Water Plan

2008-2013

8 October 2007

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Executive Summary

ES.1 Overview of key Outcomes for the 2nd Price Period

This Water Plan sets out what Coliban Water commits to undertake from July 2008 to June 2013 to guarantee high quality, cost effective and secure water and sewerage services for 130,000 people across central and northern Victoria. The plan is subject to external review and endorsement by the Essential Services Commission (the Commission), who will ensure that the costs are justified and that the charges are fair.

ES 1.1 Priorities for the Water Plan

Discussions with customers and regulators have identified the following eight areas as the priority issues for this Water Plan:

- Improved water security – this is the No 1 priority for all customers;
- Reduced sewer chokes and spills;
- Reduced sewer odours;
- Improved water quality at our smaller regional plants;
- Lower OH&S Risks to provide a safe workplace for our staff and contractors;
- Improved telephone answering service and consolidated performance across all other targets;
- Increased levels of recycled water re-use; and
- Reduced greenhouse gas emission impact.

ES 1.2 Customer Service Standards

Coliban Water proposes a suite of customer service standards that balance price and quality and take account of customer survey feedback.

Table ES-1: Customer Service Standards Proposed

Indicator	2008/09	2009/10	2010/11	2011/12	2012/13
Unplanned water supply interruptions (per 100 Km main)	25.00	25.00	25.00	25.00	25.00
Av Time taken to attend bursts and leaks - Priority 1 (minutes)	30.00	30.00	30.00	30.00	30.00
Unplanned water supply interruptions restored within 5 Hrs (%)	98%	98%	98%	98%	98%
Av duration of unplanned water supply interruptions (minutes)	110.00	108.00	105.00	102.00	100.00
No. of customers experiencing 5 unplanned water supply interruptions in year (number)	5	5	5	5	5
Sewerage blockages (per 100 Km main)	80.00	70.00	60.00	50.00	50.00
Av time to attend sewer spills & blockages (minutes)	32.00	32.00	32.00	32.00	32.00
Spills contained within 5 hours (%)	99%	99%	99%	99%	99%
Customers receiving 3 sewer blockages a year (number)	4	4	4	4	4
Complaints to EWOV (per 1,000 customers)	0.2	0.2	0.2	0.2	0.2
Telephone calls answered within 30 seconds (%)	85%	90%	90%	90%	90%

ES.2 Achievements from First Price Period

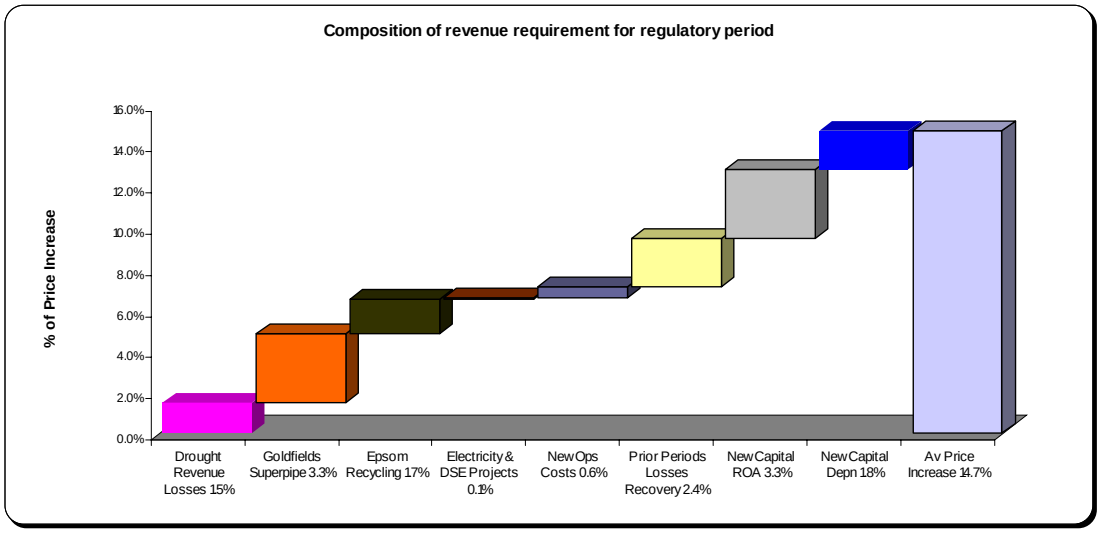
Coliban Water has delivered outcomes and performance for the first price period that exceed the commitments made in the original Water Plan.

- Coliban Water has met the majority of the performance standards in the Water Plan;
- Coliban Water has completed far higher levels of expenditure than forecast, with capital expenditure at $213M in comparison with the $47M planned. This increase has been driven by the unprecedented drought, with works required to restore water security across the region through two major projects:
    - The Goldfields Superpipe to deliver water from the Goulburn system to Bendigo; and
    - The Epsom to Spring Gully Recycled Water Project that supplies treated water from the Bendigo water reclamation plant for re-use.

