Yarra Valley Water | a fresh approach

Delivering a reliable, secure water supply

Water Plan 2009/10 - 2012/13

Yarra Valley Water November 2008

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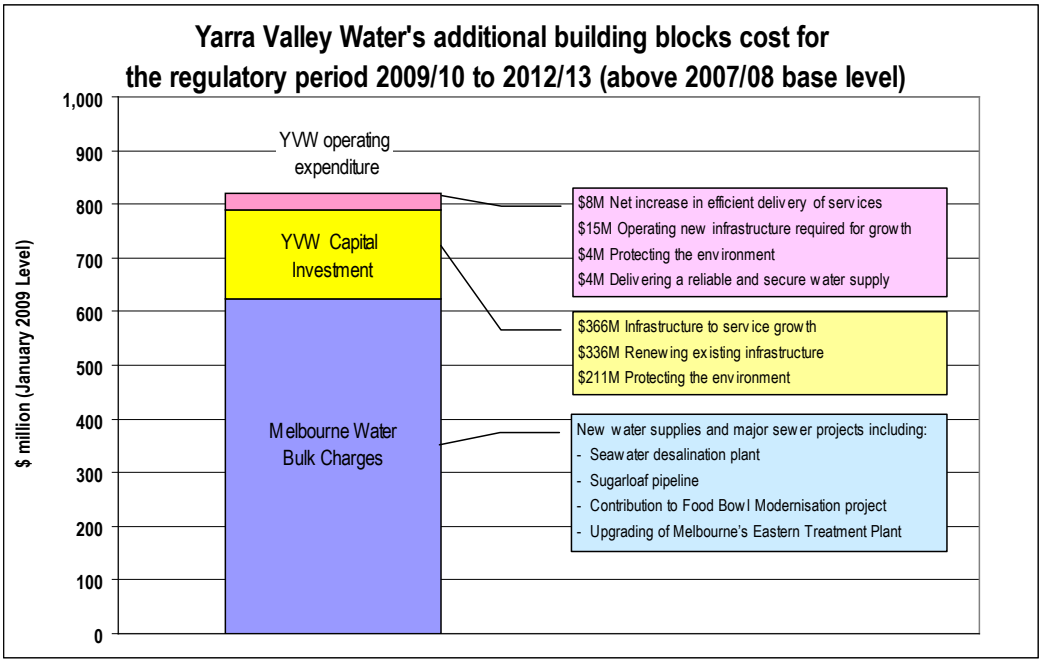
At a glance

Key Messages

- Drought and climate change are resulting in a severe water shortage
- Significant investment in new water supplies will ease water restrictions
- Water prices will increase to fund water supply investments - the Government has announced that average water bills are expected to double. Our water bills will continue to compare favourably with other Australian capital cities.
- Other investments in this plan will fund:
    - construction of extensive water, recycled water and sewerage infrastructure to service Melbourne's rapid growth in the northern suburbs
    - sewer system improvements to protect the environment and improve the health of the Yarra River
    - continued water conservation programs.
- Yarra Valley Water has been independently assessed as one of the most efficient water utilities in Australia – this plan reflects further efficiencies. We will remain at the forefront of efficient water utility service provision.
- While our focus will be on ensuring new sources of water supply, all other levels of service will be maintained.

Investments in this Water Plan

- $1,747 million in operating costs over four years, funding our customers' share of Melbourne's new water supply augmentations:
    - 150 gigalitres seawater desalination plant
    - Sugarloaf pipeline (with additional contribution to Food Bowl Modernisation project)
    - Upgrading of Melbourne's Eastern Treatment Plant
- $913 million of capital investments over four years:
    - $211 million on protecting the environment including construction of the upstream section of the Northern Sewerage Project
    - $366 million on building new water and sewerage infrastructure to service Melbourne's growth, including provision of major water recycling projects
    - $336 million to replace leaky pipes and deteriorating sewerage infrastructure, to save water and maintain services



Typical customer bill

	BASE YEAR 2007/08	20012/13
Average residential bill*	$510.88	$1,005.14 (96.7% increase)

Expressed in 2008/09 dollars

* 165 kilolitres per year

Executive Summary

Introduction

New water supplies will ease restrictions and average bills will double to pay for major investments

Melbourne is currently under Stage 3a water restrictions caused by water shortages associated with drought and climate change. The new water supply augmentation projects announced by the Government in the State Water Plan June 2007[1] will ease the impact of these water restrictions and move Melbourne back to a more reliable, secure water supply.

It is crucial that the new sources of water are delivered and this has a major impact on our prices. We are committed to ensuring that the average bill will no more than double by 2012/13 and this has shaped our Water Plan.

This Water Plan presents the outcomes we intend to deliver and the prices for the four-year period commencing on 1 July 2009.

Our challenges and response

Our priorities

We are prioritising investments to maintain current levels of service in the regulatory period. Our priorities include:

- delivery of the upstream section of the Northern Sewerage Project at a capital cost of $206 million to provide improved environmental outcomes for the Yarra River and sewerage facilities for the growing northern suburbs
- continuation of our backlog sewerage program to prevent septic tank runoff from entering the Yarra River
- building extensive water and sewerage infrastructure to service Melbourne's rapid growth with around $366 million[2] required in the regulatory period to provide the backbone infrastructure in the growing northern suburbs
- renewal of existing infrastructure at a cost of $336 million .

We will continue to be an efficient service provider

Yarra Valley Water has historically achieved the lowest operating costs per property in Melbourne and is amongst the lowest nationally[3] - and we manage our costs to ensure we are efficient[4]. We will continue to lead the water industry in the efficient delivery of services.

1 Victorian Government Department of Sustainability and Environment, 2007, *Our Water Our Future: The Next Stage of the Government's Water Plan*, June.

2 Based on our interpretation of the Essential Services Commission's guidance on cost sharing with developers, we are currently seeking clarification with the Essential Services Commission on interpretation of some aspects.

3 National Water Commission and Water Services Association of Australia, 2008, *National Performance Report 2006-07: urban water utilities*

4 *" ….in real terms, there has been virtually no increase in operating costs over the period 1995/96 to 2006/07 for CWW and SEW. YVW costs, in real terms, have slightly decreased over the same period."* Price Waterhouse Coopers, 2007, *Victorian Competition and Efficiency Commission Financial analysis of Melbourne's water retailers, Final Report,* November. p. 14.

Our Water Plan delivers on the challenges we face

Planned outcomes

The proposed outcomes for the regulatory period have been prioritised to ensure average bills no more than double, and build on the achievements from our first Water Plan (2005/06 to 2007/08). Table ES1 shows the key outcomes for our Water Plan.

Table ES1: Key outcomes for the regulatory period

SERVICE STANDARDS	HISTORICAL AVERAGE: 2005/06-2007/08	TARGET FOR 2009/10 - 2012/13
Delivering a reliable, secure water supply and easing of water restrictions		
Our contribution to delivering State Water Plan augmentation projects		• Contribution to funding major augmentation projects through Melbourne Water's bulk charges
Water conservation to manage the impacts of water restrictions and enable the refilling of dams: per person water consumption (litres per person per day)	277	• Reduction to an average of 243 litres per person per day
Protecting the environment		
Delivery of upstream section of the Northern Sewerage Project ($206 million)		• Completion of Northern Sewerage Project in 2012
Greenhouse gas emissions of CO2 per year (net tonnes)	8,389	• Zero net greenhouse gas emissions
Building extensive water and sewerage infrastructure to service Melbourne's rapid growth		
Meet the needs of developers for timely and efficient provision of water and sewerage infrastructure		• Delivery of approx. $366 million of new water and sewerage infrastructure
Efficient delivery of services		
Drinking water quality – customer complaints (per 1000 customers)	5.6	• Maintain 2005/06 to 2007/08 average service level
Unplanned water supply interruptions (per 100 km)	63.1	• Maintain 2005/06 to 2007/08 average service level
Average time taken to attend bursts and leaks (priority 1) (minutes)	26	• Maintain 2005/06 to 2007/08 average service level
Customers experiencing more than 5 unplanned water supply interruptions in the year (number)	770	• Maintain 2005/06 to 2007/08 average service level

We will maintain service levels

SERVICE STANDARDS	HISTORICAL AVERAGE: 2005/06-2007/08	TARGET FOR 2009/10 - 2012/13
Sewerage blockages (per 100 km)	45.2	• Maintain 2005/06 to 2007/08 average service level
Customers receiving more than 3 sewer blockages in the year (number)	15	• Maintain 2005/06 to 2007/08 average service level
Telephone calls answered within 30 seconds (%)	87.9	• Maintain 2005/06 to 2007/08 average service level
Regulatory outcomes		
Regulatory and Government obligations: • Our Statement of Obligations issued by Minister for Water • Victorian Government policies, e.g. State Water Plan • *Environment Protection Act 1970*, in particular discharge licences and works approvals issued by the Environment Protection Authority for our nine sewage treatment plants, and State Environment Protection Policies • *Safe Drinking Water Act 2003* and associated regulations • *Customer Service Code* issued by Essential Services Commission as expressed in our Customer Charters • *Water Industry (Environmental Contributions) Act 2004* which requires us to pay an annual contribution of $17.5 million per year to Government		• Meet all regulatory obligations

Customer guarantee payments to double

We also propose to enhance our existing Guaranteed Service Level scheme by increasing the payments we make in relation to sewer spills in houses and on properties from $500 to $1,000 and all other items from $25 to $50, to align with the proposed bill increase. This scheme is an important part of our customer service offering and has been an internal driver for customer service improvement since 1996, when we were the first water utility nationally to introduce such a scheme.

Our costs

We are an efficient provider of water and sewerage services

We will achieve more than one per cent per year efficiency gain on our controllable operating expenditure over the regulatory period. This will, in part, be achieved in joint partnership with Melbourne's other water utilities to share services where practical and efficient to do so.

We have taken action in the areas we can control to minimise costs to the greatest extent possible and prioritised expenditure to ensure that average bills no more than double.

Our operating costs are forecast to increase from $273 million in 2007/08 (base year) to $537 million in 2012/13. The additional operating costs are mostly outside of our control. These include:

Increases in operating costs are driven by water augmentations

- **Bulk water charges from Melbourne Water:** which are forecast to increase from $151 million in 2007/08 to $406 million in 2012/13 (170 per cent increase). This cost increase is principally associated with the additional water supply augmentation projects announced in the State Water Plan:
    - seawater desalination plant to produce up to 150 billion litres of water per year
    - contribution to Food Bowl Modernisation Project
    - Sugarloaf pipeline (75 billion litres of water per year capacity)
    - upgrading Melbourne's Eastern Treatment Plant.
- **Urban Growth:** customer numbers are increasing at an average of 8,300 per year requiring additional infrastructure (sewerage and water supply networks, treatment facilities) with associated increases in operations and maintenance costs.
- **Billing:** with prices increasing there are increased costs associated with billing and collection, particularly payment channel costs (merchant service fees).
- **Labour:** across Australia engineering labour costs are increasing well in excess of the consumer price index.
- **IT Systems:** our efficiency and customer service improvements are supported by IT infrastructure and business systems. Technology advancements and increased system integration result in higher maintenance and licence costs.
- **Energy, Fuel and Chemicals:** increased market rates driven by volatile world oil prices and rising energy prices.

The total increase in costs associated with these, other than bulk charges, is $74 million over four years. This will be partly offset by efficiency gains and reductions in operating costs amounting to $42 million over the four years.

We are planning to spend $913 million on capital works

We are planning to spend $913 million in total over four years (an average of $228 million per year) on capital investment projects to achieve the outcomes specified in this Water Plan.

Figure ES1 shows the main increases in our costs for the regulatory period and Table ES2 provides a summary of our expenditure.

Figure ES1: Yarra Valley Water's costs for regulatory period

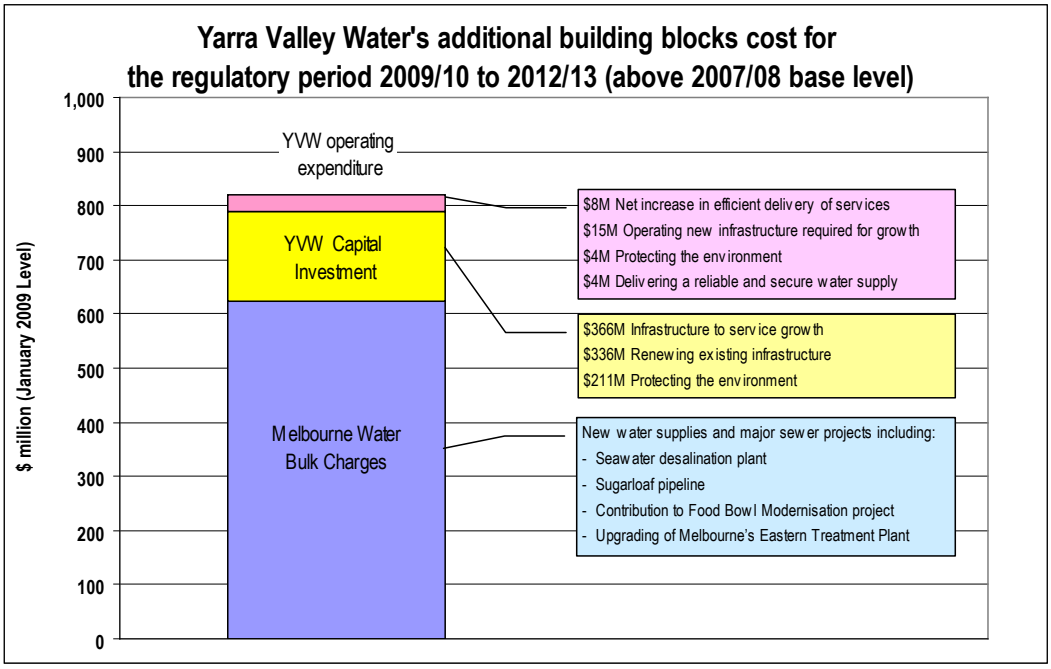


Table ES2: Summary of expenditure ($ million January 2009 levels)

	ACTUAL COST	FORECAST COST					
	BASE YEAR		REGULATORY PERIOD				
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	INCREASE BY 2012/13
Melbourne Water bulk charges	150.57	185.18	219.23	270.28	331.88	405.84	170%
Yarra Valley Water operating expenditure	122.06	125.52	128.57	129.93	130.67	130.86	7%
Yarra Valley Water capital expenditure	164.40	234.45	276.94	230.98	215.23	189.42	15%
Total Expenditure	**437.03**	**545.15**	**624.74**	**631.19**	**677.78**	**726.12**	**66%**

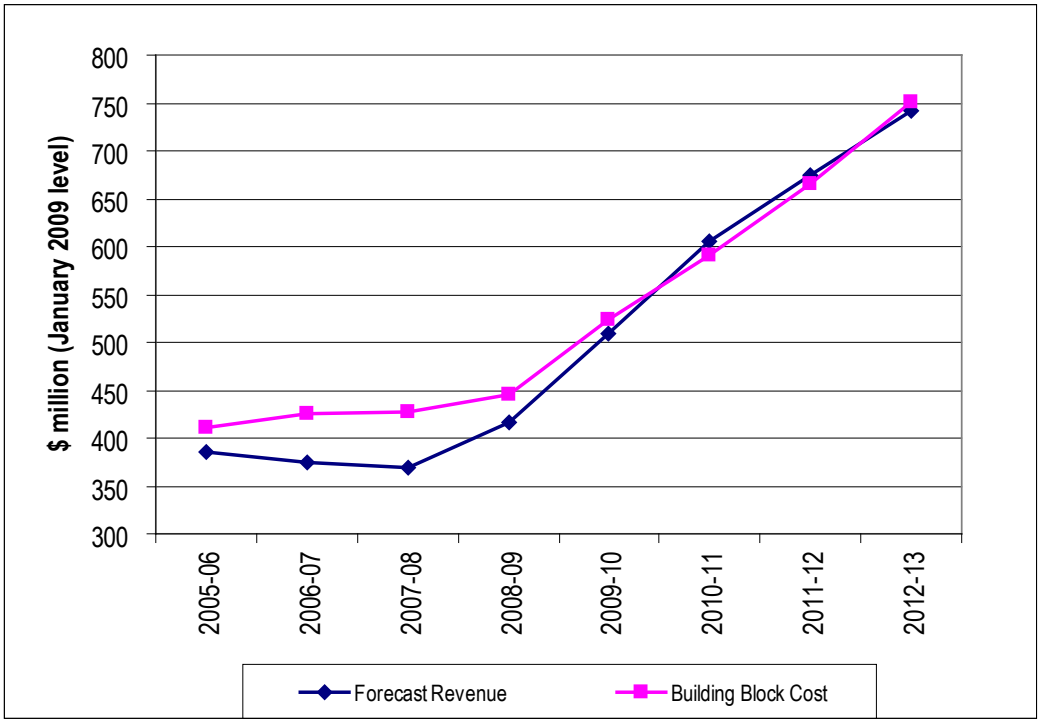
Our revenue requirement is calculated using Essential Services Commission's building blocks method

Revenue required to cover costs

The revenue required to provide our services is calculated using the Essential Services Commission's building blocks methodology. The methodology provides for the required revenue to be the sum of operating expenditure, a return on capital investment (return on asset), depreciation of assets (return of asset) and benchmark tax liability. We have adjusted our regulatory depreciation by $50 million over the four years from July 2009 ($13 million per year on average) to ensure that average bills will no more than double by 2012/13.

Our price increases in initial years of the regulatory period (19 per cent in 2009/10 and 17 per cent in 2010/11) are higher than latter years (11 per cent in 2011/12 and 10 per cent in 2012/13) to match the costs of running our business (refer Figure ES2).

Figure ES2: Yarra Valley Water's building blocks cost versus forecast revenue



The components of our price increase are shown in Figure ES3.

Figure ES3: Yarra Valley Water's building blocks cost increase components

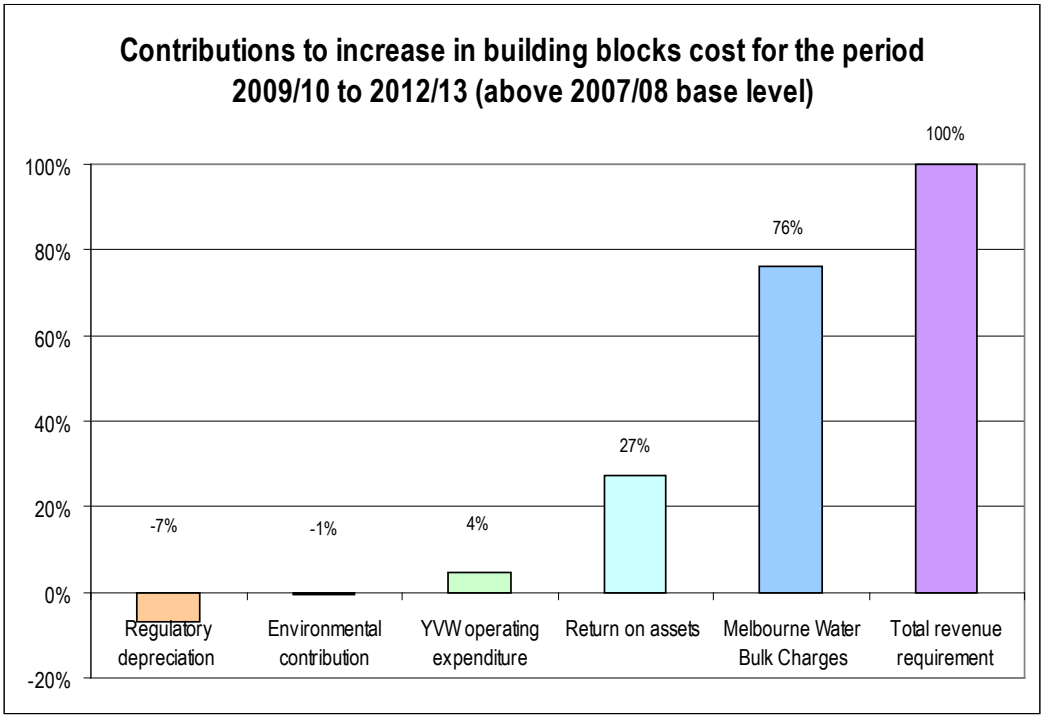


Figure ES3 shows that a key factor in achieving our commitment to bills no more than doubling is the adjustment of regulatory depreciation. We expect that if there are any changes in the building blocks or adjustments in demand forecasts, the Essential Services Commission will further adjust the regulatory depreciation to achieve the proposed price outcome.

Table ES3: Summary of forecast building blocks cost and revenue ($ million in January 2009 levels)

		ACTUAL	FORECAST				
		BASE YEAR		REGULATORY PERIOD			
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Annual price increase (real terms)			14.8%	19%	17%	11%	10%
Building blocks cost	$M	426.97	445.61	522.79	590.02	664.78	751.41
Forecast revenue	$M	365.89	416.23	507.85	605.00	673.36	741.27

We support a revenue cap price control

We believe that the current price cap price control applied by the Essential Services Commission is not the best mechanism to deal with the uncertainties of climate change and drought. Customers' water use is a critical determinant of revenue which can vary significantly from expectations. This is driven in large part by the level of water restrictions.

A revenue cap will ensure that our prices only recover our efficient costs, include a return on investment and enable us to meet our customer and environmental outcomes. Other price control mechanisms can lead to unnecessary over-recovery of revenue at the expense of customers or under-recovery leading to shortfalls in service and environmental outcomes.

Our demand forecasts

Our key demand forecast assumptions

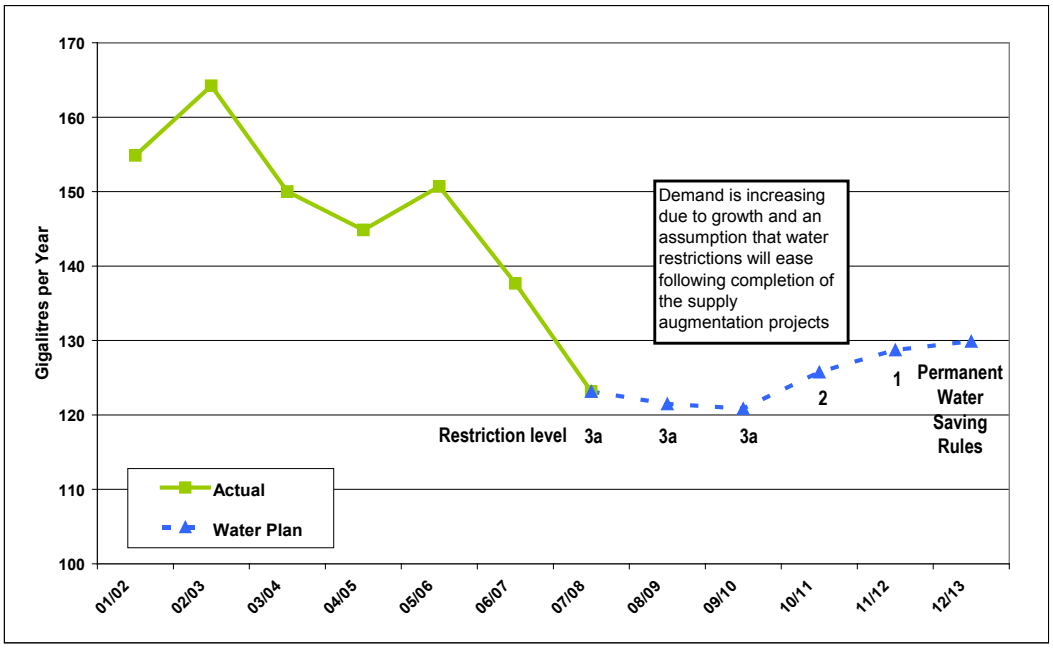
Demand forecasts are important for setting prices. Our key forecast assumptions for the regulatory period are:

- water restrictions of stage 3a in 2009/10, stage 2 in 2010/11, stage 1 in 2011/12 and permanent water saving rules in 2012/13
- total water consumption (per person) to remain around the 2007/08 level of 248 litres per person per day as the gradual exit from water restrictions is counter balanced by changes in customer water use behaviours, continuation of demand management initiatives and customers' response to the planned doubling of prices
- total customer numbers to grow on average by 1.3 per cent per year to reach 705,900 by 2012/13.

Total water consumption is forecast to rise as restrictions are eased

Overall, we expect total water consumption to rise slightly by the end of the regulatory period as supply augmentations become available and water restrictions are eased accordingly. As restrictions are eased, it will be important to continue our water conservation program at current levels to enable Melbourne's dams to refill and provide long-term water supply security in Melbourne. Figure ES4 shows the actual and forecast total customer water demand for the regulatory period.

Figure ES4: Yarra Valley Water's annual historical and forecast customer demand



Our tariffs and prices

Price plays an important role in providing signals to our customers

We plan to leave our tariffs generally unchanged for this Water Plan

Price has an important role to play in signalling to our customers the value of the services and products we provide. Our current tariffs have helped customers control their bills by managing their usage, thus aiding water conservation. Signalling the value of services we provide through tariffs also ensures the cost of treating wastewater before its return to the environment is properly taken into account.

We will undertake an extensive review of our tariff structures during the regulatory period with the possibility that substantial tariff changes may occur for the 2013/14 -2017/18 regulatory period. There is a great deal of activity taking place nationally in respect of urban water pricing and we expect this will help inform potential changes to tariff structures for the longer term. Given this planned review, the high price increases in this regulatory period and our customers' familiarity with our current tariffs, we do not propose major changes to our tariff structures for the regulatory period.

The tariff structure review will also examine whether it is desirable to levy service charges on a connection basis rather than the current title basis. Where there is a compelling case to implement any changes prior to the end of the regulatory period, we will seek the views and approval of the Essential Services Commission.

We propose to make one relatively minor change for the regulatory period. We will amend the method for calculating the sewage disposal charge for residential customers to align with the volume being discharged to sewer for the four water restriction levels.

Melbourne Water has changed the basis of its bulk trade waste tariffs for the regulatory period to:

- total kjehldahl nitrogen (rather than total nitrogen)
- inorganic total dissolved solids (rather than total dissolved solids)
- separate prices for discharges to the Eastern and Western Sewage Treatment Plants for each pollutant parameter from our trade waste customers.

We do not have the demand forecasts to understand the impacts of these changes on our customers and so for 2009/10 and 2010/11 we propose not to change our current trade waste tariff structures. We will look to pass through Melbourne Water's pricing signals in subsequent years of the regulatory period once customer impacts have been assessed and consultation with our customers has been undertaken.

Tables ES4 to ES5 show the key tariffs and prices for the regulatory period.

