figures in Section 3.1 and the completion of a number of major projects in Melbourne, capital expenditure across the water industry – both in Victoria and nationally – has now fallen. This is occurring at the same time as construction activity in the Australian economy as a whole is expected to level off or even fall slightly over coming years. The following table, prepared by Deloitte Access Economics, summarises forecasts of non-dwelling capital expenditure across the WP3 period.

Table 3-1 Private new engineering (non-dwelling) construction investment ($b)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Australia	90.395	92.145	93.063	89.023	88.442	86.739

In addition, Victoria's share of national capital expenditure has fallen from around 20% in 2004-05 to 12% in 2010-11 and is forecast to be just 8-9% over the WP3 period.

3.2.2 Business proposals and approach to assessment

It is clear that the cost pressures that were evident across the first part of the WP2 period have now eased. Anecdotal evidence from water businesses and engineers is that over the last 12 months there has been an increased level of competition for construction work, and that most contracts for recurrent capital expenditure are coming in at, or in some cases below, existing prices.

None of the businesses indicated that construction cost escalation factors beyond CPI had been applied and there was no evidence to suggest otherwise.

3.3 Application of P50 cost estimation

3.3.1 Background

The ESC guidance paper states that "Business should forecast capital expenditure based on P50 estimates of project costs. Information on P5 and P95 costs should also be presented in Water Plans".

3.3.2 Business proposals

The application of P50 cost estimation for capital expenditure is a relatively new concept for regional water businesses and as such the uptake has been variable. Some businesses have appropriately applied the P50 cost estimation methodology, some have misunderstood its application, while others have not applied the methodology at all. Few businesses provided P5 and P95 estimates for their projects in their Water Plans.

3.3.3 Approach to assessment

Where information on P50, P5 and P95 capital cost estimation was not provided in the Water Plans we requested that it be provided. However it was clear than in many cases, and particularly in respect to P5 and P95 estimates, that the calculations had not been undertaken.

We have not excluded projects on the basis that P50 cost estimation has not been applied. However, where P50 estimates had been provided which contained specific allowances for contingencies, we have generally removed the contingencies as the cost uncertainty should already be recognised in the P50 cost estimation.

3.4 Environmental compliance

3.4.1 Background

The EPA has issued guidelines to water businesses which set out its expectations for the WP3 period. The guidelines require all water businesses to fully comply with all conditions of waste discharge licences. They set out the EPA's expectation that water businesses understand the environmental impacts and risks of their operations, develop programs to address and reduce these risks, and continuously review and improve their approach. EPA expects the water industry to work towards a future way of operating that has little to no impact, or a net benefit, to the environment.

Section 30A of the *Environment Protection Act* 1970 covers the guidelines on approvals to dispose of wastewater to waterways that is outside of the normal discharge licence of water businesses. Specifically section 30A gives powers to the EPA to approve a discharge, emission or deposit of waste from any premises into the environment; in the case that it is in connection with a temporary emergency.

A section 30A approval is typically required where a wastewater treatment plant reaches storage/treatment capacity and therefore needs to discharge effluent that does not comply with normal licence conditions (i.e. it is untreated or partially treated) to the environment. A number of section 30A approvals were granted by the EPA as a result of atypically high rainfall (especially during the irrigation period), storm and flood events in 2010 and 2011 causing several wastewater systems to exceed their capacity.

Water businesses are obliged to contain wastewater flows associated with a one in five year rainfall event or a comparable design standard that avoids losses of wastewater from wastewater system. There has been an increase in the frequency of wastewater spills in recent years due to storm and flood events.

Naturally the EPA is concerned to ensure that the widespread requirements for section 30A approvals in 2010 and 2011 are not repeated. Its Guidance Paper makes clear that it expects businesses to understand, plan for and adapt to the increased environmental risks from extreme weather events and a changing climate (for example, sewer hydraulic capacity, treatment plant and recycled water storage capacity, or sewer infrastructure corrosion).

3.4.2 Business proposals

A number of businesses have outlined additional expenditure to achieve environmental compliance or enable a staged approach to achieve compliance. These include:

- Reclaimed water management projects that seek to increase winter storage capacity or irrigation areas
- Wastewater treatment projects that seek to accommodate peak wet weather events or prevent accidental seepage through the floor of earthen lagoons

- Sewer and pump station projects that seek to increase the capacity of sewerage to accommodate flows associated with peak wet weather events.