ES.3 Price Rise Drivers

This Water Plan identifies the need for an overall increase in revenues of 14.7% /yr for each of the five years of the price period. The price increase is driven by eight elements that fall into five main categories. These are shown in Fig ES-1 below:

Figure ES-1: Drivers of Price Increases



The categories are:

- **Demand Restrictions:** Demand is constrained during the early years of the Water Plan until supply augmentation programs are in place. As a result, prices need to be higher in early years to account for the lower level of consumption until the establishment of Permanent Water Savings in 2010-11;

- **Supply Augmentation Programs:** Two major projects for augmentation of our water supply drive a significant increase in operating costs. These are the Goldfields Superpipe and the Epsom Recycling schemes;

- **Other Operating Costs:** operating costs are also driven up by the increase in the price of electricity and other projects such as DSE's waterMAPs initiative;

- **Prior Losses:** Coliban Water lost significant revenues in the first price period due to the reduction in demand following the imposition of water restrictions. It is necessary to recover that revenue to maintain adequate financial viability;

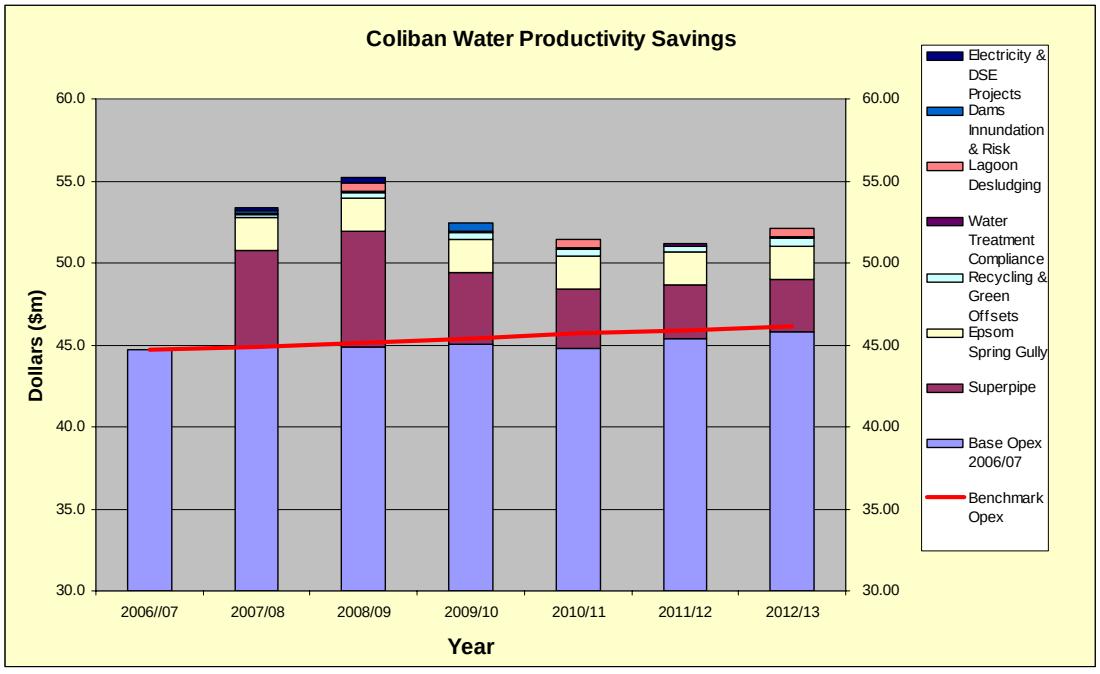
- **Return on New Capital:** the final category of price drivers is the cost of new capital investment. This involves both a return on the cost of capital and a return of capital (equivalent to depreciation).

ES.4 Expenditure Forecasts

ES 4.1 Operating Expenditure Schedule

The Water Plan assumes the following schedule for operating expenditure over the five year price period.

Figure ES-2: Operating Expenditure Schedule ($k)



There is a significant step up in expenditure from 2006/07 driven largely by the costs of purchasing bulk water on the temporary market for supply through the Superpipe and for the pumping costs of that supply and of the Epsom to Spring Gully recycling scheme. The reduction in total costs over the plan period reflects the movement from buying water on the temporary market (when it is defined as operating expenditure) onto a permanent basis (when it is classed as capital expenditure).

ES 4.2 Drivers of Operating Costs & Productivity

Costs of delivering core services as 'business-as-usual' are increasing over time. They are significantly higher than those forecast in the first Water Plan. The increases are not driven by the introduction of new obligations or tied to enhancements in service standards. There are a number of significant additional operating costs that contribute to this raised profile:

- Purchase of additional water entitlement for the Superpipe;
- A continuous raising of the bar on regulatory compliance;
- Significant on-going pumping costs for the Goldfields Superpipe and the operation of the Epsom to Spring Gully recycling scheme, and
- Greater customer expectations.

Despite these pressures, Coliban Water is committed to increase its productivity. Fig ES-2 confirms that baseline operating costs fall below a Benchmark Opex line that represents a 1%/yr productivity target, taking account of growth in customer numbers.

