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2008 WATER PRICE REVIEW

WATER PLANS — ISSUES PAPER

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1 INTRODUCTION

1.1 The 2008 Water Price Review

The Commission has received Final Water Plans from the 16 Victorian water businesses providing rural and regional urban services.[1] These plans set out the revenue and hence prices that each business believes it needs to deliver water, sewerage and other related services for the five year regulatory period from 1 July 2008.

This is the Commission's third independent review of water prices. The Commission has previously completed a review of prices for the then 17 urban metropolitan and regional businesses (June 2005) and for the five businesses providing rural services (June 2006).

The Commission is required to assess the Water Plans against certain principles outlined in the Water Industry Regulatory Order (WIRO). On the basis of this assessment, the Commission must decide whether to approve or specify the prices or the manner in which prices are to be determined for the services provided by these businesses over the regulatory period. In deciding whether to approve a business's proposed prices, the Commission must be satisfied that they provide the business with sufficient revenue over the regulatory period to meet its obligations and deliver the level of service required by customers.

The Commission is required to assess the detailed assumptions underpinning the businesses' proposed revenue requirements for the regulatory period. The businesses' expenditure forecasts must reflect efficient costs of supply and the program of work proposed by each business must be deliverable over the period. The businesses' forecasts of demand and supply (which affect both expenditure and prices) must also be reasonable and reflect the best available information. Customer service standards proposed by each business must also be clear, appropriate and reflect the needs and interests of customers.

The Commission must also be satisfied that prices provide appropriate signals about the costs of providing services and incentives for sustainable water use and take into account the interests of customers.

The Commission's approach to assessing proposed prices is characterised by three steps. The first step involves establishing the service standards and other

[1] The businesses subject to this review include Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, GWMWater, Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Westernport Water, Western Water, FMIT, Goulburn-Murray Water and Southern Rural Water. Melbourne Water and the three metropolitan retailers were not required to submit Final Water Plans to the Commission.

outcomes that a business proposes to deliver over the regulatory period. This includes expectations about the water delivery and supply factors that are likely to underpin the delivery of services. These standards and outcomes reflect obligations imposed by the Minister for Water through the Statement of Obligations, the Environment Protection Authority (EPA), the Department of Human Services (DHS) and the Department of Sustainability and Environment (DSE) and customer preferences for service improvements.

Step two involves the Commission assessing each of the key revenue components and proposals against the WIRO principles. The Commission's assumptions are used solely to assess whether prices will result in the business earning sufficient revenue to deliver services. They do not represent amounts businesses are required to spend or direct to particular activities or projects. In consultation with customers, businesses are free to determine their own expenditure priorities in light of changing circumstances and to pursue innovation and efficiencies that enable them to outperform the cost assumptions.

The third step in the process involves determining the prices needed to meet that revenue requirement.

1.2 Legislative framework and role of the Commission

In carrying out its role, the Commission is primarily guided by the regulatory framework set out in the *Essential Services Commission Act 2001* and the *Water Industry Act 1994*. The more detailed framework is set out in the WIRO made by the Governor in Council under the Water Industry Act 1994.[2]

The Essential Services Commission Act 2001 outlines objectives to which the Commission must have regard in undertaking its functions across all industries. The Commission's primary objective is to protect the long-term interests of Victorian consumers with regard to the price, quality and reliability of essential services. In seeking to achieve this primary objective, the Commission must have regard to:

- facilitating the efficiency, incentives for long term investment and the financial viability of regulated industries
- preventing the misuse of monopoly or transitory market power
- facilitating effective competition and promoting competitive market conduct
- ensuring regulatory decision making has regard to the relevant health, safety, environmental and social legislation applying to the regulated industry
- ensuring users and consumers (including low income or vulnerable customers) benefit from the gains from competition and efficiency, and
- promoting consistency in regulation across States and on a national basis.

The Water Industry Act 1994 contains the following additional objectives that the Commission must meet in regulating the water sector:

[2] The WIRO is available from the Commission's website.

- wherever possible, ensure that the costs of regulation do not exceed the benefits
- regulatory decision making and regulatory processes have regard to any differences in the operating environments of regulated entities and
- regulatory decision making has regard to the health, safety, environmental sustainability (including water conservation) and social obligations of regulated entities.

The WIRO requires the Commission to approve or specify the price arrangements to apply to each of the water businesses for each regulatory period. The Commission must approve the price arrangements if it is satisfied that the prices or the manner in which prices are to be calculated or otherwise determined have been developed in accordance with the procedural requirements and comply with the regulatory principles outlined in the WIRO.

Alternatively, the Commission may specify the prices that a business may charge or the manner in which those prices are to be calculated or otherwise determined if it is not satisfied that the arrangements proposed in the Water Plan were developed in accordance with the procedural requirements and comply with the regulatory principles. The procedural requirements include the need for businesses to consult with customers and relevant regulatory agencies before submitting the Water Plan to the Commission for assessment.

In deciding whether to approve the proposed prices, the Commission must be satisfied that they provide the business with sufficient revenue over the regulatory period to deliver their regulated services. The revenue must be sufficient to allow the business to recover:

- operational, maintenance and administrative costs
- expenditure on renewing and rehabilitating existing assets
- a rate of return on past investments as at 1 July 2004 that are valued at an amount or in a manner determined by the Minister for Water or the costs associated with any debt incurred to finance recent expenditure in a manner determined by the Minister and
- a rate of return on investments made after 1 July 2004.

The Commission must also ensure that:

- the expenditure forecasts reflect the efficient delivery of the proposed outcomes outlined in the Water Plan and take into account a long term planning horizon
- the businesses have incentives to pursue efficiency improvements and
- customers or potential customers are readily able to understand the prices charged or the manner in which they are to be calculated or determined.

1.3 Commission's approach to consultation

In deciding on various regulatory matters, the Commission aims to be open and transparent and to consult with as many stakeholders as practical. The Commission's general approach to consultation is set out in its *Charter of*

Consultation and Regulatory Practice.[3] It also generally provides stakeholders with a number of opportunities to be involved in its processes and tailors its consultation approach to reflect stakeholder comments.

In line with its charter, the Commission intends to keep stakeholders informed of progress through regular website updates (www.esc.vic.gov.au) and the newsletter *Essential Water News*. Copies of its consultation papers and any submissions received in response will also be made available on its website or from Commission staff. If there is information that you do not wish to be disclosed publicly on the basis that it is commercially sensitive or confidential, you should discuss the matter first with Commission staff before providing the information.

In undertaking its role as economic regulator, the Commission will also consult with other regulators such as the EPA, DHS and other government agencies such as DSE and the Energy and Water Ombudsman (Victoria) (EWOV).

The Commission released initial guidance on the 2008 Water Plans in September 2006, a Framework and Approach Paper in December 2006 and a Guidance Paper in March 2007. The initial Water Plan guidance provided high level guidance on the structure and content of Water Plans for the second regulatory period. The framework and approach paper set out a number of key issues related to the application of the regulatory framework, process and approach that the Commission will take in assessing Water Plans for the second regulatory period. The Commission also visited each business to discuss issues related to the Framework and Approach Paper. The Guidance Paper provided further guidance on the issues raised in response to the framework and approach paper.

The businesses have previously released draft Water Plans for public consultation These plans were also provided to the Minister for Water, the Commission and other regulators. The Commission provided businesses with further comment on the draft Water Plans in September 2007.

This Issues Paper marks the first stage in the Commission's public consultation on the businesses' Water Plan proposals. Prior to making its Final Decision of the prices to apply, there will be a number of opportunities for interested parties to raise issues and express their views about the detailed proposals put forward by the businesses.

Stakeholders are invited to provide written comments on the proposals set out in the businesses' Water Plans and/ or the issues raised in this paper and to identify any further issues that they consider should be addressed in assessing the businesses' proposals.

The Commission is required to release a Draft Decision setting its preliminary views about whether the businesses proposed prices satisfy the detailed requirements of the WIRO. The Draft Decision will take into account the Commission's assessment of the Water Plans, issued raised in the consultation

[3] The Charter can be found on the Commission's website.

process and comments on the Water Plans from customers, their representatives and other stakeholders.

The Draft Decision will be released publicly (anticipated March 2008). Businesses, customers and other interested parties will have an opportunity to comment on the Draft Decision before the Commission makes it Final Decision in early June 2008. The new prices approved as part of the Commission's Final Decision will take effect from 1 July 2008.

An indicative timetable for the consultation process for the remainder of the price review process is set out in table 1.1.

Table 1.1 **Indicative consultation timetable**

Indicative dates	*Activity*
10 December 2007	ESC Releases Issues Paper
28 January 2008	Submissions on issues paper due
December, January, February	Consultation with stakeholders
March 2008	ESC releases Draft Decision
March/April 2008	Consultation on Draft Decision
June 2008	ESC releases Final Decision

1.4 Purpose and structure of this paper

This paper provides a high level overview of the key aspects of the businesses' Water Plans and identifies some of the issues that the Commission will consider as part of its assessment process. Where relevant the paper also sets out the Commission's proposed approach to assessing the businesses' proposals. It is intended to assist stakeholders to understand the broad nature of the businesses proposals and focuses on the proposed price increases, service standards and other key outcomes to be delivered over the five year period from 1 July 2008. This paper is structured as follows:

Chapter 2 sets out some of the broad themes and key issues arising from the businesses' proposals which the Commission will need to consult on and address in the course of this review.

Chapter 3 summarises the businesses' proposals with respect to the key elements of the revenue requirement (operating expenditure, capital expenditure, financing capital investments, adjustments from the first regulatory period and demand forecasts)

Chapter 4 summarises the businesses' proposed prices and tariff structures.

Chapter 5 summarises the businesses' proposals with respect to service standards and guaranteed service levels.

1.5 Responding to this paper

The Commission encourages stakeholders to comment on the issues raised in this paper and any other aspects of the proposals contained in the businesses' Water Plans. The responses received and information generated through the public consultation process will assist the Commission in assessing and making its decision on whether or not to approve the businesses' proposals.

Interested parties can comment on the issues raised in this paper or on the businesses' Water Plans by sending a written submission or comments to the Commission by Monday 28 January 2007.

We would prefer to receive them by email at water@esc.vic.gov.au.

You can also send comments by fax (03) 9651 3688 or by mail to
Essential Services Commission
Level 2, 35 Spring St
Melbourne VIC 3000

The Commission's normal practice is to make all submissions publicly available on its website. If you do not have access to the Internet, you can contact Commission staff to make alternative arrangements to view copies of the submissions.

If there is information that you do not wish to be disclosed publicly on the basis that it is confidential or commercially sensitive, you should discuss the matter first with Commission staff.

2 ISSUES FOR THIS PRICE REVIEW

Sixteen Victorian regional urban and rural water businesses have submitted Water Plans to the Commission for assessment. These plans set out the prices that each of the businesses proposes to charge for their water, sewerage and other related services for the five year period commencing 1 July 2008, as well as other more detailed information about the strategies and initiatives proposed and revenue needs for 2008-09 to 2012-13.[4]

The Commission is required to assess the Water Plans against certain detailed principles set out in the Water Industry Regulatory Order (WIRO) and decide whether to approve the prices proposed by the businesses or the manner in which those prices are to be calculated or otherwise determined. This is the third review of water and sewerage prices undertaken by the Commission. Reviews were completed in 2005 and 2006.

The businesses being reviewed provide a diverse range of services including urban water and sewerage services, bulk water services (management of water storages and the delivery of water to other water businesses in accordance with bulk entitlements held by those businesses), irrigation services, stock and domestic services, drainage services (the collection and removal of excess water from irrigation areas) and diversion services (administration of surface and groundwater licences).

It is important to recognise the context in which this review is being undertaken. Over the last few years, the businesses and their customers have been dealing with many challenges associated with the prolonged drought conditions that have persisted in Victoria and nationally. Most customers around the State have been on water restrictions, and a number of businesses have faced serious security of supply issues. Consequently, a number of businesses are proposing to augment supply during the regulatory period. Others are proposing additional expenditure to improve or replace their assets and to meet environmental and drinking water quality regulatory obligations.

In the course of undertaking this review, a number of trade-offs will have to be considered by the Government and regulators which will have implications for the businesses' final prices. Examples include the trade-offs between new expenditure to meet environmental, drinking water quality and service reliability objectives, and the implications for revenues and prices required to sustain commercially viable businesses. In addition, the Commission will need to be conscious of the impact on

[4] The price review for the metropolitan retailers and Melbourne Water was deferred by the Minister for Water.

customers, particularly low income and vulnerable customers, and ensure that any adverse impacts are managed.

Having undertaken an initial review of the businesses' Water Plans the Commission has identified a number of issues that it will need to consider as part of its assessment.

2.1 Operating expenditure

Operating expenditure is a key component of the revenue requirement and is included in the year in which it is incurred.

Consistent with the approach taken in previous price reviews the Commission is proposing to assess operating expenditure by establishing a baseline or 'business as usual' level of costs derived from the current expenditure incurred by businesses at the end of the regulatory period. The businesses will be required to demonstrate that they are proposing to achieve productivity improvements in the delivery of business as usual levels of service. Costs associated with additional obligations, functions or service levels will be considered separately.

The level of operating expenditure proposed by a number of businesses is forecast to significantly increase over the regulatory period (see chapter 3). A number of businesses have also proposed a significant increase in operating expenditure from the last year of actual expenditure (2006-07) and the first year of the next regulatory period (2008-09). In assessing the businesses' forecasts the Commission will need to understand what is driving the forecast for 2008-09.

In assessing the prudence and efficiency of the businesses' operating expenditure forecasts the Commission will consider whether the operating expenditure forecasts clearly reflect obligations that are imposed by the Minister, other regulators such as the EPA and DHS, or improvements demanded by customers.

The Commission has engaged SKM and Cardno to assist it in assessing the businesses' forecasts of operating expenditure.

2.1.1 Drivers of forecast operating expenditure

The businesses' Water Plans have identified a number of key drivers of operating expenditure over the regulatory period. A key issue for the Commission will be to understand the basis for these drivers and form a view about the reasonableness of the assumptions underpinning the businesses' forecasts.

A large proportion of the additional operating expenditure for the regulatory period is attributable to forecast increases in the purchase of bulk water through water entitlements. Water entitlement purchases can be made either permanently or temporarily through the respective water markets. If the water entitlements are permanent, the cost of these entitlements is treated as capital expenditure and rolled into the regulatory asset base. If the water entitlements are temporary, the cost of these entitlements is treated as operating expenditure and is expensed in the year they are incurred.

Many of the businesses have forecast significant increases in the cost of electricity for the regulatory period. Wannon Water has forecast an increase in electricity prices of 100 per cent over the five years, while Barwon Water have also forecast an increase in the usage charge of 100 per cent. The underlying justification provided by the majority of businesses for increased electricity costs is that the wholesale price of electricity is forecast to increase during the regulatory period. However, the assumptions underlining the proposed increases in electricity costs vary significantly between businesses.

Many of the businesses have also forecast increases in operating expenditure due to implementing greenhouse gas emission reducing initiatives and purchasing carbon offsets. These businesses have applied varying assumptions when forecasting these costs. In some cases the proposed costs appear high when compared against proposed targets.

Some businesses have proposed labour price increases greater than the forecast consumer price index (CPI). These businesses have stated that the forecast increases are consistent with the agreed price increases in their Employee Bargaining Agreements. Other businesses, such as Barwon Water, have also proposed an increase in the levels of staff numbers, culminating in an increase in labour costs which would be greater than seen in the past. Some businesses have forecast the cost of materials to increase by more than CPI and these businesses have factored this into their forecasts of future levels of expenditure. The Commission will review these proposed increases in expenditure to ensure that they are prudent and reasonable.

2.1.2 Productivity improvements

The Commission has previously indicated that it is reasonable to expect that businesses will be able to deliver efficiency improvements with respect to business as usual expenditure over the regulatory period. The Commission proposes to take 2006-07 (the last year of actual expenditure) as the base year and will seek to understand the drivers of any changes from this base year and assess whether the proposed expenditure is reasonable and reflects productivity improvements.

By removing the businesses' forecast new obligations and costs not under their control, such as bulk water charges, licence fees and the Environmental Contribution, it is possible to compare a trend of the controllable business as usual costs from the last year of actual expenditure, with the forecast levels of controllable, business as usual costs. This can provide a reasonable comparison to assess the proposed productivity gains.

The Commission asked businesses to demonstrate how their expenditure forecasts reflected growth adjusted productivity gains in business as usual expenditure over the regulatory period, or to explain why productivity gains could not be delivered.

Many businesses have acknowledged the Commission's expectation that businesses achieve productivity improvements throughout the regulatory period and have outlined projects that they believe will help in achieving these efficiency gains. Central Highlands Water, East Gippsland Water, Barwon Water, Coliban Water and Gippsland Water have all provided relatively detailed explanations of

the extent of productivity gains to be made during the regulatory period and where these gains will be made.

2.2 Capital expenditure

Capital expenditure is a key component of the revenue requirement. Net capital expenditure is recovered by being added to the regulatory asset base (RAB) and is reflected in prices through a return on the RAB (that is the WACC multiplied by the RAB) and a return of the RAB (through regulatory depreciation).

The Commission will need to assess whether each business's proposed capital expenditure forecast is adequate to efficiently deliver the service levels required by customers and to meet all regulatory obligations imposed on the business. In doing so the Commission must be satisfied that any significant changes to expenditure levels are driven by realistic forecasts and verified obligations. To do this the Commission requires that any new capital expenditure reflects clear obligations imposed by regulatory agencies or the need to upgrade or invest in new infrastructure to meet the needs or service expectations of customers. Businesses are required to set out the target service levels they propose to deliver over the regulatory period and to show evidence of consultation with customers regarding their willingness to pay for any service improvements.

The Commission has engaged SKM and Cardno to assist it in assessing the businesses' forecasts of capital expenditure. The consultants will focus on the top ten projects identified by the businesses.

2.2.1 The profile of forecast capital expenditure

Most businesses have forecast large increases in capital expenditure for 2007-08 and 2008-09. Forecast for the remainder of the period are consistent with current levels. (see chapter 3).

This raises the issue of whether businesses may have been overly optimistic about their capacity to deliver programs in the early years of the regulatory period as well as whether there may be an opportunity to smooth capital profiles, making for more efficient delivery and reducing the impact on prices.

In assessing the businesses' forecasts the Commission will consider the timing of the proposed capital programs and consider whether there is opportunity to smooth capital profiles or defer discretionary or non-essential projects from the start of the regulatory period to later in the period. The Commission will need to consult with other regulatory agencies to gain an understanding of the drivers behind the forecast capital expenditure and the urgency with which proposed capital programs are expected to be delivered.

2.2.2 Deliverability of capital projects

The Victorian water industry (including metropolitan businesses) has proposed capital expenditure of around $7.9 billion over the next regulatory period (as well as $3.1 billion for the proposed desalination plant). A significant portion of this increase is driven by a small number of extremely large capital projects.

This raises issues about the ability of the industry, and each business in particular, to deliver its forecast capital program within the planned timeframe. In particular, the Commission will need to be satisfied that businesses have the necessary resources and processes in place to deliver on the larger capital program. It is reasonable to expect that the extremely large capital projects dominating the forecasts will stretch the resources of the industry and may cause lengthy delays to smaller capital projects which may be lower in priority.

2.3 Renewals annuity

For the first regulatory period, the rural businesses could choose to adopt a regulatory asset base (RAB) approach to recover expenditure on renewing and rehabilitating assets, or continue with a renewals annuity approach, or apply a combination of both methods (see section 3.4.4). Goulburn-Murray Water and GWMWater chose to adopt the RAB approach and FMIT, Lower Murray Water and Southern Rural Water continued with a renewals annuity.

For the forthcoming regulatory period Lower Murray Water and FMIT are proposing to adopt the RAB rather than continuing with a renewals annuity. Both businesses have identified transition issues regarding this change in approach and how they propose to deal with them. Lower Murray Water notes that six of its districts have positive balances and is proposing to return those balances through customer contributions. This will reduce the return on assets required by the business, resulting in price reductions. It has proposed that negative balances be recovered through increased prices phased in over a ten-year period.

FMIT has proposed to apply an accelerated depreciation profile in order to manage the transition from the renewals annuity to the RAB approach. It states that by implementing this transition approach it will be able to achieve a level of return that will cover the debt payments on the borrowings used to fund these assets and associated interest costs.

A key issue for this review will be whether the proposals by Lower Murray Water and FMIT to manage the transition from a renewals annuity to a RAB approach are appropriate.

The Commission will also need to assess the assumptions underlying the renewals annuity proposed by Southern Rural Water.

What should the Commission take into account when assessing the appropriateness of the businesses' proposals to manage the transition from a renewals annuity to a RAB approach.

Are there any benefits from all of the rural businesses adopting a consistent approach to recovering expenditure on renewing or rehabilitating assets?

2.4 Foregone revenue from the first regulatory period

Most of the urban water businesses have received less revenue over the first regulatory period than expected due to the impact of water restrictions and the drought. Central Highlands Water, Coliban Water and Lower Murray Water are seeking to recover the foregone revenue incurred in the first regulatory period (see section 3.5.2).

Central Highlands Water has stated that it has under recovered revenue of $11.9 million, comprising $1.2 million from 2005-06, $3.4 million from 2006-07 and an estimated $7.3 million in 2007-08. This shortfall in revenue has been largely driven by the impact of drought and water restrictions on the demand for water within the region. Central Highlands Water is proposing to recover $7.3 million over the forthcoming period, which is $5.4 million less than the net present value of the total cost of under recovered revenue. It has proposing to carry forward this under recovered revenue amount of $5.4 million to the 2013-2018 regulatory period.

Coliban Water has indicated that as a result of water restrictions and the impact of the drought, it has collected approximately $15.2 million less in revenue compared to the benchmark that was determined for the first regulatory period. It has indicated that the recovery of this forgone revenue will add an average of around $29 per property per year to the cost of both water and sewerage services. It also stated that in the absence of this recovery, it would not meet minimum financial viability criteria.

Lower Murray Water is proposing that an estimated $2.2 million in foregone revenue from its urban services for 2007-08 be recovered during the forthcoming regulatory period. It has indicated that this under-recovery was a result of rainfall patterns and catchment yields being below long-term averages and the impact of Stage 4 water restrictions.

An important issue for the Commission will be to determine whether it is appropriate for this foregone revenue to be recovered through prices for the forthcoming regulatory period. Doing so means that prices in the second regulatory period will be higher than they otherwise would be. In assessing the businesses' proposals the Commission will consider:

- how estimates of increased expenditure or foregone revenue have been determined
- the expected impact on customers in terms of the contribution to proposed price increases for the second regulatory period
- how the business will be impacted if the foregone revenue or increased expenditure is not recovered and in particular the impact on the business's financial viability.

2.5 Demand forecasts

Demand forecasts are an outcome of a number of factors, including the restrictions on usage, influence of weather on inflows, Victorian Government policy, elasticity of demand, planned major projects and assumptions around customer numbers.

Overall, businesses' demand forecasts appear to be conservative, reflecting current drought conditions, uncertainty about future climate conditions and demand

reduction targets (see chapter 3). In assessing the businesses' proposed demand forecasts the Commission is seeking to ensure that they are reasonable and reflect the best available information. Demand forecasts play an important role in determining the prices needed to meet the revenue required by businesses to deliver services over the regulatory period. Where businesses propose overly conservative (optimistic) demand forecasts, everything else being equal, prices will be higher (lower) than they otherwise would.

A key issue for the Commission is whether the level of conservatism in the businesses' demand forecasts provides for a reasonable sharing of the risk between businesses and customers. The issue of uncertainty and demand forecasts is discussed in section 2.4.

The Commission has engaged PricewaterhouseCoopers to assist in the detailed review and assessment of forecasts. Their review will focus on the:

- assumptions underpinning demand forecasts and customer growth rates
- assumptions about future levels of restrictions and demand elasticity
- the demand reduction targets that form the basis of several businesses' forecasts and the impact on these targets of the substantial supply augmentations planned throughout the State over the regulatory period.

Given the uncertainty surrounding future demand and the conservative approach to the forecasts, the review will also consider the interaction between demand forecasts and the form of price control proposed by each business.

2.5.1 Restrictions on usage

Table 2.1 sets out the restrictions that currently apply and the businesses' assumptions about the level of future restrictions.

Several businesses have not explicitly identified their assumptions about future restrictions. For the seven businesses that have, there is a clear expectation that restrictions will be lifted at some stage during the forthcoming regulatory period. For these businesses restrictions are typically expected to begin to ease by 2008-09 or 2009-10.

There appears to be some uncertainty among businesses about how the removal of restrictions will impact demand. Barwon Water, Central Highlands Water, Coliban Water and Western Water each forecast increases in average residential use over the regulatory period that appear to correspond with the expected easing of severe restrictions. This seems to be consistent with the increase in usage that is likely to occur as restrictions are lifted and improved supply conditions take effect.