Table ES4: Tariff structures and prices for residential water and sewerage customers ($ January 2009 levels)

	EXISTING 2008/09 PRICE	PROPOSED 2009/10 PRICE	PROPOSED 2012/13 PRICE
Water fixed charge (per year)	$75.54	$89.89	$128.42
Water usage charge (per kilolitre) Step 1 (0 – 440 litres per day)	$1.0192	$1.2128	$1.7326
Step 2 (441 – 880 litres per day)	$1.1957	$1.4229	$2.0327
Step 3 (881+ litres per day)	$1.7666	$2.1023	$3.0032
Sewer fixed charge (per year)	$184.54	$219.60	$313.72
Sewage disposal charge (per kilolitre)	$1.3181	$1.5685	$2.2408

Typically we recover around 40 per cent of our revenue from residential customers through fixed charges and around 60 per cent through usage charges. An average residential customer using 165 kilolitres in 2008/09 has a bill that is 44 per cent fixed and 56 per cent volumetric.

Table ES5: Tariff structures and prices for non-residential water and sewerage customers ($ January 2009 levels)

	EXISTING 2008/09 PRICE	PROPOSED 2009/10 PRICE	PROPOSED 2012/13 PRICE
Water fixed charge (per year)	$122.62	$145.92	$208.45
Water usage charge (per kilolitre)	$1.0983	$1.3070	$1.8671
Sewerage fixed charge (per year)	$287.18	$341.74	$488.21
Sewage disposal charge (per kilolitre)	$1.2798	$1.5230	$2.1757

1. Introduction and background

This is our four-year Water Plan from July 2009

We provide water and sewerage services to over 1.6 million people

This document presents Yarra Valley Water's Water Plan for the four-year regulatory period commencing on 1 July 2009. The Water Plan has been prepared in accordance with regulatory requirements.

Yarra Valley Water is the largest of Melbourne's water retailers providing water and sewerage services to more than 1.6 million people and 50,000 business customers in an area covering 4,000 square kilometres of Melbourne's northern and eastern suburbs. Within this region, we maintain and operate 9,000 kilometres of water mains and more than 8,600 kilometres of sewer mains.

Figure 1: Yarra Valley Water service area by municipality

Our Water Plan accords with regulatory requirements

In accordance with regulatory requirements and guidance provided by the Essential Services Commission[5], the Water Plan describes:

- the outcomes we intend to deliver for our customers and the environment
- how we meet mandatory regulatory compliance standards
- the operating expenditure and investment needed to deliver these outcomes
- the prices that we propose to charge our customers for water and sewerage services.

5 Yarra Valley Water's Water Plan has been prepared in accordance with the requirements set out in the *Water Industry Regulatory Order,* Yarra Valley Water's *Statement of Obligations* and the Essential Services Commission's *Guidance on Water Plans and Framework and Approach papers.*

2. Key issues and challenges

Drought and climate change is causing uncertainty

We face considerable ongoing challenges, including drought and climate change and the uncertainty associated with these events. The new water supply augmentation projects announced by the Government in the State Water Plan June 2007[6] will ease the impact of water restrictions and move Melbourne back to a more reliable, secure water supply.

Major water supply investment is driving bill increases

It is crucial that the new sources of water are delivered and this has a major impact on our prices. We are committed to ensuring that the average bill will no more than double by 2012/13 and this has shaped our Water Plan.

Our priorities

We are prioritising investments to maintain current levels of service in the regulatory period. Our priorities include:

- protecting the environment by reducing the spillage of untreated sewage from the sewerage network and providing capacity for growth in the northern suburbs by constructing the upstream section of the Northern Sewerage Project at a capital cost of $206 million by 2012
- continuation of our backlog sewerage program to prevent septic tank runoff from entering the Yarra River
- building extensive water and sewerage infrastructure to service Melbourne's rapid growth with around $366 million[7] required in the regulatory period to provide the backbone infrastructure in the growing northern suburbs.
- renewal of existing infrastructure as a cost of $336 million.

Planning must be adaptive to deal with climate change

We can no longer base our planning on simply extrapolating long-term historic data, particularly in relation to rainfall. Planning must be based on an adaptive approach where plans are prepared for various scenarios.

We will continue to be an efficient service provider

We are seeking to efficiently deliver services; in particular we are seeking to improve further on our already notable level of efficiency[8] while maintaining current customer service levels.

Further details of these challenges are provided below.

6 Victorian Government Department of Sustainability and Environment, 2007, *Our Water Our Future: The Next Stage of the Government's Water Plan*, June.

7 Based on our interpretation of the Essential Services Commission's guidance on cost sharing with developers. We are currently seeking clarification with the Essential Services Commission on interpretation of some aspects.

8 *"…the retailers were found to be operating efficiently."* Victorian Government Response to the Victorian Competition and Efficiency Commission's Final Report. *WaterWays: inquiry into Reform of the Metropolitan Retail Water Sector*, 3 July 2008, p. 34.

2.1 Delivering a reliable, secure water supply and easing of water restrictions

Actions in the State Water Plan to secure water supplies

In June 2007, the Government announced a number of actions to steadily move back to unrestricted water supplies in Melbourne[9]. These are in addition to the re-introduction of Tarago Reservoir into the Melbourne water supply system and the use of alternative water sources announced in the Central Region Sustainable Water Strategy in 2006[10]. The additional water supply augmentation projects are:

- **A new seawater desalination plant** to provide 150 gigalitres annually to Melbourne's water system by late 2011.
- **Modernisation of Victoria's food bowl** in the Goulburn Valley (Northern Victoria Irrigation Renewal Project) at a cost of up to $2 billion with Melbourne contributing $300 million towards the cost of this project. The water savings from this project are to be shared between irrigators, the environment and Melbourne. The first 75 gigalitres is to be provided to Melbourne from early 2010.
- **Expansion of Victoria's water grid** including enabling the transfer of 75 gigalitres of Goulburn Murray water by constructing the Sugarloaf pipeline between the Goulburn River near Yea and Sugarloaf Reservoir by early 2010.
- **Upgrading of Melbourne Water's Eastern Treatment Plant** to provide over 100 gigalitres of recycled water in 2012.
- **Support for new and existing water conservation programs for homes and industry** as a litre of water saved is generally cheaper and more immediate than water supply augmentation measures, reduces greenhouse gas emissions and produces other environmental benefits. The current range of water conservation programs, such as the very successful showerhead exchange program, will continue.

The State Government's Central Region Sustainable Water Strategy in 2006 identified that Melbourne had an annual water supply shortfall of 89 gigalitres based on the previous ten years of rainfall and streamflows (refer Figure 2)[11]. Without water supply augmentation measures and with an expected 32 per cent increase in population to 4.6 million people, this shortfall was predicted to grow to 192 gigalitres by 2055. The strategy recognised that many rivers in the Central Region were already stressed and that building new dams to meet the city's water needs is not sustainable. Recent information from the Australian Bureau of Statistics has indicated that Melbourne's long-term growth is likely to be above the forecast in the Central Region Sustainable Water Strategy[12], so the forecast long-term supply deficit is now much higher.

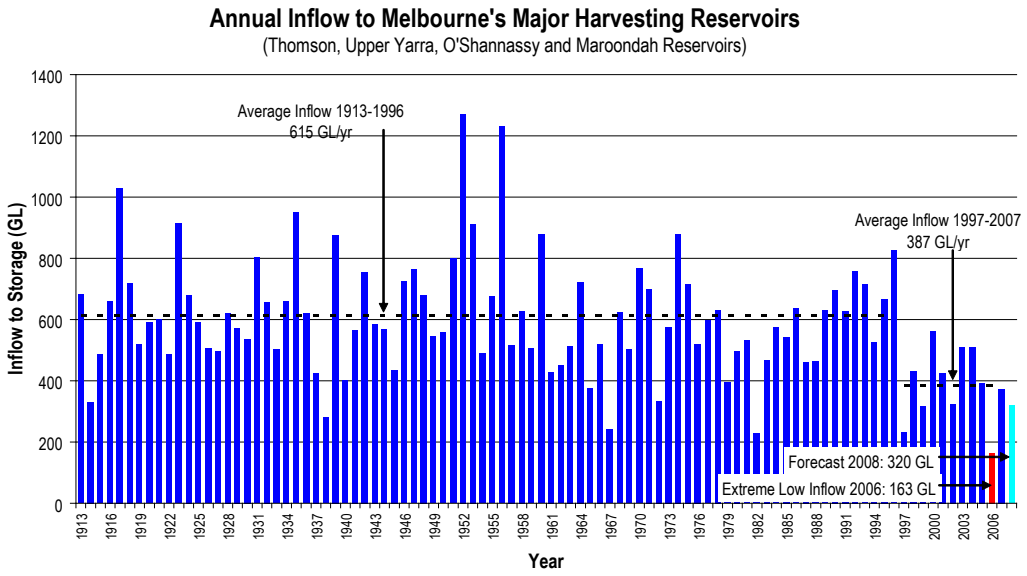
Figure 2: Annual inflows to Melbourne's major harvesting reservoirs

9 Victorian Government Department of Sustainability and Environment, 2007, *Our Water Our Future: The Next Stage of the Government's Water Plan,* June.

10 Victorian Government Department of Sustainability and Environment, *Sustainable Water Strategy, Central Region, Action to 2055*, Melbourne, October 2006, p. 90.

11 Ibid.

12 Victorian Government Department of Sustainability and Environment, 2008, *Augmentation of the Melbourne Water Supply System: Analysis of Potential System Behaviour*, August, p. 13



Melburnians have been on continuous water restrictions since September 2006[13] with progressively higher restriction levels until stage 3a restrictions were introduced in April 2007. Due to the low storage levels, water restrictions in Melbourne are likely to continue well into the period covered by this Water Plan until the planned water supply augmentation projects in the Government's State Water Plan (2007) are completed. Inflows into Melbourne's storages remain low – in 2008, inflows are forecast to be around 320 gigalitres, which is about 20 per cent below the average of the 1997-2007 period, and storage levels are around 34 per cent full. As water restrictions are eased, it will be important to maintain our water conservation program at its current level until at least the end of this regulatory period to cater for the uncertainty of drought and climate change and enable Melbourne's dams to refill so as to provide long-term water supply security to customers. The State Water Plan projects should also over the medium to long-term begin to provide for the challenges of urban growth and climate change.

2.2 Protecting the environment

Major works to protect and enhance the environment

The Yarra River flows through our service area and its continued health is important to the community. In January 2006, the Government, in launching the Government's Yarra River Health Strategy stated[14]:

> "More needs to be done to manage the increasing stress being placed on the Yarra by our growing population, urban development, and intensification of agriculture. But there are no quick fixes or easy solutions: we all need to make a long-term commitment to improve the health of the Yarra."

13 Previously, water restrictions were introduced in November 2002 commencing with stage 1 and increasing to stage 2 in August 2003. These restrictions were lifted in March 2005 and at the same time Permanent Water Saving Rules were introduced.

14 Victorian Government Department of Sustainability and Environment, *Securing quality for a healthy river: Yarra River Action Plan,* Melbourne, January 2006, p. 1.

In line with this Strategy, our Water Plan contains major works to protect and enhance the Yarra River. The key projects are the completion of upstream section of the Northern Sewerage Project and continuation of our backlog sewerage program.

2.3 Building extensive water and sewerage infrastructure to service Melbourne's rapid growth

We are building the backbone water and sewerage infrastructure for the growing northern suburbs

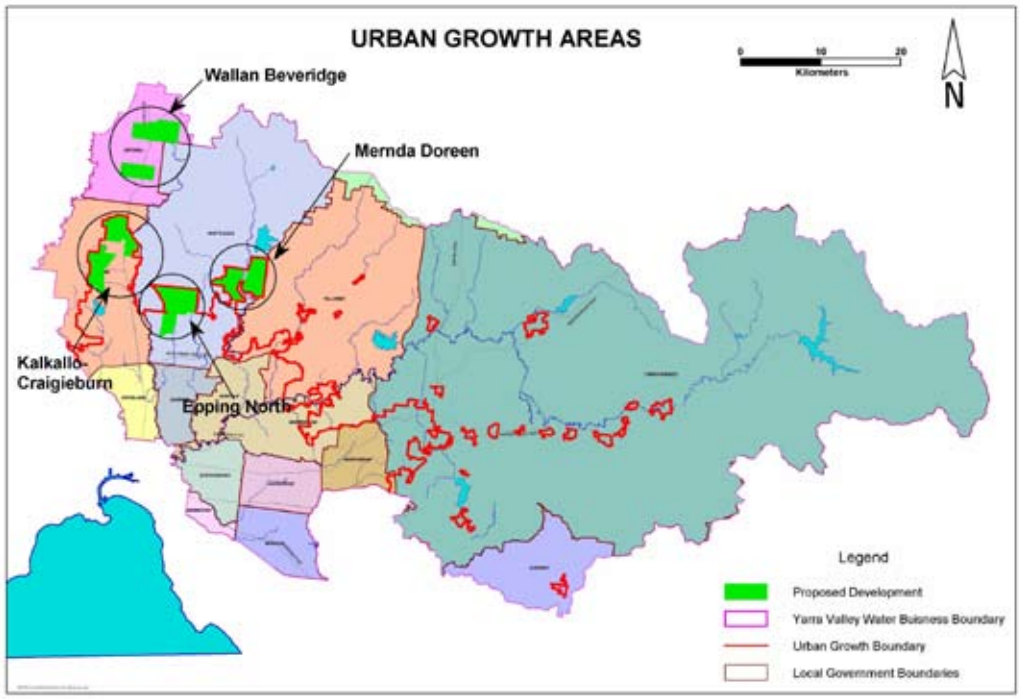
We supply water and sewerage services to one of Melbourne's most significant growth corridors to the north of the city (refer Figure 3). Over the regulatory period we are building the backbone water and sewerage infrastructure to service this development corridor and we are planning to spend $366 million[15] on growth infrastructure. Under Essential Services Commission rules, the significant cost of providing this infrastructure is now mostly borne by our existing customers. Prior to the Essential Services Commission's decision in 2005, developers paid the full cost of servicing new developments with these costs passed onto new home buyers.

New developments mostly will be supplied with recycled water

To reduce demand on traditional water supply sources, some new developments in the northern suburbs are to be provided with recycled water services in addition to potable water services where it is supported by a business case. The existing recycled water treatment plant at Aurora will be commissioned shortly, when adequate sewage flow is available to support the recycled water demand. This plant will provide Class A recycled water into new developments within the Aurora Estate and the adjacent Epping North East development. Construction of a pipeline between Aurora and Craigieburn will commence in 2008/09 and will allow the Class A recycled water to be supplied into a new development at Craigieburn West and a proposed new industrial development at Kalkallo. As subdivisions are developed in these areas, the developers and builders are installing third pipe water systems in the street and within the houses in preparation for recycled water to be made available. Currently around 350 houses are built awaiting the availability of recycled water. By maximising the use of the treatment capacity of the existing Craigieburn and Aurora sewage treatment plants and, with recycling into new subdivisions, we are able to defer for a number of years expenditure on large infrastructure necessary to extend the metropolitan sewerage system to these areas. A new recycled water treatment plant, under construction during 2008/09, will provide recycled water into new subdivisions at Beveridge and Wallan during the regulatory period, and avoid extending the metropolitan sewer system to this area and minimise the upgrading of the existing Wallan Sewage Treatment Plant. The recycled water projects are part of the metropolitan water industry plan to achieve the Government's target of achieving potable substitution targets of 6.2 gigalitres by 2015 (refer section 4.1).

15 Based on our interpretation of the Essential Services Commission's guidance on cost sharing with developers. We are currently seeking clarification with the Essential Services Commission on interpretation of some aspects.

Figure 3: Growth areas



2.4 Efficient delivery of services

We are a low cost service provider

The recent review of the metropolitan retail water sector by the Victorian Competition and Efficiency Commission (February 2008) found that ***"… Melbourne's retailers are performing at a level that is at least comparable to, and more likely above that of, other Australian water businesses"*** [16]. Yarra Valley Water historically has the lowest operating costs per property in Melbourne and has managed its costs to ensure it is efficient. Consultants to the recently completed review of the metropolitan retail water sector by the Victorian Competition and Efficiency Commission stated *"…in real terms, there has been virtually no increase in operating costs over the period 1995/96 to 2006/07 for CWW and SEW. YVW costs, in real terms, have decreased over the same period"* [17]. We are amongst the lowest nationally[18].

We are minimising costs for this Water Plan

We have taken action in the areas we can control to minimise costs to the greatest extent possible and prioritised expenditure to ensure that average bills no more than double. We are committed to achieving more than one per cent per year efficiency gain on our controllable operating expenditure over the regulatory period.

16 Victorian Competition and Efficiency Commission, 2008, *Water Ways: Inquiry into reform of the metropolitan retail water sector,* February, p. 34.

17 Price Waterhouse Coopers, 2007, *Victorian Competition and Efficiency Commission: Financial analysis of Melbourne's water retailers, Final Report,* November. p. 14.

18 National Water Commission and Water Services Association of Australia, 2008, *National Performance Report 2006-07: urban water utilities*

Some operating costs are increasing outside our control

We are facing additional operating costs outside of our control. These expenditure items, above the 2007/08 base year, relate to items where we have minimal ability to influence and, consequently have to be passed through to our customers. These areas include:

- **Bulk water charges from Melbourne Water:** principally associated with the additional water supply augmentation projects announced in the State Water Plan
- **Urban Growth:** property numbers are increasing at an average of 8,300 per year requiring extension of our infrastructure (sewerage and water supply networks, treatment facilities), with associated increases in operations and maintenance costs.
- **Billing:** with bills doubling there are increased costs associated with billing and collection, particularly payment channel costs (merchant service fees).
- **Labour:** across Australia engineering labour costs are increasing well in excess of the consumer price index.
- **IT Systems:** one of the underpinning enablers of our efficiency and customer service improvements has been the organisation's IT infrastructure and business systems. Technology advancements and increased system integration is resulting in higher maintenance and licence costs.
- **Energy, Fuel and Chemicals:** increased market rates driven by volatile world oil prices and rising energy prices.

The total increase in costs associated with these, other than bulk charges, is $74 million over four years. This will be partly offset by efficiency gains and reductions in operating costs amounting to $42 million over the four years.

Our capital program

The capital program for this regulatory period mostly comprises completion of major works to increase the capacity of the sewerage system, building new infrastructure to support Melbourne's growth, and renewing critical water and sewerage infrastructure.

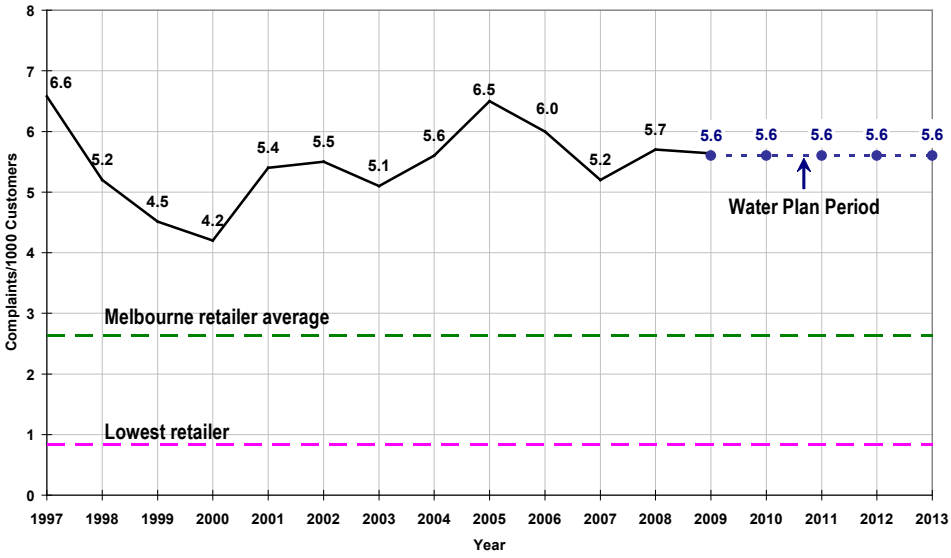
Our area's characteristics impact on service provision and our service performance

Our specific topographic and geologic conditions have a significant effect on our operations and the delivery of services to customers as well as our service performance. These effects include:

- **Aesthetic water quality:** most of our customers enjoy water delivered from protected catchments where it is not filtered or treated, except for the addition of a small amount of chlorine and fluoride. This unfiltered water contains naturally occurring sediments, which reduce as the water makes its way through the water mains. As some of our customers are close to the 'source' of Melbourne's water, particularly Upper Yarra and Silvan Reservoirs, the water can contain natural sediments, making it appear cloudy. While the water is safe to drink and meets drinking water regulations[19], the appearance of the water causes a higher rate of water quality complaints than experienced elsewhere in Melbourne. We have a proactive mains cleaning program; however, due to the drought and water restrictions, this program has been scaled back to conserve water. Our intention is to recommence this program during this regulatory period when water restrictions are eased. Figure 4 shows the projected level of water quality complaints for the regulatory period.

19 As contained in the *Safe Drinking Water Act 2003* and *Safe Drinking Water Regulations* administered by the Department of Human Services.

Figure 4: Water quality complaints

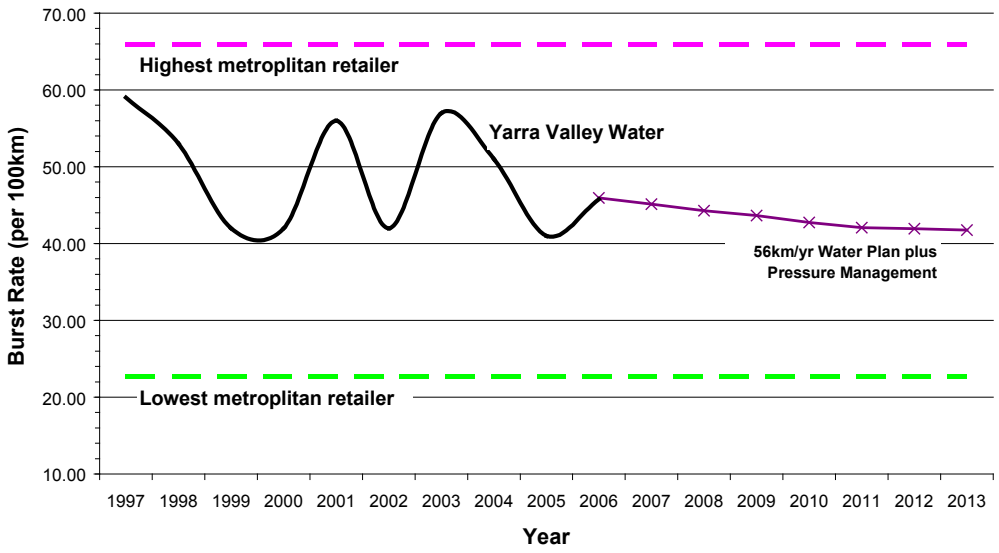


Water supply augmentation projects (desalination plant and Sugarloaf pipeline via Winneke Treatment Plant) will significantly change water supply arrangements to our customers and will improve aesthetic water quality. Proposed integration of these new supplies will provide filtered water to approximately 300,000 customers for eight months of the year and unfiltered for the remainder. While the increase in filtered water is a benefit for our customers, we will make extra effort to manage the transition between unfiltered and filtered water annually. For this Water Plan, we will focus on system management and communications to minimise customer concerns on water quality, analysis to confirm customer impacts and inform proposed investments for the 2013 Water Plan.

- **Pipe bursts and leaks:** the close proximity of our water infrastructure to Melbourne's catchments causes very high pressure, which results in a high number of water main bursts and leaks. Clay-based soils prevalent in our service area means that the soils expand and contract with changes in moisture content and result in a high incidence of cracks and leaks in the pipes. The drought has caused greater ground movement than has been experienced in the past and exacerbated the incidence of pipe bursts and leaks.

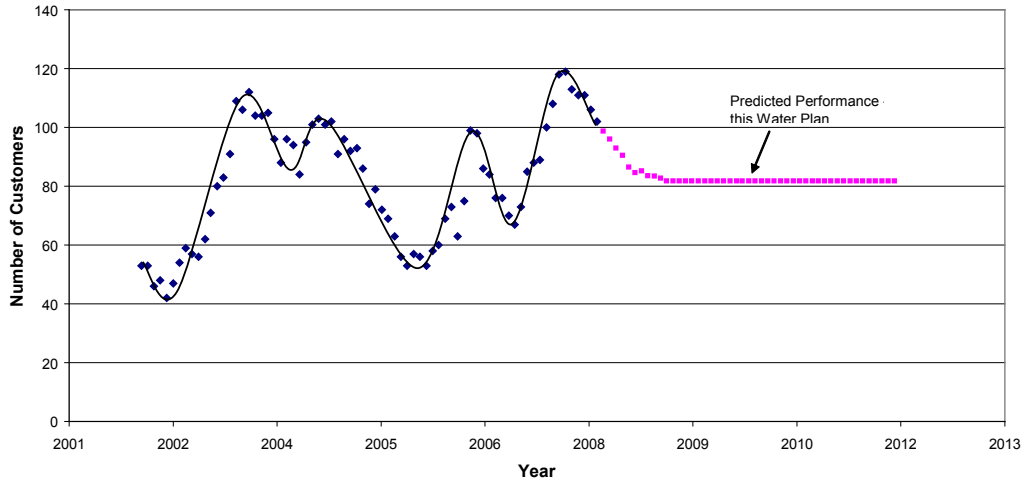
  Our burst rate is forecast to be maintained at the average level from 2005/06 to 2007/08 during the regulatory period due to our water mains renewals and pressure management programs (refer Figure 5).

Figure 5: Forecast burst rate for the regulatory period



- **Sewage spills:** within our service area, many local councils and customers favour large trees. In an environment of dry weather and less watering, the roots from the trees are attracted to other sources of water such as sewers. This tree root infiltration is the major cause of blockages in the sewer system. The record dry conditions have magnified this tree root infiltration and increased the incidence of sewer blockages and spills in our area. For this regulatory period, we will 'hold the line', maintaining the current service level (refer Figure 6).

Figure 6: Number of customers with three or more sewer blockages in one year



2.5 Uncertainty

Key factors that create uncertainty

In addition to the impacts of climate change and drought on our water supplies, a number of other factors create uncertainty for this Water Plan, including:

- **Global financial crisis:** the global financial crisis is causing significant uncertainty with the cost of capital and some of our costs.
- **Local economic impacts from the global financial crisis:** the current economic conditions are likely to result in an increasing number of customers having difficulty in paying increased water bills.
- **Rising capital costs for infrastructure projects:** costs for infrastructure projects are rising with increasing material costs, the widely recognised shortage of engineering skills, rapid growth of infrastructure projects in Australia and the limited availability of experienced contractors.
- **Australian carbon pollution reduction scheme:** the Commonwealth Government is currently developing the rules for a national carbon emissions trading scheme to reduce the level of these emissions. The full implications for our business are unknown.
- **Whole of Government and general financial reporting:** accounting standard, AASB 1049, requires each individual asset to be valued at fair value. The technical issues and cost of this requirement have been subject only to a preliminary assessment.
- **Extent and rate of urban growth:** there is fluctuating demand from developers for water and sewerage infrastructure in the northern growth corridor, which is related to the demand for new houses.
- **Impact of a price increase on demand:** the doubling of bills proposed in this Water Plan (refer Section 7) will cause a reduction in demand for water as customers strive to conserve water to manage within their budgets. The level of this reduction is uncertain as it can only be estimated from a limited number of studies.
- **Impact of water restrictions, demand management / water conservation programs on demand:** the Water Plan contains a number of water conservation programs. Other measures that may reduce demand include continuation of the drought, water restrictions and, as already noted, price increases. The overall result from the combination of these circumstances can only be estimated.