The need for these types of capital projects may also be heightened by the prolonged period of dry conditions followed closely by two wet years.

3.4.3 Approach to assessment

Subject to efficiency and prudency being established, we have broadly accepted forecasts that include expenditure to address section 30A issues, ensure compliance with existing EPA licence conditions or enable a staged approach to achieve environmental compliance in subsequent regulatory periods.

However, where businesses have proposed expenditure (whether operating or capital) to upgrade assets or amend processes to exceed existing licence conditions, or to meet 'anticipated' EPA licence requirements, we have closely reviewed such proposals, and in some cases rejected them. In our view it is not appropriate for businesses to incur significant additional expenditure without a clear obligation, or support from customers, to do so.

3.5 Drinking water compliance

3.5.1 Background

The Department of Health administers the *Safe Drinking Water Act* 2003. *The Safe Drinking Water Act* has been implemented to make provision for the supply of safe drinking water. The *Act* allows for the development of regulations determining drinking water quality standards. The *Safe Drinking Water Regulations* 2005 are due to sunset in mid-2015, with a new set of regulations being put in their place.

The Department of Health has issued guidelines to water businesses, which set out its expectations for the WP3 period. The guidelines require water businesses to undertake activities in accordance with the *Act* and in accordance with the risk management plan requirements and audit and disclosure requirements set out in the *Act*. Water suppliers particularly, are advised to ensure that where drinking water supplies are drawn from multi-use or unprotected surface water catchments, that any risks arising from such sources are addressed, especially for drinking water supplies that traditionally have been disinfected without also being filtered.

3.5.2 Business proposals

Businesses have generally adopted a no tolerance approach to risks associated with the provision of safe drinking water. Accordingly, most businesses have outlined expenditure to address these risks, including:

- Projects involving the implementation of additional barriers (e.g. UV) in water treatment plants to address risks from unprotected raw water supplies
- Projects involving the implementation of additional instrumentation (e.g. turbidimeters) that seek to enable efficient and responsive management of drinking water quality
- Projects that seek to avoid the contamination of drinking water post treatment
- SCADA upgrade and renewal projects that seek to enable efficient and secure management of drinking water quality
- Water quality programs that seek to address unforeseen risks, which are generally identified as part of annual risk assessments or following unexpected events.

3.5.3 Approach to assessment

Subject to efficiency and prudency being established, we have broadly accepted forecasts that include expenditure to address risks associated with the provision of safe drinking water and to meet the existing requirements of the *Safe Drinking Water Regulations*.

However, where businesses have proposed expenditure (whether operating or capital) to upgrade assets or amend processes to meet 'anticipated' changes to the *Safe Drinking Water Regulations*, which are due to sunset in mid-2015, we have closely reviewed such proposals, and in some cases rejected them. In our view it is not appropriate for businesses to incur significant additional expenditure without a clear obligation, or support from customers, to do so.

3.6 Renewals expenditure

3.6.1 Background

The term 'renewals expenditure' refers to the replacement of water and sewerage reticulation and mains assets as they approach the end of their economic life.

Because renewals expenditure can be deferred and in the short term it is cheaper to repair a pipe than replace it, renewals expenditure is often among the first area to get cut when major projects are required. A number of businesses are now proposing renewals programs that are 'catch ups' for low levels of replacement in previous years.

3.6.2 Business proposals

A wide variety of asset management systems are being implemented by regional water businesses. The spectrum of systems range from a simplistic approach of allocating historical expenditure for future renewals, a blanket approach based on theoretical asset service life, through to complex mature systems that allocate expenditure according to service performance, asset condition and risk of asset failure. The variety of approaches generally reflects the size and resources available to the business.

3.6.3 Approach to assessment

Proposals to increase renewals expenditure need to be supported by a well-developed asset management strategy and methodology for determining replacement needs. Businesses need to ensure they have considered both proactive (fix before failure) and reactive (run to failure) approaches using a risk based assessment and supported by net present value analysis.

In increasing order of preference, approaches to determining renewals needs may include:

- Using historical expenditure in asset renewals to forecast future needs
- A 'blanket approach' based on theoretical asset lives
- Approach supported by age, condition, performance and/or historical maintenance data
- A basic modelling approach producing predicted failure rates adjusted by standard probability distributions and/or actual asset condition data
- Complex modelling, including decision models, producing predicted failure rates adjusted by probability distributions, actual live maintenance / failure data, site based condition data, and theoretical asset deterioration rates.