Table 2.1 **Actual and forecast levels of restrictions**[a]

	Actual 2006-07	*Forecast 2007-08*	*Forecast 2008-09*	*Forecast 2009-10*	*Forecast 2010-11*	*Forecast 2011-12*	*Forecast 2012-13*
Barwon	1/4	n/a	n/a	n/a	PWS	PWS	PWS
Central Highlands	4	4+	4	4/3	3/2	1	1
Coliban	4	4	4/2	2	PWS	PWS	PWS
East Gippsland	3/4/3	n/a	n/a	n/a	n/a	n/a	n/a
Gippsland	PWS	PWS	PWS	PWS	PWS	PWS	PWS
Goulburn Valley	1	n/a	PWS	PWS	PWS	PWS	PWS
GWMWater	4	n/a	n/a	n/a	n/a	n/a	n/a
Lower Murray	3	3/1	1	1	1	1	1
North East	4	n/a	n/a	n/a	n/a	n/a	n/a
South Gippsland	2	n/a	n/a	n/a	n/a	n/a	n/a
Wannon	PWS	n/a	n/a	n/a	n/a	n/a	n/a
Western	3	3	3	2	2	1	PWS
Westernport	4	n/a	n/a	n/a	n/a	n/a	n/a

a For some businesses different towns or regions are on different restrictions levels. This table shows restriction levels for the largest number of customers of a particular business. For example, the restriction level shown for Barwon Water is for the Greater Geelong area. **b** Average per annum growth in residential usage per customer from 2006-07 to 2012-13. **PWS** permanent water saving rules.

Source: Water Plans and businesses' websites.

However, Lower Murray Water is forecasting average residential use will decrease by 0.6 per cent per annum despite expecting that restrictions will ease from stage 3 to stage 1, while Goulburn Valley Water is forecasting average residential use to decrease by 0.6 per cent per annum despite expecting that stage 1 restrictions will be removed. Gippsland Water is expecting Permanent Water Saving Rules to be maintained yet is forecasting average residential usage to decrease by 3.4 per cent per annum.

The Commission will review these restriction forecasts to assess whether:

- they are reasonable
- each business has appropriately taken into account the impact of restriction levels when forecasting demand
- businesses have programmes or initiatives in place to ensure that projected reduction targets are achievable.

2.5.2 Sustainable water strategies / water supply demand strategies

Under section 22B, the Minster for Water can require a Sustainable Water Strategy to be prepared for a region. As part of its *Our Water Our Future* action plan, the Government announced that five regional Sustainable Water Strategies would be developed across Victoria. At this point only the Central Region Sustainable Water Strategy has been finalised. Each Sustainable Water Strategy is required to:

- identify threats to the reliability of supply and quality of water for both environmental and consumptive uses in the region
- identify ways to improve and set priorities for improving the reliability of supply and quality of water, including managing demand for water, and investing in infrastructure for the supply of recycled water
- identify ways to improve and set priorities for improving the maintenance of the environmental water reserve in accordance with the environmental water reserve objective
- identify ways to increase and set priorities for increasing the volume of water in the environmental water reserve to improve the environmental values and health of water ecosystems
- include an implementation plan, setting out timelines or targets for implementing key actions identified by the Strategy.

Each business is also required to develop a Water Supply Demand Strategy under its Statement of Obligations.[5] The Strategies identify the best mix of demand measures and supply options for the businesses' urban supply systems and include water conservation targets.

[5] The Statement of Obligations required a Water Supply Demand Strategy to be developed by 31 March 2007, and within each five years thereafter.

Several businesses have indicated that their demand forecasts are consistent with achieving the targets set out in the Central Region Sustainable Water Strategy or their Water Supply Demand Strategies. For most businesses this means that the forecasts outlined in their Water Plans are based on a target of a 25 per cent reduction in per capita demand by the year 2015 relative to 1990s average use. Exceptions are Goulburn Valley Water targeting an 11 per cent decrease in average residential use from 2001-02 levels and Wannon Water targeting a reduction from 1997 usage levels of 30 per cent in average residential use by 2015.

These demand reduction targets appear to be the basis for eight businesses forecasting average residential use to decline from 2006-07 to 2012-13, despite the same businesses predicting that restrictions are likely to ease and investing in supply augmentations.

Key issues for the Commission for this review will be to understand whether these targets are a reasonable basis for the demand forecasts to be used to set prices for the regulatory period and whether the businesses have strategies in place to deliver these reductions. A number of Water Plans do not appear to explicitly identify major programs or expenditure to reduce demand and meet these targets.

2.5.3 Price elasticity of demand

Five businesses have taken into account the impact of changing prices on residential demand through assumptions about the price elasticity of demand. None of the businesses have incorporated elasticity impacts into their forecasts for non-residential demand.

Wannon Water has indicated that it has included an elasticity of demand adjustment but has not explicitly set out the size of this adjustment. The elasticities adopted by Barwon Water, Lower Murray Water, North East Water and Western Water are set out in table 2.2.

It has been suggested that in times of high restrictions demand is even more insensitive to price. This is because customers have already reduced consumption to a point where non-discretionary usage is so low that the price is below the marginal disutility of further reducing usage.

The demand elasticities adopted by Western Water are consistent with these findings to the extent that it has not forecast any elasticity impact for residential customers consuming in the first consumption tier. Lower Murray Water and North East Water also appear to have reflected discretionary versus non-discretionary water usage in their forecasts.

However, Barwon Water's elasticity assumption of -0.6 is substantially higher than estimates used by other businesses and evidence from empirical studies. Unlike the three other businesses, Barwon Water's assumption also does not allow for different elasticities for different types or levels of water consumption.

Table 2.2 **Elasticity assumptions**

Business	*Demand elasticity estimate*	
Barwon Water		-0.6
Lower Murray Water	0-300 kL	-0.05
	300-600 kL	-0.2
	>600 kL	-0.3
North East Water	Internal consumption – for every 10 per cent increase in price there will be a 0.5 per cent reduction in demand.	
	External consumption – for every 10 per cent increase in price there will be a 1.5 per cent reduction in demand.	
Western Water	0 to 53 kL	0
	53 to 106 kL	-0.1
	>106 kL	-0.1

An important issue for this review will be to consider the demand elasticity assumptions made by businesses given the current period of drought and the impact of restrictions, particularly for those businesses that have proposed significant tariff restructures.

Is there other information regarding the price elasticity of demand for water that the Commission should have regard to?

2.6 Dealing with uncertainty

In its March 2007 Guidance Paper[6] the Commission identified a number of options for dealing with the impacts of uncertainty, including:

- re-prioritising capital projects or programs. In consultation with its customers a business could decide not to undertake certain projects or bring other projects forward to cope with changing circumstances
- reflecting any uncertainty in forecasts (either implicitly or explicitly), particularly for events that may be known but uncertain in scope
- allowing for material changes for unforeseen events to be assessed and prices adjusted within the regulatory period. Under this scenario, adjustments could be made at the time that annual tariffs are approved or businesses could come to the Commission at any time within the regulatory period to seek an adjustment to prices subject to a predetermined process
- adjusting prices at the end of the regulatory period to reflect any significant cost increases or decreases.

[6] Essential Services Commission 2007, *2008 Water Price Review Guidance Paper*, March.

In response to concerns raised by businesses regarding uncertainty about the timing and cost of significant capital projects and the continuing impact of the drought, the Commission accepted that there will need to be one or more of the following mechanisms to deal with uncertainty:

- re-opening of the determinations triggered by particular materiality thresholds or triggers
- predetermined pass throughs
- forms of price control
- mid-period reviews.

The Commission also recognised that particular mechanisms may be better suited to dealing with particular sources of uncertainty. For example, predetermined pass throughs may be better suited to dealing with known but uncertain major capital projects and the form of price control may be better suited to dealing with demand uncertainty. The Commission asked businesses to clearly identify the likely areas of uncertainty affecting them and to propose mechanisms for dealing with that uncertainty in their Water Plans.

In considering mechanisms for dealing with uncertainty it is important to understand that the source of the uncertainty often relates to what has been included in the forecast used to determine the amount of revenue required by businesses to deliver services over the regulatory period.

In the case of demand, the uncertainty arises because actual demand ends up being lower or higher than what was forecast. Without a mechanism to adjust prices to reflect actual demand the business bears the full impact of any difference. The impact of the continuing drought and restrictions has resulted in actual demand being significantly less than forecast for the first regulatory period. One way to reduce uncertainty going forward is for businesses to submit more conservative (optimistic) demand forecasts than they otherwise would. Everything else being equal, more conservative (optimistic) forecasts will result in prices being higher (lower) than they need to be.

Similarly, in the case of major capital projects that are known but not fully committed to, the risk is that if they are included in the forecasts and the project does not eventuate prices will be higher than they otherwise would be. Conversely if they are not included in the forecasts but go ahead and there is no adjustment mechanism, businesses carry the additional financing costs until the regulatory asset base is updated at the subsequent review of prices.

Therefore in considering what is an appropriate mechanism it is important to recognise the potential impact on prices, customers and businesses of not allowing adjustments to be made. On the other hand it is also important to consider the costs (administrative and business incentives) associated with making adjustments and whether these costs vary with the type of adjustment mechanism adopted.

It is also important that mechanisms for dealing with uncertainty are not one-sided in that they only operate in situations where actual demand (or costs) is lower (higher) than what was forecast. There will be situations where the reverse happens and demand (costs) end up being higher (lower) than what was forecast.

In these situations, the same logic of being able to adjust prices for outcomes worse than anticipated would mean re-opening determinations to reduce prices where outcomes are better than anticipated. Doing so would weaken the incentives faced by businesses to deliver services more efficiently over time and to do so within a predetermined path. For example, if a business were to work hard to achieve efficiency gains such that costs were lower than anticipated, such an approach could lead to a re-opening by the Commission in order to reduce prices. Alternatively, businesses may not seek to take advantage of efficiency gains because they know that if costs are higher than anticipated they can simply seek a pass through.

A number of businesses have indicated that some of the capital projects that they propose to deliver over the period are uncertain in scope, timing and cost. For example South Gippsland Water has indicated that it has not made any allowance for the possibility that it may take water from the proposed desalination plant for Melbourne. In its Water Plan South Gippsland indicated that it would seek a re-opening of the determination if it was required to spend greater than 5 million in capital expenditure or $1 million in operating expenditure.

Gippsland Water indicated that it may have a number of capital projects that are uncertain (for example the augmentation of the Latrobe System). It suggested that it would seek agreement with the Commission on a trigger mechanism that would allow for a re-opening of the determination.

Although these businesses indicated that they would require some form of re-opening mechanism to reflect the impact of these projects on prices when they are more certain, none of the businesses proposed a detailed mechanism.

A key issue for this review will be to set out in detail the pass through or other mechanisms required to deal with uncertain capital projects.

In addition although a number of urban businesses have raised concerns about the significant impact of demand uncertainty on revenue, none of these businesses have proposed to adopt a revenue cap or other mechanism for dealing with demand uncertainty. Under a tariff basket or individual price caps the risks associated with demand uncertainty are borne by the business. Under a revenue cap this risk is borne by the customers because prices can be adjusted to meet any under- or over-recovery of revenue associated with demand volatility.

An important issue for this review will be the extent to which the form of price control can be used to address demand uncertainty. As already indicated the impacts of demand uncertainty are greatly reduced under a revenue cap. Other hybrid forms of price control which share the impacts of demand uncertainty more evenly between businesses and customers will also need to be considered by the Commission.

What should be included in the mechanisms for dealing with uncertain capital projects?

Are there are hybrid forms of price control or other mechanisms that the Commission should consider to deal with uncertainty around demand forecasts?

2.7 Prices and tariff structures

The 16 businesses under review have proposed increases in annual prices above the inflation rate for each year of the regulatory period, ranging from 0.3 per cent (Lower Murray Water rural services) to 17.2 per cent (Gippsland Water) (see table 2.3). Not all businesses have proposed a smooth price path to meet their revenue requirement.

The average real price increase is derived from each business's revenue requirement and the prices that apply in 2007-08. It represents the amount that current prices need to increase to match the present value of the revenue requirement. The average price increase set out in table 2.4 reflect a smoothed increase in prices over the period. Central Highlands Water and Gippsland Water are proposing to adopt a non-smoothed increase (see table 2.4). Under Central Highlands Water's preferred approach prices in the last year of the regulatory period are 55 per cent higher than at the start of the period compared to 71 per cent higher under a smoothed approach. Under Gippsland Water's proposals, prices are 100 per cent higher compared to 121 per cent under a smoothed approach. It is important to note however that under both approaches the same amount of revenue is recovered through prices and customers pay the same for water and sewerage services over the five year period in present value terms.

The Commission considers that proposed price paths that include larger increases earlier in the period are not an inappropriate approach to pricing. However, in considering these proposals the Commission will need to be satisfied that the proposed price path:

- provides the same revenue over the five year regulatory period in net present value terms
- has been set with regard to customer preferences
- does not result in a significant price shock in the first year of the subsequent regulatory period.

Table 2.3 **Annual proposed average real increases in prices over the regulatory period**
Urban and rural businesses

Urban businesses	*per cent*
Barwon Water	10.6
Central Highlands Water	11.3
Coliban Water	13.1
East Gippsland Water	5.4
Gippsland Water	17.2
Goulburn Valley Water	5.9
GWMWater[a]	14.9
Lower Murray Water	4.1
North East Water	8.4
South Gippsland Water	4.3
Wannon Water	6.1
Western Water	10.9
Westernport Water	4.7
Rural businesses	*per cent*
FMIT	6.5
Lower Murray Water	0.3
Goulburn-Murray Water[b]	2.2
Southern Rural Water	**c**

a GWMWater does not separate its urban and rural services. It is proposing to resubmit its Water Plan once the funding arrangements for the Wimmera Mallee Pipeline Project have been finalised. **b** Goulburn-Murray Water has only proposed one year of price increases due to uncertainty surrounding the Food Bowl Modernisation Project. **c** Southern Rural Water did not provide the Commission with sufficient information to enable it to calculate the required average annual price change.

Table 2.4 **Proposed annual change in prices**

	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*
Central Highlands Water	25	5.5	5.5	5.5	5.5
Gippsland Water	23	23	10	10	10

These increases are an average across all services. These initial proposals will be subject to scrutiny by the Commission prior to it making its Final Decision. The price changes approved by the Commission in its Final Decision are likely to differ from those proposed by the businesses because:

- the estimate of the appropriate rate of return on assets may differ to that assumed by the businesses in their proposals because it will be updated by the Commission to reflect current financial market information
- the Commission may take a different view to the businesses about the level of expenditure needed to deliver proposed services on an efficient basis and the reasonableness of the businesses' forecast demand over the regulatory period.

It is important to recognise that the actual impact on individual customer bills will depend on a number of factors including the extent to which businesses propose to adjust prices for each service to reflect, on average, any proposed amendments to tariff structures and each customer's actual consumption pattern. Table 2.4 sets out estimated household and water and sewerage bills for the businesses providing urban services. For a number of businesses the average household bill (based on 2005-06 consumption levels) will be above $1 000 by the end of the regulatory period.

Table 2.4 **Estimated residential bill (water and sewerage) from 2007-08 to 2012-13**
Urban businesses ($, 1 January 2007 prices)

	Average 2005-06 consumption (kL)	*2007-08 ($)*	*2012-13 ($)*	*Change (per cent)*
Barwon Water	216	691.2	1080.0	56.2
Central Highlands Water	185	755.6	1125.7	49.0
Coliban Water	210	585.8	963.9	64.6
East Gippsland Water	196	680.3	997.0	46.6
Gippsland Water	219	671.8	1346.0	100.4
Goulburn Valley Water	315	537.2	715.6	33.2
GWMWater[a]	237	771.7	1565.2	102.8
Lower Murray Water	552	607.8	774.9	27.5
North East Water	304	639.5	895.7	40.1
South Gippsland Water	152	769.0	876.4	14.0
Wannon Water	197	706.2	962.6	36.3
Western Water	232	711.4	1066.6	49.9
Westernport Water	113	763.8	951.4	24.6

Note: Price impacts are based on average 2005-06 consumption for each business. a GWMWater is proposing to resubmit its Water Plan once the funding arrangements for the Wimmera Mallee Pipeline Project have been finalised.

A number of businesses have also proposed restructuring their water and sewerage tariffs (see chapter 4). Central Highlands Water, Wannon Water and Westernport Water are proposing to introduce inclining block tariffs and Coliban Water, Lower Murray Water (urban) and Western Water have proposed maintaining their current inclining block structure. Western Water has proposed

increasing the cost differential between the tiers of its inclining block and Lower Murray Water is proposing to reduce the thresholds for the volumetric steps of their inclining block. A number of businesses have also proposed increasing the volumetric component of their water tariffs relative to the fixed component. The urban businesses have not proposed significant changes to the structure of their sewerage charges.

The Commission has not estimated average bills for rural customers given the diversity of the customer base and the difficulties in identifying the characteristics of an average customer. Some of the rural businesses are continuing to reform their tariff structures to reflect the unbundling of water entitlements.

Under the WIRO the Commission must be satisfied that prices provide appropriate incentives for the sustainable use of water resources by providing appropriate signals to water users about:

- the costs of providing services, including costs associated with future supplies and periods of peak demands and/or restricted supply
- choices regarding alterative supplies for different purposes.

Proposed prices must also provide businesses with incentives to pursue efficiency improvements and promote sustainability and take into account the interests of customers, including low income and vulnerable customers. The Commission will need to assess proposed prices against these (and other relevant) regulatory principles.

Chapter 4 summarises the businesses' tariff proposals for each of the services they provide. The Commission is seeking stakeholder feedback on the businesses' proposed tariff structures.

Given the significant price increases proposed by a number of businesses, an important issue for this review will be whether the businesses' proposals to deal with customer impacts (in particular low income and vulnerable customers) are appropriate. While the price increases proposed are significant, for some businesses there may be scope to minimise impacts on customers by smoothing their spending profiles and hence price increases by delaying or deferring the incidence of capital projects.

The Commission will be seeking further information from the businesses on how they intend to manage customer impacts.

Are the various tariff structures proposed by the businesses easy for customers to understand?

Are customers likely to alter/reduce their consumption in response to the tariff structures proposed by businesses?

What are the impacts on customers of the proposed price increases

Have the businesses given appropriate consideration to the impacts of the proposed price increases on customers?

It is also worth noting that the Commission is in the process of undertaking a review of tariff structures for the Minister for Finance. As part of that review the Commission was asked to assess a number of tariff structures proposed by the metropolitan retailers and to consider changes to the WIRO. The Commission released a draft report on 3 December and is due to provide the Minister with a final report by December 21.[7] In the draft report the Commission reached the following draft conclusions:

- High volumetric charges ($4-$6 per kL) would only be approved with stronger justification on the basis of cost reflectivity.
- Meter and connection based charges for Melbourne would only be approved if the Commission was satisfied that the potential customer impacts had been appropriately dealt with.
- A combined water and sewerage charging structure would be approved subject to the Commission being satisfied that the level of the charge had been set on an appropriate basis.
- Proposed price paths that include larger increases earlier in the period are not an inappropriate approach to pricing. These proposals need to clearly outline the reasoning and adequately address any issues relating to customer impacts.
- The Commission would be likely to approve the businesses' trade waste proposals subject to being satisfied that the charges appropriately balance the incentives to trade waste customers and the benefits to all water users.
- The Commission would be unlikely to approved changes to tariff structures that sought to increase the share of costs borne by non-residential customers without a cost-based justification.
- The Commission considers that there may be some merit in adopting the approach to new customer contributions favoured by the water businesses. However, before reaching a final conclusion on the appropriateness of the proposal, it would need to consider any views expressed by other stakeholders and in particular developers.

The Commission also suggested that the WIRO be amended to:

- include a principle requiring businesses and the Commission to consider the cost effectiveness of proposed tariffs reforms
- broaden the principle requiring businesses and the Commission to consider the costs of providing services to reflect costs associated with balancing demand and supply
- allow the Commission to reject proposed tariff reforms if it considered that an alternative tariff structure, including existing tariff structures, better met the WIRO principles.

The outcomes from that review may have implications for how the Commission assesses proposed tariff structures as a part of this price review.

[7] The draft report is available from the Commission's website.

2.7.1 Rural tariffs

The rural businesses provide a diverse range of services, including irrigation, drainage and stock and domestic, bulk water and diversions and licensing (see section 4.9). In some cases the businesses are proposing significantly different average price increases for particular services and across districts.

In the 2006 rural price review the Commission was not required to assess of approve tariff structures for rural services. As part of this review the Commission will assessing the individual tariffs and tariff structures proposed by the rural businesses. A key issue will be how rural businesses have allocated costs between different customer groups (bulk water customers versus irrigation customers versus diversions customers) and across districts.

In assessing proposed tariffs the Commission will need to consider the impacts on customers, particularly where those impacts arise from attempting to perfectly allocate costs to individual customers if those costs are sunk and have little impact on present and future consumption decisions.

2.8 Services standards and GSLs

The businesses are required to propose targets for a core set of service standards for each year of the regulatory period. The core service standards reflect the key issues of concern to customers and key cost drivers for businesses (see chapter 5).

Most businesses are generally proposing targets that are consistent with average performance over the first regulatory period. A number of businesses have also proposed to revise targets to reflect the availability of more robust and accurate historical data. In approving the proposed targets the Commission will consider whether the targets have been set in accordance with the Commission's performance reporting framework and are consistent wit historic performance.

The Commission will be seeking to understand if the targets proposed by the businesses are supported by customers, especially where they are proposing targets that vary significantly for historical levels. The Commission will also be seeking to better understand the relationship between proposed expenditure, service levels and price. In particular where businesses are proposing increased expenditure that either directly or indirectly impacts on service delivery, this would be expected to result in forecast improvements in proposed service standard targets over the regulatory period.

Do the services standards proposed by the businesses reflect customer preferences?

Are there other aspects of service that are important to customers for which targets should be specified?

2.8.1 Guaranteed service levels (GSLs)

Barwon Water, Coliban Water, Wannon Water and Western Water have proposed GSL schemes to operate over the regulatory period (see chapter 5). This means that over 90 per cent of Victoria's residential population (including the schemes operated by the metropolitan retailers) will be guaranteed minimum levels of service over the forthcoming regulatory period.

The Commission's experience in other industries (such as electricity) suggests that the worst served customers have benefited from improved performance where GSLs have been introduced. This was acknowledged by Central Highlands Water which has had a GSL scheme in place since 1997.

The Commission has previously expressed the view that each of the regional businesses should be in a position to establish GSLs as part of their Water Plans and that rural businesses should also consider putting forward a GSL scheme for this regulatory period. It also suggested that any proposed GSL scheme should reflect the service standards that are of greatest concern to customers.

However, a number of businesses have questioned the benefits of introducing a GSL schemes and have cited high establishment and ongoing costs associated with the program as the basis for not introducing GSLs. Many have suggested that these costs would outweigh any potential benefit to customers. For example, Goulburn Valley Water has questioned whether the number of customers who consistently receive levels of service significantly below those in their Customer Charter is sufficient to justify the cost of setting up and running a scheme and of recovering the cost of GSLs from all customers in annual charges.

However, the costs reported in the first regulatory period, provided by those businesses that have proposed GSLs, suggest that there is unlikely to be a material impact on prices. In general, the one-off system improvement cost coupled with the operating cost of the program appear to be low. Furthermore, the number of payouts should be on a downward trend, reducing payout costs.

The Commission will seek further information from the businesses about the nature of customer research that they have undertaken on GSLs. However, these comments suggest that perhaps those businesses and customers have to date not fully appreciated the incentives and impact that GSL schemes can have in improving performance. It is important to note that the purpose of GSL schemes is principally to provide incentives for water businesses to improve the efficiency of services to worst served customers by taking action to avoid the cost penalty involved in meeting GSL payments. They are not usually of a sufficient amount to 'compensate' customers for the cost and inconvenience caused by service interruptions and that is not their principle objective.

The detailed GSLs schemes proposed by businesses for this regulatory period are set out in chapter 6. The Commission is seeking feedback from stakeholders on these schemes.

Are there reasons why all businesses should not be in a position to introduce GSL schemes?

Do the GSLs levels proposed by businesses reflect the key service issues of concern to customers? Are there other aspects of service that should be included?

What exclusions, if any, should apply to the proposed GSLs?

Are the proposed payment levels reasonable?

Should the GSL events and payment levels be consistent across businesses?

3 PROPOSED REVENUE AND DEMAND

3.1 Overview of revenue requirement

The Commission must be satisfied that prices are set at a level that generates sufficient revenue to recover the efficient cost of delivering services over the regulatory period. It must also ensure that prices do not reflect monopoly rents or inefficient expenditure.

The revenue requirement reflects the amount of revenue that a water business expects to earn from the sale of prescribed water, sewerage and related services over the regulatory period, and is intended to recover the efficient costs of service provision. The revenue requirement then forms the basis for setting individual tariffs.

Under a 'building block' approach the revenue requirement is made up of operating expenditure, a return on assets (existing and new assets) and regulatory depreciation (return of assets). In their Water Plans each business has set out its forecasts of the operating and capital expenditure required to deliver services over the regulatory period and made assumptions about the return on and of assets. The businesses have also set out forecast demand for the period which is important in moving from a revenue requirement to setting individual tariffs. The Commission will establish its own benchmarks of each of the key components of the revenue requirement against which each business's proposals will be assessed.

Over the regulatory period the businesses have proposed a total revenue requirement of $4.3 billion (see table 3.1).

The rural businesses are also able to recover any revenue that they chose not to recover in the first regulatory period. For the first regulatory period the rural businesses are being regulated under a 'revenue cap' approach. This means that if revenue is different from that forecast in the final determination (due to differences in demand for services) then this may be taken into account in determining the amount of revenue for the second regulatory period.

Although Coliban Water, Central Highlands Water and Lower Murray Water (urban services) were regulated under individual price caps they have proposed recovering forgone revenue (as a result of the drought demand restrictions) from the first regulatory period through prices in the second regulatory period.