Key assumptions for this Water Plan

In developing this Water Plan, we have made the following key assumptions:

- **Drought and climate change:** the Government's Central Region Sustainable Water Strategy prepared in 2006 identified Melbourne to be currently in deficit by 89 gigalitres per year based on the previous ten years of records. This is the starting point in preparing this Water Plan and assumes that the recent past is more representative of the future than the 100-year historical sequence.
- **Water restrictions:** we have assumed restriction levels of stage 3a in 2009/10, stage 2 in 2010/11, stage 1 in 2011/12 and permanent water saving rules in 2012/13.
- **Demand forecasts:** per person water use will not bounce back to the unrestricted level of pre-water restrictions as customers change their water use behaviours following a number of years of water restrictions and significant price increases in the regulatory period. Under water restrictions, a greater proportion of water entering a property is returned as sewage. Overall, total sewage flows will decrease due to indoor behavioural change and the accelerated take up of water efficient indoor appliances.

- **Infrastructure performance:** as already noted, the drought has caused a significant increase in burst water mains and sewer blockages over the recent years. This Water Plan is based on an assumption that the level of burst water mains and sewerage blockages will remain at the average of the period from 2005/06 to 2007/08 performance level during the regulatory period.

3. Understanding customers' needs

Customer support for water restrictions

Customer research shows that our customers understand that water restrictions are necessary and their overall awareness, comprehension and support for restrictions remains high. Restrictions are having a noticeable impact on customers' behaviours[20].

Customer consultation is undertaken

We consult regularly with our customers and undertake on-going market research to ensure we understand customers' needs, expectations and perceptions and develop service delivery plans to meet those needs. We use a range of methods to inform customers and the community about initiatives, activities and plans and to gain their feedback. We work with our Customer Consultative Committee, undertake on-going market research on customer satisfaction and consult with the community on proposed projects.

As part of preparing this Water Plan, we undertook customer consultation, including:

- 'Water Restrictions' research to understand attitudes and behaviours in relation to water restrictions
- 'Willingness to Pay' research (2006), which gauges how far customers are prepared to pay for service improvements in key areas
- 'Moments of Truth' research to identify customers' perception of and satisfaction with existing services
- research to gauge customers' responses to proposed pricing structures
- consultation with targeted stakeholders to help inform the content of the Water Plan.

Customers' key priorities indicated by research

The outcomes of this consultation and research indicate that customers are mostly concerned about:

- water supply and water restrictions management
- environmental management, particularly the impacts of climate change
- drinking water quality
- water conservation advice and information.

Customers support for programs

We will be maintaining, rather than improving, service levels to ensure bills no more than double. Customers have shown support for additional programs contained in this Water Plan including:

- greenhouse gas emission reductions
- water supply augmentation projects and the easing of water restrictions
- water conservation advice
- reducing environmental impacts on the Yarra River.

20 NWC Research, 2008, *Water Restrictions Survey – Attitudes & Behaviour of Consumers, Part A: Residential Study*, January

4. Planned outcomes

Objectives included in this Water Plan

Our Water Plan delivers on our customers' expectations for a reliable, secure water supply and the easing of the burden of water restrictions. In addition, this Water Plan aims to deliver the following outcomes:

- protecting the environment, particularly through water conservation, greenhouse gas emission reductions and reducing nutrients discharging to major rivers and local creeks
- building extensive water and sewerage infrastructure to service Melbourne's rapid growth
- efficient delivery of customer services while maintaining our current level of service performance
- meeting regulatory obligations.

We have also consulted with regulators to ensure that the regulatory outcomes proposed in this Water Plan best fit their needs and preferences given our objective to ensure bills no more than double over the five-year period from 2008/09.

The proposed outcomes have been developed giving consideration to the challenges we are facing (refer Section 2) and build on the achievements from our first Water Plan (refer Appendix for our measure-up from the first regulatory period (2005/06 to 2007/08)).

4.1 Meeting our customers' expectations for a reliable, secure water supply

Our contribution to achieving State Water Plan outcomes

Our contribution to achieving the State Water Plan[21] outcomes is set out in Table 1.

Table 1: Our contribution to achieving State Water Plan outcomes

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR REGULATORY PERIOD
Our Water Our Future State Water Plan: • Victorian Government Our Water Our Future: The Next Stage of the Government's Water Plan[22]. Action plan to move back to unrestricted water supplies in Melbourne (refer Section 2.1)	• We will fund our customers' share of Melbourne's new water supply augmentations: ° seawater desalination plant ° Sugarloaf pipeline (with additional contribution to Food Bowl Modernisation Project) ° upgrading of Melbourne's Eastern Treatment Plant

21 Victorian Government Department of Sustainability and Environment, 2007, *Our Water Our Future: The Next Stage of the Government's Water Plan*, June,

22 Ibid

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR REGULATORY PERIOD
	• Continued investment in water conservation programs to reduce per person water consumption (refer Table 2). The current range of water conservation programs, such as the very successful showerhead exchange program, will continue. • Total operating costs for water conservation to remain at 2007/08 level of $6.4 million for regulatory period (refer Section 5.2).

Water conservation is key part of measures for overcoming water shortfall

The State Water Plan (2007) identified water conservation as part of the suite of measures to overcome Melbourne's water shortage. Water conservation will continue to play a major role in easing water restrictions while the supply augmentation projects are completed and, then, with the refilling of Melbourne's dams. Given this situation, water conservation programs will be required at current levels until at least the end of the regulatory period. The continuation of the current level of our water conservation program is supported by the conclusion from the State Government's Central Region Sustainable Water Strategy[23] that water conservation is the lowest community cost solution[24]. This Sustainable Water Strategy requires Melbourne's three retail water companies, including Yarra Valley Water, to reduce per person water consumption by 30 per cent from the average of the 1990s by 2015 and, with the continuation of drought and low storage conditions, to accelerate demand management programs.

We have an obligation in our Statement of Obligations to implement the actions from the Central Region Sustainable Water Strategy[25]. Over recent years, water use fell from an average of 382 litres per person in the 1990s to 302 litres per person per day by 2005/06 and then further reduced to 248 litres per person per day in 2007/08 driven largely by water restrictions that escalated to stage 3a in April 2007. Restrictions and the acceleration of water conservation measures caused a greater than expected reduction in potable per person water use in the first regulatory period, with Yarra Valley Water exceeding the targets. The Central Region Sustainable Water Strategy requires demand to be 281 litres per person per day by June 2013[26]. Water conservation remains important for the whole of the regulatory period to ensure water restrictions are lifted and dams are refilled.

23 Victorian Government Department of Sustainability and Environment, *Sustainable Water Strategy, Central Region, Action to 2055*, Melbourne, October 2006.

24 This is through a range of water conservation activities to reduce average potable water demand per person.

25 Clause 27(c) requires us to *"ensure that the program of works or initiatives is consistent with any government sustainable water strategy and subject to customer consultation on the costs and benefits of different demand management and supply initiatives."*

26 Target of 281 litres per person per day is the total ongoing unrestricted weather adjusted average water use.

Water conservation and non-revenue water outcomes

Table 2 shows our planned outcomes for water conservation, non-revenue water (leakage and theft) and recycled water over 2009/10–2012/13.

Table 2: Water conservation, non-revenue water and recycled water outcomes

SERVICE STANDARDS	HISTORICAL AVERAGE: 2005/06-2007/08	TARGET FOR 2009/10 - 2012-13
Water		
Water conservation: per person water consumption (litres per person per day)	277	• Reduction to an average of 242 litres per person per day for regulatory period principally due to water restrictions
Non-revenue water (gigalitres)	21.3	• Maintain 2005/06 to 2007/08 average level
Unaccounted for water (per cent)	13.6	• Maintain 2005/06 to 2007/08 average level
Recycled water from our sewage treatment plants (per cent)	15.7	• Increasing from 2007/08 level of 23% to 38% in 2012/13

Water conservation program details

This Water Plan details how we will deliver on our obligations to increase water conservation. In particular, we plan to:

- continue water conservation measures, such as exchange of inefficient showerheads with water efficient ones, programs to increase the penetration of water efficient washing machines, rebates for customers purchasing water efficient appliances, and programs to ensure commercial and industrial customers continue to achieve water savings
- work with developers, councils and the Environment Protection Authority to maximise recycling in new urban developments to ease pressure on traditional sources of water
- maintain an active leakage detection program. We will also continue our pressure management program[27], and continued use of zone metering to identify water loss areas. International benchmarking studies have shown that our Infrastructure Leakage Index is approaching best practice given the characteristics (that is, high pressure) of our water supply system[28].

Our water conservation program is consistent with the State Water Plan and is based on the actions in the Central Region Sustainable Water Strategy (as previously indicated we have an obligation to implement these actions). The funding for this water conservation plan is approximately $6.4 million per year[29] and our planned actions for the regulatory period are outlined in Table 3.

27 This program targets high pressure water supply zones to reduce the pressure and so reduce system leakage.

28 Carpenter,T., Lambert,A., McKenzie, R., *Applying the IWA Approach to Water Loss Performance Indicators in Australia*, Water Services Association of Australia, 2002.

29 Funding of approximately $6.4 million is contained in 2007/08 base year costs

Per person water consumption to reduce

Table 3 Our water conservation plan

CENTRAL REGION SUSTAINABLE WATER STRATEGY ACTION (MELBOURNE TARGETS)	YARRA VALLEY WATER'S WATER CONSERVATION PLAN
Actions 3.1 and 4.30: Melbourne water authorities to implement water conservation programs to achieve 30 per cent per person reduction from 1990s average by 2015. The Government, in response to continuing low inflow conditions, supports water authorities accelerating conservation programs to bring forward the achievement of targets wherever possible.	• Participate in development, refinement and reporting of Metropolitan Water Conservation Plan • Undertake Appliance Stock Survey and End Use Measurement Study in 2009/10 • Contribute to 'Our Water Our Future' behaviour change campaign and lead in the gardening, schools water efficiency and non-residential laundry components.
Action 4.31: Melbourne water authorities will work to maintain existing water savings by: • conversion of up to 350,000 conventional gardens to water efficient gardens – using plants with low water needs and water-efficiency appliances. • working directly with more than 140,000 householders to show them how to save water in their home. • expected water savings for Melbourne[30]: 2009: 40 GL 2010: 40 GL 2011: 41 GL 2012: 41 GL 2013: 42 GL	• Gardening program will be implemented as restrictions are eased from 2011 to 2013 to promote drought tolerant designs
Action 4.32: Melbourne water authorities will implement an accelerated range of voluntary conservation and efficiency programs to create new water savings in the residential sector, including: • water efficient showerhead program (to replace about 1,000,000 showerheads by 2015) • water efficient washing machine program (to replace almost 400,000 washing machines by 2015); • ensuring evaporative air conditioners on the market are water efficient. 2009: 4.4 GL 2010: 6.9 GL 2011: 10.1 GL 2012: 13.2GL 2013: 16.2 GL	• By 2012/13, retrofit around 349,000 efficient showerheads in existing homes (includes those installed in 2006/07 and 2007/08) • Monitor the purchase of domestic clothes washers rated 4-Star or better. If they fall below the trend of achieving 103,000 in our licence area during the five-year period from 2008/09 we will implement an active promotion scheme. • Develop 'how-to-buy-guide' for evaporative coolers and actively influence inclusion of evaporative coolers under Water Efficiency Labelling and Standards Scheme.

30 These volumes contribute to maintaining current savings and do not reflect any additional savings.

Per person water consumption to reduce

CENTRAL REGION SUSTAINABLE WATER STRATEGY ACTION	YARRA VALLEY WATER'S WATER CONSERVATION PLAN
Action 4.33: Melbourne water authorities will continue to manage the water distribution system and reduce leakage. 2009 - 2013: 2.5 GL/year	• Survey at least 2,600 km of water mains per year • Commence stage 2 of pressure managed areas in another 4% of Yarra Valley Water's customer base • Investigate non-revenue water at the local supply (zone) level
Action 4.34: Melbourne water authorities will expand the Pathways to Sustainability Program to all water users within Melbourne that use 10 ML per year or more (approximately 1500 water users) and implement additional actions to achieve a non-residential target of at least 1 per cent per year of non-residential usage. 2009: 4.6 GL 2010: 6.0 GL 2011: 7.4 GL 2012: 8.8 GL 2013: 10.2 GL	• Work with our 339 customers using 10 ML or more per year to implement water management plans • As a result of extreme drought, assist businesses in applying for funding to implement water saving initiatives • Work with particular industry sectors where large potential for savings have been identified • Undertake research into pricing reforms for non-residential sector
Action 4.36: Melbourne water authorities will invest in the voluntary uptake of a range of local water recycling and reuse schemes, including rainwater tanks, advanced greywater systems, third pipe systems for recycled water in new residential and commercial developments and treatment plants for stormwater reuse. 2009: 0.8 GL 2010: 1.2 GL 2011: 2.0 GL 2012: 3.0 GL 2013: 4.0 GL	• Work with other Melbourne retailers to influence the expansion of Water Efficiency Labelling and Standards Scheme to include cooking woks, washer-dryers and evaporative coolers and minimum efficiency standards for some appliances. • Potable water substitution projects to total 0.9 GL per year by 2012/13 compared to 2007/08.

waterMAPs scheme for large users

Major industrial, commercial and institutional water-using customers that consume more than 10 megalitres per year of water have been required by the Government[31] to:

- develop a water Management Action Plan (waterMAP)
- annually report on the implementation of their waterMAP and water savings.

We developed an online system to assist 339 customers meet the waterMAP obligations, enabling us to be the first retailer within Victoria to have all eligible customers conform to the regulations. These customers are achieving water savings in the order of 1.5 gigalitres (10.9 per cent) through implementation of their waterMAPs.

31 Outlined in the Victorian Water Corporation's Permanent Water Saving Plans (PWSP) created under the *Water Act 1989 and Water Industry Act 1993* .

Water recycling targets

We have incorporated our part of the joint targets set by the Government in the Central Region[32] Sustainable Water Strategy on Melbourne's three retail water companies to:

- recycle 20 per cent of Melbourne's wastewater by 2010
- work with developers and planning authorities to create a plan that will provide an additional 10 gigalitres of water savings by 2030 (or 6.2 gigalitres by 2015)

Our recycling projects are part of the Metropolitan Recycling Plan and our recycling strategy for this Water Plan has already been outlined in Section 2.3.

Table 4 summarises our recycled water projects, which are all committed and contribute to the achievement of the two Melbourne recycling targets.

Per person water consumption to reduce

Table 4: Our recycling projects

	OUR WATER OUR FUTURE STRATEGY	CENTRAL REGION SUSTAINABLE WATER STRATEGY
MELBOURNE TARGET	**20% OF EFFLUENT RECYCLED BY 2010**	**6.2 GL OF POTABLE WATER SUBSTITUTION BY 2015**

Class A supply projects	• Brushy Creek RWTP
	  ° cartage
	  ° Hughes Park irrigation
	• 6.2 GL potable water substitution schemes (refer next column)
		• Third pipe schemes
		  ° Aurora/Epping North East
		  ° Craigieburn West
		  ° Beveridge
		  ° Wallan South
		  ° Croydon/Chirnside Park

Class B supply projects	• Cartage
	  ° Lilydale STP
	  ° Craigieburn STP
	  ° Brushy Creek STP
	• Irrigation
	  ° Craigieburn Golf Course
	  ° Maroondah Golf Park
	  ° Life Ministry Centre
	  ° Whittlesea STP – pasture irrigation
	  ° Growling Frog Golf Course
		• Not applicable

Class C supply projects	• Beveridge agricultural irrigation	• Not applicable
Treatment Plants internal re-use projects	• Lilydale STP • Craigieburn STP • Upper Yarra STP • Brushy Creek STP • Healesville STP • Whittlesea STP	• Not applicable

32 Victorian Government Department of Sustainability and Environment, *Sustainable Water Strategy, Central Region, Action to 2055,* Melbourne, October 2006, p. 51.

4.2 Protecting the environment

We lead in sustainable service provision

Our environmental objective is to provide our services within the carrying capacity of nature and inspire others to do the same. For the first regulatory period (2005/06–2007/08), we were the first water utility globally to commit to a 50 per cent reduction in our greenhouse gas emissions in response to climate change concerns. We exceeded this expectation by achieving zero net greenhouse gas emissions in 2007/08 through the showerhead exchange program.

We are committed to providing sustainable services

The Victorian Government is committed to making environmental sustainability a priority[33] and has articulated a *'clear vision for Victoria to become a sustainable State within one generation'* [34]. The Government's vision has been translated into a direction for us through our Statement of Obligations which requires Yarra Valley Water 'to supply its services sustainably'[35] and to apply *'sustainable management principles'*[36].

Programs for improving sustainability

We have developed and are implementing programs for assessing, monitoring and continuously improving our sustainability performance through:

- reducing potable water consumption (refer Section 4.1)
- reducing nutrient discharges to our waterways (refer Section 4.2.1)
- sustainable productive use of biosolids (refer Section 4.2.2)
- zero net greenhouse gas emissions from our operations (refer Section 4.2.3).

The identified sections set out the specific targets and outcomes to be delivered by the end of 2012/13 for these elements.

4.2.1 Reducing nutrient discharges to our waterways

Northern Sewerage Project is our main environmental project

Backlog sewerage program to be completed by 2025

- Sewage spills to the environment will be reduced through the construction of the upstream section of the Northern Sewerage Project ($206 million).
- We will continue to upgrade our emergency relief structures and plan to fully achieve the requirements of the *State Environment Protection Policy (Waters of Victoria) – Schedule F7 waters of the Yarra catchment* by 2018.
- We will provide modern sustainable sewerage services to properties presently serviced by septic tanks that are unable to contain their effluent on their site[37] (refer Table 5). This is also a key action contained in the State Government's Yarra River Action Plan released in January 2006[38]. We plan to complete our sewerage backlog program by 2025.

33 Victorian Government Department of Sustainability and Environment: *Our Environment Our Future. Victoria's Environmental Sustainability Framework. Creating a healthier environment and a stronger state,* 2005, p. 6.

34 Victorian Government Department of Sustainability and Environment 2006, *Our Environment Our Future – Sustainability Action Statement. p. 12.*

35 Clause 14.1 of Yarra Valley Water's *Statement of Obligations.*

36 Clause 26 of Yarra Valley Water's *Statement of Obligations.*

37 We do not provide reticulated sewerage to all properties with septic tanks in our licence area.

38 Victorian Government Department of Sustainability and Environment, 2006, *Securing quality for a healthy river: Yarra River Action Plan*, Melbourne, January p. 4.

Table 5: Backlog properties provided with sewerage services

ADDITIONAL SERVICE STANDARDS	HISTORICAL TOTAL: 2005/06–2007/08	TARGET FOR 2009/10 - 2012/13
Environment		
Backlog sewerage lots provided with sewerage services (number)	1,107	• 2,660 lots capable of connecting to our sewerage system

4.2.2 Sustainable productive use of biosolids

- During the regulatory period, we will develop productive uses for our biosolids from our sewage treatment plants based on best practice methodologies. Implementation of this program is scheduled for the 2013/14 to 2017/18 regulatory period.

4.2.3 Zero net greenhouse gas emissions from Yarra Valley Water's operations

Zero net greenhouse gas emissions

- We will continue to have zero net greenhouse gas emissions from our operations over the regulatory period based on continuing to use the assigned benefits from the showerhead exchange program, which we began in 2007 (refer Table 6). This program generates greenhouse gas abatements due to lower water consumption delivered by the efficient showerheads resulting in reduced heating requirements.

  The methodology used to calculate the quantity of greenhouse gas abatement per unit of showerheads exchanged, has been verified by an independent consultant, Net Balance Management Group Pty Ltd, who is recognised as one of the leaders in the climate change industry. The showerhead exchange program is considered to be a reasonable abatement program. Yarra Valley Water is currently pursuing certification of the showerhead exchange program as greenhouse gas abatements under a number of appropriate schemes, such as Victorian Energy Efficiency Target.

  If we fail to gain independent certification of the showerhead exchange program as an abatement program, we will look into purchasing of abatement credits that are certified by the Department of Climate Change. As indicated in Section 2.5, the Commonwealth Government is currently developing a national carbon emissions trading scheme under which abatement credits may ultimately be determined. The rules for this national scheme are under development and may not be fully determined until around 2012.

Table 6: Greenhouse gas emissions outcomes

ADDITIONAL SERVICE STANDARDS	HISTORICAL AVERAGE: 2005/06–2007/08	TARGET FOR 2009/10 - 2012/13
Environment		
Greenhouse gas emissions of CO2 per year (net tonnes)	8,389	• Zero net greenhouse gas emissions

4.3 Building extensive water and sewerage infrastructure to service Melbourne's rapid growth

$366 million of growth works planned

We supply water and sewerage services to one of Melbourne's most substantial growth corridors to the north of the city (refer Section 2.3). This Water Plan includes $366 million of infrastructure that will ensure a sustainable supply of drinking water, recycled water and sewerage services to this area. Over the regulatory period, we are building the backbone water, recycled water and sewerage infrastructure to service this development corridor.

Further details of the infrastructure to be provided to service new urban development in Yarra Valley Water's area is outlined in Section 5.3.

4.4 Efficient delivery of services

We are maintaining our customer service level performance

We are at the forefront in providing high quality customer service for many aspects of our service offering. We will maintain current levels of service for the regulatory period while ensuring bills no more than double.

In the first regulatory period (2005/06 to 2007/08), we met or exceeded a majority of the 40 nominated service standards. The standards not achieved were primarily due to the impacts of the extended drought combined with our specific topographic and geologic conditions together with the relative age of our infrastructure (refer Appendix).

We are committed to responding quickly when an unplanned interruption to a service occurs to minimise the impacts to customers. We monitor rectification times closely and maximise our resource capacity, especially during summer months, to meet service standards. We have made a significant investment to increase our resources and improve processes to minimise impact on customers and save water. This has resulted in us exceeding response and rectification service standards in the first regulatory period.

Table 7 provides a summary of planned service performance outcomes for the regulatory period. We plan to maintain the customer service performance levels we delivered in the first regulatory period.

Service performance to be maintained

Table 7: Customer service outcomes for the regulatory period

SERVICE STANDARDS	HISTORICAL AVERAGE: 2005/06–2007/08	TARGET FOR 2009/10 - 2012/13
Water		
Drinking water quality – customer complaints (per 1000 customers) (refer Figure 1)	5.6	• Maintain 2005/06 to 2007/08 average service levels
Unplanned water supply interruptions (per 100 km)	63.1	
Average time taken to attend bursts and leaks (priority 1) (minutes)	26	
Average time taken to attend bursts and leaks (priority 2) (minutes)	38	
Unplanned water supply interruptions restored within 5 hours (per cent)	99.54	
Planned water supply interruptions restored within 5 hours (per cent)	99.64	
Average unplanned customer minutes off water supply (minutes)	25	
Average planned customer minutes off water supply (minutes)	12	
Average unplanned frequency of water supply interruptions (per 1000 customers)	0.28	
Average planned frequency of water supply interruptions (per 1000 customers)	0.08	
Average duration of unplanned water supply interruptions (minutes)	89	
Average duration of planned water supply interruptions (minutes)	141	
Customers experiencing more than 5 unplanned water supply interruptions in the year (number)	770	
Sewerage		
Sewerage blockages (per 100 km)	45.2	• Maintain 2005/06 to 2007/08 average service levels
Average time to attend sewer spills and blockages (minutes)	51	
Average time to rectify a sewer blockage (minutes)	249	
Spills contained within 5 hours (per cent)	100.0	
Customers receiving more than 3 sewer blockages in the year (number)	15	

SERVICE STANDARDS	HISTORICAL AVERAGE: 2005/06–2007/08	TARGET FOR 2009/10 - 2012/13
Customer service		
Complaints to Energy and Water Ombudsman Victoria (per 1,000 customers)	0.07	• Maintain 2005/06 to 2007/08 average service levels
Telephone calls answered within 30 seconds (per cent)	87.9	

GSL scheme payments to double to align with price increase

We also propose to enhance our existing Guaranteed Service Level scheme by increasing our payments in relation to sewer spills in houses and on properties from $500 to $1,000 and all other items from $25 to $50 to align with the proposed price increase. This scheme is an important part of our customer service offering and has been an internal driver for customer service improvement since 1996, when we were the first water utility nationally to introduce such a scheme.

4.5 Regulatory obligations

4.5.1 Introduction

We are required to meet a number of regulatory obligations

The main regulatory obligations applying to us are contained in the following instruments:

- Our *Statement of Obligations* issued by the Minister for Water (refer Section 4.5.2)
- Victorian Government policies (refer Section 4.5.3)
- *Environment Protection Act 1970*, in particular discharge licences and works approvals issued by the Environment Protection Authority for our nine sewage treatment plants, and State Environment Protection Policies (refer Section 4.5.4)
- *Safe Drinking Water Act 2003* and associated regulations (refer Section 4.5.5)
- Essential Services Commission's *Customer Service Code*, as expressed through our Customer Charters (refer Section 4.5.6)
- *Water Industry (Environmental Contributions) Act 2004* which amended the *Water Industry Act 1994* to require us to pay an annual environmental contribution to the Consolidated Fund (refer Section 4.5.7).

These compliance requirements have a material impact on our forecast capital and operating costs over the regulatory period (refer Section 5).

We have prepared our operating expenditure forecasts in accordance with the approach specified in the Essential Services Commission's March 2007 Water Price Review Guidance Paper. The Guidance Paper states that the Essential Services Commission will:

> *"…. 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. Costs associated with additional obligations, functions or service levels will be considered separately"*[39].

39 Essential Services Commission, 2007, *Water Price Review Guidance Paper*, March, p. 24.

The Minister for Water issues our Statement of Obligations

4.5.2 Statement of Obligations

Under *Water Industry Act* provisions, the Minister for Water, after consulting with the Treasurer, is able to issue a Statement of Obligations to us. The Minister issued our first Statement of Obligations for the first regulatory period on 23 July 2004 and the costs associated with these obligations form part of the 2007/08 baseline costs. Revised Statements of Obligations was issued by the Minister in June 2007, 12 June 2008[40] and October 2008. The Minister has also advised that another obligation related to shared services will be added before 1 July 2009. The six new obligations (including the pending obligation) are detailed in Table 8 and these costs are included in the baseline 'business as usual' costs.