We are developing an integrated quality management system that meets best practice, involving accreditation of all of our management systems within a common and auditable framework. The most evident benefit is that Coliban Water will deliver greatly increased levels of both capital and operating expenditure with a stable workforce, thus increasing the effective output of staff within a constrained budget.

ES 4.3 Capital Expenditure

An overall capital expenditure program of $214M is proposed for the Water Plan period. The major expenditure items are for water pipelines and sewer upgrades.

Table ES-2: Capital Expenditure Overview by Functional Area ($M)[1]

		08-09	09-10	10-11	11-12	12-13	Total
Water	Pipelines	17.55	21.61	25.91	15.24	12.09	92.40
	Treatment	10.16	4.92	0.00	0.00	0.28	15.36
	Corporate	1.17	0.45	0.35	0.31	0.39	2.67
	Total	28.88	26.98	26.26	15.55	12.76	110.43
Sewerage	Pipelines	16.50	10.17	7.05	4.74	9.87	48.33
	Treatment	0.26	0.51	1.86	0.06	0.79	3.48
	Corporate	1.02	0.40	0.31	0.27	0.34	2.34
	Total	17.78	11.08	9.22	5.07	11.00	54.15
Headworks	Headworks	0.49	0.43	0.98	0.50	0.22	2.62
	Corporate	0.44	0.17	0.13	0.12	0.15	1.01
	Total	0.93	0.60	1.11	0.62	0.37	3.63
Recycled	Total	0.57	1.27	1.28	17.04	0.05	20.21
Rural	Total	3.36	4.56	7.87	5.64	4.25	25.68
	TOTALS	**51.52**	**44.49**	**45.74**	**43.92**	**28.43**	**214.10**

[1] Throughout this Water Plan all figures for expenditure and revenues are provided in 'real' terms, ie excluding the effects of inflation.

Analysis of the coordinated program demonstrates that the majority of expenditure is driven by the need to demonstrate compliance.

Table ES-3: Drivers of Capital Expenditure Program ($M)

	08-09	09-10	10-11	11-12	12-13	Total
Renewal	8.37	6.41	15.35	5.42	5.48	41.03
Growth	3.36	7.24	6.94	1.43	2.30	21.27
Service	10.68	16.47	15.26	16.93	12.67	72.01
Compliance	29.11	14.36	8.19	20.16	7.97	79.79
TOTALS	51.52	44.48	45.74	43.94	28.42	214.10

ES 4.4 Top Ten Projects/Programs

The top ten projects/programs for the Water Plan in order of value are:

Table ES-4: Top Ten Projects/Programs for Water Plan ($M)

What	Where	When	Cost
Rural system reconfiguration	Across rural channel system	2008/09 to 2012/13	$40.00
Sewer Improvement Strategy	Bendigo trunk and reticulation mains	2008/09 to 2012/13	$22.02
Bulk water purchases	Goulburn system	2008/09 to 2011/12	$22.00
Recycled water scheme	Pipeline to Barker Creek Reservoir	2011/12	$17.00
Pipelines for potable supply	Bridgewater, Raywood, Sebastian and Goornong	2008/09 to 2011/12	$14.28
Main channel refurbishment	Multiple lengths of box flume & trapezoid channel	2009/10 and 2010/11	$10.01
Water Augmentations – for anticipated 2013 demand	Bendigo distribution and reticulation systems	2009/10 to 2102/13	$9.56
Water Treatment Plant	Leitchville and Gunbower	2008/09 to 2009/10	$8.91
Sewer Pump Stations	Refurbishment/replacement all districts	2008/09 to 2012/13	$6.65
Sewer Improvement Strategy	Echuca trunk and reticulation mains	2008/09 to 2012/13	$5.96
Total			**$156.39**

ES.5 Supply and Demand Assumptions

The demand and supply strategy is under-pinned by a number of key factors and assumptions:

- we have adopted a conservative assumption with regard to catchment yield in line with a step change in rainfall and subsequent runoff;
- we are determined to move urban customers off Stage 4 Water Restrictions by 2008-09 and onto Permanent Water Savings Rules by 2010-11. This will affect average levels of per capita consumption;

- in parallel, we intend to return rural customers to 100% allocation by 2010-11 with 80% availability from 2008-09;
- we have set an objective of restoring capacity reserves of two years average demand in the reservoirs of the region by the end of the Water Plan;
- these objectives necessitate supply from the Goldfields Superpipe, of 10 GL in 2007-08 and 20 GL/yr from 2008-09 onwards.

ES.6 Tariff Structures

The tariffs for the Water Plan will broadly follow existing arrangements. The one major difference is to change the balance between fixed and volumetric charges.

The Water Plan has reduced the level of the fixed charge for residential water supply from $116 to $100 / property, and frozen the dollar value for the duration of the plan. All price rises will be loaded on to the volumetric part of the charge, consistent with long-run marginal cost modelling. This promotes water conservation to restore the demand supply balance and gives customers more control over their bills.