The revenue benchmarks are used solely to assess whether prices will result in the business earning sufficient revenue to deliver services. They do not represent amounts businesses are required to spend or to direct to particular activities or projects. In consultation with customers, businesses are free to determine their own expenditure priorities in light of changing circumstances and to pursue

innovation and efficiencies that enable them to outperform the revenue benchmarks.

Table 3.1 **Breakdown of proposed revenue (all businesses)**
$ million in January 2007 prices

	2008-09	*2009-2010*	*2010-2011*	*2011-212*	*2012-2013*	*Total*
Operating expenditure	553.5	570.5	561.5	566.8	577.3	2829.7
Return on existing assets (30/6/08)	123.7	119.8	116.0	112.2	108.7	580.5
Regulatory depreciation existing assets (30/6/08)	67.7	66.7	65.0	61.3	59.3	320.0
Return on new assets	17.0	44.4	64.0	82.8	99.0	307.1
Regulatory depreciation new assets	9.5	25.4	37.8	49.1	58.1	179.8
Renewals annuity	1.7	1.7	1.7	1.7	1.7	8.7
Adjustments from last period	21.3	7.9	8.1	8.3	8.6	54.2
Benchmark tax liability	1.2	1.5	1.9	2.3	2.7	9.6
Total revenue requirement	795.6	838.0	856.0	884.5	915.5	4289.6

The businesses are forecasting total expenditure of $ 5375.7 million over the regulatory period, which includes $2546.0 million in capital expenditure and $2829.7 million in operating expenditure (see table 3.2). Of this:

- $4376.1 million is forecast for the provision of urban services ($2221.2 million in operating expenditure and $2154.9 million in capital expenditure)
- $999.6 million is forecast for the provision of rural services ($608.5 million in operating expenditure and $391.2 million in capital expenditure).

The remainder of this chapter discusses the businesses' proposals with respect to operating expenditure, capital expenditure, the financing of capital investment (assumptions about the return on and of assets), adjustments from the first period and demand forecasts.

Table 3.2 **Forecast capital and operating expenditure — 2008-9 to 2012-13**
$ million 1 January 2007 prices

	Operating expenditure	*Gross capital expenditure*	*Total expenditure*
Urban businesses			
Barwon Water	396.2	563.1	959.3
Central Highlands Water	228.1	140.3	368.4
Coliban Water	262.3	214.1	476.4
East Gippsland Water	62.7	56.2	118.9
Gippsland Water	275.9	251.3	527.2
Goulburn Valley Water	160.3	112.9	273.2
GWMWater[a]	127.9	343.8	471.7
Lower Murray Water (urban)	85.2	57.4	142.6
North East Water	140.1	99.6	239.7
South Gippsland Water	61.3	47.9	109.2
Wannon Water	169.0	110.1	279.1
Western Water	207.3	128.6	335.9
Westernport Water	44.9	29.6	74.5
Total urban businesses	2221.2	2154.9	4376.1
Rural businesses			
FMIT	26.1	2.5	28.6
Goulburn-Murray Water[b]	438.8	204.5	643.3
Lower Murray Water (rural)	57.9	61.3	119.2
Southern Rural Water	85.7	122.9	208.5
Total rural businesses	608.5	391.2	999.6
Total all businesses	2829.7	2546.0	5375.7

a GWMWater does not separate its urban and rural services. It is proposing to resubmit its Water Plan once the funding arrangements for the Wimmera Mallee Pipeline Project have been finalised. **b** Goulburn-Murray Water has only proposed one year of price increases due to uncertainty surrounding the Food Bowl Modernisation Project. Its plan sets out forecasts for each year of the regulatory period but these will be revised once the impacts of the food bowl modernisation project are considered.

3.2 Operating Expenditure

Operating expenditure is a key component of the revenue requirement and is included in the year in which it is incurred.

The level of operating expenditure that the regional urban businesses have proposed over the next regulatory period is forecast to increase from $365.7 million

in 2006-07, to $460.7 million in 2012-13 (see figure 3.1 and table 3.3) . This represents an industry-wide average real increase of 26 per cent between 2006-07 and 2012-13, with increases ranging from 1.4 per cent to 94 per cent for individual businesses.

The urban businesses have proposed a significant increase of 16.7 per cent in operating expenditure from the last year of actual expenditure (2006-07) and the first year of the next regulatory period (2008-09). A further increase of 8 per cent has been proposed by these businesses to apply across the remainder of the regulatory period. It will be important for the Commission to understand what is driving the increase to 2008-09 as this increase is significantly above the most recent actual levels of operating expenditure.

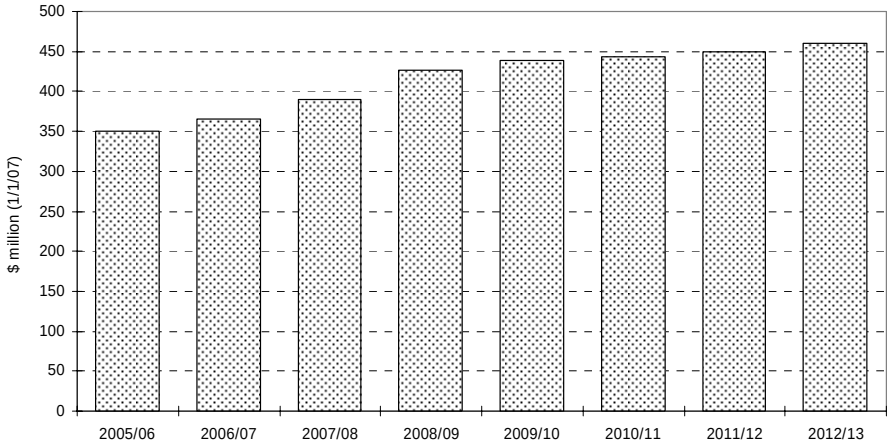
The rural businesses have proposed an increase of 9.5 per cent in operating expenditure from the last year of actual expenditure (2006-07) and the first year of the next regulatory period (2008-09). They have proposed a decrease in operating expenditure of 8 per cent over the remainder of the regulatory period.

Key drivers of operating expenditure identified by the businesses include:

- additional operating expenditure associated with operating new assets, for example the Goldfields Superpipe
- ongoing drought related expenditure
- the purchase of bulk water either from other businesses or on the temporary market. For example, a key driver of operating expenditure for Western Water is the purchase of bulk water from Melbourne Water. Coliban Water has forecast a significant increase in operating expenditure for 2007-08 bulk water purchases that is largely driven by the purchase of temporary for supply through the Goldfield Superpipe
- additional expenditure associated with the implementation of a number of programs and initiatives, including reductions in greenhouse emissions, the use of green energy, biosolids reuse, providing services to small towns and the replacement of water meters in rural systems
- increasing energy costs driven by expected increases in the wholesale price for electricity
- increasing costs of labour and materials.

Figure 3.1 **Total operating expenditure**

Urban businesses



Rural businesses

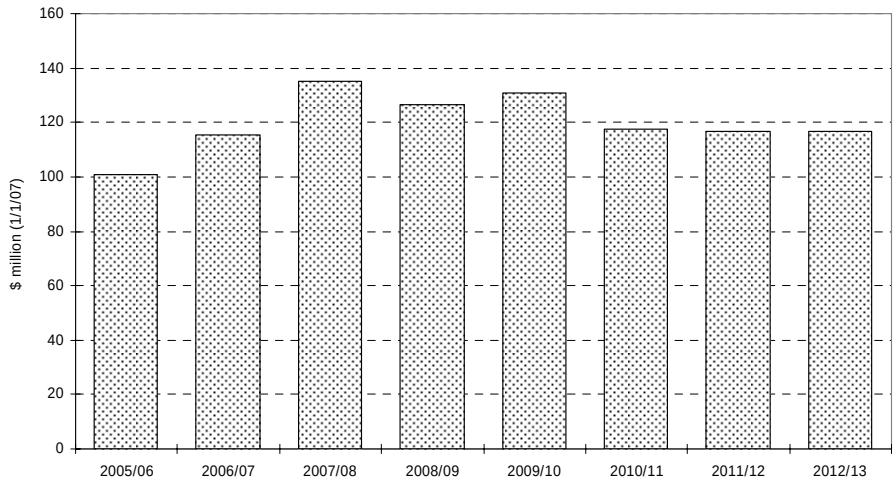


Table 3.3 **Forecast operating expenditure 2005-06 to 2012-13**
$million January 2007 prices

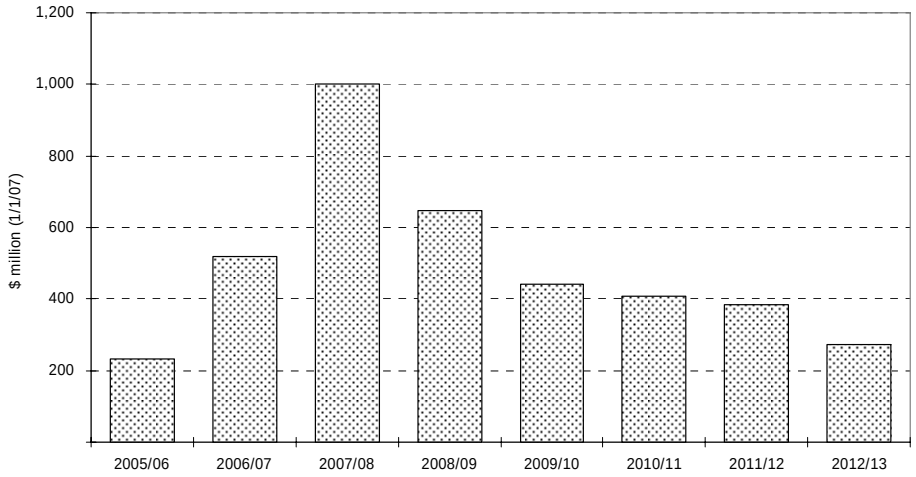
	2005-06	*2006-07*	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*
Urban businesses								
Barwon	61.22	63.50	70.55	76.05	81.09	77.75	79.32	81.98
Central Highlands	31.60	34.36	37.80	43.23	45.82	48.06	45.51	45.47
Coliban	46.01	44.69	53.35	55.19	52.44	51.44	51.15	52.10
East Gippsland	10.66	11.27	12.20	11.84	11.97	12.78	13.08	13.05
Gippsland	39.61	42.09	43.09	51.10	55.39	55.54	56.81	57.07
Goulburn Valley	28.24	28.86	28.87	31.17	31.70	32.18	32.45	32.81
GWMWater	26.24	26.83	27.77	25.59	25.90	25.68	25.46	25.25
Lower Murray (urban)	16.77	16.92	15.31	17.48	16.94	16.62	16.91	17.31
North East	23.38	23.89	25.74	26.92	27.71	28.04	28.53	28.86
South Gippsland	10.89	12.21	11.31	12.41	12.02	12.22	12.25	12.38
Wannon	25.23	25.91	28.44	33.85	33.20	34.50	33.95	33.51
Western	23.35	26.77	27.78	32.99	36.44	40.10	45.70	52.02
Westernport	7.46	8.38	8.34	9.07	8.94	9.05	8.97	8.91
Total urban businesses	350.66	365.68	390.55	426.89	439.56	443.96	450.09	460.72
Rural Businesses								
FMIT	3.82	4.72	5.10	5.14	5.18	5.24	5.26	5.29
Goulburn-Murray	70.41	82.52	102.35	92.19	96.67	83.87	83.12	82.93
Lower Murray (rural)	11.56	10.99	9.99	11.76	11.98	11.21	11.40	11.57
Southern Rural	14.85	17.37	17.80	17.53	17.15	17.21	16.94	16.83
Total rural businesses	100.64	115.60	135.24	126.62	130.98	117.53	116.72	116.62
Total all businesses	451.31	481.28	525.79	553.51	570.54	561.49	566.82	577.32

3.3 Capital expenditure

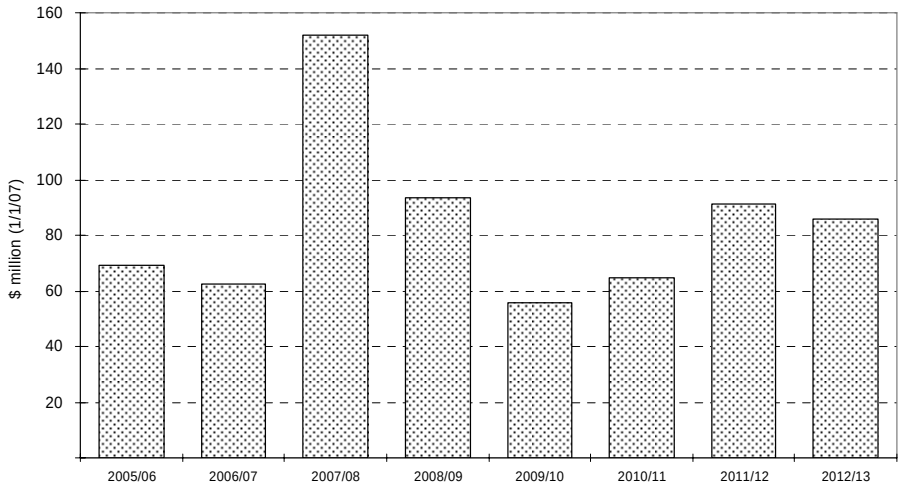
Capital expenditure is a key component of the revenue requirement. Net capital expenditure is recovered by being added to the regulatory asset base (RAB) and is reflected in prices through a return on the RAB (that is the weighted average cost of capital (WACC) multiplied by the RAB) and a return of the RAB (through regulatory depreciation).

Figure 3.2 **Total capital expenditure**

Urban businesses



Rural businesses



Generally, the businesses are proposing significant increases in capital expenditure for 2007-08 (the last year of the current regulatory period) and for 2008-09 with expenditure levels falling back to historic levels over the remainder of the regulatory period (see figure 3.2 and table 3.4). The increase in 2007-08 reflects a proposed catch up in expenditure from the first regulatory period and the impacts of supply augmentations such as the Goldfields Superpipe.

Table 3.4 **Forecast capital expenditure 2005-06 to 2012-13**
$million (1/1/07 prices)

	2005-06	*2006-07*	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*
Urban businesses								
Barwon	34.36	46.44	84.56	97.50	81.70	162.84	154.03	67.03
Central Highlands	14.98	71.62	179.61	53.55	25.46	22.16	20.88	18.27
Coliban	22.08	85.14	124.21	51.52	44.49	45.74	43.92	28.43
East Gippsland	6.30	17.21	16.83	29.61	15.36	4.45	3.32	3.43
Gippsland	43.08	65.88	135.79	56.93	32.26	42.45	56.89	62.74
Goulburn Valley	14.94	23.41	23.22	24.84	31.87	24.90	17.62	13.66
GWMWater	15.33	127.08	310.80	210.07	87.74	11.78	15.69	18.53
Lower Murray (urban)	10.36	8.89	8.92	27.14	7.47	8.05	6.36	8.38
North East	9.69	15.53	30.84	16.44	23.42	22.36	20.19	17.15
South Gippsland	14.28	12.33	11.46	12.07	10.24	9.86	8.55	7.18
Wannon	17.70	16.14	36.20	25.16	43.80	12.82	16.77	11.54
Western	25.20	22.47	34.46	38.15	33.38	24.25	16.92	15.88
Westernport	2.84	5.52	5.23	2.80	3.95	16.32	4.19	2.38
Total urban	231.14	517.66	1,002.13	645.78	441.14	407.98	385.33	274.60
Rural Businesses								
FMIT	4.00	8.52	2.41	0.06	0.86	1.49	0.06	0.06
Goulburn-Murray	58.00	45.35	97.01	56.75	39.11	33.12	38.06	37.45
Lower Murray (rural)	5.58	5.69	29.61	22.76	2.97	13.73	20.00	1.81
Southern Rural	1.67	2.98	23.05	13.81	12.82	16.55	33.05	46.66
Total rural	69.26	62.53	152.08	93.38	55.76	64.89	91.17	85.97
All businesses	300.40	580.19	1,154.21	739.16	496.90	472.87	476.50	360.57

Some of the key drivers of capital expenditure are supply augmentation and asset upgrades and replacement. Table 3.5 shows the major capital expenditure projects and programs for each water business. For most businesses a small group of projects account for a significant proportion of their total expenditure.

Table 3.5 **Key capital expenditure projects**
$million January 2007 prices

Proposed capital expenditure project/program	*Cost*
Barwon Water	
Melbourne interconnection (water)	142.0
Geelong trunk sewerage strategy	69.4
Anglesea borefield project (water)	42.0
Central Highlands Water	
Country town sewerage schemes	14.7
Goldfields pipe	13.8
Ballarat North wastewater treatment plant	9.7
Coliban Water	
Superpipe (current period)	100.0
Rural system reconfiguration	40.0
Sewer improvement strategy	22.0
Bulk water purchases	22.0
Recycled water Scheme	17.0
East Gippsland Water	
Mitchell River water supply system	38.0
Goulburn_Valley_Water	
Asset replacement	45.3
Gippsland Water	
Water factory (current period)	170.0
Loch sport servicing project	45.2
Coongulla waste system project	14.3
Water reticulation system renewals program	10.5
GWMWater	
Nhill treated water supply	10.9
Lower Murray Water (urban)	
Koorlong wastewater treatment plant	13.0
North East Water	
Bright offstream storage	8.0
New office	7.0
Beechworth wastewater treatment plant upgrade	6.0

Proposed capital expenditure project/program	*Cost*
South Gippsland Water	
Poowong/Loch/Nyora sewage scheme	7.9
Tarra River wastewater treatment plant upgrade	6.5
Westernport Water	
Raise Candowie dam wall	14.0
Western Water	
Melton various sewer	25.0
Woodend RWP upgrade	5.2
Wannon Water	
Hamilton water supply augmentation	33.4
New Warrnambool office	7.3
Portland water reclamation plant upgrade	6.7
FMIT	
Mildura South pump station (cost not specified, to be completed 2007-08)	
Mildura South high pressure system (cost not specified, to be completed 2007-08)	
Benetook water storage (cost not specified, to be completed 2007-08)	
L South Sub area partial replacement	1.6
Goulburn-Murray Water	
Dam safety upgrade	27.7
Surface water management	28.7
Reconfiguration program	17.3
Mokoan – return to wetlands (water savings program)	11.0
Lower Murray (rural)	
Merbein pipeline and pump station	22.0
Robinvale high pressure system	16.6
Southern Rural Water	
MID2030 (post 2013 funding)	94.8
Channel automation	7.4
Metering program	4.05

3.4 Financing capital investments

The WIRO requires the Commission to ensure that the prices proposed in the businesses' Water Plans provide a return on all investments made after 1 July

2004 to augment existing assets or construct new assets. This implies that businesses' revenue should provide:

- a return on the value of the regulatory asset base (RAB) (that is, the weighted average cost of capital multiplied by the RAB) and
- a return of the initial investment over time through an allowance for regulatory depreciation.

3.4.1 Rolling forward the RAB

Each water business's RAB represents the value of its past capital investments. It reflects the initial regulatory asset value set by the Minister and the value of new assets constructed by the businesses since the initial value was set. This resulting value is the value on which a business can expect to earn a return (return on capital), and the value that is returned to the business over the economic life of the assets (as regulatory depreciation). As outlined in the Guidance Paper, the following formula is used to calculate the opening RAB for each business at 1 July 2008:

	Opening RAB $_{2008}$
equals	Opening RAB $_{2004}$ [Set by the Minister]
plus	Gross capital expenditure $_{2004\text{-}2007}$
less	Contributions (both government and customers) $_{2004\text{-}2007}$
less	Proceeds from disposal of assets $_{2004\text{-}2007}$
less	Regulatory Depreciation $_{2004\text{-}2008}$

Once the opening value has been established, the same approach is then used to determine the opening value for each year of the regulatory period. Forecasts of capital expenditure, contributions, regulatory depreciation and disposals are used for this calculation.

As previously stated in the Guidance Paper, the Commission's preferred approach to determining the RAB at 1 July 2008 is to adopt the standard regulatory approach of using the actual capital expenditure, contributions, and proceeds from disposals for the period 1 July 2004 to 31 June 2006 and the estimated forecasts of capital expenditure, contributions and disposals used in the 2005 and 2006 Price Reviews to determine the revenue requirement for 2007. The regulatory depreciation used in determining the opening RAB is that forecast in the 2005 and 2006 reviews.

Under this approach an adjustment would be made in 2013 for any difference between assumed and actual net capital expenditure for 2007-08 when the opening regulatory asset base is calculated for the next regulatory period. Regulatory depreciation remains the same as that estimated in this price review. The Commission has previously indicated that it would consider proposals form the businesses to uses and updated forecast of 2007-08 net capital expenditure to update the RAB.

All businesses have proposed to use the most recent forecast of capital expenditure for 2007-08 rather than that incorporated in the last price decision (see table 3.6). The Commission requested that where businesses were seeking to reforecast 2007-08 expenditure, the Water Plan should include a breakdown of the proposed expenditure and explain the reasoning for adopting the reforecast.

Table 3.6 **Approved 2007-08 capital expenditure compared to Water Plan forecast**

	Approved	*Proposed forecast*
Barwon Water	33.6	84.6
Central Highlands Water	24.1	179.6
Coliban Water	16.3	124.2
East Gippsland Water	10.5	16.8
Gippsland Water	51.7	135.8
Goulburn Valley Water	13.9	23.2
GWMWater	68.1	310.8
Lower Murray Water (urban)	14.6	8.9
North East Water	13.2	30.8
South Gippsland Water	4.5	11.5
Wannon Water	17.1	36.2
Western Water	28.3	34.5
Westernport Water	13.0	5.2
FMIT	0.1	2.4
Goulburn-Murray Water	51.8	97.0
Lower Murray Water (rural)	22.8	29.6
Southern Rural Water	23.4	23.1

In previous discussions with a number of businesses, the Commission proposed to consider actual capital expenditure to the six months ending 31 December 2007 to inform its decision on the appropriateness of any reforecast in expenditure and the rolling forward of the 2007-08 RAV. This will require businesses to make a submission in early 2008 outlining the actual capital expenditure incurred in the first six months of the year and the contracted work for the remainder of the year. The Commission has proposed to review the proposed reforecast of 2007-08 capital expenditure in light of this submission.

3.4.2 Weighted average cost of capital (WACC)

As part of its Water Plan, each business was required to propose an estimate of the rate of return using a real post-tax WACC. The Commission provided an estimate of the WACC in its Guidance Paper based on the 20-day period 7 February to 6 March 2007. This resulted in an estimate of 5.1 per cent. The

Commission noted that this estimate may vary significantly from that adopted for the draft and Final Decision.

Table 3.7 outlines the estimates for the parameters of the WACC that the Commission proposed in its Guidance Paper.

Table 3.7 **Real post-tax WACC estimate**

Real risk free rate	*Equity beta*	*Market risk premium*	*Debt margin*	*Financing structure*	*Franking credit value*	*WACC*
(per cent)	*(β)*	*(per cent)*	*(per cent)*	*(per cent)*	*(γ)*	*(per cent)*
2.6	0.75	6.00	1.11	60	0.5	5.1

The following provides a brief outline of the parameters involved in estimating the WACC.

Risk-free rate – in principle, the risk free benchmark in the Capital Asset Pricing Model (CAPM) should reflect the yield on a risk free investment. The yield on government securities is typically used as a proxy. The Commission has previously proposed to apply the same approach to calculate the real risk free rate as it did in the 2005 Urban Water Price Review. This approach resulted in an estimate of 2.6 per cent. It is worth reiterating that the standard practice amongst regulators is to update the risk free rate and the debt margin for the most recent 20 days.

Equity beta – the equity beta reflects the non-diversifiable risk of an asset relative to the market as a whole. Assets with an equity beta greater than the market average of one would be expected to compensate investors for greater risk through higher returns. The Commission outlined in the Guidance Paper that it had adopted a proxy of the equity beta of 0.75, based upon benchmark gearing of 60 per cent debt to regulatory assets.

Market risk premium – in applying the CAPM, it is necessary to estimate the market risk premium in order to determine the opportunity cost of capital for providers of equity funds. The Commission has noted previously that during the last price review it adopted an estimate of the expected market risk premium of 6 per cent. This estimate is:

- below long-run historical returns (7.3 per cent), but is otherwise within the range provided by such results (3.4 to 7.3 per cent) modelled over varying time periods that extend beyond a full market cycle and
- within the 95 per cent confidence interval associated with the long-term historical returns (4.3 to 10.4 per cent) and is above forward looking estimates (4 per cent).

Debt margin – the standard practice amongst Australian regulators (including the Commission) is to adopt a benchmark for the cost of debt that reflects the latest market evidence available on the borrowing costs of an efficiently financed business. The debt margin, assuming BBB+ rated debt with a 10 year term to maturity, is estimated at 1.11 per cent based on the 20 day average to

6 March 2007, inclusion of a non-margin establishment fee of 10 basis points, and an adjustment for yield predictions.

Financing structure – consistent with the last price review, the WACC includes a benchmark financing structure of 60 per cent debt to regulatory assets. This is consistent with:

- actual observed gearing levels of comparable listed utility businesses which suggests that 60 per cent debt to regulatory assets is the appropriate benchmark for an efficient private sector business and
- assumptions adopted by most Australian regulators.