Table 8: Additional obligations from July 2007

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Water Supply Demand Strategy (clause 18) Sets out requirement for the four metropolitan water businesses to jointly develop a Water Supply Demand Strategy by 31 March 2007 and every five years thereafter.	• Joint Metropolitan Water Supply-Demand Strategy to be completed by March 2012. • Additional operating costs of $0.3 million have been included over the regulatory period
Research and knowledge (clause 25) Sets out a requirement to identify priority research needs and how we propose to meet those needs.	• Participation in industry research programs (contained in baseline 2007/08 costs) such as those of the Water Services Association of Australia and Cooperative Research Centres. • Water conservation research activities (additional $0.3 million over regulatory period). • Various research trials ($0.6 million over regulatory period)
Sustainable management (clause 26) We must apply Sustainable Management principles in performing our functions and develop and implement programs for improving our sustainability performance including: • responding to climate change • maintaining and restoring natural assets • using resources more efficiently • managing everyday impacts.	• Zero net greenhouse gas emissions from Yarra Valley Water's activities. • All emergency relief structures to achieve the '1 in 5 year' aspirational standard for wet weather sewage spills contained in the *State Environment Protection Policy (Waters of Victoria) – Schedule F7 waters of the Yarra catchment* by 2018. • 2,660 unsewered lots provided with modern sewerage services. • Consistent with the State Water Plan, refilling of dams strategy and the Central Region Sustainable Water Strategy, water consumption to be below the target of 281 litres per person per day by 2013.

40 This revision related to the preparation of a one-year Water Plan for 2008/09.

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
	• Providing recycled water from our sewage treatment plants (20 % effluent recycled by 2010 across Melbourne) and recycled water services to new greenfield developments in the northern suburbs. The additional operating costs to produce class A recycled water to approximately 9,700 serviced lots in 2013 will an extra $0.1 million per year in connection costs. These projects are already committed (refer Table 4 for details) • Remaining costs are contained in baseline operating costs
Sustainable Water Strategy (clause 27) We must manage our demand and supply to ensure we can meet demand for a minimum of seven years and develop a program of works to secure our future water supplies that is consistent with Central Region Sustainable Water Strategy.	• We will fund our customers' share of Melbourne's new water supply augmentations (refer Table 1) • Overall 35.6% reduction in water use to 246 litres per person per day in 2012/13 compared to average of 1990s of 381 litres per person per day. • 31.8% reduction in residential demand to 165 litres per person per day water use in 2012/13 compared to 1997/98 use of 245 litres per person per day. • 47% reduction in business customer water demand to 1,454 litres per business customer per day in 2012/13 compared to 1997/98 use of 2,743 litres per business customer per day • Maintaining 2005/06 to 2007/08 average level of system leakage of 20.3 gigalitres. • Potable water substitution of 0.9 gigalitres per year by 2012/13 compared to 2007/08. • Water conservation activities are contained in the water conservation plan which amounts to approximately $6.4 million per year.

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
River and aquifer health (clause 30) We must manage the impact of our activities on any waterway, aquifer or wetland to minimise environmental impacts on and risks to the aquatic ecosystem.	• Additional groundwater monitoring program at our sewage treatment plants ($0.2 million over regulatory period). • Additional waterway monitoring program at our sewage treatment plants ($0.4 million over regulatory period). • More recycling of water which will reduce discharges of nutrients to rivers and streams.
Shared services and joint procurement of materials (new clause to be inserted by 1 July 2009) We must pursue savings through shared services and coordinated procurement arrangements with the other metropolitan water utilities	• Net savings in operating costs of $0.5 million in 2010/11, $1.5 million in 2011/12 and $2.0 million thereafter

4.5.3 Victorian Government policies

Victorian Government policies have a significant influence on outcomes

The Victorian Government has a number of policies which are influencing the outcomes to be delivered by us in the regulatory period. These are set out in Table 9.

Table 9: Summary of Victorian Government policies

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Our Water Our Future Water Policy: • *Victorian Government Securing Our Water Future Together*[41]. • Overarching water policy document.	• We will meet all actions relevant to us contained in the *Our Water Our Future* policy document.

41 Victorian Government Department of Sustainability and Environment, 2004, *Victorian Government White Paper: Securing Our Water Future Together,* Melbourne, June.

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Our Water Our Future State Water Plan: • *Victorian Government Our Water Our Future: The Next Stage of the Government's Water Plan*[42]. Action plan to move back to unrestricted water supplies in Melbourne (refer Section 2.1 for details).	• We will fund our customers' share of Melbourne's new water supply augmentations: ° seawater desalination plant ° Sugarloaf pipeline (with additional contribution to Food Bowl Modernisation Project) ° upgrading of Melbourne's Eastern Treatment Plant • Continued investment in water conservation programs to reduce per person water consumption (refer Table 2). The current range of water conservation programs, such as the very successful showerhead exchange program, will continue. The next generation of water saving programs will explore innovative ways of conserving water, including smart metering, urban water markets and sophisticated behaviour change programs. Total operating costs for water conservation to remain at 2007/08 level of $6.4 million for regulatory period.
Yarra River Action Plan: • *Victorian Government Yarra River Action Plan*[43] We are required to: • complete Northern Sewerage Project. • undertake backlog sewerage program • work with other stakeholders to improve management of septic tanks • work with Melbourne Water and Environment Protection Authority to reduce stormwater pollution • monitor sewage spills from sewerage system.	• Complete Northern Sewerage Project by 2012. • Provide services to 2,660 backlog sewerage properties and complete backlog sewerage program by 2025. • Complete the program to reduce spills to the environment by achieving the '1 in 5 year' aspirational standard for wet weather sewage spills contained in the *State Environment Protection Policy (Waters of Victoria) – Schedule F7 Waters of the Yarra catchment* by 2018. • Work with stakeholders on management of septic tanks.

42 Victorian Government Department of Sustainability and Environment, 2007, *Our Water Our Future; The Next Stage of the Government's Water Plan,* Melbourne, June.

43 Victorian Government Department of Sustainability and Environment, 2006, *Securing quality for a healthy river: Yarra River Action Plan*, Melbourne, January.

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Environment: • *Victorian Government Our Environment Our Future Action Statement 2006*[44]. Actions impacting on us are: • establishment of independent trade waste standards setting process • State-wide framework for cleaner production. • Statement of Obligations to be adjusted to improve sustainability beyond water savings.	• Participating in industry activities relating to trade waste and monitoring of trade waste pollutants. • Additional operating costs associated with trade waste activities amounts to $0.9 million over the regulatory period.
Biodiversity: *Victoria's Biodiversity Strategy*[45] . We must ensure compliance with all relevant biodiversity legislation.	• We already undertake full environmental impact studies for all major projects. Our environmental strategy and objectives ensure that we are protecting and in some cases enhancing biodiversity. • Additionally, we shall ensure that our biological resources are managed in a sustainable way, and that biodiversity conservation is integrated into all relevant activities. • Costs are included in baseline operating costs.
Greenhouse gas emissions: • *Victorian Government Greenhouse Strategy*[46]. The following targets are included in the strategy: • 15% reduction in energy consumption for Government buildings compared to 1999/2000 levels • Government will purchase 10% of its electricity in the form of green power. • Greenhouse gas emissions associated with the operation of the Government's passenger vehicle fleet will be reduced by 10%.	• Zero net greenhouse gas emissions.

44 Victorian Government Department of Sustainability and Environment, 2006, *Our environment our future: Sustainability Action Statement 2006*, Melbourne, July.

45 Victoria's Biodiversity Strategy is in three parts – *Victoria's Biodiversity – Our Living Wealth, Victoria's Biodiversity – Sustaining Our Living Wealth and Victoria's Biodiversity – Directions in Management.* Refer www.dse.vic.gov.au.

46 Victorian Government Department of Sustainability and Environment, 2005, *Victorian Greenhouse Strategy Action Plan Update 2005,* Melbourne, April.

We work with the EPA to achieve improved environmental outcomes

Planned outcomes include commencement of independent audit recommendations

4.5.4 Environment Protection Authority obligations

Victoria's Environment Protection Authority was established with a charter to protect the Victorian environment within the framework established by the *Environment Protection Act 1970*. The Authority's mission is to enable the safe, clean and sustainable environment that Victorians seek. The obligations administered by the Environment Protection Authority which, we must comply, are outlined in Table 10 and we seek to work with them to achieve improved environmental outcomes.

Since 2004, we have experienced a number of significant dry weather sewage spills resulting from system failures and the subsequent issuing of four Penalty Infringement Notices by the Environment Protection Authority. Following the most recent Penalty Infringement Notice in July 2006, we agreed with the Environment Protection Authority to undertake an independent audit in accordance with Section 53V of the *Environment Protection Act 1970.* The purpose of the audit was to review and assess our processes, procedures and practices in relation to the management of our sewerage system and identify whether the series of system failures was due to a systemic problem. The audit found that we have a positive culture that viewed sewerage asset failure seriously. The audit also found that, while our processes and procedures are robust, there are opportunities to make improvements. We will commence the implementation of the recommendations from the audit during the regulatory period. The recommendations of the audit were:

- implement our recently developed risk-based inspection/replacement programs for siphons and rising mains
- implement our recently developed risk-based sewerage pump station maintenance program
- increase the inspection frequency for sewers that accept high risk trade waste discharges
- implement a trade waste management plan to identify and manage trade waste discharges with high fat contents
- develop specific emergency response plans for high risk sewers and siphons.

Table 10: Summary of Environment Protection Authority regulatory obligations

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Water conservation and resource efficiency: • *State Environment Protection Policy (Waters of Victoria)* We must work with communities and businesses to: • avoid water wastage (and sewage generation) by implementing practical water saving practices and measures (particularly for new developments) • recycle sewage and biosolids • deliver water to customers in an efficient manner.	• Delivery of outcomes contained in the Central Region Sustainable Water Strategy and Metropolitan Water Supply Demand Strategy (refer Section 4.1). • The total cost of our water conservation program is approximately $6.4 million per year (refer Table 3 for details).

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Sewage management – implementing the waste hierarchy for sewage management: • *Environment Protection Act 1970* • Clauses 27, 28, 29 and 31 of *State Environment Protection Policy (Waters of Victoria)* • Clause 12(1)(b) of *State Environment Protection Policy (Waters of Victoria) - Schedule F7 Water of the Yarra catchment)* All sewage treatment facilities are to implement the waste hierarchy. This requires us to implement all practical options to avoid waste generation; particularly residential water consumption and the materials that are discharged to sewer (for example trade waste). As domestic sewage cannot be fully avoided, we must implement water recycling (where practicable) of the remaining sewage as the next highest priority before being permitted to discharge nutrients into waterways. The sustainable re-use of wastewater and treatment sludge (biosolids) is maximised wherever practicable and environmentally beneficial.	• Continued use of the best practice Life Cycle Assessment methodology to analyse the environmental impacts of various options. • Our Sewage Treatment Plants have Environmental Improvement Plans, each of which considers the waste hierarchy. In these plans re-use options are identified. • Our component of the Metropolitan Water Recycling Plan. This plan is consistent with the requirements of the waste hierarchy. • Operating costs are contained in baseline costs
Sewage management – biosolids management: • *Environment Protection Act 1970* • Clauses 27-30 *State Environment Protection Policy (Waters of Victoria)* • Managing sewage discharges to inland waters *(Environment Protection Authority publication 473, 1995)* • Clause 12 *State Environment Protection Policy – Schedule F7 Waters of Yarra catchment* (1999) Compliance with the discharge licences and works approvals issued by the Environment Protection Authority for our sewage treatment plants.	• Continued use of the Life Cycle Assessment methodology to identify the most sustainable management options for biosolids.

	SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
	Sewage Management – sewerage planning (backlog sewerage): • clause 20(2) of *State Environment Protection Policy (Waters of Victoria) - Schedule F7 Waters of Yarra catchment* Local government, in conjunction with the Environment Protection Authority, to identify allotments not capable of treating and retaining wastewater on-site and recommend priorities for provision of reticulated sewerage services. We are to review annually our sewerage plan originally submitted to Government that outlines priorities for service provision; how services are to be provided; and proposed timelines for implementation.	• We will continue to implement our backlog sewerage program with the aim of completing it by 2025. • For the regulatory period, 2,660 lots are forecast to be provided with modern sewerage services. • The capital costs amount to $52.9 million over the regulatory period and the additional operating costs $0.6 million.
	Sewage management – management of the sewerage system: • clause 20(1) of *State Environment Protection Policy Schedule F7 Waters of Yarra catchment* Sewage spills are to be contained for rainfall events with a frequency of at least one in five years. Infrastructure is to be managed and maintained to protect beneficial uses and eliminate system failure.	• We plan to complete the program to reduce spills to the environment by achieving the '1 in 5 year' aspirational standard for wet weather sewage spills contained in the *State Environment Protection Policy (Waters of Victoria) – Schedule F7 Waters of the Yarra catchment* by 2018. • We will begin to implement the recommendations of the Environment Protection Authority's audit.
We will continue to have zero net greenhouse gas emissions	**Sewage management – management of odour and greenhouse gas emissions:** • *State Environment Protection Policy (Air Quality Management).* • *State Environment Protection Policy (Waters of Victoria).* • Managing sewage discharges to inland waters *(Environment Protection Authority publication 473, 1995).* Generation of odours from sewerage system and sewage treatment plants to conform to best practice. We must report on energy consumption and greenhouse gas emissions from sewage treatment plants.	• We have developed an odour management strategy for our sewage treatment plants and this is currently being implemented. • Zero net greenhouse gas emissions from our operations.

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Sewage management – licence compliance: • *Environment Protection Act 1970.* • *State Environment Protection Policy (Waters of Victoria).* • *State Environment Protection Policy – Schedule F7 Waters of Yarra catchment* (1999). We must comply with Environment Protection Authority discharge licence conditions at our sewage treatment plants.	• We will comply with the discharge licences issued by the Environment Protection Authority for our sewage treatment plants. • Operating costs are included in baseline operating costs.
Catchment, waterway and groundwater management: • clauses 15, 18, 40, 41, 42, 43 and 45 *State Environment Protection Policy (Waters of Victoria).* • *State Environment Protection Policy (Groundwater of Victoria).* Requirements associated with environmental flows and groundwater qualities are imposed on us. In relation to groundwater, our operations must not pose a risk to the beneficial uses of groundwater.	• We will continue to undertake approved Environment Protection Authority groundwater and waterway monitoring programs. • Additional operating costs total $0.6 million over the regulatory period
Assessment, monitoring, auditing and reporting: • *Environment Protection Act 1970.* • Sewage treatment plant licences. We must annually report to Environment Protection Authority on sewage treatment plant licence performance, water recycling schemes, biosolids recycling schemes, trade waste received at sewage treatment plants, sewer spills and progress with agreed programs.	• We will continue to submit an annual monitoring report to the Environment Protection Authority. • Costs are contained in baseline operating costs.

We comply with *Safe Drinking Water Act* requirements

4.5.5 Water quality obligations

The *Safe Drinking Water Act 2003* is administered by the Department of Human Services and ensures that water supplies are safe and fit to drink. The aesthetic qualities of water, such as colour, taste and odour, do not fall within the scope of the *Act*. Aesthetic water quality is dependent upon customer preferences, and their willingness to pay for improvements in quality. We were the first company to pass the Department of Human Services' drinking water quality risk management regulatory audit.

Table 11 contains a summary of our drinking water quality obligations.

Table 11: Drinking water quality obligations

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Drinking water quality – safety: • *Safe Drinking Water Act 2003* • *Safe Drinking Water Regulations 2005* The *Safe Drinking Water Act 2003* requires us to prepare and implement plans to manage drinking water quality risks, meet specified standards, disclose to the public information on water quality and report on known or suspected contamination of drinking water to the Department of Human Services. The *Safe Drinking Water Regulations 2005* require us to: • prepare and implement risk management plans • to have the risk management plans audited, meet specified minimum standards • take water samples • prepare an annual report.	• Supply of potable water in accordance with *Safe Drinking Water Act 2003* and *Safe Drinking Water Regulations 2005.* • Costs for drinking water quality activities are included in baseline operating costs.

4.5.6 Customer Service Code

Our obligations for supply of service are set out in our Customer Charters

Our residential and business Customer Charters set out obligations on us and our customers in relation to the supply of services. Our Customer Charters are based on the *Customer Service Code* issued by the Essential Services Commission. Table 12 sets out our customer service compliance obligations over the regulatory period that is contained in our Customer Charters. The costs of these obligations are included in baseline operating costs.

Table 12: Summary of our Customer Charter obligations

SUMMARY OF OBLIGATION	
Drinking water quality - health and safety standards and risk management:	
We will ensure that the quality of the supply of drinking water to the outlet of the meter, or to the property boundary if there is no meter, complies with the health-related parameters of the *Safe Drinking Water Act 2003* and Regulations, or any other requirement set by the Department of Human Services.	
Flow rates:	
Diameter of the property service pipe (millimetres)	Minimum flow rate (litres per minute)
20	20
25	35
32	60
40	90
50	160
Billing and customer contact:	
Compliance with the relevant aspects of the Customer Charters including • requirements in relation to accounts and charging including when and how accounts are sent and the information on the account • account payment requirements including payment difficulties and methods of payment • restriction or disconnection of water and sewerage services • meter reading • enquires, complaints and dispute resolution • hardship policy for customers experiencing difficulties in paying of bills.	

4.5.7 Environmental contribution obligation

As part of the Government's Our Water Our Future initiative water utilities are required to contribute funds to improve the sustainable management of water and these contributions were expected to raise $225 million over the four years to 2007/08. The environmental contribution scheme has been extended by the Minister for Water to encompass the regulatory period. We have received advice from the Department of Sustainability and Environment that the contribution will be $17.5 million in 2008/09 and will remain constant, in nominal terms, until 2011/12. We have assumed this will continue until the end of the regulatory period in 2012/13.

Table 13 outlines the environmental contribution obligation.

Table 13: Summary of environmental contribution obligation

SUMMARY OF OBLIGATION	PLANNED OUTCOME FOR 2009/10 - 2012/13
Environmental Contribution: Section 193 of the *Water Industry Act 1994* Requirement is: • pay to Consolidated Fund a specified amount in accordance with an Environmental Contribution Order issued by the Minister for Water (for 2008/09 this is $17.5 million (nominal) – refer Section 5.2.4)	• We have included a cost of $17.5 million (nominal) per year in our costs to contribute to Government outcomes associated with: ° promotion of the sustainable management of water ° addressing adverse water-related environmental impacts.

Table 14 contains a list of initiatives funded through the environmental contributions from water utilities in 2006/07.

Table 14: 2006/07 Environmental Contribution projects[47]

PROJECT	2006/07 EXPENDITURE ($000)
Protecting and repairing our water sources (104)	**16,869**
• Converting summer licences to winter-fill dams on high priority rivers	1,980
• Establishing and upgrading monitoring capability in river condition, health of fish communities, water quality and quantity and community attitudes	1,914
• Enhancing Catchment Management Authority capability in managing the Environmental Water Reserve	1,775
• Urban Stormwater Management	1,475
• Improving the State's Observation Bore network	1,222
• Effective use of 120GL Bulk Entitlement for the Environmental Reserve	1,038
• Regional Water Education Initiatives and Action Plans	1,025
• Providing environmental flows for the Wimmera River	1,020
• Welcoming water back to the Glenelg	992
• East Gippsland Heritage Rivers	931
• Large Scale River Restorations – Project Management	896
• The Ovens River – Healthline for the Murray	815
• Restoring the great Ocean Road Estuaries	640
• Improving groundwater management – groundwater and surface water interactions	637

47 Victorian Government Department of Sustainability and Environment, 2007, *Annual Report 2007,* October, Appendix 21 p. 167.

PROJECT	2006/07 EXPENDITURE ($000)
• River Health Research and Innovation	290
• Lake Mokoan investigations	164
• Rebates for metering groundwater and surface water extractions	55
Smart Urban Water Initiatives and Recycling (105)	**15,034**
• Recycling and recovery investment program (including capital)	10,487
• Stormwater and urban water conservation fund	2,603
• Smart Water Fund and Smart Urban Design	1,944
Smart Water Farms Sustainable Irrigation (106)	**4,413**
• Water Smart Farms/ Sustainable Irrigation	4,343
• Lake Mokoan Investigations	50
• Water Trading and Adjustment	20
Water Security for Cities, Towns and the Environment (107)	**5,411**
• Unbundling water entitlements and enhancement of water register	1,683
• Sustainable Water Strategies	961
• Legislation Program	598
• Managing future risks to the total water supply – plantations, climate change, logging in Melbourne catchments	593
• Urban Water Regulatory Reform	532
• Accounting and Compliance program	429
• Creation of the Environmental Water Reserve	418
• Catchment Land Use	197
CoAG Living Murray (106)	**2,318**
• GMWRP Water Register	1,513
• GMWRP Applications Transfer Entitlements	721
• Sales Water Package	52
• GMWRP Reconfiguration Works	32
Total Environmental Contributions from the State's 18 water utilities	**44,045**

5. Overview of capital and operating expenditure

5.1 Introduction

We strive to be efficient

We are an efficient company. We make every effort to ensure our expenditure is prudent and efficient. We have critically reviewed our programs to reduce costs while continuing to deliver world class water and sewerage services now and in the future.

We historically have the lowest operating costs per property

The Victorian Competition and Efficiency Commission recently commented in its review of the metropolitan retail water sector *"… Melbourne's retailers are performing at a level that is at least comparable to, and more likely above that of, other Australian water businesses"*[48]. Other reviews have revealed that we historically have the lowest operating costs per property in Melbourne and have managed our costs to ensure we are efficient[49].

Over the first regulatory period (2005/06 to 2007/08) we were committed to delivering environmental and customer service outcomes. We operated within the regulatory benchmark for operating expenditure despite increased expenditure required to meet new regulatory obligations introduced during the period.

A recent study by Coelli and Walding has shown that the Melbourne retailers are on the efficiency frontier[50]. This means that the opportunity for retailers to make significant cost cuts is limited.

Our expenditure on capital projects and programs in the first regulatory period was $513 million – $96 million in excess of the regulatory benchmark. The excess expenditure was primarily due to some growth-related capital expenditure being erroneously omitted by the Essential Services Commission in its Determination (see Section 5.3.2) together with increased costs associated with the Northern Sewerage Project, billing project, pressure management program and construction costs increasing faster than the Consumer Price Index.

We have prioritised our programs

We have taken action in the areas we can control to minimise costs to the greatest extent possible and prioritised expenditure to ensure that average bills no more than double.

Expenditure described in this section relates to the provision of prescribed services contained in the Water Industry Regulatory Order (non-prescribed services are described in Section 7.3).

48 Victorian Competition and Efficiency Commission, 2008, *Water Ways: Inquiry into reform of the metropolitan retail water sector,* February, p. 34

49 *"…in real terms, there has been virtually no increase in operating costs over the period 1995/96 to 2006/07 for CWW and SEW. YVW costs, in real terms, have slightly decreased over the same period."* Price Waterhouse Coopers, 2007, *Victorian Competition and Efficiency Commission: Financial analysis of Melbourne's water retailers, Final Report,* November, p. 14

50 Coelli, T and Walding, S, *The Performance Measurement of the Australian Water Supply Industry, Centre for Efficiency and Productivity Analysis, Water Paper 01/2005,* School of Economics, University of Queensland, 2005

Our costs are rising significantly due to increased bulk charges from Melbourne Water

5.2 Operating Expenditure

We strive to be efficient in our expenditure while ensuring that we deliver world class water and sewerage services. We are committed to achieving more than one per cent per year efficiency gain on our controllable operating expenditure over the regulatory period. Our total operating expenditure is forecast to increase from $273 million in the base year of 2007/08 to $537 million in 2012/13, principally due to increases in Melbourne Water's bulk charges to us (increasing by 170% from $151 million in 2007/08 to $406 million in 2012/13) and to, a far lesser extent, support operation and maintenance of new infrastructure primarily in Melbourne's north. Details of the additional operating expenditure are presented in Sections 5.2.1 to 5.2.4 while Table 15 provides an overview of the operating expenditure for the regulatory period.

Table 15: Overview of operating expenditure ($ million January 2009 level)

	ACTUAL COST	FORECAST COST					
	BASE YEAR		REGULATORY PERIOD				
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	INCREASE
Yarra Valley Water's operating expenditure							
Melbourne Water's bulk charges (Section 5.2.1)	150.57	185.18	219.23	270.28	331.88	405.84	170%
Operating costs (Section 5.2.2)	103.73	97.95	96.96	95.49	93.52	92.07	- 11%
Additional operating costs (Section 5.2.2.2)		9.33	13.86	17.17	20.34	22.28	N.A.
Environmental Contribution (Section 5.2.3)	17.43	17.50	17.01	16.53	16.06	15.61	- 10%
Licence Fees (Section 5.2.4)	0.90	0.74	0.74	0.74	0.74	0.90	- 3%
Total Yarra Valley Water Operating Expenditure	**272.63**	**310.70**	**347.80**	**400.21**	**462.54**	**536.70**	**97%**

5.2.1 Bulk charges

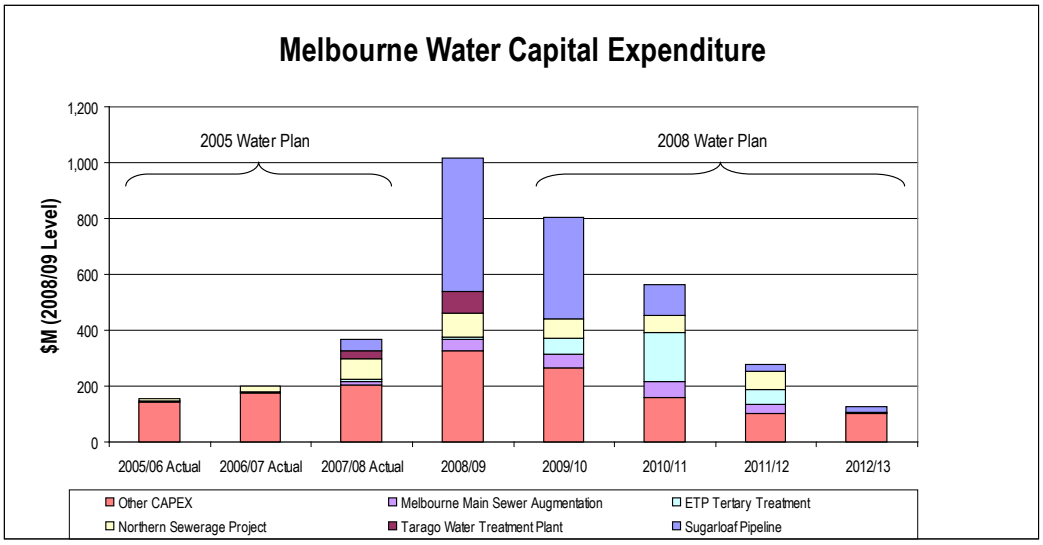
Yarra Valley Water, along with the other metropolitan retailers and some regional water corporations, obtain bulk water from Melbourne Water. Also a large portion of the sewage and trade waste generated by our customers is delivered to Melbourne Water's sewage treatment plants for treatment and disposal.