ES.7 Overview of Revenue Requirement & Price Change

ES 7.1 Total Revenue Requirement

Coliban Water's total revenue requirement for the five year price period of the Water Plan is as follows:

Table ES-5: Total Revenue Requirement ($M)

	08-09	09-10	10-11	11-12	12-13	Total
Operating Expenditure	55.19	52.44	51.44	51.15	52.1	262.32
Return on RAB	7.80	7.58	7.36	7.15	6.95	36.84
Depreciation of Assets to 30/6/08	4.28	4.28	4.24	4.06	3.78	20.64
Return on new capital	1.23	3.48	5.51	7.49	8.98	26.69
Depreciation of New Assets	0.90	2.31	3.30	4.22	5.03	15.76
Adjustments from Prior Period	3.64	3.64	3.64	3.64	3.64	18.20
TOTALS	**73.04**	**73.73**	**75.49**	**77.71**	**80.48**	**380.45**

This revenue requirement reflects an increase in the level of operating expenditure from the first price period and a return on significant new capital expenditure. The major driver of this increased expenditure is to restore a reasonable level of water security to the region in the future.

ES 7.2 Annual Price Changes

This increased expenditure necessitates substantial price rises across the region. These have been focussed on the volumetric element of the charge to promote conservation and to give customers a greater ability to control the size of their bills.

Table ES-6 demonstrates the maximum price increase averaged across all customers by service for each year of the Water Plan period.

Table ES-6: Annual Price Rises Required

	2008/09	2009/10	2010/11	2011/12	2012/13	Annual
Water – Average All Customers	**17.5%**	**16.9%**	**11.1%**	**1.5%**	**7.6%**	**16.7%**
Wastewater – Average all Customers	**17.0%**	**15.0%**	**9.5%**	**5.0%**	**4.9%**	**12.5%**
Rural – Average all Customers	**10.3%**	**8.5%**	**7.7%**	**9.6%**	**11.6%**	**11.5%**
Total – Average all Customers	**16.8%**	**15.6%**	**10.3%**	**8.9%**	**6.8%**	**14.7%**

ES.8 Customer and Stakeholder Consultation

It is our aim to meet the expectations and needs of our customers across the region. Customer consultation and engagement, therefore, form a major plank of our business planning. The following represent the major initiatives completed in the consultation for this Water Plan:

- **Water Security:** We undertook a major campaign to inform, consult and engage with our customers on the impacts of the drought and the options available to increase future water security. This indicated strong support for urgent and concerted action and an acceptance that this would result in higher bills;
- **Customer Consultation:** We have consulted widely with the full breadth of our customers through our formal system of committees:
  - **Customer Consultation Committee:** the major vehicle through which we engage with our urban supply customers. The committee includes a representative cross-section of residential and industry customers;
  - **Rural Consultation Committee:** a forum through which the authority engages customers supplied off the rural supply channel system;
- **Special Interest Focus Groups:** We supplement the above committees with special focus group meetings as required to promote discussion, feedback and contribution to policy on key issues;
- **Youth Advisory Council:** This innovative program brings together a group of year 10–12 students every month to provide Coliban Water with a youth perspective on water issues;
- **Monthly Complaints Analysis:** We hold a monthly review meeting which assesses all complaints received over the previous month;
- **Customer Survey:** We also undertake regular surveys to assess customers' perceptions of the company and their experience of interacting with the business; and
- **Consultation on the Water Plan:** We undertook a comprehensive exercise to expose this draft Water Plan and the associated proposals to wide public comment. We welcome feedback from customers, regulators and the wider community.

1 Coliban Water: Water Plan - Issues

1.1 Coliban Water: the Region and Company

Coliban Water provides water and wastewater services to 130,000 people across 16,500 square kilometres of Central and Northern Victoria. Our service area covers 49 towns including the major centres of Bendigo, Echuca, Castlemaine and Kyneton.

Figure 1-1: Coliban Water's Supply Region

Coliban Water has a number of special features as a business that make it distinctive and different from other water corporations.

Key attributes of the region and company are:

- We cover a large area, which represents nearly 20% of Victoria;
- We manage two major and several smaller drinking water supply systems:
    - The northern river region from Cohuna to Echuca, which is supplied from the Murray;

  - The central region of Bendigo, Castlemaine, Heathcote and Kyneton which is supplied mainly from reservoirs on the Coliban River as well as from Eppalock;

  - Smaller supplies from multiple systems including the Loddon, Goulburn, Wimmera, Campaspe and groundwater;

  - A few communities receive an untreated non-potable supply;

- Coliban Water also provides a rural water service to 1,724 properties for irrigation and stock and domestic use around Bendigo;

- Our customers are widely spread across the region. That means that we have to run multiple small systems for both water supply and wastewater services, rather than a single large integrated system. This increases costs and complexity;

- Coliban Water is a leader in the use of the market and competition to deliver high quality, value for money services through BOO/BOOT schemes and contracting out. This drives efficiency and risk management, but it means that we have lower capital costs and higher operating costs than other equivalent businesses;

- As a region we are facing continued growth. This is true both in the Calder Highway corridor and also along the River Murray. The overall population of the region is predicted to grow by an average of 1% to 1.4% per year. This will result in a 45% increase in overall demand for water by the year 2055 unless we implement additional demand management and water conservation measures and source additional supplies.