Franking credits– consistent with the 2005 Urban Water Price Review, the WACC is based on an assumption of 0.5 for gamma. This reflects:

- an assumption that franking credits are valued at 60 per cent of their face value, and that 82 per cent are distributed consistent with the findings of Professors' Officer and Hathaway and
- that a gamma of 0.5 is consistent with the majority of businesses' proposals during the last price review and recent regulatory decisions.

The approach used by all businesses, except one, to estimate a proposed WACC is consistent with the Commission's previously outlined approach. Barwon Water has proposed an alternative assumption regarding the equity beta.

Barwon Water has proposed an equity beta of 0.85 compared to the Commission's indicative beta of 0.75 which is consistent with that adopted for the current regulatory period. Barwon Water has argued that based on regulatory precedent, the equity beta used should be at least 0.85.[8] It noted the Commission's EDPR decision stating that the beta for water businesses is likely to be lower than that for the energy sector, it also noted the estimates of betas for water businesses in the US, UK and other Australian regulators.

The Commission notes that subsequent to the development of Barwon Water's approach, the Commission released a Draft Decision for the gas industry with an equity beta of 0.7. The Commission proposes to review Barwon Water's proposal, in light of the conclusions reached in the Final Decision on gas.

Barwon Water has proposed a different debt margin to that proposed by the Commission in its Guidance Paper. Barwon Water state that the Commission should adopt the same approach as it did in its EDPR whereby an adjustment of 25 basis points was required to correct a likely downward bias in the data from the Commonwealth Bank of Australia Spectrum database. Barwon Water also commented that the Commission has provided an allowance of 12.5 basis points for debt raising fees in other industries.

The Commission will assess the proposed approach by Barwon Water in regard to the debt margin to be included in the calculation of the WACC.

[8] Barwon Water cited decisions by IPART (2006) and the ERA (2005) to adopt equity betas of 0.8 to 1.0 and 0.8, respectively.

3.4.3 Regulatory depreciation

The purpose of allowing a 'return of' capital expenditure through regulatory depreciation when setting regulated charges is to return to investors the value of the capital that has been invested over the life of the relevant asset.

All businesses have forecast regulatory depreciation based on a straight line approach, whereby an equal amount of the asset is depreciated each year based on the expected useful life of the asset. The Commission is of the view that the straight line depreciation on an inflation indexed asset base is the most appropriate approach for the businesses. An advantage of using a common approach to depreciation across all businesses and projects is that it will ensure the price impacts of the businesses' proposed expenditure on capital projects are calculated consistently, and hence improves transparency.

The Commission notes that while the businesses have all agreed on an approach to forecasting regulatory depreciation, the estimated useful life of the assets across businesses varies considerably. These variations in the useful lives of the assets only impact the timing of the cash flows rather than the overall position of the businesses. Therefore if the rate of depreciation is increased, through a shorter estimated asset life, then revenue (and prices) would be higher in the short term, but revenue (and prices) would be lower than otherwise in the future.

In assessing the businesses' proposals, the Commission notes that some businesses have relatively aggressive depreciation profiles (through estimating short useful lives of the assets) compared to other businesses. This approach impacts the revenue for the forecast regulatory period by requiring a significantly greater return of capital expenditure for the period. Given that some of the businesses are forecasting considerable price increases for the regulatory period, the Commission may consider reviewing the estimated useful lives of the assets for these businesses with a view to possibly extending the estimated asset life to a lifespan that is consistent with other businesses. This would help to reduce the impact on pricing in the short term and would create a more consistent approach to estimating the useful life of different assets.

3.4.4 Annuities

For the first regulatory period, Victorian rural water businesses had a choice as to whether to adopt a RAB approach to recover expenditure on renewing and rehabilitating assets, to continue with a renewals annuity approach, or to apply a combination of both methods.

Goulburn-Murray Water and GWMWater adopted a RAB approach, while three businesses, Lower Murray Water, FMIT and Southern Rural Water continued with the renewals annuity approach to funding expenditure. Under the annuity approach businesses forecast long-term expenditure on renewing and rehabilitating assets, and then convert this expenditure to an annual figure using an appropriate discount rate. This amount is then recovered in prices each year through a renewals annuity payment. Importantly, the renewals annuity figure factored into prices will not necessarily equate to the actual renewals expenditure incurred in any given year.

The Commission has previously stated that a move from an annuity to a RAB approach has been driven by the difficulty in making accurate long-term forecasts about future investment needs and the changing nature of the businesses' asset bases. For example, the move from channels to pipelines and the reconfiguration of rural systems means that a like for like replacement of existing assets may never occur.

The Commission notes that both Lower Murray Water and FMIT are proposing to adopt the RAB approach for the next regulatory period rather than continuing with the renewals annuity approach. Lower Murray Water stated that their decision was driven by the fact that uncertainty about future demand and improved service standards for irrigation delivery is changing the investment profile for rural assets, which are unlikely to be renewed like for like in the future. Both businesses have identified transition issues regarding this change in approach and how they propose to deal with them.

Lower Murray Water states that the transition from the renewals annuity approach to the RAB approach will require it to manage the balances that are left in the renewals reserve of various districts at the end of June 2008. It notes that six of the districts have positive balances in the renewals reserve, while three districts have a negative balance. Lower Murray Water has proposed to return any positive balances to the respective customers through customer contributions, this will reduce the return on assets required by the business, resulting in price reductions. It has proposed that negative balances be recovered through increased prices phased in over a ten-year period.

FMIT has proposed to apply an accelerated depreciation profile in order to manage the transition from the renewals annuity to the RAB approach. It states that by implementing this transition approach it will be able to achieve a level of return that will cover the debt payments on the borrowings used to fund these assets and associated interest costs.

The Commission will assess the appropriateness of these proposals to managing the transfer from a renewals annuity approach to a RAB approach. It has also previously stated that if a business proposes to continue with an annuity approach, its Water Plan will need to set out the assumptions regarding the:

- nature of assets included in the annuities calculation
- annuity term and
- discount rate applied.

Southern Rural Water has proposed to continue to use the renewals annuity approach stating that it provides reasonable price stability and inter-generational equity. It points out that the objectives of the renewals annuities process are to provide adequate funds to replace assets at the end of their service lives; stability in setting prices; and long term equity in funding works.

3.5 Adjustments from first period

The rural and urban businesses have previously been regulated under differing mechanisms, the rural businesses have operated under a revenue cap approach to

regulation, while the urban businesses have operated under a price cap approach. These two different approaches stemmed from two different price reviews.

Under a revenue cap approach, the businesses are permitted to recover any revenue that may have been foregone due to differences in demand for services. This option is not available under a price cap approach in order to deliver greater incentives to the businesses, however the prices can be adjusted to reflect the impact of certain events that may have been outside the control of the business.

3.5.1 Foregone revenue for rurals

For the first regulatory period the rural businesses are being regulated under a 'revenue cap' approach. This means that if revenue is different from that forecast in the final determination (due to differences in demand for services) then this may be taken into account in determining the amount of revenue for the second regulatory period.

Rural businesses were advised that they should clearly indicate how they propose to recover any foregone revenue (consistent with their revenue cap), as well as the proposed price impacts on customers in their Water Plan.

Lower Murray Water is not proposing to recover any additional revenue in the second regulatory period following any possible under-recovery of revenue in the first regulatory period.

FMIT did not meet its forecast revenue in the first year of the regulatory period due to lower seasonal allocations and customers' reduced usage in response to drought conditions. It has factored this shortfall, of approximately 5 per cent, into pricing for the second year of the regulatory period. FMIT estimates that it will have a shortfall of revenue of approximately $0.8 million for 2007-08. It will consider an application for a government grant to cover the shortfall, if this is unsuccessful it proposes that the shortfall be carried forward into the second regulatory period.

Goulburn-Murray Water's revenue for the first year of its current regulatory period (2006-07) was $7.9 million below the level of required revenue. It stated that this was due to the extreme drought conditions and the resultant lower water allocations. Goulburn-Murray Water intends to recover this revenue shortfall in the second regulatory period. It also stated that if dry conditions continue, there is a real risk of further revenue shortfalls in 2007-08.

Southern Rural Water forecast an under-recovery of revenue of approximately $3.2 million in its first regulatory period ($1.6 million for the first year, and an estimate of $1.6 million for the second year). Southern Rural Water has proposed to recover this revenue through the second regulatory period. The Commission will assess Southern Rural Water's proposed amount of under-recovered revenue during the price review.

GWMWater stated that as a result of reduced water allocations and increased water restrictions, it will incur an estimated loss of rural revenue across the regulatory period of $1.2 million. It stated that it adjusted some rural tariffs related to supply by agreement and minimum charge domestic and stock customers to recover lost revenue from customers in 2007-08. These tariff adjustments were

designed to skew the price increases to areas that were expected to experience increases under the proposed Wimmera Mallee Pipeline Project tariffs. These increases were not sufficient to recover the entire revenue shortfall, therefore GWMWater is seeking to recover the $1.2 million in lost revenue in this regulatory period. The Commission will assess GWMWater's proposed amount of under-recovered revenue during the price review.

The Commission will seek to better understand how much foregone revenue for 2007-08 the rural businesses are proposing to recover in the second regulatory period. Any revenue shortfalls will need to be reflected in the revenue requirements for the 2008-13 regulatory period.

3.5.2 Foregone revenue / increased operating expenditure for urban businesses

A number of urban businesses indicated previously that as a consequence of the continued drought and the impact of water restrictions they have incurred higher than expected operating costs and collected less revenue than expected.

In its guidance to businesses, the Commission requested businesses to clearly:

- indicate whether they are proposing to recover any foregone revenue or increased operating expenditure in the second regulatory period
- explain how estimates of increased expenditure or foregone revenue have been determined
- express the expected impact on customers in terms of the contribution to proposed price increases for the second regulatory period, and
- explain how the business will be impacted if the foregone revenue or increased expenditure is not recovered. In particular, the impact on financial viability of not doing so.

Central Highland Water indicated that it has under recovered revenue for the first period to the value of $11.9 million, comprising $1.2 million from 2005-06, $3.4 million from 2006-07 and an estimated $7.3 million in 2007-08. This shortfall in revenue has been largely driven by the impact of drought and water restrictions on the demand of water within the region. Central Highlands Water is proposing to recover an amount of $7.3 million, which is $5.4 million less than the net present value of the total cost of under recovered revenue. This is due to a condition set by the Federal Government in relation to funding for the Goldfields Superpipe. It is proposing to carry forward this under recovered revenue amount of $5.4 million to the 2013-2018 regulatory period.

Coliban Water states that it has suffered a considerable reduction in revenue as a direct result of water restrictions, with a loss of approximately $15.2 million of revenue in comparison with the previous determination.

Coliban Water is therefore proposing an adjustment at the start of the next regulatory period to reflect:

- the inclusion of additional net capital expenditure of $84.6 million in the RAB that was necessarily incurred in the first period and
- a one-off increase to reflect a minimum revenue loss of $15.2 million.

It states that the impact of the adjustment of the operating expenditure and lost revenue alone will add an average of around $29 per year per property to the cost of both water and sewerage services. It also states that in the absence of this recovery, the business would not meet minimum financial viability criteria.

Lower Murray Water is requesting that its estimated loss of revenue of $2.2 million from its urban business for 2007-08 be recovered during the regulatory period. It states that this under-recovery was a result of rainfall patterns and catchments yields being below long-term averages and the impact of Stage 4 water restrictions. It has not stated what the impact on customers would be of this proposed approach.

Wannon Water has proposed to include cost impacts of the drought from 2006-07 in its revenue requirement for 2008-09. These costs amount to $1.1 million. It also states that similar costs will be incurred in 2007-08, yet it has elected to absorb these costs.

The Commission will assess each of the proposed adjustments for the outcomes of the first regulatory period to determine the appropriateness of such adjustments.

3.6 Demand forecasts

3.6.1 Introduction

Changes in customer numbers and consumption are important determinants of the capability of the water and sewerage infrastructure to provide services and of the need for expenditure on renewal and augmentation.

The water businesses' demand forecasts represent a critical element of their service and expenditure proposals for the regulatory period. The demand forecasts also have a direct bearing on the prices that customers will pay during the period.

The Commission indicated in its Guidance Paper for this review that in reviewing demand forecasts it will examine whether they:

- are statistically unbiased
- recognise and reflect key drivers of demand and supply
- are based on reasonable assumptions using the best available information
- are consistent with other existing forecasts and methodologies
- use the most recent data available, as well as historic data that can identify trends in demand and
- take account of relevant trends in economic conditions, and reasonable prospects for future market development.

Overall, businesses' demand forecasts appear to be quite conservative, reflecting the drought conditions, uncertainty about future climate conditions and demand reduction targets. A key issue is whether the level of conservatism in the demand forecasting provides for a reasonable sharing of risk between businesses and customers.

The Commission has engaged PricewaterhouseCoopers to assist in a detailed review and assessment of forecasts. Particular areas for focus will include:

- assumptions underpinning demand forecasts and customer growth rates
- assumptions about future levels of restrictions and price elasticity of demand and
- the demand reduction targets that form the basis of several businesses' forecasts and the impact on these targets of the substantial supply augmentations planned throughout the State over the regulatory period.

Given the uncertainty surrounding future demand and the conservative approach to the forecasts, the review will also consider the interaction between demand forecasts and the form of price control proposed by each business.

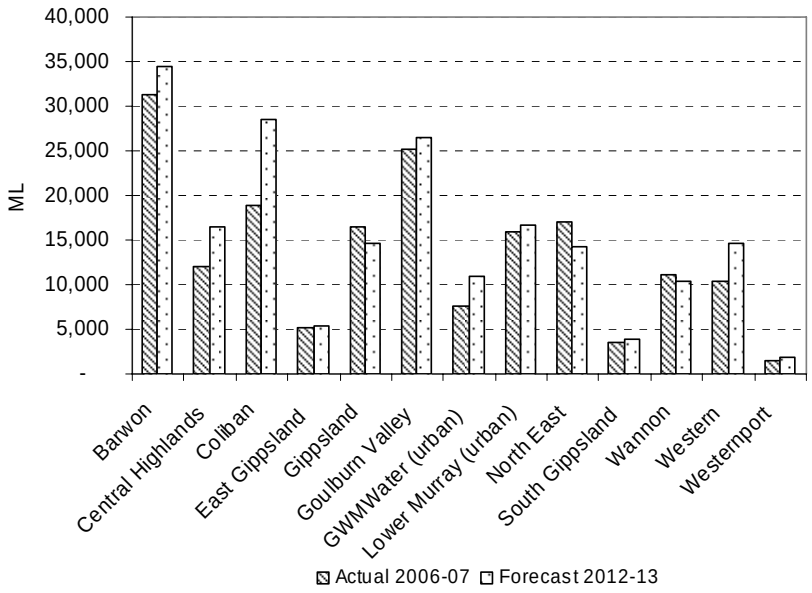
The detailed review will encompass water, sewage, recycled water and where applicable trade waste.

3.6.2 Overview of Forecasts

The key demand parameters that influence prices and revenue are the total volume of water sold and the number of water and sewerage connections (which are primarily influenced by the new connection growth rate). For some businesses the volume of wastewater is also a key charging parameter, although it is directly related to the volume of water sold. The businesses' proposals in relation to the total volume of water sold are summarised in figures 3.3 to 3.7

Figure 3.3 compares the forecast 2012-13 total water consumption to the actual 2006-07 volume for each urban business.

Figure 3.3 **Actual and forecast sales volumes**



At an aggregate level, businesses are forecasting an average increase in sales volumes of 13.7 per cent from 2006-07 to 2012-13. Ten businesses have forecast that total consumption will be higher in 2012-13 than in 2006-07. Increases range

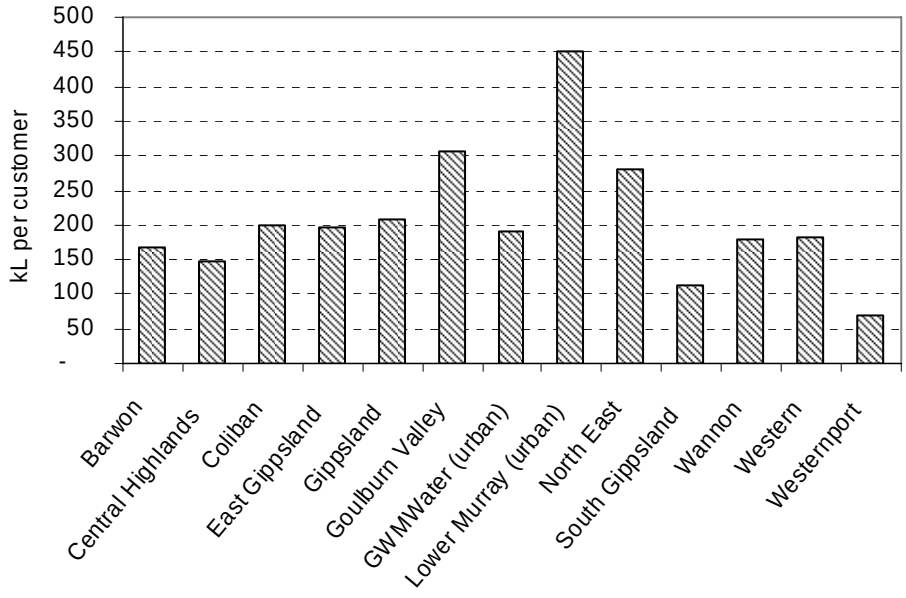
from 4.8 per cent over the period for Goulburn Valley Water to 51.8 per cent for Coliban Water as it comes off severe restrictions. Gippsland Water, North East Water and Wannon Water are forecasting decreases over the period of 10.5, 16.2 and 6.6 per cent respectively.

Most businesses have forecast similar percentage changes in residential and non-residential water sales volumes. The main exceptions are:

- Barwon Water -16 per cent increase for total residential sales compared to a 0 per cent for non-residential
- Gippsland Water - 14 per cent decrease for total residential sales compared to a 4 per cent decrease for non-residential
- Wannon Water - 2 per cent decrease for total residential sales compared to a 12 per cent decrease for non-residential and
- Westernport Water - 58 per cent increase for total residential sales compared to a 10 per cent decrease for non-residential.

Figure 3.4 sets out average residential consumption per customer for 2006-07. Average household consumption ranged from 69 kL for Westernport Water and 112 kL for South Gippsland Water's region with large seasonal populations, to 450 kL in Lower Murray Water's region in the north west of the State.

Figure 3.4 **Average residential use in 2006-07**



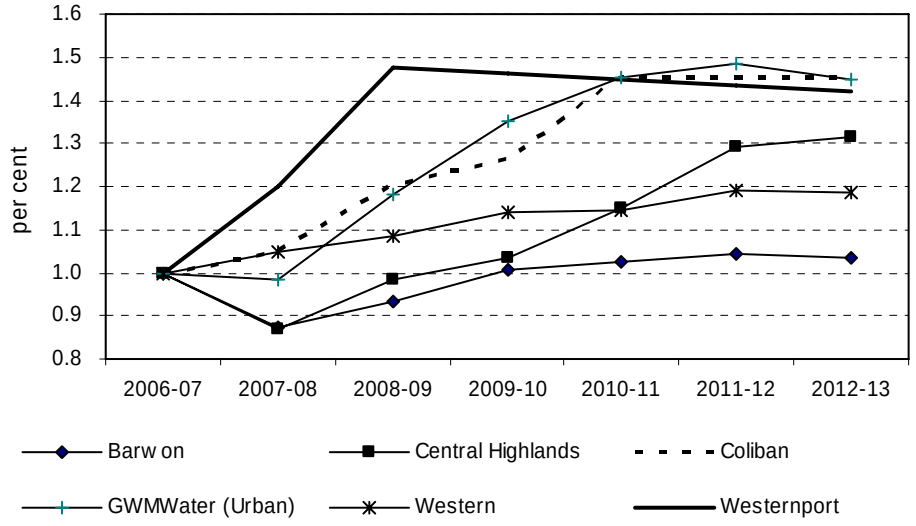
Six businesses have forecast an increase in average residential consumption from 2006-07 to 2012-13 while eight businesses have forecast a decrease.

Figure 3.5(a) sets out the businesses that have forecast an increase in average customer consumption. The largest increases are forecast by Coliban Water,

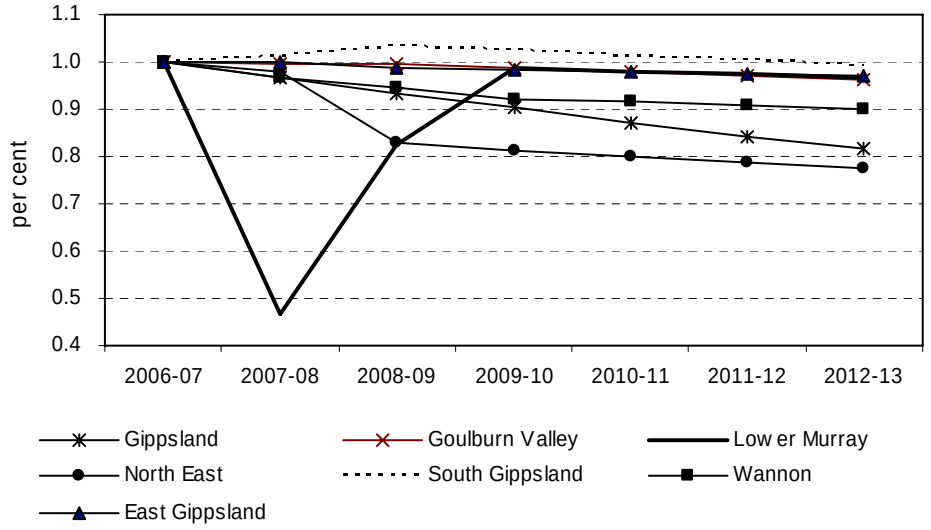
Westernport Water and GWMWater which are each forecasting at least 40 per cent increases in average residential use in 2012-13 compared to 2006-07.

Figure 3.5 **Forecast change in average residential consumption**

(a)



(b)



Barwon Water, Central Highlands Water, Coliban Water and Western Water have indicated in their Water Plans that increases in usage to some extent reflect the lifting of restrictions.

Another key factor is the major supply augmentations planned in several of the regions. Central Highlands Water has indicated that water usage is expected to increase when the Goldfields Superpipe begins operating. GWMWater noted the increase in security of supply as a result of the construction of the Wimmera Mallee Pipeline but did not explicitly identify the expected impact on demand. Barwon Water, Western Water and Westernport Water will also benefit from significant supply augmentations.

Figure 3.5(b) shows the eight businesses that have forecast a decrease in average residential customer consumption. The largest decreases are forecast by North East Water and Gippsland Water which are each expecting a decrease of about 20 per cent from 2006-07 to 2012-13.

North East Water's forecasts reflect its expected continued trend of per-property reductions in water use and the effect of likely water restrictions associated with anticipated future droughts. Gippsland Water's reductions are due to its residential and major customer use targets set out in the Central Region Sustainable Water Strategy.

According to Lower Murray Water, the downward spike in its forecast in 2007-08 reflects the stronger price signal associated with a proposed change in the first two steps of the volumetric charge from 400 kL to 300 kL before some increase in usage due to lifting of Stage 4 restrictions.

Most other businesses have indicated that their demand forecasts are consistent with water conservation strategies and targets set out in relevant Sustainable Water Strategies or Water Supply Demand Strategies.

It is worth noting that some of the businesses that have forecast declining average consumption operate in the most water abundant areas in the State (with the exception of Lower Murray Water), for example Gippsland Water, South Gippsland Water and East Gippsland Water.

Figure 3.6 demonstrates movements in actual and forecast average consumption per non-residential customer[9]. Most businesses are forecasting that non-residential usage per customer will move in the same direction as residential usage per customer and by a similar magnitude over the period 2006-07 to 2012-13. The main exceptions are:

- Barwon Water where a large customer will move to recycled water during the regulatory period and
- Westernport Water which is forecasting a decrease in average water usage for non-residential customers of over 20 per cent (compared to an increase in residential water usage per customer of over 40 per cent).

[9] For the purpose of this discussion non-residential includes major customers and agreements.