Providing for a reliable, secure water supply

Our customers' expectations for a more reliable, secure water supply are the major driver for the metropolitan water industry's investments over the next four years. Melbourne Water is also undertaking major sewerage investments (e.g. the Northern Sewerage Project to reduce spills to the environment). These investments as well as the funding of the desalination plant (being delivered under a separate public private partnership) result in significant increases in bulk service charges that are passed through to the retail water companies and, ultimately, our customers. Melbourne Water bulk charges to Yarra Valley Water are proposed to increase by 18.6 per cent in 2009/10 and by a further 21.9 per cent per year between 2010/11 and 2012/13.

Melbourne Water's own capital investment profile for the regulatory period is shown in Figure 7.

Figure 7: Melbourne Water's capital expenditure profile



Melbourne Water's charges will increase substantially

The pass through of Melbourne Water's bulk charges is the principal factor driving our large cost increase over the regulatory period. These bulk charges will increase by 170 per cent, from $151 million in the base year of 2007/08 to $406 million in 2012/13, while our volume of water purchased over the same period only increases by five per cent.

Table 16 provides an overview of the volume of water to be purchased, sewage to be treated and forecast total bulk charges.

Table 16: Melbourne Water's bulk volume and charges ($ million January 2009 level)

		ACTUAL	FORECAST				
		BASE YEAR		REGULATORY PERIOD			
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Bulk Volumes							
Bulk water purchase from Melbourne Water	GL	143.21	141.59	140.39	145.10	148.32	149.72
Bulk sewage transferred to Melbourne Water's Western STP	GL	58.02	58.83	59.56	59.18	58.86	58.67
Bulk sewage transferred to Melbourne Water's Eastern STP	GL	46.53	47.64	47.70	47.68	47.63	47.51
Bulk Charges							
Melbourne Water's total bulk charges	$M	150.57	185.18	219.23	270.28	331.88	405.84

5.2.2 Yarra Valley Water's operating costs

Increases in operating costs partially offset by efficiencies

Our operating costs are forecast to increase by approximately $14 million in 2009/10 from the base year of 2007/08, rising to an additional $22 million in 2012/13. The increase is predominantly due to rising energy costs, operational costs associated with new assets being constructed to service growth, increase in the IT costs, increased billing merchant fees and debt collection costs. These increases are partially offset by a one per cent per year efficiency gain, shared services efficiencies[51] and a reduction in recoverable works, which total $37 million over the duration of the regulatory period.

5.2.2.1 Efficiency

Benchmarking studies show we are efficient

Benchmarking comparisons show that Yarra Valley Water is very efficient. We have participated in Water Services Association of Australia process benchmarking in:

- mechanical and electrical services
- civil maintenance
- customer service
- asset management
- econometric benchmarking.

51 Initially identified in the Victorian Competition and Efficiency Commission, 2008, *Water Ways: Inquiry into reform of the metropolitan retail water sector*, February, pp. 79-82

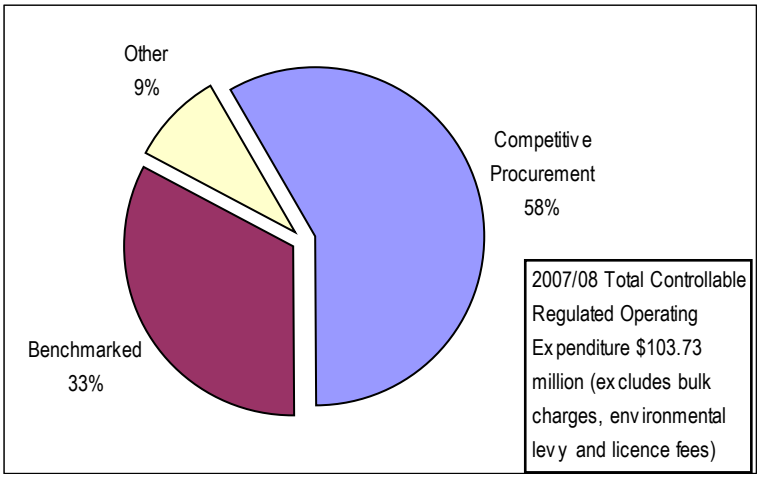
In addition, we have:

- engaged Ernst and Young – Cap Gemini to benchmark costs of finance departments
- participated in a USA customer service benchmarking program that established we are best practice in efficiency for most customer service functions
- participated in Insurance Total Cost of Risk benchmarking coordinated by Marsh Risk Consultants.

Most of our inputs are competitively procured

Currently, 58 per cent of our operating cost inputs are competitively procured to ensure we get the best market price. Benchmarking is undertaken in relation to a further 33 per cent of inputs and we adjust our processes to reflect best practice (refer Figure 8). Combined, this provides a high degree of confidence that our costs are efficient and that we actively pursue opportunities to deliver efficiency improvements.

Figure 8: Operating expenditure procurement (2007/08)



Major contracts relating to the following activities are regularly tendered on the open market to ensure that we secure the most efficient prices:

- water and sewerage infrastructure maintenance and repairs
- meter reading
- bill printing and distribution
- design services
- construction projects
- debt collection
- meter replacement
- laboratory services for testing drinking water and sewage treatment plant compliance
- information technology operations and support
- legal, banking and audit services .

We are always looking to improve our procurement arrangements

We recognise that, for some traditional tender-based contracts, most of the easy efficiency gains have been achieved. Therefore, we have moved to a semi-alliance arrangement, based on a 'pain share / gain share' model, for our major contracts to align our incentives to those of the contractor. This is achieved by:

- sharing risks
- working together for win/win outcomes
- taking an open book approach to costing
- having target costs for all scheduled items and some overhead items
- extending the term of the contract, provided key performance indicator and cost targets are achieved.

Budgeting approach will deliver efficiencies

We are committed to achieving more than one per cent per year efficiency gains on our operating costs over the regulatory period. One key initiative we have adopted to achieve these ongoing savings is to use zero based budgeting concepts. Budgets are built from a zero base and the process includes a unified approach by our Executive Team to review all operating costs to identify efficiency and process opportunities. Funding of one-year initiatives are examined under a spend optimisation framework that incorporates the efficiency target. All initiatives from the business are prioritised and funds are allocated to the program of works that delivers the best outcomes.

We will implement shared services arrangement

In August 2007, the Government directed the Victorian Competition and Efficiency Commission to review and recommend options for improving the structure of the metropolitan retail water sector to ensure it continues to provide secure and reliable water services at least cost to the community. The final Victorian Competition and Efficiency Commission's report[52] recognised the benefits of comparative competition and recommended more cooperation between water utilities on areas of overlap or inconsistency to achieve further efficiencies. The report notes the possibility of shared services and recommends a more consistent approach in providing services to plumbers and developers. This approach has been accepted by the Government.

Another key initiative will be to proactively work with the other metropolitan water utilities to implement the Victorian Competition and Efficiency Commission's recommendations to identify and implement changes in areas where shared services will provide improved outcomes and/or reduced costs. We have included net savings from shared services of $0.5 million in 2010/11, increasing to $1.5 million in 2011/12 and $2.0 million in 2012/13 in our operating cost forecasts.

5.2.2.2 Additional operating costs

Prioritised expenditure

We have taken action in the areas we can control to minimise costs to the greatest extent possible and prioritised expenditure to ensure that average bills no more than double.

We have additional cost increases for growth

From the base year of 2007/08, we are forecasting increased operations and maintenance costs arising from the expansion of our water and sewerage networks. Delivering the planned capital program and service outcomes will require an increase in annual operating expenditure which amounts to $22 million by the end of the regulatory period.

52 Victorian Competition and Efficiency Commission, 2008, *Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector, Final Report*; February

A summary of the additional costs over the 2007/08 base year is provided in Table 17.

Table 17: Additional operating costs ($ million January 2009 level)

PLANNED OUTCOME	KEY ACTIVITY	OPERATING COST INCREASE IN 2012/13
Efficient delivery of services while maintaining customer service level performance	• ***IT Systems ($4.55 million):*** our efficiency and customer service improvements are supported by IT infrastructure and business systems. Technology advancements and increased system integration result in higher maintenance and licence costs. • ***Billing ($4.53 million):*** with prices doubling there are increased costs associated with billing and collection, particularly payment channel costs (merchant service fees), debt management and management of hardship customers • ***Energy and chemicals ($1.98 million):*** increased market rates driven by rising costs • ***Labour ($1.16 million):*** across Australia engineering and water industry labour costs are increasing in excess of the consumer price index. • ***Water quality and security of supply ($0.92 million):*** improved operational management and customer communications to reduce complaints and improve security of supply. • ***Asset management risks ($0.64 million):*** increased costs to mitigate asset management risks. • ***Other increased costs ($1.07 million):*** increased costs related to research and trials, land tax, transfer of assets from Melbourne Water and financial reporting.	**14.85**
Building extensive new water and sewerage infrastructure to service Melbourne's rapid growth	• ***New infrastructure ($4.54 million):*** operating cost of new water and sewerage infrastructure installed to service growth • ***Billing ($0.38 million):*** additional billing and customer contact costs associated with growth in customer numbers • ***Contract works insurance ($0.17 million):*** increase in contract works insurance due to the increased capital works program to provide infrastructure to service growth • ***Third pipe recycled water systems ($0.13 million):*** operating costs of third pipe recycled water systems	**5.22**

PLANNED OUTCOME	KEY ACTIVITY	OPERATING COST INCREASE IN 2012/13
Protecting the environment	• ***New infrastructure to reduce sewage spills ($0.63 million):*** operating cost of new sewerage infrastructure installed to minimise sewage spills to the environment • ***Backlog properties ($0.25 million):*** connection of properties provided with backlog sewerage services and operation of the new assets • ***Monitoring waterways, aquifers and wetlands ($0.20 million):*** monitoring waterways, aquifers and wetlands to minimise environmental impacts on and risks to the aquatic ecosystem • ***Trade waste ($0.13 million):*** investigations to better manage trade waste • ***Nutrient removal ($0.08 million):*** enhanced nutrient removal to minimise environmental impacts on and risks to the aquatic ecosystem	**1.29**
Delivering a reliable, secure water supply and easing of water restrictions	• ***Bulk entitlements ($0.47 million):*** payments for water entitlements. • ***Our Water Our Future ($0.45 million):*** additional contributions to the Our Water Our Future (OWOF) fund.	**0.92**
Total Additional Costs		**22.28**

Maintain water conservation expenditure to benefit customers

We also intend to maintain our water conservation expenditure at the 2007/08 level of $6.4 million over the regulatory period to ease the burden of water restrictions and, in the latter years of the regulatory period, to help support the refilling of Melbourne's dams. Water conservation will remain a priority for Yarra Valley Water as it will delay costly future water supply augmentations, provide customers with the benefit of lower bills and reduced energy costs, and reduces energy costs in service provision.

We pay $17.50 milliom per year environmental contribution

5.2.3 *Environmental contribution*

As indicated in Section 4.5.7, we pay an environmental contribution to the State Government. We have received advice from the Department of Sustainability and Environment that the contribution will be $17.5 million in 2008/09 and will remain constant, in nominal terms, until 2011/12. We have assumed this will continue until the end of the regulatory period in 2012/13

Table 18: Environmental contribution for regulatory period ($ million January 2009 level)

	ACTUAL	FORECAST				
	BASE YEAR		REGULATORY PERIOD			
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Environmental Contribution	17.43	17.50	17.01	16.53	16.06	15.61

5.2.4 Licence Fees

Licence fees are a pass through item

We pay licence fees to the Essential Services Commission, the Environment Protection Authority and the Department of Human Services. The Essential Services Commission allows for an adjustment of prices at the end of the regulatory period to reflect any difference between the actual amount paid and the estimated amount included in the price determination.

Table 19 shows the estimated licence fees for the regulatory period.

Table 19: Licence fees for the regulatory period ($ million January 2009 level)

	BASE YEAR		REGULATORY PERIOD			
	2007/08	2008/09	2008/09	2010/11	2011/12	2012/13
Essential Services Commission	0.56	0.40	0.40	0.40	0.40	0.56
Environment Protection Authority	0.13	0.13	0.13	0.13	0.13	0.13
Department of Human Services	0.21	0.21	0.21	0.21	0.21	0.21
Total Licence Fees	**0.90**	**0.74**	**0.74**	**0.74**	**0.74**	**0.90**

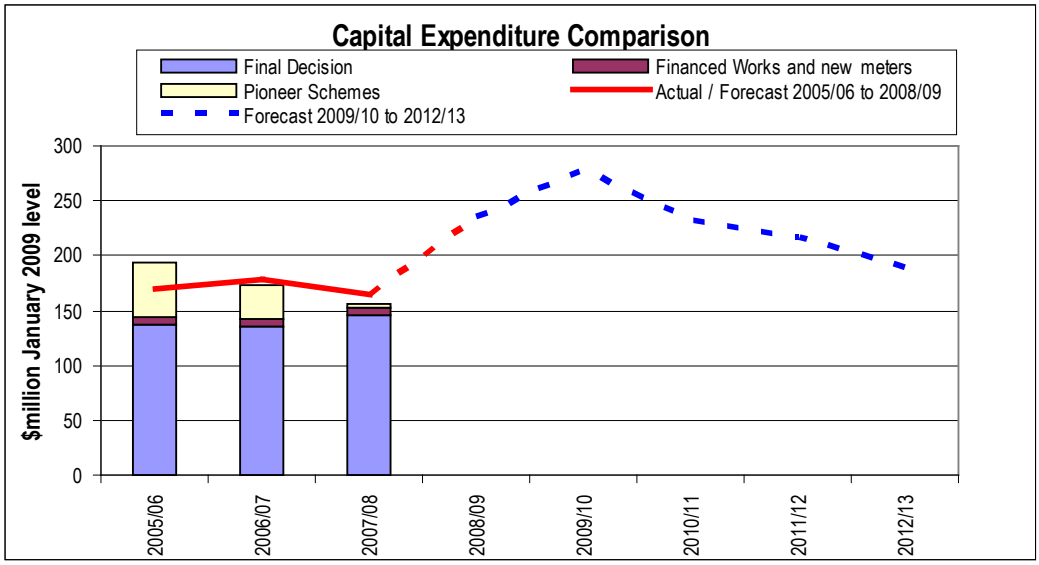
5.3 Capital expenditure

We are planning for $913 million of capital works

We are planning to spend an average of $228 million per year (or $913 million in total) on capital investment projects over the regulatory period to achieve the outcomes specified in this Water Plan.

Figure 9 shows recent actual and forecast gross capital expenditure requirements for 2005/06–2012/13[53].

Figure 9: Capital expenditure profile 2005/06 to 2012/13 ($ million January 2009 level)



Drivers of our capital program

Our capital expenditure for the regulatory period has been prioritised to:

- expand the water supply and sewerage networks to cater for new developments in the rapidly growing northern suburbs of Melbourne, including provision of recycled water for new homes
- reduce the spillage of untreated sewage to the environment from the sewerage network by constructing the upstream part of the Northern Sewerage Project[54] and ensuring all emergency relief structures, which outfall to drains and streams during heavy rainfall events, achieve the requirements of the *State Environment Protection Policy (Waters of Victoria) -Schedule F7 Waters of the Yarra catchment* by 2018
- continuation of our backlog sewerage program with a target completion date of 2025
- maintain existing service levels through continued renewal of infrastructure.

Figure 10 shows the drivers of our forecast capital expenditure over the regulatory period.

53 The approved expenditure for 2005/06 to 2007/08 has been adjusted to include financed works and new meters, which were incorrectly included in non-prescribed services, and pioneer schemes. The Essential Services Commission accepted that $52 million of growth related capital costs were excluded from its 2005 price determination. The financing costs of these projects will be included in the regulatory period commencing 1 July 2013.

54 This is a joint Melbourne Water and Yarra Valley Water project.

Figure 10: Capital expenditure by cost driver for the regulatory period ($ million January 2009)

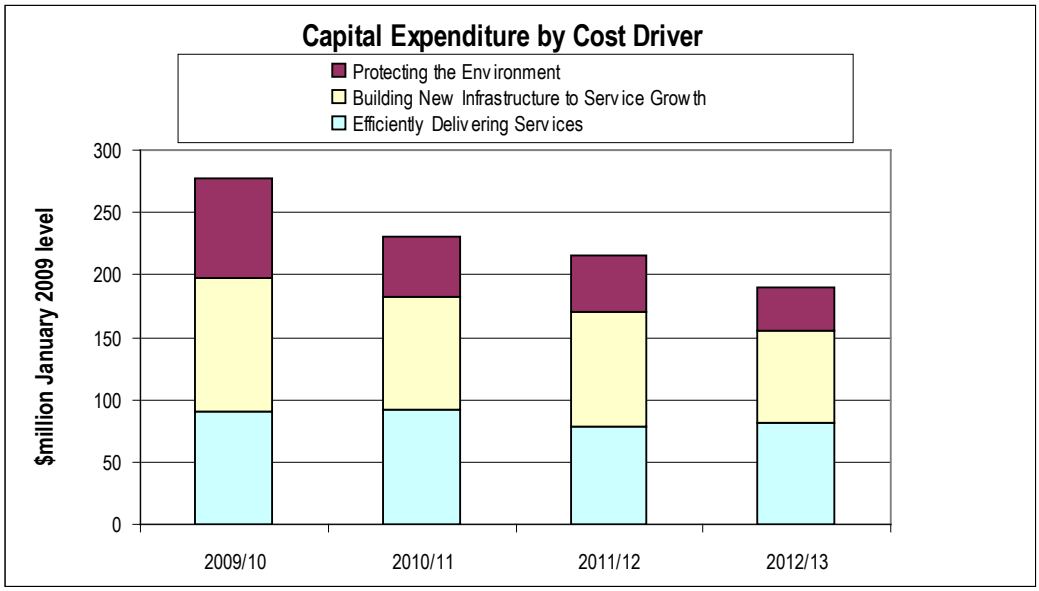


Table 20 summarises our capital expenditure program for the regulatory period.

Table 20: Capital expenditure program for the regulatory period ($ million January 2009 level)

Summary of capital expenditure

	FORECAST			
	REGULATORY PERIOD			
	2009/10	2010/11	2011/12	2012/13
Delivering a reliable, secure water supply and easing of water restrictions				
Recycling - compliance	Included below			
Protecting the environment				
Protecting the environment – sewer compliance with environmental obligations	79.23	48.36	45.60	33.93
Building extensive new water and sewerage infrastructure to service Melbourne's rapid growth in the northern suburbs				
Water	36.58	18.98	20.01	23.14
Sewer	49.21	67.32	60.25	35.10
Recycled Water	21.29	4.74	11.35	15.94

	FORECAST			
	REGULATORY PERIOD			
	2009/10	2010/11	2011/12	2012/13
Efficiently delivering services while maintaining current service performance levels				
Water renewals, repairs and plant efficiency upgrades	36.23	37.06	31.78	36.70
Sewer renewals, repairs and plant efficiency upgrades	30.25	31.78	31.17	33.83
Corporate – Facilities and Information Technology	24.15	22.74	15.05	10.78
Total capital expenditure	**276.94**	**230.98**	**215.21**	**189.42**

The priority projects / programs for the regulatory period are listed in Table 21.

Ten priority capital projects/programs

Table 21: Major capital projects and programs for the regulatory period ($ million January 2009 level)

		CAPITAL EXPENDITURE OVER 2009/10 - 2012/13
Delivering a reliable, secure water supply and easing water restrictions		
Recycling - compliance	• Hazelwyne (Mandalay) Class A Treatment Plant	4.26
Protecting the environment		
Reducing environmental impacts – compliance	• Northern Sewerage Project	112.96
Delivering extensive new water and sewerage infrastructure to service Melbourne's rapid growth		
Growth	• Epping – Craigieburn Tunnel Sewer Project	106.30
	• Epping Branch Sewers Sections 2 and 3	18.45
	• Craigieburn Reservoir – Tank No. 2	5.74
	• Greenvale Flow Control Facility	4.37
	• Yuroke Outlet Water Main	3.86
Efficient delivering of services while maintaining current service performance levels		
Maintaining existing service levels	• Water reticulation mains renewals program	57.77
	• Sewer reticulation mains renewals program	45.87
	• House connection branch renewals program	35.44

We have sound asset management practices

Competitive procurement will continue

We have robust investment analysis and asset management processes to prepare our efficient capital expenditure program. Once an investment program is prioritised, we execute our planned capital works in the most cost-effective manner to ensure that overall value is maximised.

The capital works program will be competitively procured to ensure efficient delivery. The key elements of our approach include:

- competitive tendering of all capital work design and construction activities
- a panel of engineering consultants to produce the design work, improving efficiency in procuring these services and reducing asset life cycle costs
- larger contracts and annual or longer-term contracts for works involving on-going programs, such as water main and sewer renewals, to capture economies of scale
- electronic procurement as part of streamlined purchasing practices.

We will deliver the forecast capital investment program efficiently over the term of the regulatory period.

5.3.1 Contributions toward capital works

Contributions from other parties

Yarra Valley Water receives contributions towards capital works from customers and Government. These contributions reduce the amount Yarra Valley Water's capital expenditure added to our Regulatory Asset Value to calculate return on investment and regulatory depreciation.

Contributions include:

- New Customer Contributions from developers as a contribution towards the cost of expanding and augmenting the water and sewerage network to connect new customers
- Backlog sewer charges from existing unconnected property owners as a contribution towards the cost of providing them with sewerage facilities[55]
- Government contributions to contribute towards the cost of research and development of innovative methods of delivering services. We have received a Victorian Water Trust grant for the provision of backlog sewerage facilities for the Kinglake West area
- Financed works contribution where a third party requires works to be carried out on our assets and the works are additional to our needs, e.g. Councils carrying out road works that result in a required realignment of a water main
- New meter installation where new customers pay for the supply and installation of water meters.

55 This is currently set at $500 per property. We are waiving this contribution by customers if they connect within 12 months of the sewerage commissioning to encourage connections.

Summary of capital contributions

Table 22: Capital contributions for the regulatory period ($ million January 2009 level)

CAPITAL CONTRIBUTION	FORECAST			
	REGULATORY PERIOD			
	2009/10	2010/11	2011/12	2012/13
New customer contributions - water	4.69	4.69	4.69	4.69
New customer contributions - sewer	5.11	5.11	5.11	5.11
New customer contributions - recycled water	0.83	0.83	0.83	0.83
New meter installation	3.65	3.65	3.91	3.91
Financed works	0.52	0.52	0.52	0.52
Government	0.16	1.82	0.00	0.00
Backlog sewer	0.05	0.07	0.09	0.13
Total forecast contributions	**15.01**	**16.69**	**15.15**	**15.19**

Error in 2005 Price Determination to be corrected

5.3.2 Adjustments due to pioneer schemes

Prior to the start of regulation of the water industry by the Essential Services Commission in 2005, we introduced 'pioneer schemes' where developers funded assets required for out of sequence development and were reimbursed those funds at some time in the future as determined by Yarra Valley Water's forecasting and financial modelling. The reimbursements for the pioneer schemes were all forecast to occur after 30 June 2008. The Essential Services Commission, in its 2005 Yarra Valley Water Price Determination, imposed an obligation on us to fund shared assets including pioneer schemes but did not increase our capital expenditure and thus the price determination did not reflect the revenue requirement.

In October 2005, the Essential Services Commission acknowledged this oversight and proposed that:

- the capital expenditure associated with the projects will roll into the asset base at the next price review
- the financing costs associated with these projects be included in our revenue requirement from 1 July 2008.

To reduce the price impact on customers during the regulatory period, we propose that:

- pioneer scheme capital expenditure be rolled into the asset base in the year it was incurred
- recovery of the financing costs be deferred until the regulatory period commencing 1 July 2013.

Table 23 summarises the actual capital expenditure associated with pioneer schemes.

Table 23: Pioneer scheme capital expenditure ($ million January 2009 level)

	2005/06	2006/07	2007/08	TOTAL
Pioneer schemes - sewer	15.46	19.31	7.62	**42.39**
Pioneer schemes - water	0.97	5.60	3.23	**9.80**
Total pioneer schemes	**16.43**	**24.91**	**10.85**	**52.19**

6. Demand forecasts

Customer demand for the regulatory period is uncertain. We believe demand will be broadly within the targets of the Central Region Sustainable Water Strategy due to the continuing water restrictions and customers' reaction to the proposed doubling of bills.

Demand forecasts are important for service delivery and price setting

Demand forecasts are critical for two key reasons being:

- inform the dimensions of the service that we deliver. For example, the number of customers to be serviced, their water use characteristics and their geographic location drive infrastructure investment by Yarra Valley Water and Melbourne Water.
- key determinant of the unit price charged for water and sewerage services – our revenue requirement for services is divided by the expected demand to determine charges (e.g. $ per kilolitre of water).

Key demand forecasts

Key forecasts for the regulatory period are:

- Total water consumption (per person) to remain around 2007/08 levels. We expect customers will use more water as restrictions are eased. But enduring demand management initiatives and customers response to doubling of bills will ensure demand does not return to pre-restriction levels.
- Total number of properties connected for water and sewerage services to grow on average by 1.3 per cent per year.

We expect that the water restriction levels will be eased during the regulatory period as supply augmentations make additional water supplies available (refer Table 24).

Table 24: Key demand assumptions for the regulatory period

	2008/09	REGULATORY PERIOD			
		2009/10	2010/11	2011/12	2012/13
Level of restriction	3a	3a	2	1	Unrestricted (with Permanent Water Saving Rules)
New water supply augmentations		Tarago reconnected (mid 2009)	Water from Sugarloaf pipeline available (mid 2010)	Water from desalination plant available (end 2011)	

Further details of our demand forecasts are contained in Table 25.