1.2 The Water Plan – a Shared Program of Action

The Water Planning process gives us a structured way to engage customers and key stakeholders in developing and agreeing the priorities for the region over the next five years and beyond.

The Water Plan provides assurance to customers that quality services will be provided at a reasonable price, it provides stability to the business with certainty as to the outcomes and targets to be achieved and ensures clarity for all parties on the actions to be taken.

The exercise of developing and drafting the plan has involved a structured and staged process:

a) Consulting on Obligations & Outcomes

We started by going back to basics - to make sure that we were addressing the full range of legal obligations that we must meet, and that we were also delivering on the commitments that we have made to our customers in the Customer Charter.

This process involved extensive dialogue with our regulators (such as the EPA and DHS) to confirm what their expectations were with regard to our compliance with legal and licence obligations. Through this process we have clarified the outcomes that they expect us to achieve over the period to 2013. This is a continuing process of dialogue and liaison as we have translated this focus on compliance into a practical costed priority program for the five year period.

We have also consulted with the Commission, who provided feedback on an earlier draft of this Water Plan. This Water Plan takes account of those comments.

b) Prioritisation

We have an obligation to comply with all licence and legal requirements but we must do so in a way that is efficient, realistic and takes account of the impacts on customers' bills.

We have followed a rigorous process of expenditure prioritisation. This ensures that we retain the focus on outcomes to be achieved but do so in a way that delivers the best result for our customers. We also have a commitment to improving quality and a culture of continuous improvement, increasing productivity and efficiency in all our operations – resulting in better service for our customers at lower cost.

c) Consulting Customers

The proposed programs in this Water Plan have also to meet our customers' needs and expectations. We have therefore managed a comprehensive program of consultation and engagement over recent years to listen to what is important for customers and sought feedback on our proposals to make sure that we got the right balance between priorities and price.

This process has involved our Customer Consultative Committees, special focus groups, multiple meetings and discussions with groups from across the region on water security, as well as customer surveys and analysis of complaints and other contacts.

The key message we have received is that customers want us to take the steps needed to restore a reasonable level of water security and recognise that this will involve higher prices. There is support for this investment, provided the work is well founded and also protects the environment and promotes conservation.

1.3 Priorities for this Water Plan

Discussions with customers and regulators have identified the following eight areas as the priority issues for this Water Plan:

1. Improve water security – this is the number one priority for all customers. We have a major program underway that meets customers needs and expectations.

2. Reduce sewer chokes and spills – we have the highest levels across the Victorian water sector. We will match the industry average by the end of the Water Plan.

3. Reduce odours – we have a high level of complaints from customers about odours from our sewers and pump stations. We will reduce or eliminate most of these problems.

4. Improve water quality – we will improve performance at our smaller regional plants to make sure we provide consistently high quality water to all our customers.

5. Lower OH&S Risks – we need to reduce risks at many installations to provide a safe workplace for our staff and contractors.

6. Enhance customer service - we will improve our telephone answering service and consolidate our performance across all other targets.

7. Improve levels of recycling – we will further extend the supply of recycled water to reduce pressure on scarce potable supplies.

8. Reduce our greenhouse gas emission impact through greater energy efficiency and by purchasing off-setting emission credits.

We deal with the top priorities below.

1.4 Water Security

The major issue for this Water Plan and for our customers is the effect of the drought on water availability and the need to invest in promoting greater water security.

This has been a significant factor in the first price period and will dominate expenditure well into the next price period. We have developed a comprehensive plan and program to move the region back to a stable position of water security. This was initially documented in "*Our Water Our Future – Regional Action Plan for Bendigo*", released in June 2004. This document was further expanded and developed into the definitive *WaterPlan 2055: Coliban Water - securing our water future.* The core components for the Water Plan period from this document are:

- **Additional Supply:** Securing additional supplies through the Goldfields 'Super-Pipe' from the Goulburn system. In this Water Plan this project requires significant purchases of water entitlements;

- **Urban Savings:** Promoting urban savings, through leakage control, Permanent Water Saving Rules, incentives, education and pricing;

- **Rural Savings:** Saving current losses in our rural system through reduced channel leakage and reconfiguration; and

- **Recycling:** Promoting additional use of recycled water through the use of treated water from our Bendigo works with a pipeline from Epsom to Spring Gully to supply public parks, gardens and recreational areas as well as the rural channel system. There are also plans to supply orchards in Harcourt and new residential developments at Jackass Flat and Huntly.

1.5 Water Quality and Sewerage Services

Our core business is in providing customers across the region with high quality, dependable water supplies and sewerage services. We have a commitment to maintain that quality and seek ways to improve that service and meet best practice.

In this Water Plan we are concentrating in two main areas:

a) Water Quality

We are investing $29M to up-grade water supplies to regional communities outside the major urban centres. This involves rebuilding water treatment plants in some settings and extending potable water pipelines to other smaller communities where this is the most cost effective solution. This investment builds on $7m expenditure in the current price period.