Figure 3.6 **Forecast change in average non-residential consumption**

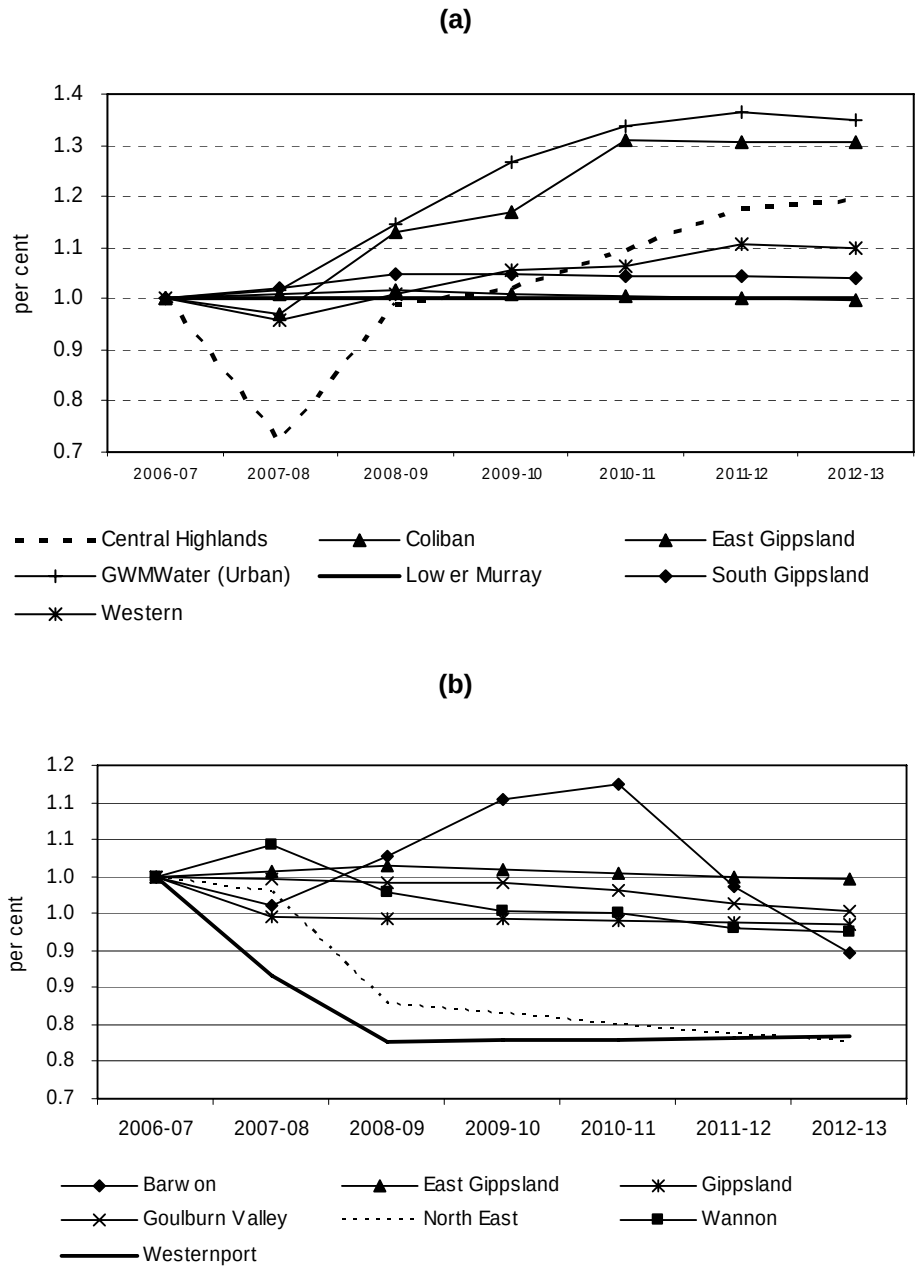
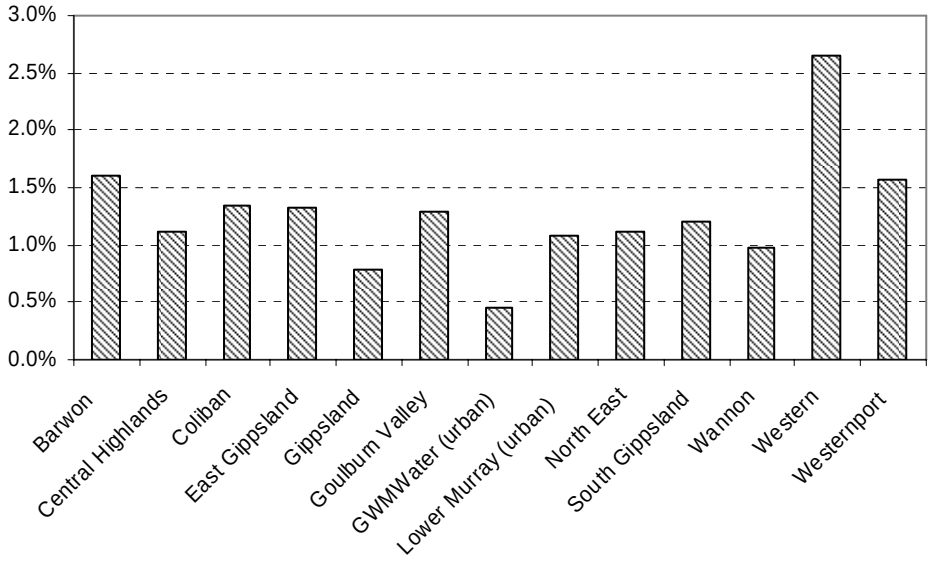


Figure 3.7 shows the average per annum customer growth rates for each of the businesses. Most businesses have forecast an average per annum growth rate of between 1 and 1.5 per cent based on the Department of Sustainability and Environment's 2004 Victoria in Future population and dwelling projections.

Western Water has forecast growth in water customers significantly higher than other businesses due to continued strong population reflecting the State Government's metropolitan growth strategy Melbourne 2030.

The lowest customer number growth is forecast by GWMWater, which notes in its Water Plan that this is consistent with historic trends and is a result of very low population growth due to a decline in fertility rates and increasing average age.

Figure 3.7 **Average water customer number growth 2006-07 to 2012-13**



4 PROPOSED PRICES AND TARIFF STRUCTURES

The WIRO includes a number of principles against which the Commission is required to assess prices. The WIRO states that prices must:

- provide incentives for the sustainable use of Victoria's water resources by providing appropriate signals to water users about:
  - the costs of providing services, including costs associated with future supplies and periods of peak demands and/or restricted supply and
  - choices regarding alternative supplies for different purposes
- take into account the interests of customers, including low income and vulnerable customers and
- enable customers to readily understand the prices charged, or the manner in which such prices are to be calculated or otherwise determined.

In its March 2007 Guidance paper, the Commission asked businesses to provide information on tariff structures, the form of price control and pricing principles providing clear links between proposed price changes and their drivers.

4.1 Impact of proposed prices

Annual price increases proposed by urban water businesses in their Water Plans range from 4.1 to 17.2 per cent in real terms (see table 4.1). The lowest proposed annual price increases are for Lower Murray Water's urban prices (4.1 per cent), South Gippsland Water (4.3 per cent) and Westernport Water (4.7 per cent). The largest proposed annual real price increases are for Gippsland Water (17.2 per cent), Coliban Water (13.1 per cent) and Central Highlands Water (11.3 per cent).

Annual price increases proposed by rural water businesses in their Water Plans range from 0.3 per cent (Lower Murray Water) to 6.5 per cent (FMIT) (see table 4.1).

The average annual price increase is calculated by taking a weighted average (based on revenue) of the increases for each particular price charged by the business (excluding miscellaneous services, contract revenue and non-prescribed services).

The actual impact of businesses' proposed price increases (and any changes to tariff structures) will be different for particular categories of customer and will depend on customers' consumption patterns. It is also important to recognise that some businesses apply different tariffs and tariff structures for different regions or townships within their service area.

For the urban businesses the Commission has shown the impact on household bills based on the average annual water consumption for that particular business based on 2005-06 figures (see table 4.2).

Table 4.1 **Annual proposed average real increases in prices over the regulatory period**
Urban and rural businesses

Urban businesses	*per cent*
Barwon Water	10.6
Central Highlands Water	11.3
Coliban Water	13.1
East Gippsland Water	5.4
Gippsland Water	17.2
Goulburn Valley Water	5.9
GWMWater[a]	14.9
Lower Murray Water	4.1
North East Water	8.4
South Gippsland Water	4.3
Wannon Water	6.1
Western Water	10.9
Westernport Water	4.7
Rural businesses	*per cent*
FMIT	6.5
Lower Murray Water	0.3
Goulburn-Murray Water[b]	2.2
Southern Rural Water	**c**

a GWMWater does not separate its urban and rural services. It is proposing to resubmit its Water Plan once the funding arrangements for the Wimmera Mallee Pipeline Project have been finalised. **b** Goulburn-Murray Water has only proposed one year of price increases due to uncertainty surrounding the Food Bowl Modernisation Project. **c** Southern Rural Water did not provide the Commission with sufficient information to enable it to calculate the required average annual price change.

It should be noted that whilst the proposed price rises are considerable, the Commission's role is to assess whether or not the increases represent prudent and efficient expenditure by the business and have regard to customers' willingness to pay for service improvements. However, the extent of the proposed price increases and the impact of restructuring tariffs (in particular, increasing volumetric components of tariffs) raises issues about affordability. The potential for adverse customer impacts is likely to be greater where customers are unable to change their consumption in response to restructured tariffs, such as for tenants who do not pay a fixed component.

The WIRO requires the Commission to be satisfied that the businesses' proposed prices take into account the interests of customers, including low income and vulnerable customers. Accordingly, a key focus of this review will be to understand how each business's proposed prices are likely to impact various customer classes and how the businesses propose to manage impacts on customers.

Table 4.2 **Estimated residential bill (water and sewerage) from 2007-08 to 2012-13**

Urban businesses ($ 1 January 2007 prices)

	2007-08	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*
Barwon Water	691.2	724.5	800.5	884.5	977.4	1080.0
Central Highlands Water	755.6	906.6	957.0	1010.2	1066.4	1125.7
Coliban Water	585.8	664.0	766.8	884.3	908.6	963.9
East Gippsland Water	680.3	733.3	796.0	862.7	922.4	997.0
Gippsland Water	671.8	824.2	1011.2	1112.4	1223.6	1346.0
Goulburn Valley Water	537.2	571.8	604.2	638.8	675.8	715.6
GWMWater	771.7	865.5	1003.7	1163.9	1349.7	1565.2
Lower Murray Water	607.8	657.2	684.8	713.6	743.6	774.9
North East Water	639.5	695.7	773.7	851.5	880.4	895.7
South Gippsland Water	769.0	788.1	808.5	829.6	852.2	876.4
Wannon Water	706.2	735.0	785.8	840.4	899.2	962.6
Western Water	711.4	785.1	849.6	917.0	990.7	1066.6
Westernport Water	763.8	797.2	833.3	870.9	910.3	951.4

Note: Price impacts are based on average 2005-06 consumption for each business.

4.1.1 Drivers of proposed price increases

In setting out their proposed prices for the coming regulatory period, it is important that customers understand the drivers of any price increases. There should be a clear link between businesses' proposed prices and outcomes for the regulatory period. This allows customers to more readily understand the trade-off between lower prices, and higher levels of service or reliability.

Barwon Water, Coliban Water and Wannon Water each set out figures in their Water Plans explaining the components of their respective price increases.

Barwon Water's water augmentation projects (water recycling initiatives, Anglesea borefield, Melbourne interconnection and water resource investigations) account

for over one third of its proposed price increase. The main single contributors to Barwon Water's price increase are:

- the forecast reduction in demand
- the Anglesea borefield (a growth/augmentation project providing additional supply for the greater Geelong system) and
- the long term biosolids project (a management scheme for the beneficial use of biosolids at Black Rock and other regional areas).

Coliban Water's price rises are largely driven by its supply augmentation programs (the Goldfields Superpipe and Epsom recycling scheme) and the return on and of its capital expenditure program. The main contributors to its price increase are:

- return on and of new capital investments (via depreciation and the WACC)
- the Goldfields Superpipe (an augmentation project involving the interconnection of the Coliban and Goulburn systems) and
- recovery of losses from the 2005-08 regulatory period due to restrictions and the reduction in demand.

Over half of Wannon Water's price increase is a result of its return on and of new capital expenditure and forecast reduction in water demand. The remainder of its price increase is due to operating costs of new projects, increases in general operating costs (such as electricity) and water supply demand strategy management.

Several other businesses noted that their prices were increasing due to increased service standards or increased levels of operating or capital expenditure, but did not elaborate on the causality between business activities and price increases.

Over the course of the review, the Commission will be assessing each business's proposed expenditure program to ascertain the link between outcomes and prices proposed for the 2008-13 regulatory period.

4.1.2 Proposed price paths

In recovering their revenue requirement over the regulatory period, businesses may propose a variety of price paths. Most businesses have attempted to smooth the impact of their increased revenue requirement (and hence, increased prices) by opting for similar year on year increases across the regulatory period, rather than increasing prices precisely when expenditure increases occur.

Central Highlands Water and Gippsland Water have proposed significant increases or adjustments to their prices from 2007-08 to 2008-09 and in the first two years of the regulatory period respectively, rather than smooth year-on-year increases.

Central Highlands Water noted that while its price path led to an initially higher tariff, prices would be lower in the last year of the regulatory period. Gippsland Water noted that a smoothed price path would lead to under recovery in the first years of the period, and over recovery in the later years. Therefore prices at the beginning of the third regulatory period may be higher than required going forward, leading to a 'see-saw' effect on prices.

It should be noted that regardless of the price path proposed, businesses will still recover the same amount of revenue from customers, the only difference being the stage of the regulatory period that the revenue is recovered in.

In restructuring their tariffs towards increasing the proportion of revenue recovered from the variable component (discussed in section 4.3), a number of businesses are substantially reducing fixed water charges from 2007-08 to 2008-09, only to increase them in subsequent years.

When assessing businesses' proposed price paths, the relevant WIRO principle taken into account by the Commission is that of the interests of customers. Typically, the Commission will encourage businesses to adopt relatively smooth price paths to minimise customer impacts of sudden or large price increases.

Where businesses are proposing large price movements or price paths that deviate from smooth year on year increases, they will be expected to show that customers support the proposed price path approach and outline how they have taken account of impacts on customers.

4.1.3 Managing customer impacts

In its Guidance paper, the Commission asked businesses to outline the customer impacts of proposed prices and tariff structures and in particular how low income and vulnerable customers will be affected.

The majority of businesses provided tables outlining the impact of proposed price increases on customer bills for the full regulatory period, while some businesses only provided customer bills for the first years, or the change from 2007-08 to 2008-09.

Most businesses noted that they had a hardship policy and outlined the provisions for customer assistance, with several businesses (including Central Highlands Water, East Gippsland Water, North East Water, South Gippsland Water, Wannon Water and Western Water) stating that they had modified or would be conducting a review of their hardship policy.

A number of businesses (including East Gippsland Water, Goulburn Valley Water, North East Water, South Gippsland Water and Westernport Water) identified customer groups including large households, tenants, and customers with high levels of water use (such as non-residential customers) as being adversely affected by their tariff proposals to increase the volumetric proportion of their water prices.

Despite increasing the volumetric component of their tariffs, Barwon Water and Central Highlands Water stated that their tariff structures would not disadvantage specific customer groups significantly.

In terms of steps taken to mitigate price impacts on vulnerable customers:

- East Gippsland Water noted that customers subject to hardship will be contacted to outline assistance available
- North East Water noted that it has modified its hardship policy to allow for a portion of fees to be waived where hardship is established

- South Gippsland Water noted that its hardship policy will be revised and it would identify and contact vulnerable customers to outline assistance available
- Wannon Water noted that it would directly correspond with all customers who are tenants holding concession cards, pay for audits for residential high water users and contribute to the costs of retrofitting water saving measures, assist customers with instalment payments and not apply the third tier volumetric price to customers in hardship (who apply on an annual basis) and
- Western Water's Water Plan sets out provisions for a free water audit for large families and notes the potential to charge residential customers in hardship the non-residential tariff (rather than the inclining block applying to residential customers).

Whilst customer impacts are more difficult to quantify for rural businesses, several businesses attempted to provide some indication of the impacts of their pricing proposals on customers:

- Goulburn-Murray Water indicated that if drought conditions became very severe it would offer interest free deferrals of fixed charges to customers, however, it would then seek to recover these interest costs via future prices
- Southern Rural Water provided a table on indicative price impacts for a range of consumption levels for irrigation, unregulated surface water and groundwater customers, with figures from 2007-08 to 2012-13 and
- GWMWater provided graphs showing the dollar impact on prices for rural customers for the first year of the regulatory period.

4.2 Form of price control

In its September 2006 Guidance Paper, the Commission set out the different forms of price control that may be adopted by businesses, namely:

- individual price caps
- tariff basket
- revenue yield
- revenue cap or
- a combination of the above.

The Commission has previously outlined its preference for individual price caps on the basis that:

- they provide greater certainty for customers about prices
- the first regulatory period of three years lessened the advantage of using a tariff basket approach and
- the necessary quantity data for a tariff basket approach was not available.

The extension of the regulatory period to five years and the availability of quantity data from the first regulatory period have made the tariff basket approach more feasible and accessible to businesses for the second regulatory period.

Additionally, given the uncertainty of water availability and revenue shortfalls associated with the drought, the revenue certainty provided by the revenue cap and revenue yield approaches makes them more attractive going into the second regulatory period.

The majority of urban businesses are proposing to remain under price cap regulation; however, several indicated their intention to move to a tariff basket approach. Amongst the rural businesses, only Goulburn-Murray Water and FMIT proposed to remain on revenue caps, with the others moving to the tariff basket approach, or a combination.

Of the urban businesses, Barwon Water, Coliban Water, GWMWater, Lower Murray Water and Wannon Water proposed to move from individual price caps to a tariff basket. Lower Murray Water also proposed to move from a revenue cap to a tariff basket for rural services, while GWMWater proposed to move to a tariff basket within a revenue cap for both its rural (formerly revenue cap) and urban (formerly price cap) services.

The businesses proposing a tariff basket argued that it would provide them with greater flexibility to adjust prices year on year in response to changing costs and demand. They also argued that a tariff basket would allow them to continue to adjust their tariff structures.

Lower Murray Water proposed a tariff basket to allow it to introduce new tariffs into the irrigation districts. However, introducing new tariffs is difficult under a tariff basket, as the business is required to estimate quantities for the new tariff and may have difficulty in obtaining accurate forecasts.

In terms of rebalancing constraints, Coliban Water and Wannon Water have proposed not to increase prices above the overall price cap by more than 2 per cent in any given year, Barwon Water proposed a rebalancing constraint of 3 per cent and Lower Murray Water 11 per cent.

Coliban Water and Wannon Water have proposed price paths for individual services that include yearly increases of as much as 40 per cent and 20 per cent respectively, which would not be able to be accommodated within their proposed overall annual price increase and rebalancing constraints (which add up to 16.9 per cent for Coliban Water and 11.9 per cent for Wannon Water). These significant price increases are the result of tariff restructuring in order to implement more cost reflective prices. A tariff basket approach may not be the most appropriate form of price control where significant restructuring of tariffs is proposed.

In assessing whether or not to approve a tariff basket approach, the Commission will need to determine the process to be followed by businesses in setting or varying prices on an annual basis, including requirements for customer consultation. Businesses will also need to provide a well defined tariff strategy and rebalancing constraints to ensure that customers are not subject to excessive price volatility.

Southern Rural Water proposed to continue with a revenue cap, but implement price caps or a tariff basket for recycled water and fee based applications (Water Plan does not specify which). This is because recycled water and fee based

applications are largely composed of marginal costs, with more unpredictable quantities than for Southern Rural Water's other services which are generally entitlements and characterised by mainly fixed costs with little demand variability. Additionally, tariff reform in the form of unbundling may not be complete by the start of the next period.

Of the remaining rural businesses, Goulburn-Murray Water proposed to continue with revenue caps due to uncertainty around water supply and continuing tariff reform, and FMIT did not propose any form of price control.

Table 4.3 **Proposed form of price control**
Urban and rural businesses

	Individual price caps	*Tariff basket*	*Revenue cap*
Barwon Water		✓**a**	
Central Highlands Water	✓		
Coliban Water		✓**a**	
East Gippsland	✓		
Gippsland Water	✓		
Goulburn Valley Water	✓		
GWMWater		✓**ab**	✓
Lower Murray Water		✓**ab**	
North East Water	✓		
South Gippsland Water	✓		
Wannon Water		✓**a**	
Western Water	✓		
Westernport Water	✓		
FMIT			✓
Goulburn-Murray Water			✓
Southern Rural Water	✓**c**	✓**bc**	✓

a Barwon Water, Coliban Water, GWMWater (urban), Lower Murray Water (urban) and Wannon Water previously operated under individual price caps. **b** Lower Murray Water (rural), GWMWater (rural) and Southern Rural Water previously operated under a revenue cap. **c** Southern Rural Water has indicated an intention to move to a combination of revenue cap and individual price caps or revenue cap and tariff basket.

4.3 Urban retail water services

Tariff structures for retail water services proposed by the urban businesses comprise two part tariffs of varying forms (see table 4.4). Two part tariffs generally consist of a fixed service (or access) fee and a variable usage charge. Inclining block tariffs are typically used in conjunction with two part tariffs and are applied to

the variable component of the tariff. Customers are charged a higher price for water use above some level which is generally regarded as non-discretionary, providing them with an incentive to moderate their discretionary water use.[10]

In the 2005 Urban Water Price Review the Commission approved two part tariffs with inclining block variable components for the three metropolitan businesses, Coliban Water, Portland Coast Water (now amalgamated into Wannon Water) and Western Water. All other urban businesses had two part tariffs with a single variable charge approved.

Inclining block tariffs

Central Highlands Water, Wannon Water and Westernport Water are proposing to introduce inclining block tariffs for the 2008-13 regulatory period. Coliban Water, Lower Murray Water (urban) and Western Water are proposing to maintain their current inclining block structures.

Western Water is proposing to increase the price differential between the tiers of its inclining block. Lower Murray Water (urban) is proposing to reduce the thresholds for the volumetric steps of their inclining block from 0-400 kL, 400-800 kL and >800 kL per annum, to 0-300 kL, 300-600 kL and >600 kL per annum respectively.

Businesses implementing or maintaining inclining block tariff structures have justified their proposals on the basis that they encourage water conservation. Those businesses proposing to introduce inclining block tariffs have not provided an assessment of the administrative costs involved in introducing a new tariff structure.

Gippsland Water received positive feedback from focus groups regarding the introduction of inclining block tariffs, but is not proposing to change the current two part tariff structure. Further surveys conducted by Gippsland Water in relation to introducing inclining block tariffs were less conclusive with around half of the respondents supportive.

East Gippsland Water has proposed not to implement inclining block tariffs due to uncertainty about their effectiveness, the cost of administration, the impact on large families and the already low base consumption.

[10] Non-discretionary water use in this context is defined as the level of consumption required to meet basic hydration, cooking and hygiene needs.

Table 4.4 **Proposed tariff structure**
Urban businesses ($ 1 January prices)

	Proposed tariff structure	*Proposed fixed charge 2012-13*	*Proposed variable charge 2012-13*	
			Block	*$ per kL*
Barwon Water	Two part tariff – increasing variable proportion	150.94		1.9900
Central Highlands Water[a]	Introducing three tier inclining block – increasing fixed proportion	215.43	0-150 kL 150-300 kL >300 kL	1.5174 1.8209 2.2761
Coliban Water – central districts	Maintaining three tier inclining block – increasing variable proportion	83.06	0-200 kL 200-400 kL >400 kL	1.7112 2.0702 3.3995
East Gippsland	Two part tariff – increasing variable proportion	172.00[b]		1.3000
Gippsland Water	Two part tariff	163.41[b]		1.8897
Goulburn Valley Water	Two part tariff – increasing variable proportion	110.28[b]		0.8442
GWMWater[c]	Two part tariff for urban – initial increase in fixed charge, with later increases in variable charge			
Lower Murray Water	Maintaining three tier inclining block – lowering the tiers	160.70[b]	0-300 kL 300-600 kL >600 kL	0.3311 0.6021 0.7737
North East Water	Two part tariff – increasing variable proportion	146.68[b]		1.9508
South Gippsland Water	Two part tariff – increasing variable proportion	255.84[d] 285.89[e]		1.4223[f]
Wannon Water – Group 1[g]	Introducing three tier inclining block (previously only in PCW) – increasing the variable proportion	134.96[b]	0-160 kL 160-300 kL >300 kL	1.5138 1.8173 2.7260
Wannon Water – Group 2[h]		134.97[b]	0-160 kL 160-300 kL >300 kL	1.5139 1.8173 2.7262
Wannon Water – Group 3[i]		186.02[b]	0-160 kL 160-300 kL >300 kL	2.0866 2.5049 3.7574

	Proposed tariff structure	*Proposed fixed charge 2012-13*	*Proposed variable charge 2012-13*	
			Block	*$ per kL*
Wannon Water – Group 4[j]		252.29[b]	0-160 kL	1.2128
			160-300 kL	1.4559
			>300 kL	2.1839
Wannon Water – Group 5[k]		309.96[b]	0-160 kL	1.4901
			160-300 kL	1.7888
			>300 kL	2.6832
Western Water	Maintaining three tier inclining block – increasing variable proportion	249.75	0-159 kL	1.4685
			159-318 kL	1.9480
			>318 kL	3.8960
Westernport Water	Introducing three tier inclining block	316.55	0-99 kL	1.3149
			99-324 kL	1.5753
			>324 kL	2.0287

[a] Usage charges for customers in Amphitheatre and Redbank will be $0.6969, $0.8364 and $1.0455 per kL for tiers 1, 2 and 3 respectively. [b] Price is for 20mm meter/connection. [c] GWMWater has only proposed 1 year of prices. [d] East/West district. [e] Southern district. [f] Murray Goulburn customers face a volumetric rate of $1.7298 per kL. [g] Portland, Heywood and Port Fairy. [h] Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool. [i] Balmoral, Caramut, Cavendish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington. [j] Peterborough, Port Campbell and Timboon. [k] Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford.

Increasing the volumetric component of water tariffs

The majority of businesses are proposing to increase the variable component of their retail water tariffs in relation to the fixed component. This was generally proposed on the basis of achieving demand reduction targets (such as those set out in the businesses' Water Supply Demand Strategies) and giving customers greater control over their bills. This will also tend to increase the proportion of revenue recovered from non-residential customers, as a greater part of their bill is made up of variable charges.