Table 25: Demand forecasts for the regulatory period

DEMAND FORECAST	FIRST PERIOD (ACTUALS)				REGULATORY PERIOD			
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water customers receiving service charges (number)								
Residential	566,225	573,935	581,747	589,200	597,300	605,400	613,400	621,500
Non-residential	38,904	39,248	39,986	40,200	40,700	41,200	41,600	42,100
Total	**605,129**	**613,183**	**621,733**	**629,400**	**638,000**	**646,600**	**655,000**	**663,600**
Sewerage customers receiving service charges (number)								
Residential	532,060	535,330	547,854	555,400	563,700	570,900	578,500	585,800
Non-residential	35,539	35,918	36,604	36,900	37,300	37,700	38,200	38,600
Total	**567,599**	**571,248**	**584,458**	**592,300**	**601,000**	**608,600**	**616,700**	**624,400**
Billable water consumption (megalitres)								
Residential	117,532	106,950	95,973	94,880	94,227	98,726	101,498	102,104
Non-residential	33,221	30,728	27,176	26,604	26,637	27,034	27,223	27,793
Total	**150,753**	**137,678**	**123,149**	**121,484**	**120,863**	**125,761**	**128,721**	**129,897**

Residential and non-residential sectors will continue to grow

Our customer growth over the last six years has been very consistent, averaging an additional 8,300 customers per year. This same level of growth is assumed for the regulatory period with:

- residential water customer numbers to grow on average by 1.3 per cent to reach 621,500 in 2012/13
- non-residential (business) water customers number to grow on average by 1.1 per cent to reach 42,100 in 2012/13.

Per capita demand has been trending down

Demand for water in both residential and non-residential sectors has been trending down since the end of the 1990s. Demand for water has continued to decline to an average of 248 litres per person per day in 2007/08 (refer Figure 11). This is 35 per cent less than the average of the 1990s. The key drivers of the recent decline in water demand include:

- the introduction of a rising block tariff structure in October 2004
- the introduction of permanent water saving rules in March 2005
- the increased severity of drought during 2006 which led to the progressive implementation of water restrictions from stage 1 in September 2006 to stage 3a in April 2007[56]
- continuing low rainfall and storage levels

56 Stage 1 restrictions were introduced in September 2006, stage 2 in November 2006, stage 3 in January 2007 and stage 3a in April 2007.

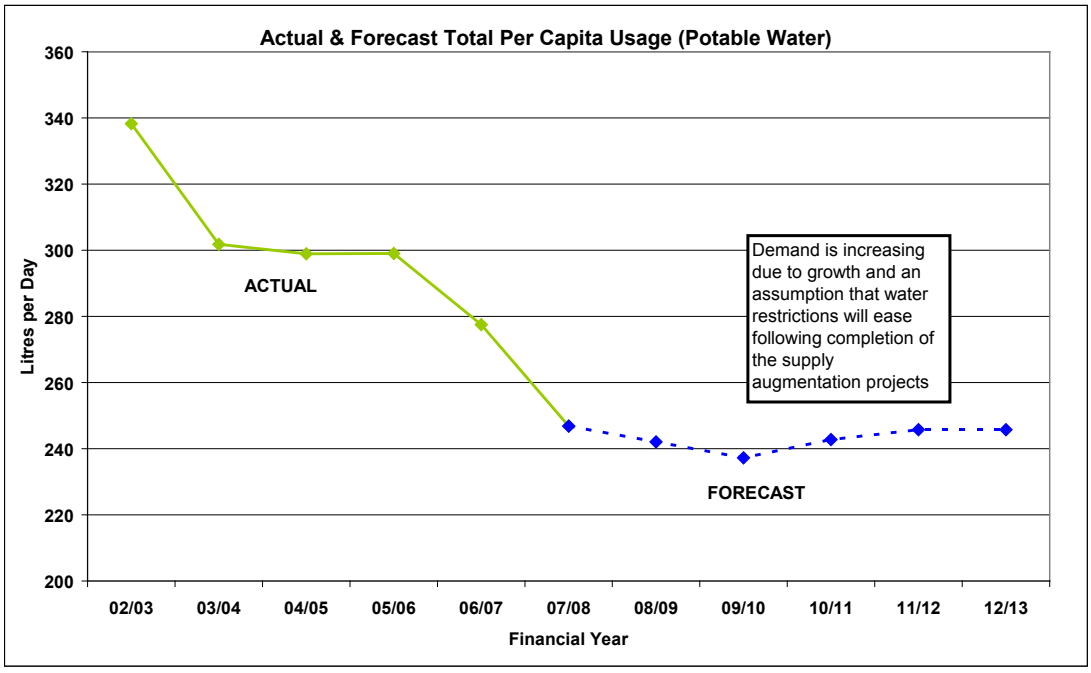
- our water conservation programs that inform and help residential and non-residential customers save water.

Demand changes are now permanent

A large part of the reduction in demand over the last few years will be permanent. This is due to the effective education of our customers and the adoption of efficient appliances, technologies and practices over the extended period of drought and water restrictions. The proposed doubling of bills by 2012/13 is expected to lock in these water conservation behaviours.

Overall, we expect total water consumption to rise slightly by the end of the regulatory period as supply augmentations become available and water restrictions are eased. As restrictions are eased, it will be important to continue our water conservation program at current levels to enable our dams to refill and provide long-term water supply security in Melbourne. Figure 11 shows the trend in forecast total customer water demand for the regulatory period.

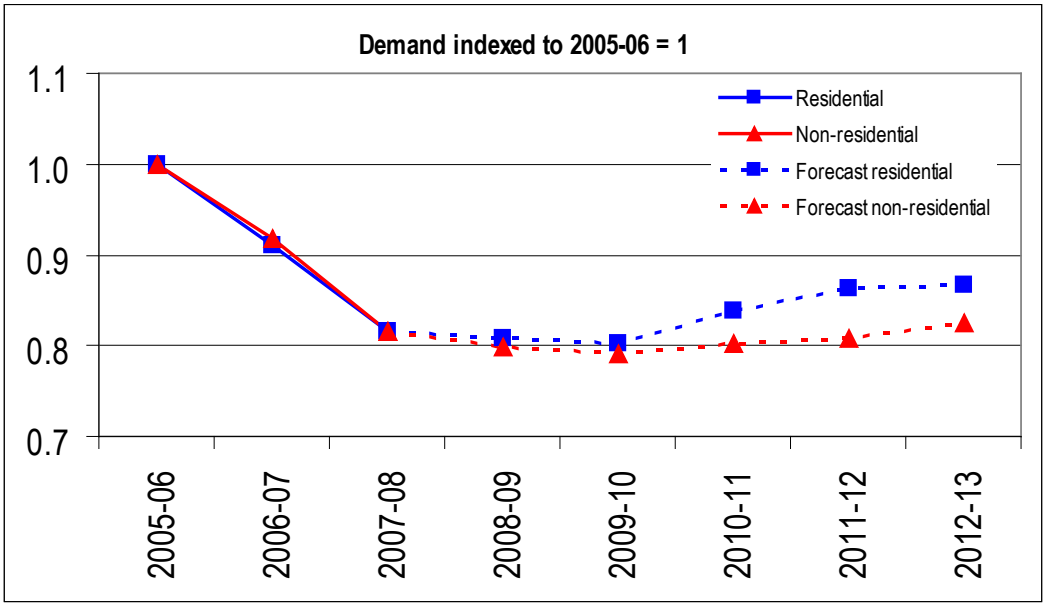
Figure 11: Historical and forecast customer water demand (litres per person per day)



In aggregate terms, our customers were billed for 123.1 gigalitres of water in 2007/08. This volume is expected to increase to 129.9 gigalitres in 2012/13.

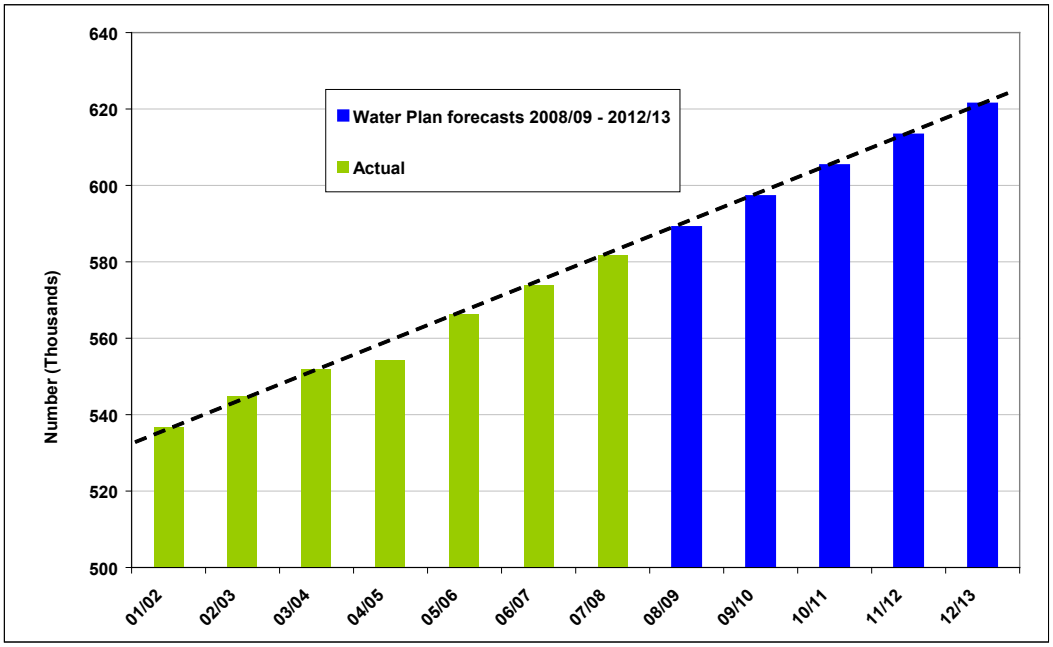
Under water restrictions, residential and non-residential customers have made similar contributions to saving water (refer Figure 12). As restrictions are lifted, we expect a slightly greater increase in demand from the residential sector than from non-residential sector. This is because a greater proportion of efficiencies in the non-residential sector will have been permanently locked in.

Figure 12: Comparison of residential and non-residential demand changes



Figures 13 shows the steady growth in forecast residential customer numbers and is consistent with recent trends.

Figure 13: Number of residential water customers receiving a service charge



Figures 14 and 15 show the forecast water consumption for the regulatory period compared to actual consumption over recent years and our forecast for the first regulatory period for both residential and non-residential sectors.

Figure 14: Total residential water demand

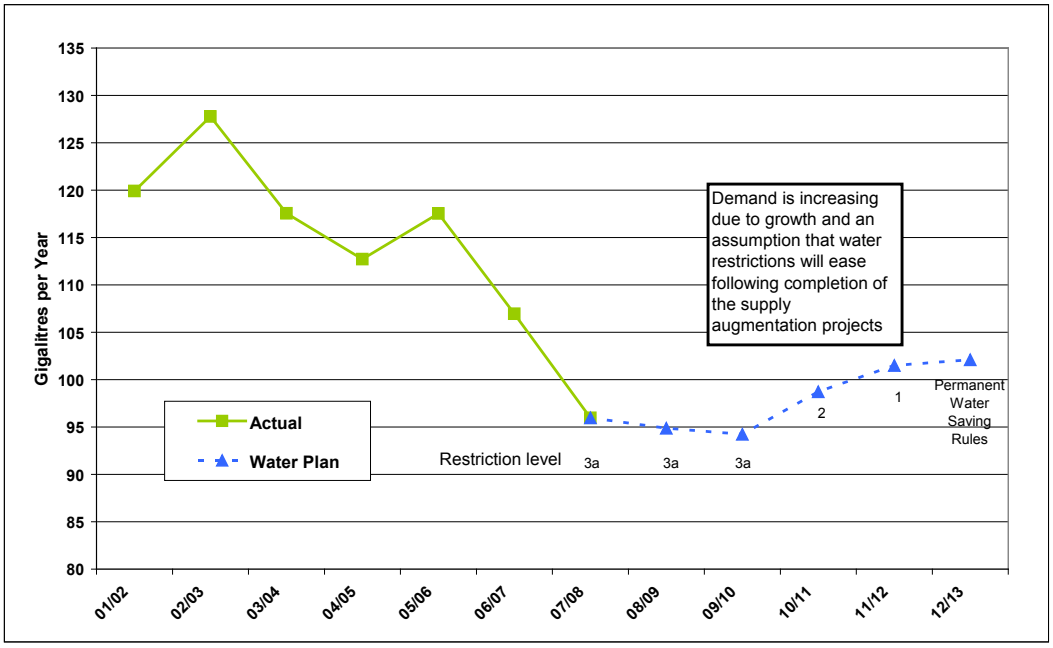
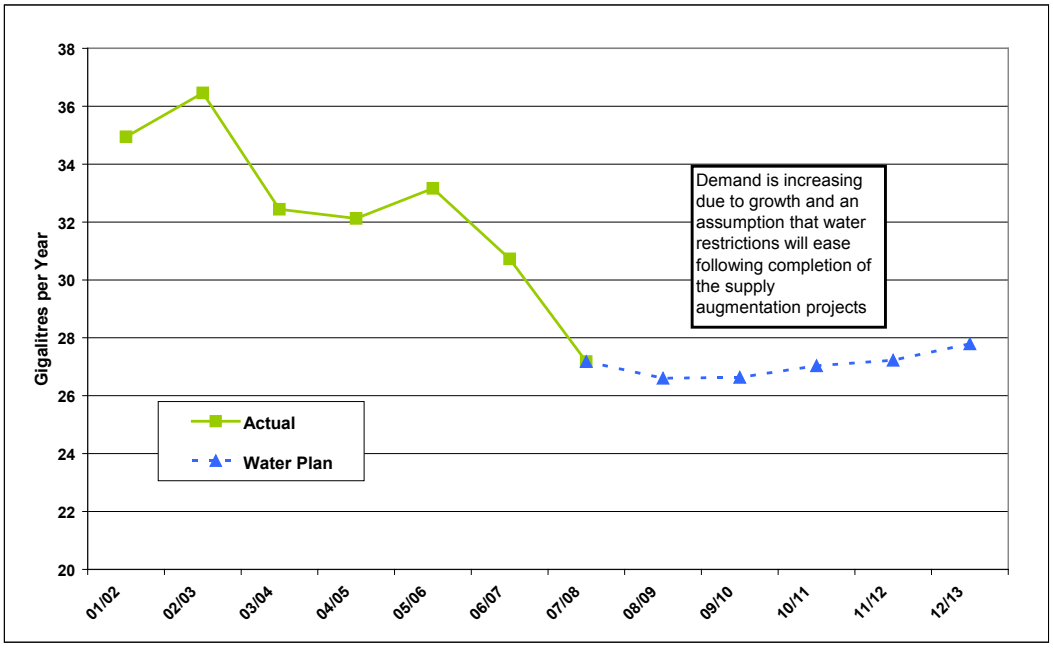


Figure 15: Total non-residential water demand



7. Yarra Valley Water's revenue requirement

7.1 Overview

Revenue requirement is based on the building blocks method

The revenue required to provide our services is calculated using the Essential Services Commission's building blocks methodology. The methodology provides for the required revenue to be the sum of operating expenditure, a return on capital investment (return on asset), depreciation of assets (return of asset) and benchmark tax liability. We have adjusted our regulatory depreciation by $110 million over the 5 years from July 2008 ($22 million per year on average) to ensure that average bills will no more than double by 2012/13.

Our price increases in initial years of the regulatory period (19 per cent in 2009/10 and 17 per cent in 2010/11) are higher than latter years (11 per cent in 2011/12 and 10 per cent in 2012/13) to match the costs of running our business.

Table 26 shows our forecast revenue requirement.

Table 26: Summary of forecast revenue requirement ($ million January 2009 level)

		ACTUAL	FORECAST				
		BASE YEAR		REGULATORY PERIOD			
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Annual price increase (real terms)		-	14.8%	19%	17%	11%	10%
Change in regulatory depreciation to achieve pricing outcome	$M	-	(60.32)	(13.22)	(13.22)	(11.73)	(11.73)
Revenue requirement	$M	426.97	445.62	522.79	590.03	664.78	751.44

The components of our revenue requirement building blocks are shown in Table 27.

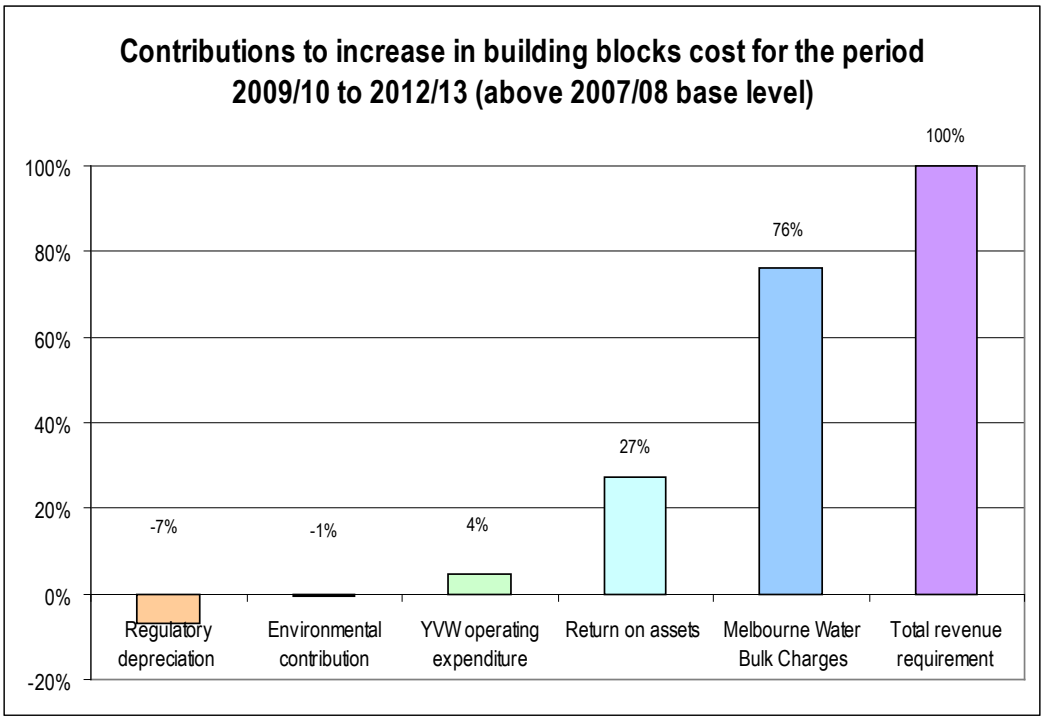
Table 27: Yarra Valley Water's total revenue requirement for 2008/09–2012/13 ($ million January 2009 level)

	2008/09	2009/10	2010/11	2011/12	2012/13
Operating Expenditure					
Bulk charges from Melbourne Water	185.18	219.23	270.28	331.88	405.84
Yarra Valley Water	125.52	128.57	129.93	130.67	130.89
Total operating expenditure	**310.70**	**347.80**	**400.21**	**462.55**	**536.73**
Return on assets	133.35	146.43	158.51	168.64	177.44
Return of assets (regulatory depreciation)	1.57	28.56	31.31	33.59	37.27
Adjustments from regulatory period 1	Deferred until the regulatory period commencing 1 July 2013				
Benchmark tax liability	0.00	0.00	0.00	0.00	0.00
Total revenue requirement	**445.62**	**522.79**	**590.03**	**664.78**	**751.44**

Drivers of the price increase

The key drivers of the increased costs are shown in Figure 16.

Figure 16: Yarra Valley Water's revenue requirement increase components



7.2 Financing of investments

We have rolled forward our regulatory asset value

Our initial Regulatory Asset Value was set by the Minister for Water in January 2005 at $1,567 million (in January 2004 dollars). This is forecast to increase to be $3,128 million (January 2009 dollars) after adjustments for capital expenditure, customer contributions, regulatory depreciation and proceeds from disposal of assets (refer Table 28).

Table 28: Roll forward of Yarra Valley Water's regulatory asset value ($ million January 2009 level)

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
Opening asset value	1,798.78	1,863.44	1,973.76	2,088.50	2,190.15	2,407.99	2,641.36	2,824.34	2,990.82
Plus capital expenditure	135.17	169.77	178.64	164.40	234.45	276.94	230.98	215.23	189.42
Less contributions	27.14	10.85	10.00	15.32	15.04	15.01	16.69	15.15	15.19
Less value of assets disposed	0.03	0.03	0.27	0.26	0.00	0.00	0.00	0.00	0.00
Less depreciation	43.34	48.57	53.63	47.17	1.57	28.56	31.31	33.59	37.27
Closing asset value	1,863.44	1,973.76	2,088.50	2,190.15	2,407.99	2,641.36	2,824.34	2,990.82	3,127.78

7.2.1 Return on assets

Return on assets based on Essential Services Commission's advice

The return on assets is calculated by multiplying the average regulatory asset value by the weighted average cost of capital. We have used a weighted average cost of capital of 5.8 per cent post tax real in line with advice from the Essential Services Commission.

7.2.2 Return of assets (regulatory depreciation)

Straight line depreciation used

For the regulatory period, we have adjusted regulatory depreciation to ensure bills no more than double – regulatory depreciation is $131 million rather than the $181 million based on a straight line methodology (refer Table 26).

We expect that if the Essential Services Commission changes the building blocks or demand forecasts, regulatory depreciation will be adjusted to achieve the proposed price outcome.

7.2.3 Benchmark tax liability

We will not be in a tax-paying position during the regulatory period.

7.3 Non-prescribed services

Non-prescribed services are provided in a competitive environment

In addition to providing prescribed water, recycled water and sewerage products and services as defined in the *Water Industry Regulatory Order*, we provide other products and services. These services include:

- property rental / leasing of Yarra Valley Water owned land predominately for farming activities and mobile phone towers
- billing and collection arrangements with the Department of Sustainability and Environment and Melbourne Water to bill and collect parks and drainage and waterways charges
- plumbing referral service where customers ringing us for advice on plumbers are referred to our plumbing contractor.

All of these services are provided in a competitive environment and details of the cost to provide the individual services and the revenue received is considered 'commercially in-confidence'.

7.4 Forecast revenue

Our forecast revenue is set so that the net present value of the forecast revenue to be received is equal to the net present value of our revenue requirement over the regulatory period.

We are committed to bills no more than doubling by 2012/13. Demand for water is suppressed due to water restrictions and the price increase will need to be higher in the initial years in order to match revenues with costs. The higher water prices will also reinforce water saving during this critical period. We are proposing the following price increases:

- 2009/10 19 per cent
- 2010/11 17 per cent
- 2011/12 11 per cent
- 2012/13 10 per cent

The price increase will be applied to major water, recycled water, sewerage and trade waste services. The price of miscellaneous services is set in accordance with the Essential Services Commission's pricing principles.

Table 29 shows the forecast revenue composition.

Forecast revenue composition

Table 29: Forecast revenue ($ million January 2009 level)

	ACTUAL	FORECAST				
	BASE YEAR		REGULATORY PERIOD			
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water service and volumetric	161.04	182.69	215.98	263.18	298.61	331.71
Recycled water service and volumetric	0.00	0.02	0.44	0.66	0.90	1.06
Sewerage service and volumetric	184.39	211.96	268.92	317.56	353.45	387.11
Trade waste	13.78	15.73	18.55	20.76	18.26	20.05
Miscellaneous services	8.28	8.28	8.28	8.28	8.28	8.28
Individual recycled water contracts	0.13	0.13	0.13	0.13	0.13	0.13
Bulk services to Goulburn Valley Water	0.33	0.24	0.05	0.05	0.05	0.05
Total Revenue	**367.95**	**419.05**	**512.35**	**610.62**	**679.68**	**748.39**
Less revenue not received	2.06	2.82	4.50	5.62	6.32	7.12
Total forecast revenue	**365.89**	**416.23**	**507.85**	**605.00**	**673.36**	**741.27**

8. Revenue cap and dealing with uncertainty

We support a revenue cap price control

A revenue cap will ensure that our prices only recover our efficient costs, include a fair return on our investment and enable us to meet our customer and environmental outcomes. Other price control mechanisms can lead to unnecessary over-recovery of revenue at the expense of customers or under-recovery leading to shortfalls in service and environmental outcomes. The current price cap methodology and the Essential Services Commission's preferred methodology do not deal with the uncertainties of climate change and drought. Regardless of the price control mechanism, prices must be adjusted if there is a different water restriction outcome from those assumed in this Water Plan.

8.1 Hybrid revenue cap

Revenue cap for price control

We want to ensure that our prices only recover our efficient costs, include a fair return on our investment and enable us to meet our customer and environmental outcomes. A revenue cap will ensure that this objective is met. Our hybrid revenue cap is based on the Essential Services Commission's model for rural water businesses[57].

There are two key risks to the Essential Service Commission's proposed price control mechanism for urban water utilities:

- lower than expected sales leading to a revenue shortfall[58]
- higher than expected costs.

Either of these possibilities will impact on Yarra Valley Water's ability to meet our revenue requirement. Conversely, higher sales or lower costs would mean customer bills are higher than necessary.

The Essential Services Commission supports a revenue cap[59] noting that it:

- removes the perverse incentive to sell more water when there is a need to maintain downward pressure on demand
- continues to provide incentives to manage costs efficiently
- allows for variability in revenue to be taken into consideration when setting tariffs, thus providing the business with greater certainty and stability
- gives customers sufficient (although not total) certainty regarding prices
- allows for the introduction of new tariffs during regulatory period
- acknowledges that actual quantities may be different from those forecast and that neither the business or its customers should be unduly penalised as a consequence.

57 For details refer Essential Services Commission, 2008, *'2008 Water Price Review, Goulburn-Murray Water Determination, 1 July 2008 – 30 June 2013'*, June.

58 The Age, 2008, "Water Suppliers face big losses". 28 October, p. 7.

59 For details refer Essential Services Commission, 2008, *'2008 Water Price Review, Goulburn-Murray Water Determination, 1 July 2008 – 30 June 2013'*, June.

Revenue cap mechanism

In addition:

- Under a price cap, to maximise its revenue a regulated business has a financial incentive to 'game' their forecasts and earn larger profits. Forecasting lower than expected demand, results in higher prices, and ultimately higher revenue and profits than required to meet a regulated business revenue requirement.
- In circumstances where there is a higher level of restrictions than forecast, the hybrid revenue cap allows Yarra Valley Water to increase prices to reinforce the need to save water, particularly for discretionary use.

Revenue cap will not unduly impact customer bills

Our modelling suggests that a revenue cap will not unduly impact on the price increases faced by customers. Table 30 shows modelled revenue cap price adjustments for material changes in demand.

Table 30: Forecast revenue ($ million January 2009 level)

	2009/10	2010/11	2011/12	2012/13
Pricing	19%	17%	11%	10%
Demand impact	6% lower than Water Plan volume	4% lower than Water Plan volume	3.5% lower than Water Plan volume	3.2% lower than Water Plan volume
Pricing post revenue cap adjustment		18.1%	10.5%	12.2%

To ensure there is a proper matching of revenue and costs, the revenue cap would not be applied to the costs that vary with volumes. In particular, the portion of Yarra Valley Water's revenue that covers the costs of Melbourne Water's volumetric charges would be subtracted from the revenue cap adjustment. This would have the benefit of ensuring that customers are not penalised for lower water consumption.

It is possible that greater adjustments might be necessary if demands are lower than our forecasts. We believe there should be an additional safeguard for customers and propose that a maximum four per cent price adjustment arising from the revenue cap. In any event, we will ensure that bills do not more than double by 2012/13.