This investment will bring all communities up to the same consistent high level of water quality as we have achieved in the major centres.

b) Sewerage Performance

We are also committed to improving our performance in managing the transport of sewage from properties to our water reclamation plants.

We have a large number of old sewers laid in short lengths in rocky country in shallow grades. In this drought period we have experienced a large number of root intrusions from trees with increased risks of sewer blockages. These blockages disrupt service to customers and result in spills that can harm the environment and may cause damage to property.

We are investing $31M to replace and line sewers and augment capacity. We are also upgrading or replacing 17 sewer pump stations. This will improve service and reduce risks of spills. It will also reduce risks of odours and ensure we meet EPA requirements regarding the allowable frequency of spills.

2 Lessons/Outcomes from First Price Period

Coliban Water is delivering against the outcomes and commitments set out in our first Water Plan, for the period from 2005-06 to 2007-08. This Chapter reports on our performance in meeting those targets and outcomes.

We have met the service standards promised and completed a major program of works far beyond that forecast. However:

- We have only just concluded the second year of the price period; and
- It is important to recognise that the drought has impacted on all aspects of business performance.

2.1 Service Standards & Outcomes

In the first Water Plan, we made commitments on the customer service performance that we would deliver over the first price period. Our performance to-date demonstrates that we are delivering on those commitments, indeed in most areas performance has exceeded the targets proposed.

Table 2-1: Key Customer Service Performance for 2006-07 (to 30/06/07)[2]

Indicator	Target	Actual
Unplanned water supply interruptions (per 100 Km main)	35.00	30.29
Average time taken to attend bursts and leaks - Priority 1 (mins)	30.00	31.00
Unplanned water supply interruptions restored within 5 Hrs (%)	98%	98%
Planned water supply interruptions restored within 5 hrs (%)	95%	100%
Av unplanned customer minutes off water supply (minutes)	14.0	8.82
Sewerage blockages (per 100 Km main)	95.00	72.76
Average time to attend sewer spills & blockages (minutes)	34	33
Average time to rectify a sewer blockage (minutes)	65	60
Spills contained within 5 hours (%)	99%	100%
Telephone calls answered within 30 seconds (%)	90%	81%

The one indicator where our current performance does not meet our commitments is for the percentage of telephone calls answered within 30 seconds. We are investing in new equipment and additional staff to raise our performance in this area.

In general, Coliban Water is equal to or better than the average performance of the Victorian Water Industry across all KPIs for customer service delivery.

The one indicator where Coliban Water is currently outside industry norms relates to the number of sewer blockages, and the related outcome of sewer spills. The Water Plan includes significant expenditure to bring our performance back into line with the average or better than the average of water industry performance.

[2] The complete listing is provided at Annex A.

2.2 Capital Expenditure & Outcomes

2.2.1 Responding to Drought

Capital expenditure in the first price period has been dominated by the need to respond to unprecedented drought conditions. This has impacted on all aspects of Coliban's business, generating a need for significant additional expenditure, at the same time as it triggered a sharp reduction in revenue, due to water restrictions.

Coliban Water, therefore, had to implement a program review and reprioritisation to confirm which projects in the original Water Plan could be deferred into the second price period. This involved an assessment against compliance risk, cost and potential synergies with new project expenditure.

Table 2-2 confirms the expenditure undertaken over the first price period as a result. This compares the values from the Water Plan with the actual or forecast expenditure in practice. It shows that Coliban Water is delivering a far larger capital expenditure program than was forecast in the first Water Plan, with a four-fold increase in overall expenditure and an additional $165.5M capital expenditure.

A net capital expenditure line is provided to indicate the size of the additional capital expenditure that will be rolled into the RAB for the second price period, excluding government grants and customer contributions.

Table 2-2: Variance between Water Plan and Actual Expenditure ($m)

Expenditure	2005/06	2006/07	2007/08	Total
Water Plan forecast (gross)	18.30	13.90	15.20	47.40
Water Plan forecast (net)	17.50	13.00	11.40	41.90
Actual and projected (gross)	19.80	79.20	113.90	212.90
Grants	0.00	49.10	32.40	81.50
Contributions	2.70	1.30	0.90	4.90
Net capital expenditure	17.10	28.80	80.60	126.50
Additional (net) expenditure				84.60

2.2.2 Additional Expenditure

Table 2-3 indicates that most of the increase in expenditure was driven by two major projects, the Goldfields Superpipe and the Epsom to Spring Gully recycled water scheme. These two projects were not included in the original Water Plan as the extent of the drought was not anticipated.