Underlying cost justification – long run marginal cost (LRMC)

In deciding whether the tariff structures proposed by the businesses meet the principles outlined in the WIRO, the Commission will need to determine whether there is an underlying cost justification for the proposed tariff structures. A number of businesses including Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Gippsland Water, North East Water and Wannon Water stated that they had considered LRMC in their proposals; however, only Barwon Water and Gippsland Water provided estimates of LRMC.

Most businesses estimating LRMC found it to be lower than their proposed variable charge, due to augmentation projects having already been undertaken or uncertainty around the need for future augmentation.

Reasons given for departing from LRMC pricing included maintaining uniform tariffs across the customer base, giving customers greater control over their bills and providing incentives to conserve water through higher volumetric charges.

Barwon Water estimated LRMC to be $1.00 per kL for its Geelong and Lorne systems, and $1.56 per kL for its Apollo Bay system. Barwon Water states that its proposed variable charge ($1.99 per kL in 2012-13) takes into account externalities unable to be quantified and water conservation signals.

Gippsland Water undertook LRMC modelling using the perturbation approach, resulting in an estimate of LRMC of $1.12 per kL, with a maximum of $1.74 per kL. However, Gippsland Water noted it had little confidence in the validity of these assumptions due to uncertainty surrounding demand forecasts and forecasts of capital expenditure.

Price elasticity estimates for water services

When assessing prices against the WIRO principles, it is also important for the Commission to form a view on the ability of proposed tariffs to influence customer behaviour. This will depend on whether or not customers understand tariff structures, and the responsiveness of demand to changes in price, which can be measured by estimating the price elasticity of demand.[11]

The majority of businesses did not provide estimates of price elasticities of demand for water to support their tariff structures. However, the estimates provided by Coliban Water, Lower Murray Water (urban), North East Water and Western Water suggested that demand for water services is relatively inelastic, although not unresponsive to price (see table 4.5). However, given that many customers have already reduced their consumption in response to demand restrictions, their ability to respond to stronger price signals might be limited.

[11] A value for the price elasticity of demand between zero and -1 represents relatively inelastic demand, that is, an increase in price is likely to result in a less than proportionate decrease in demand. In contrast, a value less than -1 is said to be relatively elastic, in that an increase in price is likely to result in a more than proportionate change in demand.

Table 4.5 **Price elasticity estimates for water services**

	Demand elasticity estimate (per cent)
Coliban Water	Commissioned research by Marsden Jacob Associates on elasticity, which found water demand was inelastic to price (no figures presented in Water Plan)
Lower Murray Water (urban)	-0.05 for the first tier (0-300 kL per annum) -0.2 for the second tier (300-600 kL) -0.3 for the third tier (>600 kL)
North East Water[a]	-0.05 for indoor use -0.15 for outdoor use
Western Water	0 for the first tier (0-159 kL) -0.1 for the second tier (159-318 kL) -0.1 for the third tier (>318 kL)

[a] Figures based on 2004 study sponsored by the Water Services Association of Australia (WSAA).

Meter based charges

Some businesses choose to vary the fixed component of their retail water charges on the basis of the size of customers' meter or connection. This is generally justified by the proposition that a larger connection allows customers to draw more water and hence put more strain on the business's infrastructure. Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, GWMWater, Lower Murray Water (urban), North East Water, Wannon Water and Western Water vary the fixed component of their water tariffs on the basis of meter size.

Vacant land fees

The majority of businesses also choose to levy fixed charges or access fees to vacant land that, although not connected to the business's system, has the capacity to be connected. This is generally justified on the basis that having potential access to reticulated water supply increases property values.

Most businesses levy a reduced fixed charge for vacant land (typically at half of the relevant charges for water and sewerage); however, Coliban Water and Western Water levy full fixed access charges for both sewerage and water. Wannon Water levies a full fixed access charge for water and a reduced fixed access charge for sewerage.

GWMWater applies vacant land charges to designated 'growth' towns only, typically for subdivisions awaiting full development.

4.4 Urban retail sewerage services

In the 2005 Urban Water Price Review, the Commission approved a variety of tariff structures for retail sewerage services. Most businesses apply a single fixed charge for residential customers and two part tariffs for non-residential customers.

The metropolitan water businesses, Barwon Water, Portland Coast Water and certain regions of North East Water (Wangaratta, Bright, Yarrawonga, Benalla, Myrtleford and Porpunkah) and East Gippsland Water (Dinner Plain only) apply two part tariffs with a volumetric component for residential sewerage charges.

Westernport Water applies cistern based charges to non-residential customers where customers have more than two cisterns, while South Gippsland Water applies cistern based charges to non-residential customers with more than four cisterns.

The majority of businesses are proposing sewerage tariff structures similar to those approved for the last regulatory period, being a single fixed charge for residential customers and two part tariffs for non-residential customers (see table 4.6).

Table 4.6 **Proposed tariff structures for sewerage services**
Urban businesses

			Non-residential		
	Fixed	*Residential usage*	*Cistern*	*Usage*	*Vacant land*
Barwon Water	✓			✓	
Central Highlands Water	✓			✓	✓
Coliban Water	✓			✓	
East Gippsland Water	✓	✓**a**		✓**a**	✓
Gippsland Water	✓			✓**b**	✓
Goulburn Valley Water	✓			✓	✓
GWMWater	✓			✓	✓
Lower Murray Water	✓				✓
North East Water	✓		✓		
South Gippsland Water	✓		✓	✓	✓
Wannon Water	✓			✓**c**	✓
Western Water	✓				✓
Westernport Water	✓		✓**d**		✓

a Usage charges apply only to residential and non-residential customers in Dinner Plain. **b** Usage charge applies for discharge >100 kL over 4 months. **c** Usage charges apply only to non-residential customers with water consumption >750 kL per month. **d** Charges apply for >2 cisterns.

Barwon Water, Portland Coast Water and North East Water have proposed to move to a fixed charge only for residential customers, while East Gippsland Water is proposing to continue levying a two part tariff on Dinner Plain customers.

The manner in which the volumetric component of two part tariffs is calculated for non-residential customers varies from business to business, but is generally calculated by applying a discharge factor to the volume of water consumed, based on business or property type. North East Water, South Gippsland Water and Westernport Water also vary sewerage charges for non-residential customers based on the number of cisterns.

As is the case for water, the majority of businesses also levy fixed access charges for sewerage services for vacant or undeveloped land, although generally at a reduced rate.

When considering how sewerage tariffs should be structured, the Commission must have regard to the principles in the WIRO, in particular, how best to structure tariffs to provide signals to customers about the costs of services and provide incentives for customers to conserve water.

However, it is also important to note that sewage volume demand is generally assumed to be largely inelastic to price signals, and it would be very costly to meter actual sewage volumes from residential properties. For these reasons two part tariffs with variable charges might not have a significant impact on customers' usage of sewerage services, or send appropriate signals about the costs of providing sewerage services.

4.5 New customer contributions (developer charges)

The *Water Industry Act 1994* gives water businesses the ability to require new customers to make an upfront contribution to the costs of connecting to the existing water and sewerage networks. Existing non–serviced property owners are also required to make upfront contributions for the cost of connection. One of the Commission's responsibilities is approving or determining capital contributions or the method by which they are calculated for new and existing customers.

In the 2005 Urban Water Price Review, the Commission set out the principles for determining the allocation of costs between water businesses and new customers for the provision of infrastructure to service new properties in each business's price determination. Further guidance on how the principles contained in the determination should be applied is provided in the Water Industry New Customer Contributions Guideline.[12]

The key aspects of the current arrangements for new customer contributions are:

- new customers are responsible for providing assets that are to be installed specifically to service their property or development (reticulation assets)

[12] The Guideline and other relevant information on the Commission's role in regulating new customer contributions is available on the Commission's website, http://www.esc.vic.gov.au.

- water businesses may charge a per lot charge up to the scheduled charge for each new property connected. The maximum per lot charge was set at $500 for 2005-06 and will remain constant in real terms until the end of the regulatory period
- water businesses are responsible for assets that are generally provided to service more than one development (shared assets) and
- water businesses may apply to the Commission to levy a charge above the scheduled charge where shared assets must be constructed ahead of schedule to service a new property or development. In these cases and subject to approval by the Commission, the water business may recover the capital financing costs that are attributable to bringing forward construction of the shared assets.

In their Water Plans, the majority of businesses noted their support for the Victorian Water Industry Association proposal for levying new customer contributions based on water use and efficiency. The Victorian Water Industry Association proposal is to base the scheduled charge for new customer contributions on the potential impact on future water demand of the new development, generally by using lot size as a determinant. Essentially there would be three levels of contribution:

1. a minimum $550 per lot per service for water, sewerage and dual pipe recycled water (total $1,650 per lot) for developments which are designed in a manner that will have minimal impact on future water resource demands and can be catered for without additional investment to upgrade the medium-term distribution capacity. These developments are typically a lot with an area no greater than 450 square meters per lot.
2. $1,100 per lot per service for water, sewerage and dual pipe recycled water (total $3,300 per lot) for water sensitive urban developments which will require further investment in infrastructure within a six year period to serve these developments. Or, where shared assets must be constructed ahead of schedule to service a new property or development and the calculated 'bring-forward' costs are greater than $1000 per lot for water and sewerage the calculated charge shall apply. These developments are typically traditional Greenfield urban developments with lot sizes between 450 square meters and 1,350 square meters.
3. $2,200 per lot per service for water, sewerage and dual pipe recycled water (total $6,600 per lot) — for developments designed in such a way that properties will create demand for water resources over and above high-density, water efficient homes. These developments are typically Greenfield developments with lot sizes exceeding 1,350 square meters, for example, lots with potentially large outside water use, no recycled water and which will influence near term investment in infrastructure decisions.

In the event of disputes over the categorisation of a particular development or the substantiation of particular costs where the schedule does not apply, the Association proposed that the customer has the ability to contest the contribution by applying to the Commission, which will then make a binding decision on the matter.

Current arrangements for determining responsibilities for provision of and the procedures for allocating costs for shared and reticulation infrastructure assets would continue.

The Commission will be required to assess the businesses' proposals against the regulatory principles in the WIRO before it can approve proposed customer contributions or the manner in which they are to be determined.

In addition to the above mentioned principles, the regulatory principles in the WIRO most relevant to the Commission's assessment of new customer contributions are that prices must be such as to:

- provide for a sustainable revenue stream to the business that nonetheless does not reflect monopoly rents and or inefficient expenditure (clause 14(1)(a)(i)) and
- provide businesses with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources (clause 14(1)(a)(ix)).

The proposal to vary the scheduled charge on the basis of water use efficiency will be assessed by the Commission with regard to the extent that it provides incentives for sustainable water use, or for water use sensitive developments. Note that in a 1999 report for IPART, Pricewaterhouse Coopers found that upfront developer contributions have no broad impact on urban planning.[13]

The majority of businesses noted that they were satisfied with the Commission's current procedure for the classification of assets into shared and reticulation. However, the Commission is aware of instances where under the current framework, developers have been required to pay for significant amounts of infrastructure from which they only receive a small portion of the benefit. During this price review, the Commission intends to review the current procedures in apportioning costs for shared infrastructure such that those costs are more closely aligned with benefits.

4.6 Trade waste charges

Trade waste involves the discharge of waste other than normal domestic sewage into the sewerage system. Trade waste charges are levied on dischargers by metropolitan retailers and regional water businesses.

In the 2005 Urban Water Price Review, the Commission generally supported the inclusion of trade waste services in the pricing schedule. However, it also noted that where trade waste services are unique in nature (for example, due to discharge strength or discharge volume), it may be appropriate for prices to be set on a case-by-case basis with reference to pricing principles.[14]

There are a variety of approaches taken to trade waste pricing by urban businesses. The Commission has previously taken the position that it is not

[13] Essential Services Commission 2006, *2008 Water Price Review Consultation Paper – Framework and Approach*, p. 89.

[14] Pricing principles where scheduled prices do not apply are set out in each business's Determination.

appropriate to require all businesses to adopt the same approach given differences in cost structures, Environmental Protection Authority (EPA) obligations and customer profiles.

The majority of businesses apply trade waste charges comprising:

- fixed one-off and annual fees, such as application fees and fees based on customer classes and
- variable charges based on volume and strength of trade waste discharge, with the latter typically only applying to major customer categories (see table 4.7).

The Department of Sustainability and Environment (DSE) commenced a state-wide review of trade waste management in late 2004. DSE expects to release a Future Directions Statement for the implementation of changes to the trade waste management framework in late 2007.

For the 2008-13 regulatory period, Coliban Water, East Gippsland Water, Lower Murray Water (urban), Wannon Water and Westernport Water are proposing to keep their trade waste charges fixed in real terms.

Barwon Water, Goulburn Valley Water, North East Water, South Gippsland Water and Western Water have proposed to increase their trade waste charges over the regulatory period, generally in line with proposed price increases for water and/or sewerage.

In comparison with charges for sewerage services:

- Annual trade waste charges levied by East Gippsland Water, Gippsland Water, Goulburn Valley Water, GWMWater and South Gippsland Water are significantly lower than their fixed sewerage access charges. This generally only applies for minor trade waste customers.
- Volumetric charges (not inclusive of pollution load based charges) levied by East Gippsland Water, GWMWater and Lower Murray Water (urban) are significantly lower than volumetric sewerage charges for their non-residential customers.

South Gippsland Water is proposing to replace its cistern based charge for major trade waste customers with an application fee, a fixed service fee, a variable volume charge and pollution load based charges.

Wannon Water, which previously only applied pollution load based charges to the Portland and Warrnambool regions, is proposing revised trade waste charges for all customers comprising an application fee, annual fee, volumetric pollution load based charges and penalty charges for non-compliance with obligations.

Westernport Water has outlined that it does not have any trade waste customers as they are traditionally defined in the water industry, but instead charges customers for a greasy waste service comprising a volumetric charge, a minimum charge and a cartage fee.

Forecasts of trade waste revenue for the urban businesses are provided in table 4.8. Most businesses are not forecasting significant increases in trade waste revenue. However, the pricing of trade waste services raises a number of issues which will be addressed by the Commission in the course of the price review.

Table 4.7 **Approach to trade waste charges**
Urban businesses

	Charging Components							
			Pollution load based charges					
	Annual fixed	*Flow*	*BOD/COD*	*SS*	*N*	*TOS*	*TDS*	*Other*
Barwon Water	✓	✓	✓	✓	✓	✓		Phosphorous
Central Highlands Water	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	
Coliban Water	✓	✓	✓	✓	✓			Phosphorous
East Gippsland Water	✓	✓	✓	✓				Phosphorous
Gippsland Water	✓	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	
Goulburn Valley Water	✓**a**	✓	✓		✓			Phosphorous, sodium
GWMWater	✓**a**	✓	✓	✓	✓		✓	
Lower Murray Water	✓	✓		✓				Organic load
North East Water		✓	✓	✓	✓	✓	✓	Phosphorous, ammonia, sodium, oil and grease, pH
South Gippsland Water	✓	✓	✓	✓	✓	✓		Cistern charges. Oil and grease, sodium
Wannon Water	✓	✓	✓	✓			✓	Ammonia
Western Water		✓	✓	✓	✓	✓		Phosphorous, heavy metals, arsenic
Westernport Water		✓						Greasy waste, cartage

Notes: Most businesses also charge an initial application fee. **BOD** Biochemical oxygen demand. **COD** Chemical oxygen demand. **SS** Suspended solids. **N** Nitrogen. **TOS** Total oxidised sulphur. **TDS** Total dissolved solids (salt). **n.p.** Not provided **[a]** Fixed charges apply to minor trade waste customers.

Table 4.8 **Forecast revenue for trade waste services**
Urban businesses ($ million 1 January 2007 prices)

	2007-08	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*Total regulatory period*
Barwon Water	4.24	4.33	4.74	5.20	5.24	5.23	24.75
Central Highlands	1.18	1.18	1.18	1.18	1.18	1.18	5.88
Coliban Water	3.64	3.71	3.68	3.64	3.60	3.56	18.20
East Gippsland[a]	0.07	0.07	0.08	0.08	0.09	0.10	0.42
Gippsland	7.42	7.47	7.78	7.86	7.90	7.94	38.96
Goulburn Valley	3.32	3.43	3.65	3.87	4.12	4.38	19.45
GWMWater	0.04	0.06	0.07	0.08	0.09	0.10	0.39
Lower Murray	0.57	0.58	0.58	0.59	0.59	0.60	2.93
North East	2.10	2.37	2.51	2.65	2.78	2.90	13.20
South Gippsland	1.72	1.80	1.81	1.82	1.83	1.84	9.10
Wannon Water	2.00	2.09	2.23	2.38	2.43	2.50	11.64
Western Water	0.21	0.24	0.26	0.27	0.29	0.31	1.37
Westernport	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.

n.p. Not provided [a] Does not include revenue from pollution load based charges.

4.7 Recycled water prices (rural and urban businesses)

While regional businesses are not subject to explicit recycling targets (as is the case for the metropolitan businesses), there is a general obligation in their Statements of Obligations to optimise the use of recycled water.[15] Businesses are also subject to EPA licensing conditions for the discharge of treated wastewater.

In the 2005 Urban Water Price Review, the Commission outlined a set of broad pricing principles for recycled water. These were that recycled water prices should be set so as to:

- maximise revenue earned from recycled water services having regard to the price of any alternative substitutes and customers' willingness to pay
- cover the full cost of providing the service (excluding polluter's costs associated with EPA discharge compliance) and
- include a variable component.

Since the 2005 Urban Water Price Review the Government has instituted a number of initiatives and policies that directly affect recycled water. These include changes to the Statement of Obligations (SoO) (including new obligations to

[15] Clause 15.1 of the Statement of Obligations.

develop strategies to balance supply and demand and set conservation targets) and a new power for businesses to mandate recycled water zones.[16]

Given that businesses are now able to compel certain customers to take up recycled water services, the principles outlined in the 2005 Urban Water Price Review may no longer be appropriate. In particular, the principle of allowing businesses to 'maximise revenue earned from recycled water services having regard to the price of any alternative substitutes and customers' willingness to pay' should no longer be applied.

The Commission has suggested that for the forthcoming regulatory period, prices for recycled water services provided through third pipe systems to residential customers be subject to the annual price approval process, as is the practice for water and sewerage services.

Where recycled water services are provided to large non-residential or unique (one-off) customers, the Commission has suggested that businesses adopt a pricing principles approach to regulation. The proposed principles should be consistent with the following.

Recycled water prices should be set so as to:

- have regard to the price of any alternative substitutes and customers' willingness to pay
- cover the full cost of providing the service (with the exception of services related to specified obligations or maintaining balance of supply and demand) and
- include a variable component.

Of the urban businesses only Western Water currently supplies recycled water to residential customers through reticulated third pipe systems. Coliban Water and Westernport Water are proposing to develop the capacity to provide reticulated recycled water during the regulatory period. Of these businesses, only Western Water has proposed to include recycled water prices in its tariff schedule. The majority of business providing recycled water services do so to large unique or non-residential customers and have proposed to continue to use pricing principles to determine charges on a case-by-case basis. Pricing principles proposed were generally consistent with those suggested by the Commission or those in place for the 2005-08 regulatory period.

Western Water noted that revenue shortfalls from the provision of recycled water projects would be met from the general customer base.

Wannon Water set out a number of principles, which include:

- a seasonal charge such that customers face higher charges in the summer when demand is at its peak and

[16] From 9 October 2006, clause 56 of the Victoria Planning Provisions allows water businesses to mandate third pipe systems for the provision of recycled water for identified areas in order to maintain a supply demand balance.

- a scarcity pricing regime whereby prices faced by customers depend on Wannon Water's level of recycled water storages.

Of the rural businesses, GWMWater provides recycled water services to large unique customers, while Southern Rural Water provides recycled water to irrigation customers via the Werribee Irrigation District Recycled Water Scheme (7431 GL in 2006-07). Southern Rural Water has noted that its indicative tariffs for the Werribee Irrigation District recycled water scheme are yet to be developed.

Table 4.9 **Recycled water proposals**
Urban and rural businesses

	Customer group		*Pricing approach*	
Urban businesses	*Residential*	*Large unique/non-residential*	*Pricing principles*	*Annual approval of prices*
Barwon		✓	✓	
Central Highlands		✓	✓	
Coliban		✓	✓	
East Gippsland	n.a.	n.a.	n.a.	n.a.
Gippsland	✓	✓	✓	
Goulburn Valley		✓	✓	
GWMWater		✓	✓	
Lower Murray		✓	✓	
North East	n.a.	n.a.	n.a.	n.a.
South Gippsland		✓	✓	
Wannon		✓	✓	
Western	✓	✓	✓	✓
Westernport	✓	✓	✓	
Rural businesses				
FMIT	n.a.	n.a.	n.a.	n.a.
Lower Murray	n.a.	n.a.	n.a.	n.a.
Goulburn-Murray	n.a.	n.a.	n.a.	n.a.
GWMWater		✓	✓	
Southern Rural		✓	✓	

n.a. Not applicable.

4.8 Miscellaneous fees and charges

In addition to providing 'core' water and sewerage services, businesses provide a wide range of other services to customers. These include providing new connections, providing special meter readings, conducting meter tests, providing

property information statements and reviewing applications to build over easements. Businesses also impose a range of application and 'penalty' fees (such as where customers' cheques are dishonoured).

The 2005 Urban Water Price Review highlighted significant differences between the prices charged by businesses for various miscellaneous services (recognising that this may partly be due to differences in service definition and terminology).

In its March 2007 Guidance Paper, the Commission proposed that businesses identify within their Water Plans a core set of miscellaneous services that will be subject to the annual price approval process and subsequently included in the tariff schedule.

Non-scheduled miscellaneous prices should be set such that they:

- reflect the direct costs of service provision (including materials and/or costs associated with contractors)
- reflect the internal costs incurred by the water businesses such as labour, transport and general overheads
- for new miscellaneous services, exclude costs previously accounted for in approved prices and
- are transparent.

For the 2008-13 regulatory period, the majority of businesses expressed support for an industry wide process to developing a core set of service standards and charges. A number of businesses provided revised schedules of miscellaneous charges significantly reducing the number of scheduled charges, with prices for other services to be determined via pricing principles.

Most businesses provide miscellaneous services on the basis of cost recovery. However, there is a wide variety of overheads charges, ranging from 25 per cent at Central Highlands Water to 43 per cent at East Gippsland Water.

Most businesses are proposing to hold their charges for miscellaneous services fixed in real terms over the course of the regulatory period.

4.9 Rural services

In the 2006 Rural Water Price Review the Commission was constrained by the WIRO to reviewing the assumptions underpinning the revenue requirements of the rural business and assessing whether prices were sufficient to deliver the required revenue. Specific tariffs and tariff structures were not subject to review. As part of this review, the Commission will be assessing the individual tariffs and tariff structures of the rural water businesses.

In June 2007 the State Government announced the Foodbowl Modernisation Project, which aims to upgrade Goulburn-Murray Water's infrastructure and achieve 225 GL of water savings to be distributed amongst Melbourne Water, irrigators and the environment. Due to uncertainties around the nature and priorities of works for the project, Goulburn-Murray Water has submitted its Water Plan based on the assumptions developed prior to the announcement of the

Foodbowl Modernisation Project. A Water Plan for the period 2009-10 to 2012-13 will be resubmitted in 2008 when full details of the project are known.

Due to projected costs of the Wimmera Mallee Pipeline Project being $248 million greater than expected, GWMWater is proposing to resubmit its Water Plan at a later date when the funding arrangements for the project are finalised.

4.9.1 Bulk water services

Bulk water tariffs

The WIRO defines storage operator and bulk water services as services provided by a regulated business in connection with the provision of a supply of water to another business.

Goulburn-Murray Water, GWMWater and Southern Rural Water provide bulk water services to other rural and urban businesses. South Gippsland Water has previously had an agreement to sell bulk water to Westernport Water but is not forecasting any bulk water sales for the regulatory period.

Typically the rural and urban businesses being supplied hold bulk entitlements to the water supplied. Goulburn-Murray Water, Southern Rural Water and GWMWater harvest and store water in accordance with the bulk entitlement orders, which also set out the basis for service requirements.

GWMWater supplies bulk water to Wannon Water and Coliban Water. In its Water plan, GWMWater's bulk water prices are increasing by an average of around 13.9 per cent per annum over the regulatory period.

Goulburn-Murray Water provides bulk water to seven other businesses including Coliban Water, Central Highlands Water, FMIT, Goulburn Valley Water, GWMWater, Lower Murray Water and North East Water. Goulburn-Murray Water is proposing to increase its bulk water prices by an average of 8.0 per cent per annum over the regulatory period.

On 1 July 2007, as part of the unbundling process, Goulburn-Murray Water's bulk entitlements were separated into high reliability and low reliability entitlements or shares.

- What was formerly a single entitlement or source charge for each system is now separated into a high reliability and a low reliability charge.
- What was formerly a single entitlement storage fee now varies according to whether the customer holds a high reliability or a low reliability water share and whether or not the customer owns the land associated with the water share. Charges are higher for high reliability water shares and water shares without land are also typically more expensive.

For the 2008-13 regulatory period, Goulburn-Murray Water is proposing to move towards 'basin pricing', where prices more accurately reflect costs for different water entitlements, rather than the historic practice of pooling the costs of assets used to provide services and averaging them into two system prices for the Murray and Goulburn systems.

Southern Rural Water provides bulk water to Gippsland Water and Western Water. Southern Rural Water is proposing to maintain its charges to Gippsland Water and Western Water fixed at the current nominal amount.