8.2 Dealing with unforeseen events

Unforeseen events can impact costs and prices

Although variation of actual demand from forecast is a critical uncertainty, there are other factors that may affect our ability to make a fair return. We propose that any factor, or combination of factors, that has the potential to affect prices by one per cent or greater in any one year is the threshold for resetting prices.

In previous determinations involving a revenue cap, in addition to demand variations, the Essential Services Commission lists a series of potential factors that may trigger an adjustment:

- changes to licence fees or contributions
- changes to the scope or timing of capital expenditure
- changes to legislation, licences, relevant taxes or the Statement of Obligations
- the introduction of an emissions scheme or similar measure for greenhouse gas reduction.

Other potential factors may include:

- material change in Melbourne Water's charges which are subject to separate regulation by the Essential Services Commission
- change in costs associated with any major unforeseen event
- subject to pre-defined triggers being met, the Essential Services Commission's price determination should be re-opened to address the impact of unexpected events that would otherwise have a material impact on our ability to deliver financial and service outcomes.

We agree with the Essential Services Commission's position that it will not consider applications where the event:

- is within the business's control
- should have been known by the business before the price determination
- could reasonably have been foreseen by the business
- should have been planned for or managed by the business
- reflects inefficiency.

We believe that the hybrid revenue cap proposal and these arrangements provide for a reasonable sharing of risk with customers.

8.3 Adjustments for water restrictions

Water restriction levels mean adjustments

The Essential Services Commission in their regional decision[60] recognises the need to adjust prices in-period for uncertain and unforeseen events. An uncertain event is the level of water restrictions during the regulatory period. Regardless of the price control mechanism, prices must be adjusted if there is a different water restriction outcome from those assumed in this Water Plan[61] (refer Table 24).

60 Essential Services Commission, 2008, *2008 Water Price Review, Goulburn-Murray Water Determination, 1 July 2008 – 30 June 2013,* June.

61 *"But worse could still be ahead with some authorities future budgets calculated around a return to lower water restrictions",* The Age, 2008, *Water Suppliers face big losses,* 28 October, p. 7.

9. Customer tariffs and prices

9.1 Pricing structure

Price plays an important part in providing signals to our customers

Price has an important role to play in signalling to our customers the value of the services we provide. Our current tariffs have helped customers control their bills by managing their usage, thus aiding water conservation.

We plan to leave our tariff structures unchanged

We do not propose to make alterations to our tariff structures in this regulatory period. Any changes to tariff structures will result in some customers gaining and others losing. Given that bills will double we do not want to compound this increase with changes to tariff structures.

We propose to make one relatively minor change in tariff definitions for the regulatory period that will not impact on the doubling of bills. We will amend the seasonal indices used in calculating the sewage disposal charge for residential customers to better align with the volume being discharged to sewer during water restrictions.

We will undertake a review of tariffs during the regulatory period

We will undertake an extensive review of our tariff structures during the regulatory period with the possibility that substantial tariff changes may occur for the 2013/14 -2017/18 regulatory period. There is a great deal of activity taking place nationally in respect of urban water pricing and we expect this will help inform potential changes to tariff structures for the longer-term. Other factors that may influence future tariffs include water supply augmentations, water conservation and third party network access. These factors could lead to different cost structures and aims that would need to be reflected in tariffs. The review will look to create tariffs that meet best principles of efficiency, fairness, impact, simplicity, revenue recovery and recognition of externalities. Some possible changes include:

- phasing out the residential sewage disposal charge and creating a single volume charge for water in and sewage out to simplify the bill
- reducing fixed charges and raising volume charges so that bills better reflect customers' efforts to save water
- charges to non-residential customers that reflect their security of supply
- trade waste annual charges based on risk rank
- a fixed charge for every property connected to a service.

At present, the service liability is based on property title. This method of charging is an historical legacy from when service charges were based on property values. We rely on third parties for this information which may not be current. In some instances there are multiple premises on a single title each with their own connection but only a single service charge is levied. Customers that are connected to services should pay the same charge for the service provided irrespective of property titles.

A change to connection based service charges would mean that some existing customers become liable for a service charge for the first time. We would not introduce a charge for existing customers until we have completed the review.

Where there is a compelling case to implement any changes prior to the end of the regulatory period, we will seek the views and approval of the Essential Services Commission.

To recover the required revenue, we have applied the revenue requirement detailed in Table 27 in Section 7 to the demand forecasts described in Section 6. This results in increased real charges for residential and non-residential customers which will be 19% in 2009/10, 17% in 2010/11, 11% in 2011/12 and 10% in 2012/13.

9.2 Objectives of a pricing structure

Tariffs are required to be set in accordance with Water Industry Regulatory Order

The development of tariffs has to occur within a framework of regulatory and statutory requirements. The *Water Industry Regulatory Order* outlines a number of principles that the Essential Services Commission and businesses must have regard to in pricing – refer box below. Principles 14(1) (vi), (vii) and (ix) relate directly to the structure of tariffs levied by the businesses and how costs are allocated across customers. Our tariffs for the regulatory period conform to these principles.

Water Industry Regulatory Order (WIRO) pricing principles

Clause 14(1) of the WIRO requires the commission to be satisfied that prices are set so as to:

(i) provide for a sustainable revenue stream to the regulated entity that nonetheless does not reflect monopoly rents and or inefficient expenditure by the registered entity;

(ii) allow the regulated entity to recover its operational, maintenance and administrative costs;

(iii) allow the regulated entity to recover its expenditure on renewing and rehabilitating existing assets;

(iv) allow the regulated entity to recover:

  (A) a rate of return on assets as at 1 July 2004 that are valued in a manner determined by, or at an amount otherwise specified by, the Minister at any time before 1 July 2004;

  (B) all costs associated with existing debt incurred to finance expenditure prior to 1 July 2006, in a manner determined by the Minister at any time before 1 July 2006;

(v) allow the regulated entity to recover a rate of return on investments made after 1 July 2004 to augment existing assets or construct new assets;

(vi) provide incentives for the sustainable use of Victoria's water resources by providing appropriate signals to water users about:

  (A) the costs of providing services, including costs associated with future supplies and periods of peak demands and or restricted supply; and

  (B) choices regarding alternative supplies for different purposes.

(vii) take into account the interests of customers of the regulated entity, including low income and vulnerable customers;

(viii) provide the regulated entity with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources; and

(ix) enable customers or potential customers of the regulated entity to readily understand the prices charged by the regulated entity for prescribed services, or the manner in which such prices are to be calculated or otherwise determined.

9.3 Residential water and sewerage pricing structure proposals

9.3.1 Existing pricing structure

How we charge our residential customers

Our current charges are:

- A fixed charge for water, recycled water[62] and sewerage - each being a flat charge levied on property title connected to our networks.
- A variable water usage charge based on the customer's metered water consumption and applied using a rising three-step pricing structure. This residential pricing structure was introduced in October 2004 to promote water conservation.

  Step prices are based on a user pays system and are structured so that water use above a specific level of consumption is charged at a higher price. This structure recognises the need to provide water for essential residential use at an affordable price (within the first step) while also encouraging water conservation by increasing the price for discretionary water uses (steps 2 and 3).
- A variable usage charge for recycled water, based on the customer's metered recycled water consumption.
- A variable usage charge for sewage (sewage disposal charge) applied to the estimated discharge from a property. The estimation is based on the metered volume of water entering a property and avoids the impracticality of individually metering sewage flows. In relation to residential customers, the formula recognises discharges to the sewer vary from month to month, due to the amount of water being used outdoors.

  The formula for calculating the estimated volume of sewage from residential properties (VSr) is:

  VSr = VW x SF x DF

  where:

  VW is the volume of water supplied to the property

  SF is the seasonal factor

  DF is the discharge factor

62 Recycled water in this context is Class A water supplied by a reticulated third pipe system.

Table 31: Tariff structure for water and sewerage residential customers ($ January 2009 level)

	2008/09 PRICE	2009/10 PRICE
Water fixed charge (per year)	75.54	89.89
Water usage charge (per kilolitre) Step 1 (0-440 litres per day)	1.0192	1.2128
Step 2 (441-880 litres per day)	1.1957	1.4229
Step 3 (881+ litres per day)	1.7666	2.1023
Sewer fixed charge (per year)	184.54	219.60
Sewage disposal charge (per kilolitre)	1.3181	1.5685
Recycled water fixed charge (per year)	20.00	23.80
Recycled water usage charge (per kilolitre)	1.0192	1.2128

The retained residential pricing structure will achieve our objectives as it:

- continues to provide a signal to customers about the value of water
- allows customers' control over their bills
- is now familiar to customers
- ensures that customers either use less water or pay for the necessary supply enhancements
- makes investment in water efficient appliances more attractive.

It will also retain the same broad proportion of revenue that we recover through fixed and volumetric charges. Typically we recover around 40 per cent of revenue from residential customers through fixed charges and around 60 per cent through volumetric charges. An average residential customer using 165 kilolitres in 2008/09 has a bill that is 44 per cent fixed and 56 per cent volumetric.

A change to seasonal indices

9.3.2 Seasonal indices for sewage disposal charge

We propose to make a change to the seasonal indices for calculating the volume of sewage discharged. The current profile for the seasonal indices is based on pre-restriction patterns of water use. A relatively large proportion of water used during the summer months is assumed to be for garden watering and other outdoor purposes and not returned to sewer.

Under restrictions there is much less garden watering so a higher proportion of water entering a typical household property is returned to the sewer. We propose that the seasonal indices reflect each stage of water restrictions and will take effect as restriction levels are changed. The effective volume of sewage will decrease relatively as restrictions ease. The proposed indices are shown in Table 32.

Table 32: Seasonal indices for calculating the sewage disposal charge

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Existing	**1.7**	**1.7**	**1.5**	**1.2**	**1.1**	**1.0**	**1.0**	**1.0**	**1.1**	**1.2**	**1.4**	**1.5**
PWSR*	1.575	1.575	1.425	1.175	1.075	1.0	1.0	1.0	1.075	1.175	1.325	1.425
1	1.45	1.45	1.35	1.15	1.05	1.0	1.0	1.0	1.05	1.15	1.25	1.35
2	1.325	1.325	1.275	1.125	1.025	1.0	1.0	1.0	1.025	1.125	1.175	1.275
3a	1.2	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.2
4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

* Permanent Water Saving Rules

9.3.2.1 Customer impacts

How residential customers will be affected

Table 33 shows the annual customer impacts from the price increases.

Table 33: Customer impacts ($ January 2009 level)

	BASE YEAR 2007/08	20012/13
Average residential bill (165 kilolitres per year)	$510.88	$1,005.14 (96.7% increase)

9.3.3 Implementing pricing structure changes

The proposed changes to residential prices for this regulatory period will be implemented on 1 July 2009.

We understand that bill increases can impact customers experiencing financial difficulty, and we are committed to continuing our support programs to assisting customers. The Government has also committed to reviewing concession rates for water and sewerage services in the next State Budget.

9.3.3.1 Low income and vulnerable customers

Continuing support for vulnerable customers

We have been recognised nationally and internationally for our customer hardship and support programs. Any impact that may be experienced by vulnerable and low income customers will be managed through our extensive hardship policy and support services. No changes are proposed to our hardship policy for this regulatory period; however, we will continue to review the policy and programs annually and in response to changing customer needs and make improvements to the program where necessary.

We have a range of programs available to help customers save water and money and minimise the effect of price rises. Our water conservation program for low income and vulnerable customers is an industry leader and is offered to eligible customers in partnership with the Department of Human Services.

9.3.4 Class 'A' recycled water in residential and non-residential developments

Using recycled water from third pipe systems benefits the whole community by reducing the demand on potable water. To achieve our recycled water obligations and to encourage the use of recycled water, the price must be sufficiently competitive for customers to purchase it ahead of other water supplies.

The usage charge for recycled water for residential and non-residential customers is currently set at $1.0192 per kilolitre, the same price as the residential step 1 price for water, and the service charge is set at $20.00. Both of these prices will increase in line with the prescribed price path.

9.4 Non-residential water and sewerage pricing structure proposals

9.4.1 Pricing structure

How we charge our non-residential customers

Our current non-residential charges are:

- A fixed charge for water, recycled water[63] and sewerage - each being a flat charge levied on property title connected to our networks.
- A variable water usage charge based on the customer's metered water consumption.
- A variable recycled water usage charge based on the customer's metered recycled water consumption.
- A variable usage charge for sewage (sewage disposal charge) applied to the estimated discharge from a property. The estimation is based on the total metered volume of water entering a property and avoids the impracticality of individually metering sewage flows.

The formula for calculating the volume of sewage from non-residential properties (VSnr) is:

VSnr = (VW –VTW) x DF

Where:

VW is the volume of water supplied to the property

VTW is the volume of Category 2 Trade Waste and Category 3 Trade Waste discharge from a property

DF is the discharge factor

63 Recycled water in this context is Class A water supplied by a reticulated third pipe system.

Non-residential customers that are not required to have a trade waste agreement have their sewage disposal charge calculated using the following formula:

VSnr = VW x DF

Where:

VW is the volume of water supplied to the property

DF is the discharge factor pre-determined on the type of business (in most cases 90 per cent)

9.4.2 Proposed pricing structures

Minimal changes to non-residential tariff structure

No changes are proposed to the non-residential water and sewerage pricing structure. We believe the current structure works for non-residential customers. They have controlled their use in recent years even though they are not subject to restrictions.

9.4.3 Non-residential prices

The following prices for non-residential water and sewerage customers are proposed in the first year of this regulatory period (refer Table 34).

Table 34: Non-residential prices for water, recycled water and sewerage customers ($ January 2009 level)

	2008/09 PRICE	2009/10 PRICE
Water fixed charge (per year)	122.62	145.92
Water usage charge (per kilolitre)	1.0983	1.3070
Sewerage fixed charge (per year)	287.18	341.74
Sewage disposal charge (per kilolitre)	1.2798	1.5230
Recycled water fixed charge (per year)	20.00	23.80
Recycled water usage charge (per kilolitre)	1.0192	1.2128

9.4.4 Recycled water for irrigation (not used for potable substitution)

In the Essential Services Commission's 2008 Water Price Review, it approved the following pricing principles to be applied when recycled water is provided to large non-residential or unique (one-off) customers.

"Prices should be set so as to:

- *have regard to the price of any 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)*
- *include a variable component.*

Where a business does not propose to fully recover the costs associated with recycled water, it must demonstrate to the Commission that:

- *it has assessed the costs and benefits of pursuing the recycled water project*
- *it has clearly identified the basis on which any revenue shortfall is to be recovered*
- *if the revenue shortfall is to be recovered from non-recycled water customers*
    - *the project is required by 'specified obligations' or*
    - *there has been consultation with the affected customers about their willingness to pay for the benefits of increased recycling."*

Yarra Valley Water proposes to use these principles to set prices for inclusion into individual contracts where recycled water is provided for irrigation purposes on land typically used for golf courses and agriculture or large industrial customers. We propose to continue setting usage and/or service charges on a case by case basis using a building blocks cost model.

9.4.5 Trade waste

Trade waste is wastewater produced from the operations of industry and commercial businesses and is usually more contaminated than normal domestic sewage. It may contain chemicals, fats or detergents. The presence of large amounts of these substances in the sewerage system increases the risk of environmental damage and increases the cost and risk associated with sewage treatment. Managing trade waste risk is a significant issue involving continual monitoring of discharges, education and assistance to customers.

The Department of Sustainability and Environment's *Future Directions Statement* notes that trade waste is a significant contributor to the treatment load returned to the sewerage system by customers. It can be a limiting factor in the treatment processes and in recycling water and biosolids. We aim to minimise the impact of trade waste on treatment assets and the environment.

Pricing signals can change customer behaviour by extending the 'polluter pays' approach. Pricing structures show customers the cost of treating various components of their effluent.

9.4.5.1 Trade waste pricing structure

Trade waste service fees are currently structured in a similar manner to water supply and sewerage services. They comprise a fixed trade waste contract fee, which is based on the annual estimated trade waste volume, and a trade waste discharge fee, based on the strength and volume of trade waste being discharged. Discharge fees are currently applied to the following four parameters:

- biological oxygen demand
- suspended solids
- total nitrogen
- total dissolved solids.

9.4.5.2 Proposed pricing structure

Melbourne Water has changed the basis of its trade waste tariffs to us for the regulatory period to:

- total kjehldahl nitrogen (rather than total nitrogen)
- inorganic total dissolved solids (rather than total dissolved solids)
- separate prices for discharges to the Eastern and Western Sewage Treatment Plants for each pollutant parameter from our trade waste customers.

We do not have the demand forecasts to understand the impacts of these changes on our customers and so for 2009/10 and 2010/11 we propose not to change our current trade waste tariff structures. We will look to passing through Melbourne Water's pricing signals in subsequent years of the regulatory period once customer impacts can be assessed and consultation with our customers undertaken.

We do not plan to make substantial changes to the structure of other usage charges. In the first regulatory period, category 2 and 3 customers were merged into a single group for charging purposes and we will carry this into the regulatory period.

9.4.5.3 Trade waste prices

Annual fees

The annual fees are presented in Table 35.

Table 35: Annual fees ($ January 2009 levels)

	2008/09	2009/10
Less than 2,500 kilolitres	$327.96	$390.27
2,500 to 25,000 kilolitres	$984.73	$1,171.83
25,000 to 100,000 kilolitres	$3,283.68	$3,907.58
Greater than 100,000 kilolitres	$9,851.76	$11,723.59

Usage charges

The variable charges for the volume and load elements of trade waste are presented in Table 36.

Table 36: Variable trade waste charges ($ January 2009 levels)

		2008/09	2009/10
Volume	$/kL	0.6051	0.7201
Biological oxygen demand	$/kg	0.4728	0.5626
Suspended solids	$/kg	0.2752	0.3275
Total nitrogen	$/kg	1.0826	1.2883
Total dissolved solids	$/kg	0.0110	0.0131

9.4.6 Customer impacts

How non-residential customers will be affected

Table 37 shows how different levels of water usage would be affected by our proposed pricing increases detailed above. These examples include trade waste prices.

Table 37: Non-residential customer impacts ($ January 2009 levels)

SCENARIOS	2008/09	2009/10				2012/13	
	TYPICAL USAGE	TYPICAL USAGE		EFFICIENT USAGE#		TYPICAL USAGE	EFFICIENT USAGE#
	TOTAL ANNUAL BILL	TOTAL ANNUAL BILL	INCREASE $ PER WEEK	TOTAL ANNUAL BILL	INCREASE $ PER WEEK	TOTAL ANNUAL BILL	TOTAL ANNUAL BILL
Small Retailer	635	756	2.33	729	1.81	1,079	1,041
Small Office	860	1,023	3.13	970	2.12	1,462	1,385
Gym	11,660	13,875	42.60	12,537	16.87	19,823	17,910
Shopping centre	45,412	54,040	165.92	48,686	62.96	77,202	69,552
Industrial* 50,000kL	109,255	130,106	400.98	120,525	216.73	185,866	172,178
Large industrial*	378,181	455,133	1,479.85	416,809	742.85	650,185	595,436

*Includes trade waste

#10 per cent reduction in water use

9.4.7 Implementing pricing structure changes

The proposed changes to non-residential prices for this regulatory period will be implemented on 1 July 2009.

9.5 New customer contributions

We collect new customer contributions from developers

Generally, all new customers are provided with water, sewerage and, in some cases, recycled water facilities to their properties. This may involve extending or expanding service networks by the developer and/or Yarra Valley Water. We collect new customer contributions from developers to help offset the cost of providing infrastructure to service new development.

9.5.1 Existing new customer contributions

New customer contributions from July 2008

In the Essential Services Commission's 2008 Water Price Review, it approved scheduled new customer contributions to be levied to the following categories:

- ***Category 1:*** a minimum $550 per lot per service for water, sewerage and third 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 metres.

- ***Category 2:*** $1,100 per lot per service for water, sewerage and third pipe recycled water (total $3,300 per lot) for urban developments which will require further investment in infrastructure.

  These developments are typically traditional greenfield urban developments with lot sizes between 450 square metres and 1,350 square metres.

- ***Category 3:*** $2,200 per lot per service for water, sewerage and third 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 developments which will require further investment in infrastructure.

  These developments are typically greenfield developments with lot sizes exceeding 1,350 square metres, for example, lots with potentially large outside water use which will influence near term investment in infrastructure decisions.

Developments connecting to recycled water are subject to a 50 per cent reduction in the applicable scheduled charge for new customer contributions for water services. The charges apply equally to each residential and non-residential customer to be connected.

9.5.2 Yarra Valley Water proposed new customer contributions

For the regulatory period, we generally propose a continuation of the Essential Services Commission's approach to new customer contributions to ensure all developments provided with water, sewer and recycled water services pay a contribution to the cost of providing the infrastructure to service the developments.

Our proposed changes to the Essential Services Commission's approach

The areas of the Essential Services Commission's current approach where we propose changes are:

- ***No reduction in the water scheduled charge where the development is connected to recycled water.***
  The existing new customer contributions are notional amounts that do not reflect the cost to the water businesses to extend the networks and result in significant funding shortfall that is borne by the general customer base. Water assets are sized not only to cater for peak use but also for fire fighting purposes. As such, a 50 per cent reduction in potable water use by customers does not equate to a 50 per cent reduction in pipe size. A 50 per cent reduction in pipe size does not equate to a 50 per cent reduction in cost. The only significant difference in cost is the cost of the pipe, all excavation and other works are predominantly the same.

- ***No sharing the cost of reticulation assets between developers***
  The Essential Services Commission's determination is where a developer is required to provide reticulation assets that exceed the requirements of their development, they can only be required to contribute an amount that reflects the capacity requirements of their development. The balance of the cost may be recovered from subsequent customers connecting to the asset.

  We see this as an administration burden for no gain. For the developers, it is a zero sum game whereby developers pay less for shared reticulation assets they install but will be required to contribute to downstream shared reticulation assets. This does not send appropriate costs signals as it overstates the incremental cost of connection and is not likely to promote efficient decisions.

9.6 Miscellaneous services

We offer miscellaneous services to our customers that are associated with our prescribed services and are provided by us and/or our agency outlet plumbing stores.

Pricing principles for miscellaneous charges

In the Essential Services Commission's 2008 Water Price Review, it approved the following pricing principles to be applied when calculating the actual cost of providing miscellaneous services:

direct third party or contractor invoice cost

plus

direct marginal internal costs (including labour, materials and transport)

plus

a fair contribution to overheads

We have applied these principles to the pricing of all miscellaneous services.

Core miscellaneous charges

The Essential Services Commission has requested that the water utilties submit, for approval, a list of core miscellaneous services that make up approximately 80 per cent of revenue associated with their miscellaneous services. The remaining non-core miscellaneous services are not required to be submitted to the Essential Services Commission for approval but the price must still reflect the cost of providing the service.

Where the actual cost of providing a core miscellaneous service would increase the price by more than the prescribed price path, we propose to transition the price increase over the regulatory period to reduce price shocks to customers. Conversely, where the actual cost of providing a core miscellaneous service would decrease the price by more than 10 per cent, we propose to transition the price decrease over the regulatory period.

Table 38 shows Yarra Valley Water's core miscellaneous services and charges.

Table 38: Core miscellaneous services and charges ($ January 2009 level)

	2008/09	2009/10	2010/11	2011/12	2012/13
Information statements					
Standard application	32.60	29.34	26.41	23.77	21.39
Urgent application	48.90	44.10	39.61	35.65	32.08
Land development					
Simple application	676.13	723.01	723.01	723.01	723.01
Complex application	1,615.74	1,615.74	1,615.74	1,615.74	1,615.74
20 mm potable and recycled water					
Wet tapping including meter (customer excavation)	244.61	220.15	220.03	220.03	220.03
Complete short tapping	1,163.07	1,046.76	966.28	966.28	966.28
Complete long tapping	1,352.19	1,253.78	1,253.78	1,253.78	1,253.78
Dry tapping meter installation	327.28	294.55	265.10	253.78	253.78
First meter (supply and installation)	150.41	153.78	153.78	153.78	153.78
Each additional meter (supply and installation)	101.64	107.53	107.53	107.53	107.53
First remote meter (supply and installation)	307.63	366.08	397.53	397.53	397.53
Each additional remote meter (supply and installation)	273.73	325.74	360.03	360.03	360.03

	2008/09	2009/10	2010/11	2011/12	2012/13
Other core miscellaneous services					
Standard sewer application	24.37	29.00	31.39	31.39	31.39
Property service plan and asset plan	17.60	17.65	17.65	17.65	17.65
Build over easement application	56.38	56.38	56.38	56.38	56.38

Non-core miscellaneous services

The prices for non-core miscellaneous services that make up the remaining 20 per cent of miscellaneous revenue are calculated using the same pricing principles but are not submitted to the Essential Services Commission for approval.

Appendix

Measure-up from First Regulatory Period (2005/06 – 2007/08)

Introduction

Our service area characteristics and drought result in three specific issues which influenced the service outcomes achieved in the first regulatory period (2005/06 – 2007/08):

- **Proximity to the source of unfiltered water during water restrictions:** most of our customers enjoy water delivered from protected catchments where it is not filtered or treated, except for the addition of a small amount of chlorine and fluoride. This unfiltered water contains naturally occurring sediments, which reduce as the water makes its way through the water mains. As some of our customers are close to the 'source' of Melbourne's water, particularly Upper Yarra and Silvan Reservoirs, the water can contain natural sediments, making it appear cloudy. While the water is safe to drink and meets drinking water regulations, the appearance of the water causes a higher rate of water quality complaints than experienced elsewhere in Melbourne. We have a proactive mains cleaning program; however, due to the drought and water restrictions, this program was scaled back during the first regulatory period as water restrictions were imposed to conserve water. Our intention is to recommence this program when water restrictions are eased.

  This characteristic adversely caused increased aesthetic water quality complaints during the first regulatory period.

- **Topographical and geological ground conditions during drought:** the close proximity of our water infrastructure to Melbourne's catchments causes very high pressure, which results in a high number of water main bursts and leaks. Clay-based soils prevalent in our service area means that the soils expand and contract with changes in moisture content and result in a high incidence of cracks and leaks in the pipes.

  The drought has caused greater ground movement than has been experienced in the past and exacerbated the incidence of pipe bursts and leaks during the first regulatory period.

- **Tree root infiltration during drought:** within our service area, many local councils and customers favour large trees. In an environment of dry weather and less watering, the roots from the trees are attracted to other sources of water such as sewers. This tree root infiltration is the major cause of blockages in the sewer system.

  The record dry conditions have magnified this tree root infiltration and increased the incidence of sewer blockages and spills in our area during the first regulatory period.