Table 2-3: Major New Projects Additional to Water Plan ($m)

Project	2005/06	2006/07	2007/08	Total
Goldfields Superpipe	0.15	36.72	62.55	99.42
Epsom Spring Gully	0.31	22.83	14.93	38.07
Bulk Water Purchases	0.30	6.52	11.78	18.60
Recycling Projects initiated	0.48	0.93	0.00	1.41
Asset buy back & rebuild	1.56	1.39	4.98	7.93
Total	**2.80**	**68.39**	**94.24**	**165.43**

The final line item represents the costs that Coliban Water incurred in buying out the assets of a water reclamation plant from the receivers of Castlemaine Wastewater Treatment Pty Ltd which went into liquidation. Considerable sums have also been needed to restore consistent compliance with licence conditions at the plants previously operated by them.

2.2.3 Deferred Expenditure

As a result of the pressure for additional works to respond to the drought, we have been obliged to defer a number of projects and plans that were originally scheduled to be completed during the first price period.

Table 2-4: Projects deferred from First Price Period ($m)

Project	2005/06	2006/07	2007/08	Total
Pipelines to small communities	5.60		0.50	6.10
Ascot Channel pipeline			2.00	2.00
Kyneton re-use	0.50	2.10		2.60
Total				**10.70**

We provide below a brief review of the process adopted in each case and the current state of play:

- **Pipelines:** Coliban Water proposed to pipe drinking water supplies to a number of smaller communities such as Bridgewater and Inglewood in order to reduce risks to quality and security of supply. The timing was deferred as, due to the drought, the pipeline would have transferred customers from Stage 2 to Stage 4 water restrictions. The projects are now scheduled for completion in the first year of the new price period, 2008/09;
- **Ascot Channel:** The proposed pipeline to the Ascot Channel represented an alternative option for what has now been implemented as the Epsom Spring Gully recycled water scheme to transfer recycled water to the rural channel supply system; and
- **Kyneton Re-Use:** On-going discussions with the EPA have changed the focus and outcomes of this project, with treated water now returned as environmental flows to the Campaspe River, rather than as originally proposed to the Coliban system to contribute to potable supply.

2.3 Changes in Legislative Obligations

Two changes have occurred in the regulatory framework within the first price period that have impacted on the program and costs of the business, beyond that anticipated when the first Water Plan was submitted:

- Introduction of tighter drinking water quality standards through *the Safe Drinking Water Regulations 2005*; and
- Introduction of new obligations on the authority under *the Water (Governance) Act 2006* and through proposed revisions to *the Statement of Obligations*.

These new obligations will impose costs on the business over the remainder of the first price period and will form part of the wider suite of obligations that determine the costs of the authority in the second price period. No formal adjustment is sought for the cost impacts within the first price period as the effects fall short of the trigger level.

2.3.1 Safe Drinking Water Regulations 2005

The Safe Drinking Water Regulations 2005 came into effect on 15 July 2005. The regulations establish standards for specified elements in drinking water. This implements the provisions in Section 17 of *the Safe Drinking Water Act 2003* which requires a supplier of water to:

"…ensure that all drinking water supplied by it to another person complies with the quality standards specified for drinking water in any regulations made for the purposes of this section".

The regulations promulgate specific standards for certain substances. These standards did not apply at the time that the original Water Plans were developed or approved.

Our major water treatment plants already comply in full with these new standards. However, the revised standards have triggered the need for additional expenditure in the treatment works servicing some of our smaller centres.

2.3.2 New Obligations on the Board

There are also new mandatory obligations that Coliban Water must meet set out in:

- *The Water (Governance) Act 2006*; and
- *The Statement of Obligations*.

Section 54 of the new *Water (Governance) Act 2006* requires a number of changes to the governance regime for the business, with consequential changes to the Water Act 1989 (listed in brackets below):

- It converts Coliban Water from an Authority to a Corporation (S85 of the amended Act). This imposes higher and more rigorous standards on the business and the Board, for example the duty to maintain a register of Board Members' interests (S115);
- The Chief Executive becomes a Director of the Board as Managing Director (S99);
- It imposes a wider duty to have regard to sustainable management principles (S93) in carrying out its functions including for example (d) the need for the conservation of biological diversity and ecological integrity.

The changes to the *Statement of Obligations* impose additional obligations including addressing risk management, taking action to implement sustainability principles and mandatory water conservation plans for major industry water users.

2.4 Impact of the Drought

The drought over the last three years has had a profound impact on the region and our business. Coliban Water has had to bring forward the timing of projects that we had planned to implement over the following five years and increase operating costs to respond to the situation.

This has generated significantly higher costs at the same time as we have faced reduced revenues, as water restrictions have had a dramatic effect on the total volume of water consumed.

2.4.1 Projects Brought Forward

We have accelerated the timing and extent of major projects required to restore and guarantee future water security. The key projects progressed during the first price period are:

- The construction of the Goldfields Superpipe that will transfer up to 20,000 ML per annum of additional water into our region from the Goulburn system;
- The purchase of additional entitlement on the temporary market from the Goulburn system to provide water to be delivered down the pipeline; and
- The reuse of recycled water from the Bendigo Water Reclamation Plant to provide alternative supplies for public gardens, sporting facilities and irrigation in the Bendigo area. This project required a 14.5km pipeline from Epsom to Spring Gully Reservoir and a Water Factory to improve the quality of the recycled water for its final use. The scheme will generate an additional 4,000 ML per annum of water to enhance the future security of supply for the region and substitute for existing raw water supplies. It will cost $45M.