The businesses' proposed bulk water charges are set out table 4.10.

Table 4.10 **Proposed prices for bulk water services**
$ per ML, 1 January 2007 prices

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
Goulburn-Murray Water[a]						
Regional urban storage ancillary fee	ML entitlement	8.04	8.04	0.0	8.04	0.0
Murray basin						
High reliability	ML entitlement	5.56	5.78	4.0	6.63	19.2
Low reliability	ML entitlement	2.50	2.60	4.0	2.97	18.8
ESF HRWS[b] (with land)	ML entitlement	6.02	6.59	9.5	8.76	45.5
ESF LRWS[c] (with land)	ML entitlement	2.40	2.49	3.8	2.85	18.8
ESF HRWS (without land)	ML entitlement	6.02	6.59	9.5	8.76	45.5
ESF LRWS (without land)	ML entitlement	2.50	2.60	4.0	2.97	18.8
Goulburn basin						
Very high reliability	ML entitlement	4.13	4.57	10.7	6.36	54.0
High reliability	ML entitlement	3.89	4.30	10.5	5.98	53.7
Low reliability	ML entitlement	1.97	2.19	11.2	3.04	54.3
ESF HRWS (with land)	ML entitlement	4.80	5.59	16.5	7.47	55.6
ESF LRWS (with land)	ML entitlement	2.61	2.82	8.0	3.88	48.7
ESF HRWS (without land)	ML entitlement	4.80	5.59	16.5	7.47	55.6
ESF LRWS (without land)	ML entitlement	2.61	2.82	8.0	3.88	48.7

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
Campaspe basin						
High reliability	ML entitlement	13.35	14.12	5.8	17.46	30.8
Low reliability	ML entitlement	10.86	11.47	5.6	14.19	30.7
Coliban capacity share	ML entitlement	14.89	15.75	5.8	19.43	30.5
ESF HRWS (with land)	ML entitlement	4.80	5.59	16.5	7.47	55.6
ESF LRWS (with land)	ML entitlement	2.61	2.82	8.0	3.88	48.7
ESF HRWS (without land)	ML entitlement	13.35	14.55	9.0	17.89	34.0
ESF LRWS (without land)	ML entitlement	10.86	11.47	5.6	14.19	30.7
GWMWater						
Iluka external supply fixed charge	ML entitlement	72.24	78.44	8.6	141.85	96.4
Iluka external supply usage	ML entitlement	72.24	78.44	8.6	141.85	96.4
Coliban external supply	ML	267.97	290.43	8.4	525.20	96.0
Glenelg external supply	ML	144.48	156.87	8.6	283.68	96.3
Southern Rural Water						
Gippsland Water		n.p.	n.p.		n.p.	
Western Water		n.p.	n.p.		n.p.	

Notes: n.p. Not provided **a** Prices for Ovens, Broken, Loddon and Bullarook basins not shown. **b** ESF HRWS entitlement storage fee, high reliability water share. **c** ESF LRWS entitlement storage fee, low reliability water share.

4.9.2 Irrigation, drainage and stock and domestic

The five rural water businesses supply water for irrigation and stock and domestic purposes (which involves construction, maintenance and operation of infrastructure) and provide irrigation drainage services (which involve collecting and removing excess water from irrigation areas).

Water supplied for irrigation and stock and domestic purposes accounts for up to 80 per cent of Victoria's water use. The extent to which each rural business provides irrigation, stock and domestic and drainage services varies significantly.

Irrigation services

Prior to unbundling, irrigation charges typically comprised:

- a fixed service fee, which may apply on a per property or per off-take point basis
- an access or infrastructure charge, generally based on the size of a customer's licensed water entitlement and
- a delivery or usage fee, typically based on the volume of water actually supplied, varying depending on the method of delivery (channel or piped).

The unbundling of tariffs recognises that water rights (as they currently exist) consist of three separately identifiable components or rights including:

- a water share – a share of water available for consumption by the entitlement holder
- a delivery share – an entitlement to have a proportion of the water share delivered to the customer's property over a certain period and
- a water use licence – an entitlement and associated conditions for using water for irrigation purposes on a property.

FMIT, Goulburn-Murray Water and Lower Murray Water have already changed their key tariff structures to align with the new unbundled entitlement regime. Southern Rural Water has noted that its irrigation prices will be impacted by the continuing unbundling process over the 2008-13 period.

While the charges levied for irrigation services typically vary according to a number of factors, in practice charges to individual customers are largely fixed since only a small proportion of a customer's total bill reflects actual usage. Goulburn-Murray Water and FMIT also levy excess or overuse charges where customers take water above their licensed entitlements.

FMIT has proposed an average price increase of 7.0 per cent per annum for its irrigation tariffs for the 2008-13 regulatory period. Since the last price review, FMIT has introduced new fees including a 'casual usage' fee for water taken on demand at significant flow rates and an 'auxiliary supply' connection fee (an unmetered connection for irrigators for traditional farm requirements outside irrigation use). The former charges for excess water use up to 10 per cent over allocation and excess water use greater than 10 per cent over allocation have been replaced with a single charge for usage exceeding allocation.

As noted above, Goulburn-Murray Water has proposed prices based on the assumptions developed prior to the announcement of the Foodbowl Modernisation Project, and to resubmit a revised Water Plan in 2008 when full details of the project are known. In its current Water Plan, Goulburn-Murray Water is proposing an average price decrease of 0.5 per cent per annum across all of its irrigation districts for the regulatory period.

In its Water Plan, GWMWater proposed an average annual increase of 15.8 per cent for its irrigation tariffs. There are significant variations within this increase, with the greater part of the increase allocated to the capacity charge. The temporary drought supply charge is proposed to continue until supply capability is restored.

GWMWater has introduced new irrigation charges for 'minimum capacity per ML entitlement' and 'drainage'. Irrigation drainage costs were previously recovered as part of the overall irrigation charge. Following consultation with customers, GWMWater has separated out this charge to apply only to benefiting customers.

Lower Murray Water is proposing an average annual increase in irrigation charges of 1.4 per cent. The price path is variable over the period, with average decreases in 2008-09 and 2010-11 and average increases in the other years of the regulatory period. Additionally, prices and price paths differ by region and charge (for example, in Red Cliffs the delivery share is increasing over the period, while the usage fee and service charge are decreasing).

Lower Murray Water has foreshadowed a number of investments in its irrigation districts, which are expected to deliver efficiency cost savings across the period. The cost drivers of price increases in the irrigation districts include:

- a new high pressure system in Robinvale
- pipelining of the main channel and upgrade of the main pump station in Merbein
- replacing main pump station and total channel upgrade in Red Cliffs and
- a new filter system in Millewa.

Southern Rural Water's unbundling of irrigation tariffs (into a water share, a share of delivery capacity and a licence to use water on land) is scheduled to be implemented on 1 July 2008. Price increases proposed by Southern Rural Water range from 8.7 per cent per annum (Macalister and Latrobe River) to 13.1 per cent per annum (Bacchus Marsh), in nominal terms.

In terms of customer impacts, Southern Rural Water set out the impact of its indicative price increases on small, medium and large irrigation customers over the course of the regulatory period.

Table 4.11 **Proposed prices for irrigation services**
Rural businesses ($1/01/07)

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
FMIT						
Customer charge	Account	146.43	156.16	6.6	167.20	14.2
Service point	Connection	126.91	137.23	8.1	158.84	25.2
Auxiliary supply	Connection	97.62	104.11	6.6	125.40	28.5
Bulk water charge	ML of water share	5.95	5.64	-5.2	5.92	-0.5
Delivery capacity share	ML/14 days	258.70	289.60	11.9	363.66	40.6
Metered use	ML used	36.02	39.90	10.8	39.66	10.1
Usage exceeding allocation	ML used	2000.00	n.a.		n.a.	
Casual usage	ML used	203.05	203.48	0.2	213.69	5.2
High pressure levy	ML used	29.29	45.43	55.1	47.71	62.9
Goulburn-Murray Water[a]						
Service fee	Property	102.99	102.99	0.0	102.99	0.0
Additional Service point fee	Service point	51.50	51.50	0.0	51.50	0.0
Infrastructure access fee	ML/day	2911.81	2821.28	-3.1	2487.41	-14.6
Infrastructure use fee	ML used up to allowance	6.18	6.18	0.0	6.18	0.0
Casual infrastructure use fee	ML used above allowance	49.86	51.58	3.4	46.59	-6.6
Distribution access fee	ML/day	2911.81	2821.28	-3.1	2487.41	-14.6
Distribution use fee	ML used up to allowance	6.18	6.18	0.0	6.18	0.0
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
Termination fee		43677.11	42319.18	-3.1	37311.17	-14.6

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
GWMWater						
Temporary drought supply charge <50mL	Customer	585.73	567.85	-3.1	1026.87	75.3
Temporary drought supply charge >50mL	Customer	976.22	946.41	-3.1	1711.44	75.3
Supply charge		976.22	946.41	-3.1	1711.44	75.3
Capacity charge	ML entitlement	39.05	53.00	35.7	95.84	145.4
Minimum capacity charge	ML entitlement	n.a.	8.04		14.55	
Sales water usage charge	ML	48.81	33.12	-32.1	59.90	22.7
Drainage	Customer	n.a.	200.00		361.67	
Lower Murray Water[b]						
Delivery share	Per DS	308.28	246.17	-20.1	373.32	21.1
Usage fee	ML	40.35	41.65	3.2	36.30	-10.0
Water share	ML water right	5.59	5.73	2.5	5.73	2.5
Service charge	Assessment	97.62	95.19	-2.5	86.07	-11.8
Southern Rural Water[c]						
Water right	ML entitlement	49.98	54.32	8.7	75.78	51.6
Domestic & stock allowance	ML entitlement	49.98	54.32	8.7	75.78	51.6
New domestic & stock allowance[c]	ML entitlement	124.62	135.44	8.7	188.95	51.6
Water sales	ML	49.98	54.32	8.7	75.78	51.6
Domestic & stock pipe permit[d]	ML entitlement	33.52	36.43	8.7	50.82	51.6
Irrigation bulk supply[d]	ML entitlement	9.50	10.32	8.6	14.40	51.6

a Prices shown are for Central Goulburn. **b** Prices shown are for Red Cliffs. **c** Prices shown are for Macalister. **d** These charges apply only to Macalister.

Exit fees

Exit fees are a fee payable where a customer permanently trades water out of an irrigation district, or where water rights are unbundled and a customer wishes to discharge their obligation to pay delivery shares, delivery capacity charges or infrastructure charges.

The Australian Competition and Consumer Commission (ACCC) has examined exit fees and developed a set of principles by which they may be calculated. The ACCC recommended that exit fees show direct consideration for any possible avoidable costs arising from the termination of service and should not include costs associated with past obligations.

FMIT suggested that exit fees may be up to 15 years of fixed costs (being drainage and delivery capacity), depending on the intended period of continued service by the authority, but did not set out any proposed charges.

Goulburn-Murray Water states in its Water Plan that its unbundling reforms are consistent with ACCC recommendations. Termination fees proposed by Goulburn-Murray Water for 2008-09 range from $55 623 in Tresco to $25 113 in Pyramid-Boort.

GWMWater, Lower Murray Water and Southern Rural Water did not provide any information on exit fees in their Water Plans.

It is important that the businesses provide details on the avoidable costs arising from the termination of services associated with customers leaving the permanent market, particularly given the potential magnitude of exit fees.

The Commission will be asking for further information from the rural water businesses regarding their proposals for exit fees.

Stock and domestic services

Stock and domestic services are provided by FMIT, Goulburn-Murray Water, GWMWater and Lower Murray Water. Stock and domestic tariffs typically include both fixed and variable components. Generally the charges are based on the size of a customer's land holding or water allocation and/or the volume of water used. Additional charges are also levied where customers receive water from piped systems due to the increased service costs and greater reliability of these services.

FMIT has proposed an average price increase of 2.1 per cent per annum for its stock and domestic tariffs for the 2008-13 regulatory period. FMIT levies identical charges for stock and domestic customers as for irrigation services excepting charges for 'pressurised service point' fees, the 'delivery capacity charge' (rather than 'delivery capacity share') and a higher charge for 'metered use'. As for irrigation, the former charges for excess water use up to 10 per cent over allocation and excess water use greater than 10 per cent over allocation have been replaced with a single charge for usage exceeding allocation.

Goulburn-Murray Water is proposing an average annual price increase of around 4.4 per cent for its stock and domestic charges. It is proposing to keep many of its charges constant, with most increases going to access fees and storage fees.

From July 2007, water allowance storage fees for Normanville and East Loddon have been removed and the regional urban distribution fee for East Loddon has been replaced with a distribution access fee and a distribution use fee.

GWMWater has proposed to increase its stock and domestic charges by 15.1 per cent per annum on average over the regulatory period. A greater part of this increase is apportioned to pipeline supplied customers. Within this increase there is significant variation, with some customers facing bill increases of as much as 74.9 per cent, while other customers may receive reductions in their bills of up to 28.1 per cent. GWMWater is also proposing to move to a three tiered inclining block tariff for pipeline customers next period, consisting of:

- a fixed primary and supplementary service charge
- a capacity charge based on the nominal allocation (2.5 ML per hectare) and
- a volumetric charge.

GWMWater has also introduced a number of other new charges, including capacity charges for pipeline supplied and supply by agreement (SBA) customers and charges for growth water consisting of a capacity charge, an off-peak capacity charge and a volumetric charge.

Lower Murray Water's proposed prices for stock and domestic services are increasing by an average of 6.0 per cent per annum over the regulatory period. These increases are heavily weighted towards the first two years of the period. Lower Murray Water has indicated that its stock and domestic charges are increasing due to the proposed filter system.

Table 4.12 **Proposed prices for stock and domestic services**
Rural businesses ($1/01/07)

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
FMIT						
Customer charge	Account	146.43	147.79	0.9	139.78	-4.5
Service point - gravity	Connection	126.91	129.88	2.3	132.79	4.6
Service point - pressurised	Connection	185.48	226.19	21.9	242.44	30.7
Bulk water charge	ML of water share	5.95	5.34	-10.3	5.61	-5.7
Delivery capacity charge	Per service	62.17	65.78	5.8	58.11	-6.5
Metered use	ML used	72.05	71.48	-0.8	75.06	4.2
Usage exceeding allocation	ML used	2000.00	n.a.		n.a.	

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
High pressure levy	ML used	29.29	42.99	46.8	45.15	54.1
Goulburn-Murray Water						
Tungamah						
Service fee	Holding	102.99	102.99	0.0	102.99	0.0
Additional service point fee	Service point	51.50	51.50	0.0	51.50	0.0
Water allowance storage fee	ML entitlement	4.80	5.59	16.5	7.47	55.6
Infrastructure access fee	ML entitlement	88.56	94.52	6.7	121.53	37.2
Infrastructure use fee	ML	30.90	30.90	0.0	30.90	0.0
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
Normanville						
Service fee	Holding	102.99	102.99	0.0	102.99	0.0
Additional service point fee	Service point	51.50	51.50	0.0	51.50	0.0
Infrastructure access fee	ML entitlement	98.44	105.89	7.6	139.96	42.2
Infrastructure use fee	ML	104.55	104.55	0.0	104.55	0.0
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
East Loddon						
Service fee	Holding	51.50	51.50	0.0	51.50	0.0
Infrastructure access fee	ML entitlement	2.87	2.76	-3.8	2.35	-18.1
Distribution access fee	ML/day	1619.68	1674.22	3.4	2142.81	32.3
Distribution use fee	ML	6.33	6.33	0.0	6.33	0.0
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
West Loddon						
Service fee	Holding	51.50	51.50	0.0	51.50	0.0
Water allowance storage fee	ML entitlement	4.80	5.59	16.5	7.47	55.6
Infrastructure access fee	ML entitlement	1.29	1.46	13.2	2.40	86.0

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
GWMWater						
Channel supplied						
Area charge div 1	Hectare	2.90	2.95	1.7	5.34	84.1
Area charge div 2	Hectare	1.44	1.47	2.1	2.66	84.7
Area charge div 3	Hectare	0.72	0.74	2.8	1.33	84.7
Area charge div 1 special	Hectare	0.87	0.88	1.1	1.60	83.9
Area charge div 2 special	Hectare	0.43	0.44	2.3	0.79	83.7
Area charge div 3 special	Hectare	0.21	0.21	0.0	0.38	81.0
Minimum area charge		361.20	350.17	-3.1	633.23	75.3
Dam fill	Per fill	82.98	80.44	-3.1	145.47	75.3
Channel diversion fee		82.98	80.44	-3.1	145.47	75.3
Commercial SBA rate	ML	292.87	283.92	-3.1	513.43	75.3
Recreation SBA rate	ML	39.05	37.86	-3.0	68.46	75.3
Pipeline supplied						
Capacity charge	ML	n.a.	617.67		1116.97	
Minimum supply charge		224.53	350.17	56.0	633.23	182.0
Usage – 1st step	kL	0.64	0.72	12.5	1.29	101.6
Usage – 2nd step	kL	n.a.	0.92		1.67	
Usage - excess	kL	n.a.	2.49		4.51	
Household meter charge	Per meter	n.a.	216.73		391.92	
Standard meter charge	Per meter	97.62	111.78	14.5	202.13	107.1

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
Commercial SBA capacity	ML	297.87	283.92	-4.7	513.43	72.4
Commercial SBA volumetric	ML	n.a.	283.92		513.43	
Recreational SBA volumetric	ML	40.00	108.36	170.9	195.95	389.9
Commercial SBA off-peak capacity	ML	n.a.	216.72		391.91	
Headworks SBA capacity	ML	n.a.	94.64		171.14	
Headworks SBA volumetric	ML	40.00	94.64	136.6	171.14	327.9
Walpeup West Bores						
Area charge div 2	Hectare	1.83	1.88	2.7	3.39	85.2
Area charge div 3	Hectare	0.93	0.94	1.1	1.70	82.8
Area charge div 2 special	Hectare	0.55	0.56	1.8	1.02	85.5
Area charge div 3 special	Hectare	0.27	0.28	3.7	0.51	88.9
Minimum area charge	Customer	224.53	350.17	56.0	633.23	182.0
Growth Water						
Capacity charge		n.a.	617.67		1116.97	
Off-peak capacity charge		n.a.	216.72		391.91	
Volumetric rate		n.a.	0.72		1.29	
Lower Murray Water						
WWD						
1st div	Hectare	7.91	6.87	-13.1	7.68	-2.9
2nd div	Hectare	3.94	3.44	-12.7	3.84	-2.5
3rd div	Hectare	1.98	1.72	-13.1	1.92	-3.0

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
Service charge	Per assessment	97.62	95.19	-2.5	86.07	-11.8
Millewa rural						
Access – house	Per connection	349.28	397.29	13.7	439.51	25.8
Access – scrub	Hectare	0.3124	0.3546	13.5	0.4042	29.4
Access – stocked	Hectare	1.2496	1.4182	13.5	1.6166	29.4
Delivery	kL	0.1074	0.1260	17.3	0.1394	29.8
Millewa urban						
Access – offtake	Per connection	349.28	397.29	13.7	439.51	25.8
Access – no offtake	Per connection	174.65	198.65	13.7	219.76	25.8
Delivery	kL	0.3319	0.3779	13.9	0.4180	25.9

Drainage charges

Irrigation drainage services are provided by FMIT, Goulburn-Murray Water, Lower Murray Water and Southern Rural Water. GWMWater levies a drainage charge to benefiting customers as part of its irrigation charges (see above).

Charges for these services are typically based on the volume of water supplied and/or the size of a customer's water entitlement.

FMIT has proposed an average price increase of 6.6 per cent per annum for its drainage tariffs for the 2008-13 regulatory period.

Southern Rural Water has proposed relatively smooth year on year increases for drainage charges.

Lower Murray Water's proposed prices for drainage services are increasing by an average of 1.1 per cent per annum over the period. The price path proposed by Lower Murray Water includes an average increase of 6.3 per cent in the first year, followed by an average decrease of 8.2 per cent and then an average increase of 6.2 per cent in the following years.

Goulburn-Murray Water is proposing an average annual increase in drainage charges of 1.8 per cent. However, there are significant variations in price increases between districts and services and the majority of the increase occurs in the first year of the regulatory period. Goulburn-Murray Water has noted in its Water Plan that it intends to review tariffs for surface drainage services and implement any changes in 2008-09.

Table 4.13 **Proposed prices for drainage services**
Rural businesses ($1/01/07)

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
FMIT						
Drainage charge	ML water use limit	4.80	5.66	17.9	5.94	23.8
Goulburn-Murray Water						
Surface[a]						
Community service drainage fee	Km	463.44	478.35	3.2	478.35	3.2
Service fee	Service	102.99	102.99	0.0	102.99	0.0
Area fee	ha	6.71	6.48	-3.4	6.18	-7.9
Water use fee	ML	4.70	4.68	-0.4	4.47	-4.9
Drainage diversion agreement fee	Service	11.26	11.13	-1.2	11.52	2.3
Subsurface[b]						
Service fee	Service	0.89	1.22	37.1	1.22	37.1
Area fee	ha	2.31	2.99	29.4	2.99	29.4
Water use fee	ML	0.54	0.85	57.4	0.85	57.4
Municipal area fee	ha	9.26	11.94	28.9	11.94	28.9
Loch Garry						
Flood protection fee	ha	4.48	3.58	-20.1	2.86	-36.2
Minimum fee	Customer	351.50	351.50	0.0	351.50	0.0
Lower Murray Water[c]						
Region	ML entitlement	0.25	0.23	-8.0	0.18	-28.0
District	ML entitlement	1.18	1.78	50.8	1.77	50.0
Drainage div 1	ML entitlement	130.86	123.07	-6.0	124.39	-4.9
Drainage div 2	ML entitlement	98.14	92.30	-6.0	93.29	-4.9
Drainage div 3	ML entitlement	65.43	61.53	-6.0	62.20	-4.9
Drainage div 4	ML entitlement	32.71	30.77	-5.9	31.10	-4.9

	Unit	*2007-08*	*2008-09*	*Change (%)*	*2012-13*	*Total change (%)*
Southern Rural Water						
Macalister						
Drainage diversion	ML entitlement	12.55	13.31	6.1	16.84	34.2
Conditional drainage diversion	ML entitlement	6.27	6.65	6.1	8.41	34.1
Werribee						
Drainage diversion	ML entitlement	51.86	56.93	9.8	82.69	59.4
Drainage tariff div 1	ML entitlement	30.81	33.82	9.8	49.13	59.5
Drainage tariff div 2	ML entitlement	23.09	25.35	9.8	36.82	59.5
Drainage tariff div 3	ML entitlement	15.42	16.93	9.8	24.59	59.5

a Prices are for Shepparton **b** Prices are for Central Goulburn **c** Prices are for Merbein.

4.9.3 Diversions and licensing

Diversions occur when an individual customer takes water directly from a river, stream or groundwater aquifer. The right to divert surface water or extract groundwater is conferred by diversion licences. Responsibility for licensing rests with the Minister for Water but is a delegated function of Victoria's rural water businesses.

The role of rural water businesses in providing diversion services involves issuing and administering diversion licences, facilitating the trade of diversion entitlements and specifying the volume of water to be allocated to diversion licence holders (based on licence entitlements and the amount of water available after accounting for the water needs of the environment). Rural water businesses also manage the resources diversion customers draw on, including developing and implementing stream flow management plans and groundwater management plans to enable sustainable water use from stressed rivers and aquifers.

Unlike irrigation services, where water is delivered to properties via networks of channels owned and maintained by the respective authorities, diversion services require licence holders to install their own private works to extract the water from the river or aquifer and deliver it to their property.

Diversion services are provided by Goulburn-Murray Water, GWMWater, Lower Murray Water and Southern Rural Water. The number of diversion customers and total entitlements under diversion licences differs markedly between businesses.

Surface water diversions

Charges for surface water diversions generally consist of a fixed annual service charge and a separate volumetric fee per ML of licensed entitlement. The volumetric fee is based on licensed entitlement rather than volume of water withdrawn, and as a result is effectively a fixed charge to the customer. All businesses with surface water diversion customers charge in this manner except for GWMWater, which charges per ML of licensed entitlement but has no fixed service charge.

Prices for surface water diversions differ between river systems and depend on whether the river is regulated or unregulated. In the case of regulated rivers, flow is controlled by systems of dams and weirs resulting in more reliable supply for diversion customers. Flows in unregulated rivers depend entirely on climatic and geographical conditions meaning that reliability of supply is lower. As a result, charges for diversions from regulated rivers are higher than for unregulated rivers.

Goulburn-Murray Water's proposed prices for surface water diversions are increasing by 10.2 per cent per annum on average for the regulatory period. Proposed prices for the service fee and the overuse fee are remaining constant in real terms, while the delivery charges are increasing. Goulburn-Murray Water has stated that changes have been made to regulated diversions tariffs to support unbundling of entitlements and that revised tariff proposals reflecting these changes will be implemented in 2008-09.

GWMWater is proposing an average yearly increase of 2.9 per cent for surface water diversions over the regulatory period. GWMWater's pricing for diversions reflects the cost of licensing and metering.

Lower Murray Water's proposed charges for surface water diversions are decreasing by an average of 2.9 per cent per annum over the regulatory period.