We exceeded response and rectification service standards in the first regulatory period. We responded quickly when an unplanned interruption to a service occurred to minimise impacts to customers. We monitored rectification times closely and maximised our resource capacity, especially during summer months, to meet service standards. We made a significant investment to increase our resources and improve processes to minimise impact on customers and save water. This included:

- additional field crews, trucks and excavators
- additional field assessors (one man water response units) and an overnight assessor during the peak summer period
- use of mobile computing mapping systems and GPS tracking
- improved fault call handling processes to optimise fault diagnosis and prioritise field crews dispatch to site.

Core Service Standards

In the first regulatory period, we met or exceeded 14 of the 20 core service standards. The factors indicated above were the principal reasons for not achieving the remaining targets.

CORE SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Water						
Unplanned water supply interruptions (per 100 km)	Required Standard	61.5	59.7	58.0	Variance – refer below	63.1
	Actual	56.1	68.8	64.4		
Explanation: The record dry conditions increased the incidence of pipes cracking and being pulled out of alignment. This damage to our infrastructure resulted in a substantial increase in water main burst and leak rates. This damage has occurred in spite of our active programs to minimise the impacts of these soil effects. These include, programs to install additional valves to minimise the number of customers affected by each burst, extensive renewal programs to replace poorly performing pipes and pressure management programs.						
Average time taken to attend bursts and leaks-priority 1 (minutes)	Required Standard	29	29	29	Exceeded targets – refer Introduction	26
	Actual	25	27	26		
Average time taken to attend bursts and leaks- priority 2 (minutes)	Required Standard	55	55	55	Exceeded targets – refer Introduction	38
	Actual	38	37	38		
Unplanned water supply interruptions restored within 5 hours (per cent)	Required Standard	99.50	99.50	99.50	Target achieved	99.54
	Actual	99.98	99.95	98.70		

CORE SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Planned water supply interruptions restored within 5 hours (per cent)	Required Standard	99.50	99.50	99.50	Target achieved	99.64
	Actual	99.85	99.77	99.30		
Average unplanned customer minutes off water supply (minutes)	Required Standard	30	30	30	Exceeded targets – refer Introduction	25
	Actual	23	26	26		
Average planned customer minutes off water supply (minutes)	Required Standard	22.7	21.4	21.1	Exceeded targets- refer below	12
	Actual	18	12	6		
Explanation: The average planned customer minutes off water supply fluctuates with the amount of activity and the average time taken to complete the works. This fluctuates with the work program. Suspension of mains flushing program (part of 2005/06, 2006/07 and 2007/08) and valve insertion program that have longer shutoff times has contributed to lower overall time of customer minutes off supply.						
Average unplanned frequency of water supply interruptions (per 1000 customers)	Required Standard	0.34	0.32	0.30	Target achieved	0.28
	Actual	0.25	0.30	0.28		
Average planned frequency of water supply interruptions (per 1000 customers)	Required Standard	0.12	0.11	0.11	Exceeded target - refer below	0.08
	Actual	0.12	0.09	0.04		
Explanation: The average planned frequency of water supply interruptions fluctuates with the number of activities planned. Suppression of the mains flushing program and valve insertion program has contributed to the improved performance.						

CORE SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Average duration of unplanned water supply interruptions (minutes)	Required Standard	88	88	88	Variance – refer below	89
	Actual	90	84	92		

Explanation: The record dry conditions increased the incidence of pipes cracking and being pulled out of alignment. This damage to our infrastructure resulted in a substantial increase in water main burst and leak rates. This damage has occurred in spite of our active programs to minimise the impacts of these soil effects. These include, programs to install additional valves to minimise the number of customers affected by each burst, extensive renewal programs to replace poorly performing pipes and pressure management programs.

In late 2006/07 we, in consultation with the Essential Services Commission, modified its process to ensure all bursts and significant leaks were switched off immediately by an assessor (one man response unit) until a field crew arrives rather than let the water flow and maintain supply to customers. This field process change continued throughout 2007/08 and recognises customer expectations to save water during a period of drought and water restrictions.

This process change has resulted in us not meeting this service standard in 2007/08 despite exceeding targets for average time to attend priority 1 and 2 bursts and leaks.

Average duration of planned water supply interruptions (minutes)	Required Standard	160	160	160	Exceeded target - refer below	141
	Actual	146	131	145		

Explanation: The average duration of planned customer minutes off water supply fluctuates with the amount of activity and the average time taken to complete the works. This fluctuates with the work program. Suspension of mains flushing program (part of 2005/06, 2006/07 and 2007/08) and valve insertion program that have longer shutoff times has contributed to lower overall time of customer minutes off supply.

Number of customers experiencing 5 unplanned water supply interruptions in the year (number)	Required Standard	999	941	883	Exceeded target - refer below	770
	Actual	850	547	913		

Explanation: Yarra Valley Water prioritises its water main renewal and valve insertion programs for customers who are experiencing repeat service failures. The exceeded targets are a reflection of the ongoing benefits of these programs which have been in place for 10 years.

CORE SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Unaccounted for water (per cent)	Required Standard	11.4	10.8	10.6	Variance – refer below	13.6
	Actual	13.0	13.6	14.2		

Explanation: The measurement method employed for this core standard can distort the true result. Unaccounted for water is reported as a percentage of our total bulk water purchase each year. We purchased less water in the first regulatory period than in previous years as a result of drought, water restrictions and water conservation efforts. Thus when less water is purchased one year to the next, the true amount of unaccounted for water could remain the same while the percentage it represents of the total bulk water purchase could increase.

The 10.6% target for 2007/08 was the outcome of a non-revenue water forecast of 19.1 gigalitres (the numerator) and a total water use forecast of 181.2 gigalitres (the denominator). Given the high level of variability and uncertainty around non-revenue water any result within ± 2 gigalitres is considered acceptable from a forecasting perspective. The non-revenue water for 2007/08 of 20.2 gigalitres is well within that range.

The total water use in 2007/08 was only 143.7 gigalitres due to stage 3a restrictions, so the per cent unaccounted for water outcome is inflated by this small denominator. The implicit logic in this indicator is that non-revenue water is a function of total water but this is not the case.

Sewerage

Sewerage blockages (per 100 km)	Required Standard	43.4	43.1	42.8	Variance - refer below	45.2
	Actual	40.1	49.3	46.3		

Explanation: Our analysis indicates that around 75% of blockages are caused by tree root infiltration. Tree roots become progressively more aggressive in finding water during drought periods, increasing the number and severity of roots penetrating the sewers. The combination of a high percentage of vitrified clay pipes in reactive soils and leafy suburbs combines to create a high level of sewer blockages. We have a program to assist customers who experience repeat blockages through individual customer management plans.

Average time to attend sewer spills and blockages (minutes)	Required Standard	65	65	65	Exceeded targets - refer below	51
	Actual	57	51	45		

Explanation: We have made a significant investment in a number of sewer cleaning vehicles to clear sewer blockages and introduced specialised sewer response units with CCTV and jet cleaning equipment. Mobile computing mapping systems and GPS tracking have improved the dispatch of these vehicles to site. Rapid response vehicles are zoned into four areas to better meet demand, and the utilisation of mobile PDA (hand held) systems that transfer information efficiently has also assisted response times.

CORE SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Average time to rectify a sewer blockage (minutes)	Required Standard	310	310	310	Exceeded targets - refer previous indicator	249
	Actual	282	258	206		
Spills contained within 5 hours (per cent)	Required Standard	100	100	100	Target achieved	100
	Actual	100	100	100		
Customers receiving 4 sewer blockages in the year (number)	Required Standard	3	3	3	Variance - refer below	15
	Actual	7	21	16		
Explanation: Our ongoing house connection branch replacement program for customers with repeat blockages has assisted in managing these repeat blockages over the first regulatory period, but not to the degree originally estimated.						
Customer service						
Complaints to EWOV (per cent)	Required Standard	0.08	0.07	0.06	Target achieved	0.07
	Actual	0.08	0.07	0.07		
Telephone calls answered within 30 seconds (per cent)	Required Standard	94.7	94.7	94.7	Variance - refer below	87.9
	Actual	91.3	90.4	82.0		
Explanation: We did not achieve our telephone response rate targets in the first regulatory period due to a significant increase in the number of calls to our Customer Contact Centre. The increase in calls in 2005/06 were identified as 'affordability' related, which was due to the increases in water and sewer charges compounded by the annual parks charge and external factors such as the increasing cost of petrol. In 2006/07, the increase was associated with the introduction of water restrictions, in particular stage 3 restrictions introduced in January 2007. Over the course of 2006/07, total call volumes increased by over 15%. In both years, the increases were unexpected and against long term trends. A number of improvements were implemented in 2006/07 to improve call handling processes. This included improved optimisation of staffing resources and enhancements to the interactive voice response (IVR) system. In 2007/08 the annual target was not achieved, the improvements implemented enabled the target to be exceeded in the last 4 months of the year.						

Approved Service Standards

In the first regulatory period, we met or exceeded 11 of the 20 approved service standards. The factors indicated in the Introduction were the principal reasons for not achieving the remaining targets.

ADDITIONAL SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Water						
Drinking water quality – customer complaints (per 1,000 customers)	Required Standard	49.4	4.4	4.0	Variance – refer below	5.6
	Actual	6.0	5.2	5.7		
Explanation: While the water supplied to customers meets drinking water quality standards, the appearance of sediment causes a relatively high level of water quality complaints and this has been exacerbated with water restrictions. Operational changes implemented by the Melbourne water industry to facilitate drought recovery of major reservoirs, has contributed to the increased levels of water quality complaints. These works typically result in changes to flow characteristics within the distribution system. This disturbs the naturally occurring sediment in the system which results in more turbid water being delivered to customers. A one in 100 year storm that occurred in the Upper Yarra reservoir catchments in June 2007 required operational changes to be implemented by Melbourne Water to maintain water supply to customers. This contributed to the increased levels of water quality complaints during 2007/08. These changes to supply resulted in higher coloured water being delivered to customers.						
Water conservation: per person water consumption (litres per person per day)	Required Standard	314	318	314	Exceeded targets - refer below	277
	Actual	301	282	248		
Explanation: The Government introduced and accelerated demand management programs in line with the requirements specified in the Central Region Sustainable Water Strategy and Metropolitan Water Supply-Demand Strategy. Costs associated with implementation of recommendations contained in the Supply-Demand Strategy released in April 2006 were not included in the Water Plan for the first regulatory period. Severe water restrictions and the immediate commencement of the recommendations in these strategies were required due to the extended drought conditions experienced by Victoria. This has led to increased water conservation measures reducing per person water consumption.						
Average time taken to attend burst and leaks (priority 3) (minutes)	Required Standard	600	600	600	Exceeded targets - refer Introduction	357
	Actual	383	374	314		

ADDITIONAL SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Sewerage						
Customers receiving 5 sewer blockages in a year (number)	Required Standard	2	2	2	Variance – refer below	2
	Actual	0	1	5		
Explanation: We assist customers who experience repeat blockages through individual customer case management plans. An automated system is used to identify customers that have had 2 or more blockages in a year.						
Customers with 5 or more blockages in 5 years (number)	Required Standard	262	91	36	Variance - refer below	262
	Actual	253	276	258		
Explanation: Our ongoing house connection branch replacement program for customers with repeat blockages has assisted in managing these repeat blockages over the first regulatory period, but not to the degree originally estimated.						
House connection branch sewer blockages (per 1000 customers)	Required Standard	13.7	13.0	12.2	Variance – refer below	12.4
	Actual	11.9	12.4	12.8		
Explanation: Our ongoing house connection branch replacement program for customers with repeat blockages has assisted in managing these repeat blockages over the first regulatory period, but not to the degree originally estimated. We have a program to identify and rehabilitate a minimum of 1,800 house connection branches each year. These planned repairs are selected using sewer cameras to identify branches that are about to fail as well as those that have already failed.						
Reducing sewage spills to the environment: compliant emergency relief structures (per cent)	Required Standard	64.0	68.0	70.0	Variance - refer below	65.9
	Actual	64.0	66.3	67.3		

ADDITIONAL SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Explanation: We have encountered design and construction issues relating to emergency relief structures. These issues took longer than expected to resolve and caused the 2006/07 target to be missed. Due to a change in the project scope (i.e. Melbourne Water deferring a project), the target for 2007/08 has not been met.						
Backlog sewerage: lots provided with reticulated sewerage service (number)	Required Standard	178	345	420	Exceeded target - refer below	147
	Actual	49	715	343		
Explanation: We re-prioritised our backlog sewerage program and achieved the aggregate target over the three-year regulatory period.						
Water recycling: water recycled from Yarra Valley Water treatment plants (per cent)	Required Standard	5.2	14.3	16.0	Exceeded targets - refer below	27.0
	Actual	4.1	20.0	23.1		
Explanation: We did not meet the 2005/06 recycled water target due to the Aurora development not developing at the anticipated rate and the RACV Country Club at Healesville recycling project not proceeding. In both 2006/07 and 2007/08, we exceeded the targets due to sewage treatment plant reuse. In 2007/08, the Brushy Creek Class A plant became operational which helped us to significantly exceed the annual target.						
Customer service						
Calls to emergency line answered within 15 seconds (per cent)	Required Standard	90.0	90.0	90.0	Exceeded targets - refer below	93.9
	Actual	92.0	92.7	97.0		
Explanation: The target for calls to the emergency line answered in 15 seconds was exceeded in all years despite an increase in the frequency of burst water mains as a consequence of the drought. The service was significantly improved in 2007/08 by establishment of a dedicated team to take fault and emergency calls and improved communications between field crews and phone staff.						

ADDITIONAL SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Account inquiry calls answered within 15 seconds (per cent)	Required Standard	90.0	90.0	90.0	Variance – refer below	79.2
	Actual	77.0	83.7	77.0		
Explanation: Refer response to 'Telephone calls answered within 30 seconds' measure						
Correspondence answered within 4 days (per cent)	Required Standard	96.0	96.0	96.0	Exceeded targets - refer below	98.3
	Actual	97.0	98.8	99.0		
Explanation: Correspondence targets were exceeded due to a relatively even distribution of incoming volumes.						
Customer emails answered within 24 hours (post 2003/04 excludes interims) (per cent)	Required Standard	75.0	80.0	85.0	Exceeded targets - refer below	94.7
	Actual	97.0	92.0	95.0		
Explanation: The customer emails targets were exceeded due to a relatively even distribution of incoming volumes.						
Customer service request satisfied without further contact (per cent)	Required Standard	96.5	97.0	97.5	Exceeded targets - refer below	99.0
	Actual	99.1	98.8	99.0		
Explanation: A great deal of effort is put into resolving customer contacts. With first resolution outcomes, the focus and drive for a quality resolution resulted in achieving this target.						
Hardship scheme – compliance to 'Arrange and Save' payment arrangements (per cent)	Required Standard	88.0	89.0	90.0	Exceeded targets - refer below	92.5
	Actual	91.8	93.3	92.3		

ADDITIONAL SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Explanation: The compliance rate for customers under the 'Arrange & Save' scheme was exceeded over the regulatory period. This is considered to be a very positive result for this customer segment and confirms we are establishing payment arrangements which are flexible, realistic and affordable. In addition, individual case management, assessment and follow up are undertaken when payments are not made on time to help those customers in financial difficulty meet their agreed arrangement.						
Volume of customers with estimated bills (per cent)	Required Standard	0.50	0.50	0.50	Variance – refer below	0.62
	Actual	0.63	0.54	0.69		
Explanation: The volume of customers with estimated bills target was not achieved primarily due to the high number of locked and inaccessible meters and a less experienced meter reading workforce. A strategy to reduce the volume of no reads has been developed and is progressively being implemented. Customers are now able to update their meter read on our website and letters are being sent to the customers with three consecutive no reads detailing options available to receive an accurate bill including use of keys to improve access and the use, where appropriate, of automatic meter reading technology.						
Trade waste application turn around within 4 days (per cent)	Required Standard	90.0	90.0	90.0	Variance - refer below	63.7
	Actual	70.0	54.9	66.3		
Explanation: We did not meet targets for trade waste application turn around in the first regulatory period as there was a higher than expected number of applications.						
Trade waste management: businesses complying 100 per cent with trade waste agreements (per cent)	Required Standard	93.0	93.0	93.0	Target achieved	96.1
	Actual	99.0	95.2	94.2		

ADDITIONAL SERVICE STANDARDS		2005-06	2006-07	2007-08	COMMENT	2008/09 FCST
Environment						
Reducing greenhouse gas emissions of CO2 per year (tonnes)	Required Standard	15,000	10,500	10,500	Exceeded target - refer below	0
	Actual	14,667	10,500	0		
Explanation: For the last two years, we have operated a Showerhead Exchange program under which old and inefficient showerheads have been exchanged for new, water efficient ones. This program provides a double benefit for the environment; firstly it reduces water usage and secondly reduces greenhouse gas emissions. We have offset the reductions in greenhouse gas emissions provided by the Showerhead Exchange program against the emissions generated by its normal operations resulting in a zero net emission position for 2007/08.						
Reducing waste to landfill from Mitcham Head Office Complex (cubic metres per year)	Required Standard	200	140	90	Variance - refer below	112
	Actual	115	110	112		
Explanation: Our staff have a strong commitment to environmental sustainability, and have taken it into their culture. In addition, the Mitcham Green Office Strategy, in itself an outstanding success, has included a specific target and improvement initiatives to increase recycling and so reduce waste to landfill. Staff numbers increased significantly over the first regulatory period, well above that expected, causing the 2007/08 target to be missed. The amount of waste to landfill remained stable over the regulatory period despite the increase in staff numbers.						

Changes in Legislative Obligations

LEGISLATIVE OBLIGATION	NATURE OF THE ADDITIONAL OR CHANGED OBLIGATION	THE DATE ON WHICH THE ADDITION OR CHANGE TOOK PLACE	OUTCOMES TO BE DELIVERED	THE NET OPERATING & FINANCING COSTS ASSOCIATED WITH THE ADDITION OR CHANGE IN ($ JANUARY 2009 LEVEL)
Water conservation measures	Central Region Sustainable Water Strategy	October 2006	30 per cent reduction in per person water consumption by 2015 through a range of water conservation measures including retrofitting of inefficient showerheads in existing homes, the promotion of water efficient washing machines, working with the top 1000 businesses in Melbourne to develop water management plans and the reduction of system leakage. In addition, gardening and behaviour change programs are being undertaken to maintain water savings already achieved.	2005-06: nil 2006-07: $3.6 million 2007-08: $5.0 million
Bulk water entitlements	Minister for Water approved the transfer of bulk entitlements for Yarra, Silver-Wallaby and Thomson catchments from Melbourne Water to the retailers as 'pooled' entitlements in line with the Government's *Our Water Our Future* policy document	30 October 2006	Requirements include: • Establishment of a Bulk Entitlement Management Committee for joint management of the metropolitan 'pooled' entitlements.	2005-06:$0.0 million 2006-07:$0.3 million 2007-08:$0.3 million

LEGISLATIVE OBLIGATION	NATURE OF THE ADDITIONAL OR CHANGED OBLIGATION	THE DATE ON WHICH THE ADDITION OR CHANGE TOOK PLACE	OUTCOMES TO BE DELIVERED	THE NET OPERATING & FINANCING COSTS ASSOCIATED WITH THE ADDITION OR CHANGE IN ($ JANUARY 2009 LEVEL)
			• By 26 October 2008, development of a proposal for the Minister for Water on arrangements relating to the Melbourne bulk entitlements that would achieve a long-term supply-demand balance for the Melbourne supply system with the least economic, environmental and social costs.	
Meeting Obligations Under *Terrorism Act 2003*	Legislative amendment	23 April 2007	Preparation of risk management plans to identify and mitigate the risk of terrorist attacks, undertake audits and conduct annual training sessions.	2005-06: nil 2006-07: $0.03 million 2007-08: $0.03 million

Delivery of capital projects and programs

Due to drought and water restrictions, parts of our planned capital program were re-prioritised during the first regulatory period.

PROJECT	PLANNED OUTCOME OVER THE REGULATORY PERIOD	2005-06	2006-07	2007-08	TOTAL ACTUAL	COMMENTS
Water and Sewerage Replacement / Renewals						
Renewal of water service assets – distribution mains (km)	34.0	17.3	10.2	2.4	29.9	Variance – refer below
Explanation: The 2007/08 target, and consequently the planned outcome over the regulatory period, was not met. Part of our renewal program for water distribution mains was deferred in 2007/08. This was a result of our declining financial outlook due to the significant decline in water sales following stage 3a water restrictions.						
Renewal of water service assets – reticulation mains (km)	173.0	62.3	60.0	62.8	185.1	Exceeded target - refer below
Explanation: The record dry conditions increased the incidence of pipes cracking and being pulled out of alignment. This damage to our infrastructure resulted in an extremely high incidence of bursts and leaks in 2007/08 which drove an increase in high priority mains renewals.						
Renewal of water service assets – trunk services (km)	15	0	7.1	1.6	8.7	Variance – refer below
Explanation: The 2007/08 target, and consequently the planned outcome over the regulatory period, was not met. Part of our renewal program for water trunk services was deferred in 2007/08. This was a result of our declining financial outlook due to the significant decline in water sales following stage 3a water restrictions.						

PROJECT	PLANNED OUTCOME OVER THE REGULATORY PERIOD	2005-06	2006-07	2007-08	TOTAL ACTUAL	COMMENTS
Replacement of main to meter property service pipes (number)	630	478	692	707	1877	Exceeded target - refer below
Explanation: The increased number of main to meter property service replacements occurred as a result of the increase in leak repairs due to ground movement over the drought period.						
Replacement of water meters (number)	60,000	17,706	15,991	10,032	43,729	Variance - refer below
Explanation: Our planned meter replacement program is based on a financial model which determines the kilolitre threshold at which a meter is replaced. The model takes into account revenue from water usage, the cost of replacement meters and the estimated accuracy of a meter. Less water being used due to restrictions (and consequently less revenue at risk) and increases in replacement meter cost (rising copper prices) has resulted in less meters being replaced.						
Valve insertions (number)	1,500	475	536	36	1,047	Variance – refer below
Explanation: The 2007/08 target, and consequently the planned outcome over the regulatory period, was not met. The valve insertion program was deferred in 2007/08. This was a result of our declining financial outlook due to the significant decline in water sales following stage 3a water restrictions.						
Establishment of new pressure reduction management areas (number)	22	7	7	7	21	Target achieved
Installation of zone flow meters (number)	50	31	28	12	71	Exceeded target - refer below

PROJECT	PLANNED OUTCOME OVER THE REGULATORY PERIOD	2005-06	2006-07	2007-08	TOTAL ACTUAL	COMMENTS
Explanation: Additional zone meters have been installed as part of the pressure management program which is creating additional discrete zones or district metered zones. These additional zones will enhance the ability to identify local non-revenue water issues.						
Renewal of sewer assets (km)	40	24.1	39.0	41.0	104.1	Exceeded target - refer below
Explanation: In 2007/08 we had an extremely high incidence of sewer blockages which drove an increase in renewal of sewer assets.						
Replacement of house connection branches (number)	7,710	2,379	1,865	1,804	6,048	Variance – refer below
Explanation: The 2006/07 and 2007/08 targets, and consequently the planned outcomes over the regulatory period, were not met. The house connection branch inspection program was reduced resulting in fewer branches being replaced. This was a result of our declining financial outlook due to the significant decline in water sales following water restrictions.						
Replacement of combined drains (number)	9	0	1	0	1	Variance – refer below
Explanation: Combined drains, which are privately owned sewers that supply a number of properties, are often subject to disputation between the owners over responsibility for funding of maintenance and replacement works. We incur some capital expenditure from time to time to resolve these issues as the need arises. This initiative was a trial to test costs and potential impact on us to replace private drains on an emergency basis only. The number was an estimate on the basis of only servicing combined drains as the need arises.						

PROJECT	PLANNED OUTCOME OVER THE REGULATORY PERIOD	2005-06	2006-07	2007-08	TOTAL ACTUAL	COMMENTS
Augment / extend water and sewerage network						
Water distribution mains (km)	30	29	14	6	49	Exceeded target - refer below
Explanation: We exceeded the water distribution main target as a result of us taking on a greater than anticipated length of greenfield developments water mains.						
Water pump stations (number)	6	4	3	0	7	Exceeded target - refer below
Explanation: We exceeded the water pump station target as a result of greenfield development being much greater than anticipated.						
Water pressure reducing stations (number)	44	16	17	15	48	Target achieved
Water reservoirs (number)	3	1	1	1	3	Target achieved
Sewer mains (km)	35.0	74.5	18.4	18.4	111.3	Exceeded target - refer below
Explanation: We exceeded the sewer main target as a result of greenfield development being much greater than anticipated. The anticipated level of developer enquiries more than doubled in 2005/06 and this translated into more assets being built.						
Sewage flow control facilities (number)	4	1	1	1	3	Variance – refer below
Explanation: The planned outcome of the regulatory period was not met due to a delay in the Mernda-Doreen development. This delay set back the construction of three flow control facilities. Construction of these three facilities will be completed by December 2008.						

PROJECT	PLANNED OUTCOME OVER THE REGULATORY PERIOD	2005-06	2006-07	2007-08	TOTAL ACTUAL	COMMENTS
Sewage pumping stations (number)	5	2	1	4	7	Target exceeded - refer below
Explanation: We exceeded the sewage pumping station target as a result of greenfield development being much greater than anticipated.						
Reducing Spills to the Environment						
Emergency relief structure upgrades (number)	9	3	2	2	7	Variance - refer below
Explanation: We did not complete the nine planned emergency relief structure upgrades during the first regulatory period due to the deferral by Melbourne Water of the Ringwood South branch sewer augmentation project.						
Sewage pumping station emergency storage (number)	18	1	3	1	5	Variance - refer below
Explanation: We have not achieved the three-year total target due to some installations no longer being required and others being delayed pending approvals by external authorities and land availability. Part of the program was deferred in 2007/08 which was a result of our declining financial outlook due to the significant decline in water sales following stage 3a water restrictions.						
Sewerage backlog						
Backlog properties provided with sewerage facilities (number)	1,091	49	715	343	1,107	Target achieved
Length of backlog sewers (km)	45	1	23	6	30	Variance - refer below

PROJECT	PLANNED OUTCOME OVER THE REGULATORY PERIOD	2005-06	2006-07	2007-08	TOTAL ACTUAL	COMMENTS
Explanation: Changes to the areas being serviced (i.e. higher density housing) resulted in lower than planned lengths of backlog sewers. The number of backlog sewerage lots provided with reticulated sewerage service has been exceeded over the regulatory period.						
Sewerage backlog pumping stations (number)	2	0	0	0	0	Variance - refer below
Explanation: The planned sewerage backlog pumping stations were found not to be required.						
IT Systems Replacement / Upgrades						
Replacement of customer service and billing system	Completed by 2007-08				Partially complete	Scheduled for completion in 2008-09
Explanation: No allowance was made in the first regulatory period for the replacement of the core billing system as the scope of the project had not been determined. The system is scheduled to be completed in 2008/09.						

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