Decisions on renewals requirements should also take into account performance data against industry benchmarks and businesses' performance targets. Asset management audits

conducted in accordance with the ESC's performance regime and the Aquamark asset management process benchmarking as run by WSAA provide useful industry benchmarks.

We have considered renewals expenditure on a case-by-case basis, with the key criteria being businesses' ability to demonstrate a rigorous case for the level of expenditure sought. Where businesses have justified increased renewals expenditure based solely on theoretical needs then we have generally rejected these increases as lacking in rigour.

3.7 Security of supply

3.7.1 Background

Many businesses invested heavily in augmenting water supplies during the WP2 period in response to water shortages earlier in the period.

Given that most of Victoria currently has healthy volumes in storage, the ESC's Guidance Paper noted that that "generally, proposals for further supply augmentation projects would require a very strong justification, and would almost certainly need to be based on factors other than security of supply risk in the near term."

3.7.2 Business proposals

A number of businesses have proposed security of supply projects in WP3, although the level of expenditure is generally lower than in WP2.

3.7.3 Approach to assessment

Proposals for expenditure to augment water supplies need to be consistent with the businesses' Water Supply Demand Strategy and a thorough analysis of options. Businesses need to ensure they have considered all solutions to deliver the most prudent and efficient outcome for their customers.

We have considered the proposed expenditure to augment water supplies on a case-by-case basis, with the key criteria being businesses' ability to meet their agreed level of service during WP3 under the medium climate change scenario.

3.8 Growth

3.8.1 Background

Population growth is variable across regional Victoria, with regional areas close to Melbourne and coastal locations generally experiencing higher growth.

It is usually efficient to build in spare capacity to assets rather than upgrade capacity on an incremental basis. The two key issues are the timing of investment in new capacity, and exactly how much spare capacity needs to be built in.

3.8.2 Approach to assessment

Proposals for expenditure to accommodate growth need to be supported by well-developed growth forecasts and a risk-based approach to ensure expenditure is prudent and efficient. We have considered proposals on a case-by-case basis, closely reviewing growth forecasts, timing of growth, expected timeframe until the asset will be fully utilised, and the consequences of planned growth areas changing.

3.9 Small town water supply and sewerage schemes

3.9.1 Background

The State Government's Country Towns Water Supply and Sewerage Program was launched in January 2006 and seeks to address critical public health and environment risks. The aim of the program is to help communities, councils and water authorities to:

- Introduce sewerage solutions to rural and regional towns that have critical public health and environment problems
- Introduce new water supply or upgrade existing water supplies
- Identify sewerage needs to prevent future risks to public health and the environment.

Subsequent to the Country Towns Water Supply and Sewerage Program, the State Government released four rounds of funding under the Small Towns Water Quality Fund. The fund seeks to help develop infrastructure in small towns across regional Victoria. Eligible projects include; water supply security and water quality improvements, new water services, septic tank upgrades and small town wastewater solutions.

The implementation of projects funded under these programs varies. Some schemes have already been implemented or are currently being implemented, while others have undergone significant planning, design and stakeholder engagement and are ready for implementation. In some cases non-infrastructure based solutions have been identified as the preferred solution.

3.9.2 Business proposals

Some businesses have forecast expenditure to implement small town water supply or sewerage schemes, which were either identified as priority in the Country Towns Water Supply and Sewerage Program or mandated by the State Government. Expenditure may not necessarily have been forecast for these projects in WP2 due to the uncertainty associated with their delivery.

Some businesses have forecast expenditure to implement small town water supply or sewerage schemes which have received partial funding under the Small Towns Water Quality Fund.

3.9.3 Approach to assessment

We have considered expenditure under two categories. Where a proposed project:

- Has not been funded under the Country Towns Water Supply and Sewerage Program or Small Towns Water Quality Fund, or otherwise mandated by the State Government, we have closely reviewed the project's need, stakeholder support, level of expenditure sought and its timing
- Has been partly funded or mandated by the State Government, we have focussed our review on forecast expenditure and its timing.

3.10 Carryover expenditure

3.10.1 Background

All businesses have forecast expenditure in WP3 to complete projects that commenced in WP2. We have referred to this as carryover expenditure.

3.10.2 Approach to assessment

Given that these projects are underway we have placed less emphasis on the need or justification for the projects, and more on the proposed timing and expenditure.

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.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.