Table 4.14 **Proposed prices for surface water diversions**
Rural businesses ($1/01/07)

	Unit	*2007-08*	*2008-09*	*Price change (%)*	*2012-13*	*Price change (%)*
Goulburn-Murray Water						
Murray						
Service fee	ML	154.48	154.48	0.0	154.48	0.0
Delivery fee regulated	ML	325.08	385.61	18.6	757.55	133.0
Delivery fee unregulated	ML	11.89	13.75	15.6	23.21	95.2
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
Goulburn						
Service fee	ML	154.48	154.48	0.0	154.48	0.0
Delivery fee regulated	ML	227.46	242.10	6.4	530.32	133.1
Delivery fee unregulated	ML	9.43	11.31	19.9	20.92	121.8
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
Fish farming						
Service fee	ML	154.48	154.48	0.0	154.48	0.0
Water delivery fee	ML	26.88	26.88	0.0	26.88	0.0
GWMWater						
Regulated irrigation	ML	28.80	11.92	-58.6	21.56	-25.1
Unregulated irrigation – on-stream storages	ML	7.81	5.66	-27.5	10.23	31.0
Unregulated irrigation – off-stream storages	ML	2.80	2.81	0.4	5.08	81.4
Regulated S&D	ML	115.00	115.36	0.3	208.61	81.4
Regulated S&D – extra unit	ML	57.50	57.68	0.3	104.31	81.4
Regulated S&D – commercial	ML	172.50	173.05	0.3	312.94	81.4
Unregulated S&D	ML	76.70	76.94	0.3	139.13	81.4
Unregulated S&D – extra unit	ML	38.35	38.47	0.3	69.57	81.4
Unregulated S&D – commercial	ML	115.00	115.37	0.3	208.63	81.4

	Unit	*2007-08*	*2008-09*	*Price change (%)*	*2012-13*	*Price change (%)*
Lower Murray Water						
Licensed volume	ML	4.00	3.32	-17.0	2.69	-32.8
Water share	ML	5.59	5.73	2.5	5.73	2.5
Regional drainage	ML	0.25	0.23	-8.0	0.18	-28.0
Annual permit	Per customer	110.31	107.00	-3.0	107.00	-3.0
Service charge	Per assessment	97.62	95.19	-2.5	86.07	-11.8
Dartmouth						
Licensed volume	ML	4.00	3.32	-17.0	2.69	-32.8
Water share	ML	16.56	14.10	-14.9	14.10	-14.9
Southern Rural Water						
Unregulated systems						
Fixed charge	Licence	230.00	251.32	9.3	358.29	55.8
Entitlement – standard	ML entitlement	7.80	8.52	9.2	12.15	55.8
Entitlement – offstream winterfill	ML entitlement	5.46	5.97	9.3	8.51	55.9
Regulated systems[a]						
Fixed charge	Licence	138.00	154.89	12.2	245.82	78.1
Entitlement – standard	ML entitlement	13.25	14.87	12.2	23.60	78.1
Entitlement – off-stream winterfill	ML entitlement	9.28	10.42	12.3	16.53	78.1
Sales	ML	13.25	14.87	12.2	23.60	78.1

a Prices are for Latrobe system (price increase proposed for Macalister Thompson is 6.1 per cent nominal).

Southern Rural Water is proposing to increase its regulated surface water diversions charges by between 6.1 per cent for Macalister Thompson and 12.2 per cent for Latrobe (in nominal terms). Unregulated surface water diversions are proposed to increase by 9.3 per cent per annum (in nominal terms).

In terms of customer impacts, Southern Rural Water set out the impact of its indicative price increases on small, medium and large unregulated surface water diversions customers over the course of the regulatory period.

Groundwater diversions

Similar to surface water diversions, charges for groundwater consist of an annual fixed fee and a volumetric fee based on licensed entitlement. Volumetric fees differ between groundwater areas and depending on whether the groundwater is extracted from a water supply protection area. The costs to customers of extracting groundwater in water supply protection areas are higher, either in the form of higher volumetric fees or in the case of Goulburn-Murray Water, an intensive management fee which is charged per ML of entitlement in addition to the standard volumetric fee. Like surface water diversions, Goulburn-Murray Water charges an overuse fee on groundwater used in excess of entitlement.

Goulburn-Murray Water's proposed prices for groundwater diversions are increasing by 9.3 per cent per annum on average for the regulatory period. Goulburn-Murray Water is proposing to hold its service fees and overuse fees fixed in real terms over the period, with increases to its entitlement and intensive management fees.

GWMWater is proposing an average annual increase of 12.1 per cent for its groundwater diversions charges over the regulatory period.

Southern Rural Water is proposing an increase of 11.4 per cent per annum (nominal) for groundwater diversions. In terms of customer impacts, Southern Rural Water set out the impact of its indicative price increases on small, medium and large groundwater diversions customers over the course of the regulatory period.

Table 4.15 **Proposed prices for groundwater diversions**
Rural businesses ($1/01/07)

	Unit	*2007-08*	*2008-09*	*Price change (per cent)*	*2012-13*	*Price change (per cent)*
Goulburn-Murray Water						
Service fee	Service	154.48	154.48	0.0	154.48	0.0
Additional service point fee	Service point	77.24	77.24	0.0	77.24	0.0
Entitlement fee	ML	2.02	2.36	16.8	4.16	105.9
Intensive management fee	ML	1.12	1.15	2.7	1.34	19.6
Overuse fee	ML	1952.44	1952.44	0.0	1952.44	0.0
GWMWater						
Wimmera annual fixed charge	Customer	69.31	75.24	8.6	136.06	96.3
Wimmera non WSPA	ML entitlement	1.88	2.92	55.3	5.28	180.9
Neuarpurr WSPA	ML entitlement	2.71	2.04	-24.7	3.69	36.2
Telopea Downs WSPA	ML entitlement	4.36	4.72	8.3	8.53	95.6
Murrayville WSPA	ML entitlement	6.27	6.76	7.8	12.23	95.1
Southern Rural Water						
Fixed charge – general	Licence	230.00	256.24	11.4	394.77	71.6
Fixed charge – Koo-Wee-Rup/Dalmore	Bore	150.00	167.12	11.4	257.46	71.6
Entitlement charge	ML entitlement	2.55	2.84	11.4	4.38	71.8
Usage – Koo-Wee-Rup/Dalmore	ML	35.85	39.94	11.4	61.53	71.6

5 SERVICE STANDARDS GSLS AND OTHER OUTCOMES

The first step in determining the prices that will deliver a water business's required revenue is to clearly establish the service standards and other related outcomes that are to be delivered over the regulatory period. Clearly specifying service levels is an important reference point for making assumptions about future capital and operating expenditure requirements.

The WIRO provides that the Commission may specify to the businesses the standards and conditions of service and supply during the regulatory period either by specifying service obligations through regulatory codes and/or by approving the service standards specified as part of a business's Water Plan.

The Commission has approved Customer Service Codes to apply to all Victorian water businesses providing services to urban customers, and finalised the Code for rural customers. The Codes impose obligations on businesses in relation to general terms and conditions of service. The Water Plans complement the Codes by identifying the proposed service standards relating to key service standards that apply to each business's customers. The proposed service standards may differ to reflect different operating environments and customer needs and preferences. Once the service standards contained in the Water Plan have been approved by the Commission, they will need to be reflected in each business's Customer Charter.

There are a number of core service standards that are often of key concern to customers and which can be significant drivers of costs and overall performance. These include service standards related to supply reliability (such as the frequency and duration of water and sewerage interruptions), leakage targets and other 'physical' service quality requirements. They can also include standards related to the customer interface such as responding to telephone calls and correspondence and the incidence and timely resolution of complaints.

Service obligations may also be externally imposed by other regulators for a range of technical, environmental and social obligations. For example, water quality standards are set principally by DHS, environment related sewerage standards are a matter for the EPA, resource capacity requirements, water conservation and dam safety are the responsibility of DSE. The Commission will consult with these other regulators to determine whether the standards included in Water Plans for these obligations have been appropriately specified and set at reasonable levels.

5.1 Core service standards

Service standards and other related outcomes underpin the businesses' expenditure proposals for the regulatory period and thus proposed prices.

Performance against defined service standards and targets also provides a basis for assessing the extent to which additional expenditure is required to maintain or improve existing service levels and the extent to which seemingly efficient cost gains might have been achieved at the expense of service standards for customers. Customer views and preferences on whether the proposed service standards and targets are appropriate and whether customers are willing to pay for improved services are key considerations in assessing the appropriateness of the proposals.

The Commission has established a set of core service standards for which the businesses are expected to outline targets for the each year of the five year regulatory period. These standards were developed in the 2005 and 2006 reviews because they were likely to be key issues of concern to customers and key cost drivers for the businesses and they continue to be so for the current period.

Table 5.1 **Core urban service standards**

Retail water
Number of unplanned water supply interruptions (per 100 kilometres)
Average time taken to attend bursts and leaks (minutes)
Unplanned water supply interruptions restored within [X] hours (per cent)
Planned water supply interruptions restored within [X] hours (per cent)
Average unplanned customer minutes off water supply (minutes)
Average planned customer minutes off water supply (minutes)
Average frequency of unplanned water supply interruptions (number)
Average frequency of planned water supply interruptions (number)
Average duration of unplanned water supply interruptions (minutes)
Average duration of planned water supply interruptions (minutes)
Number of customers experiencing [X] unplanned water supply interruptions in the year
Unaccounted for water (per cent)
Minimum flow rates at 20 millimetres (mm), 25 mm, 32 mm, 40 mm, 50 mm
Retail sewerage
Number of sewerage blockages (per 100 kilometres)
Average time to attend sewer spills and blockages (minutes)
Average time to rectify a sewer blockage (minutes)
Spills contained within [X] hours (per cent)
Customers receiving [X] sewer blockages in the year (number)
Retail customer service
Complaints to EWOV (per 1 000 customers)
Telephone calls answered within 30 seconds (per cent)

Table 5.2 **Core rural service standards**

Gravity supply (by district/supply system)
Irrigation water orders delivered on day requested (per cent)
Stock and domestic deliveries within [X] days of the initial target delivery period (per cent)
Number of channel burst and leaks (per 100 km of channel)
Unaccounted for water (per cent)
Pumped supply (by district/supply system)
Irrigation water orders delivered on day requested (per cent)
Unavailability of stock and domestic supply systems for continuous periods in excess of [X] hours (per cent)
Number of pipeline bursts and leaks (per 100 km of pipeline)
Unaccounted for water (per cent)
Irrigation drainage (by district/supply system)
Availability of surface drainage schemes (per cent)
Availability of sub-surface drainage schemes (per cent)
Bulk Water
Annual compliance with storage operator obligations (per cent)
Licensing/administration
Applications for surface diversion, groundwater or supply-by-agreement licences determined within [X] days (per cent)
Processing permanent transfer of surface diversion or groundwater licences within [X] days (per cent)
Processing temporary transfer of water entitlement volumes within [X] days (per cent)
Processing permanent transfer of water entitlement volumes within [X] days (per cent)
Number of diversion licences metered or assessed for metering at 30 June (per cent)
Volume of total surface water and groundwater entitlements metered at 30 June (per cent)
Customer service
Complaints to EWOV (number)
Telephone calls answered within 30 seconds (per cent)

The Paper also outlined the Commission's approach to regulating the standards and conditions of supply for water and sewerage services provided to urban and rural customers and the expectation that businesses would:

- propose service standards and targets that are no worse on average than the service levels currently provided (the aggregate average over the last three years);

- consult with their customers on the appropriateness of proposed targets for the coming regulatory period; and
- outline the basis for setting proposed targets and the cost implications of setting proposed targets above or below current standards.

Each business was required to propose service standard targets for each year of the five year regulatory period. Refer to the individual summaries for targets proposed by the businesses.

FMIT was the only rural business to not propose targets for the Commission's core set of service standards. The Commission will work with FMIT to establish a core set of standards before the release of the Draft Decision.

Water businesses have generally proposed changes to targets that are consistent with average performance over the first regulatory period, although some, like South Gippsland Water, are proposing to bring targets into line with the five year average. In both cases, there appears to be some deviations (both upwards and downwards) that may be worthy of further review.

Some businesses appear to have proposed improved standards for some indicators over the regulatory period. For example, Coliban Water has proposed to gradually improve the target for the number of sewerage blockages (per 100km main) from 90 in 2007-08 to 50 by 2012/13. This compares to an average of 96 and 62 over the previous three and five years, respectively. It proposes to achieve this target by implementing its long term *Stop the Block* program.

Goulburn-Murray Water proposes to make a number of improvements to existing service standard targets. In particular, it proposes to increase the percentage of irrigation orders delivered on the day requested in each town serviced.

A number of businesses have proposed changes to targets (both upwards and downwards) citing more robust and accurate historical data as being the basis for these changes. For example, North East Water proposes to reduce the average duration of unplanned water supply interruptions from the current target of 130 minutes to 95 minutes, which is consistent with the three year average recorded.

Unaccounted for water is an important measure of the efficiency of water networks, but is heavily dependent on the network conditions for each business (see table 5.3). The businesses' forecast unaccounted for water standards range from 5 per cent to 34 per cent. Most businesses are proposing to maintain or reduce the level of unaccounted for water over the regulatory period. Coliban Water is proposing the largest reduction in unaccounted for water. It is proposing to gradually reduce to a target of 10.0 per cent over the regulatory period compared to an average over the three previous years of 27.0 per cent[17]. These improvements are expected to result from the extension of the existing urban supply leakage reduction program over the regulatory period.

[17] Note that "unaccounted for water" includes both Coliban Water's urban service measure and an estimate for the rural service.

Table 5.3 **Unaccounted for water**

	3 year average (2005-06 to 2007-08)	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*
Barwon Water	7.0	8.0	8.0	8.0	8.0	8.0
Central Highlands Water	17.2	14.0	12.5	11.0	10.0	10.0
Coliban Water	27.0	20.0	20.0	18.0	18.0	15.0
East Gippsland Water	16.6	13.0	12.2	11.4	11.0	10.0
Gippsland Water	13.1	14.5	14.5	14.3	14.2	14.1
Goulburn Valley Water	9.4	9.8	9.6	9.4	9.2	9.0
GWMWater	24.1	14.0	12.0	12.0	10.0	10.0
Lower Murray Water	9.8	9.0	9.0	9.0	9.0	9.0
North East Water	16.2	18.0	17.0	16.0	15.0	15.0
South Gippsland Water	12.0	14.0	14.0	14.0	14.0	14.0
Wannon Water	9.9	12.0	12.0	12.0	12.0	12.0
Western Water[a]	11.4	10.0	9.5	9.0	8.5	8.0
Westernport Water	11.0 **b**	13.0	13.0	13.0	13.0	13.0

a Forecasts for 2009-10 to 2010-13 taken from Western Water's 2008-13 Water Plan, p.69, rather than information template. ESC to follow-up with Westernport Water on discrepancies between information template and data contained in its Water Plan. **b** Average calculated using actual data for 2006-07 and forecast data for 2007-08 sourced from Westernport Water's 2008-13 Water Plan, p.44, rather than information template. ESC to follow-up with Westernport Water on discrepancies between information template and data contained in its Water Plan.

Some businesses have also proposed reduced standards over the regulatory period, such as:

- Lower Murray Water (urban) has forecast an increase in the amount of time required to rectify sewer blockages from 96 minutes recorded in 2004-05 to 105 minutes. It has attributed this reduced service standard to the introduction of the Road Management Act.
- East Gippsland Water has forecast an increase in the average duration of unplanned water supply interruptions from the three year average of 105.12 minutes in 2005-06, to 125.89 minutes. This represents a notable increase relative to the existing target of 90 minutes. The business has cited the two unplanned supply interruptions in the Marlo district (2005-06) as causing the higher than expected average. It also appears that an outlier in 2003-04 has been ignored, with the two year average now being the basis for the target.

- Two businesses, Goulburn Valley Water and East Gippsland Water, are proposing to increase the target relating to the number of complaints received by EWOV (per 1000 customers). They have indicated that this does not represent a decrease in service standard but rather a definitional change and the miscalculation of the original target respectively.

Businesses have generally indicated in their Water Plans that they have sought to establish customer preferences regarding service levels through customer satisfaction surveys, focus groups, consultation with customer consultative committees and willingness to pay studies.

Businesses have also indicated that they have consulted on specific projects, security of supply, pricing approaches, billing periods, renewals annuity versus regulatory asset base approach, water quality and environmental management. The resulting feedback has been used by businesses to provide support for the Water Plans and where necessary have addressed issues raised through consultation.

In assessing the targets proposed by the water businesses in the Water Plans the Commission will be seeking to:

- understand if the targets proposed by businesses are supported by customers, especially where they differ significantly from historic levels, and
- understand the relationship between proposed expenditure, service levels and price.

5.2 Additional service standards

Beyond the core set of service standards, businesses were free to nominate additional service standards and outputs that reflect business specific services and localised issues. Additional service standards have been proposed by all but four water businesses, FMIT, Lower Murray Water, North East Water and Goulburn-Murray Water.

Examples of additional standards proposed include e. coli compliance, turbidity, water quality complaints, sewer/wastewater odour complaints, response times to emergency/account enquiry lines and customer satisfaction.

Southern Rural Water has proposed twelve new targets for outcomes such as Customer Satisfaction Index, delivery reliability[18] and ANCOLD Dam Monitoring Compliance.

Additionally, the Water Plans have identified a number of initiatives or programs that businesses propose to implement over the regulatory period, for example, reductions in greenhouse emissions, the use of green energy, biosolids reuse, providing services to small towns and the replacement of water meters in rural systems. Often these programs are linked to and are significant drivers to expenditure proposals set out in the Water Plans. These targets provide a basis for

[18] This represents the availability of supply systems to deliver water

assessing the extent to which additional expenditure is required. In most cases businesses did provide outcome targets for these initiatives.

Where these targets reflect obligations placed on the businesses by other regulators the Commission intends to consult with these regulators to ensure that the standards and targets proposed are appropriate.

Furthermore, the Commission will be working with businesses to ensure that targets are provided for all additional services standards that are relevant based on business activities.

5.3 Outcomes from the first regulatory period

All water businesses providing urban services committed to meet approved targets for a core set of service standards in the first regulatory period. Two rural water businesses, Goulburn-Murray Water and Southern Rural Water, also committed to meet approved targets for a different core set of service standards for the period.

Some businesses also committed to meeting approved targets for additional service standards. The Water Plans for these businesses outline progress in the delivery of these outcomes.

Water businesses were generally able to meet and in some cases exceed the approved service standard targets for the first regulatory period. There were a number of standards however, for which the businesses were commonly unable to meet service standard targets.

Generally, businesses reported experiencing higher than expected numbers of unplanned water supply interruptions due to severe drought conditions causing extremely dry ground conditions and movement. For example, a substantial number of interruptions were caused by mains bursts, breakages, leaks, and root intrusion into sewer systems. In addition, a number of businesses have attributed the higher than forecast number of sewer blockages to water restrictions and reduced flows.

Westernport Water reported that the higher number of “reactive” or unplanned maintenance calls has led to a greater requirement of resources, leading to the business utilising the services of external contractors. In its Water Plan, the business also attributed the variability in attendance time to the higher drought induced workload.

There were also a number of businesses that reported shifting priorities due to dry conditions. Southern Rural Water indicated that it reprioritised; “with water availability and efficiency taking on far greater importance relative to immediate customer service”.[19] In maximising water availability and efficiency, certain targets could not be met, such as water orders delivered within one day of being requested.

[19] Southern Rural Water 2007, *Southern Rural Water Final Water Plan 2008 – 2013*, p. 16.

Additionally, a number of businesses have indicated that they did not meet specific targets as they were based on historic data that was found to be inaccurate. For example, GWMWater stated that the "quality of the historical information to support the proposed targets was underdeveloped and subsequent performance monitoring has found that in many cases, actual performance differed markedly from that indicated in the targets …".[20] They noted that they are implementing a significant program to improve the accuracy of data collected.

The Commission will take into account the businesses' performance in meeting targets for the first regulatory period in assessing the reasonableness of proposed targets for the forthcoming regulatory period.

5.4 Guaranteed service levels

The Commission must be satisfied that the prices it approves provide businesses with incentives to pursue efficiency improvements and promote the sustainable use of Victoria's water resources. In some cases however, what may appear to be efficiency improvements (providing services at lower than forecast cost) may be achieved at the expense of service standards and outputs. Therefore it is important to ensure that service standards and outputs reflected in forecast costs and prices are clearly specified and that businesses are provided with balanced incentives to achieve efficiencies while meeting the required service standards.

The service standard targets proposed by businesses and approved by the Commission generally reflect the average performance expected across all customers. They do not indicate the extent to which some customers may experience worse than average performance. That is, a business could maintain average performance while still providing unacceptably low service standards to some customers.

One approach to enhancing incentives for businesses to meet service standards for all customers is to adopt a guaranteed service level (GSL) scheme where businesses provide rebates to customers who receive a level of service that is significantly worse than the average level of performance expected by most customers. Because the cost of an assumed level of payments is reflected in the business's revenue requirement, there is an incentive to minimise the number of events that give rise to payments.

As part of their Water Plans two regional businesses, Western Water and Wannon Water, have proposed GSL schemes for the first time (see table 5.4). This, in addition to the existing GSL schemes provided by five Victorian water businesses Yarra Valley Water, South East Water, City West Water, Barwon Water and Central Highlands Water, will provide over 90 per cent of Victoria's residential population with guaranteed minimum levels of service in the forthcoming regulatory period.

[20] GWMWater 2007, *GWMWater Water Plan 2008 – 2013*, p. 34.

Table 5.4 **Proposed guaranteed service levels**

Service level incurring GSL payment	*Size of GSL payment ($)*			
	Barwon	*Central Highlands*	*Wannon*	*Western*
Water				
Unplanned interruptions not restored within 5 hours		25		
More than 5 unplanned water interruptions 12 months	65	25	50	
Failure to notify of planned interruption				25
Repair of leaking service within 5 business days		25		
Planned interruptions during peak hours (5am to 9am and 5pm to 11pm)				25
Planned interruption longer than advised				25
Sewerage				
Unplanned interruptions not restored within 5 hours		25		
More than 3 interruptions within 12 months	65	25		25
More than 3 spills within 12 months	65			
Spills inside house not contained within 1 hour of notification				100
Spills on private property not contained within 5 hours of notification			500	

Both Barwon Water and Central Highlands Water are proposing to continue GSL schemes first introduced in 1996 and 1997 respectively. Barwon Water has proposed GSLs for multiple water and sewerage interruptions but appears to have discontinued its GSL for inadequate water flow. It is proposing to increase payments from $50 to $65 in line with proposed tariffs (see Table 5.4).

Central Highlands Water has not proposed changes to its existing GSL scheme which covers the following events: timely restoration of unplanned water interruptions; timely repair of leaking normal domestic service pipe; timely response to reported sewerage blockages; and multiple water and sewerage interruptions. Each event attracts a payment of $25.

The payments for GSLs proposed by regional businesses range between $25-65, except for the Wannon Water GSL for sewer spills on private property not contained within 5 hours ($500), and the Western Water GSL for sewer spills inside a house not contained within one hour.

The majority of regional urban businesses including Coliban Water, South Gippsland Water, Goulburn Valley Water, East Gippsland Water, Gippsland Water and North East Water, continue to question the value of introducing a GSL scheme in the coming regulatory period. Furthermore, none of the rural businesses including Lower Murray Water, FMIT, Goulburn-Murray Water, Southern Rural Water and GWMWater are proposing GSL schemes.

GWMWater has deferred any consideration of adopting a GSL scheme until the next regulatory period at which time it expects to have a "more robust knowledge base to support their implementation including a better understanding of the likely impact of any such changes".[21] Similarly, Westernport Water is not reporting on the full range of services until the end of the first year of the regulatory period and has indicated that it will continue to seek customer consultation on GSLs in the future.

In its Water Plan, Lower Murray Water advised that the rural business was not yet in a position to consider GSLs due to a lack of performance data. According to its Water Plan, the business "is aiming for consistency of systems and processes across its urban and rural customer base"[22] and as such it is also not proposing to introduce GSLs for its urban services.

For businesses with existing GSL schemes, the Commission had approved an exclusion for the first regulatory period that relieved the businesses of the need to make a credit to a customer's account for failure to meet a guaranteed service level if an event is caused by, or is the responsibility, of the customer or a third party. In its Water Plan, Wannon Water has also proposed this exclusion to their GSL scheme. Western Water did not propose any exclusions.

In deciding whether to approve the proposed GSL schemes, the Commission will need to decide whether the proposed GSL events and payments are appropriate (and have been clearly defined) and whether certain exclusions should apply where a payment would not be warranted.

In their Water Plans, the businesses have been asked to outline the likely cost of proposed GSL schemes over the regulatory period, including the forecast payments (based on historical performance) and any implementation costs (see table 5.5).

[21] GWMWater Water Plan 2008 – 2013 p. 116.

[22] Lower Murray Water Plan 2008 – 2013 Part B, p. 5.

Table 5.5 **Forecast number of GSL payments and costs**

	Number of payments					*Total payments ($)*
	2008-09	*2009-10*	*2010-11*	*2011-12*	*2012-13*	
Barwon	153	153	153	153	153	5 000
Central Highlands	195	195	195	195	195	24 375
Wannon	32	27	20	18	15	25 850
Western	245	212	201	165	121	24 950

The forecasts provided by those businesses proposing GSLs suggest that there is unlikely to be a material impact on prices. Nevertheless, the Commission will assess the businesses' estimated costs compared with their actual historical performance for the proposed GSL measures and efficient costs of administering the scheme.