2.4.2 Increased Operating Expenditure

The drought has also lead to a significant increase in our operating costs from a range of activities:

- We have expanded our expenditure on marketing and publicity to keep customers and regional stakeholders fully informed on the need for water conservation and involve them in developing our revised strategy;
- We have employed seven additional staff in a new Water Enforcement Team to help enforce the new tougher water restrictions policy and the permanent water savings measures;
- We have established a new leakage response team to provide improved response times to reported bursts and leaks;
- We constructed an emergency supply pipeline for priority rural customers who were at risk of losing their businesses due to zero water allocations in the rural system;

- We have let a suite of contracts to undertake exploratory drilling to try and identify additional groundwater resources; and

- We have and continue to cart water for smaller communities where loss of supply or poor water quality has compromised the normal service source.

These costs are estimated at around $3m additional operating expenditure over the first price period. The majority of these costs are a one-off expenditure. The enforcement team will be scaled back as we move from Stage 4 Restrictions, as will the level of marketing and publicity required. However the leakage program and team are an ongoing cost.

2.4.3 Adjustment Sought & Financial Viability

Coliban Water has suffered a considerable reduction in revenue as a direct result of the Water Restrictions, with a loss of some $15.4M of revenue in comparison with the projected Water Plan budget.

An adjustment is therefore sought at the start of the next price period to reflect:

- A one-off offset to reflect a minimum revenue loss of $15.4M; and

- Inclusion of additional net capital expenditure of $84.6M in the regulatory asset base that was necessarily incurred in the first price period.

The impact of the adjustment of the lost revenue alone will add an average of around $29/yr per property to the cost of both water and sewerage services.

The recovery of lost revenue is required to protect Coliban Water's financial viability as measured against the four key indicators determined by the Commission Table 2-5 sets out the minimum level advised by the Commission and then reports the forecast levels for Coliban Water given recovery of the lost revenue.

Table 2-5: Financial Indicators

Financial Indicator	Min	2008/09	2009/10	2010/11	2011/12	2012/13
Interest Cover	1.5	0.53	1.37	2.06	2.40	2.71
Gearing (%)	65	26.2	26.3	25.8	24.8	22.7
Internal financing ratio (%)	35	-9.1	11.5	36.8	54.6	108.7
FFO/Net debt (%)	10	-2.6	2.3	6.8	9.1	11.6

This table indicates that even with the recovery of the lost revenue, Coliban Water will only begin to approach the minimum benchmarks of financial viability towards the end of the price period. In the absence of that recovery, the business would not meet minimum viability criteria.

3 Customer Service & Consultation

It is our aim to meet the expectations and needs of our customers across the region. Customer Service and engagement, therefore, form a major plank of our business planning.

This also implements Section 10.1 of the *Statement of Obligations*, which requires Coliban Water to *develop and implement open and transparent processes to engage its customers and the community in its planning processes.*

3.1 Water Security

Enhanced water security is the major priority for our customers.

We have had a continuing engagement and dialogue on our future strategy for water security with our customers through our general and rural consultative committees. However, given the severity of the drought and significance of the actions proposed we launched a wider campaign to inform, consult and engage with our customers through multiple routes and measures.

In August/September 2004, Coliban Water held a series of Community Workshops to raise public awareness of the available options to improve the security of water supply in the medium to long term. Community workshops were held in Kyneton, Castlemaine, Bendigo, Echuca and Wedderburn during late August and early September 2004. In total, more than 200 people attended the seven workshops.

These workshops were followed in February 2005 by the release of an 'Options Paper,' where direct feedback was sought via an attached 'Feedback Sheet.' Further workshops were then held with the original participants in March 2005, to gather more specific data on the available options.

This was a major exercise and was supplemented with multiple contacts and meetings with local councils, major users, industry groups and key stakeholders across the region. We also convened a Youth Advisory Council to ensure we engaged with and had input from young people as much of the investment in this period will provide supplies for the next generation.

The universal message from the consultation was support for the integrated strategy of:

- effective demand management, through permanent water savings measures and pricing;
- investment in water savings in the rural and urban sectors;
- expansion of the use of recycled water; and
- investment in additional supplies.

There was strong support for urgent and concerted action and a recognition and acceptance that this program would result in higher bills.

3.2 Customer Consultation

3.2.1 Customer Consultation Committee

The Customer Consultation Committee (CCC) is the major vehicle through which Coliban Water engages its urban supply customers. The committee includes a representative cross-section of residential and industry customers.

Four meetings of the group are held every year. The meetings cover both:

- Consultation and advice on what Coliban Water is proposing to do; and
- Review what has happened – with commentary on key projects.

The CCC has been a strong supporter of the need for expenditure and price increases to ensure adequate and appropriate water security. Examples of other major issues discussed include customer service standards and targets, Water Plan priorities and price impacts and the Goldfields Superpipe routes and price impacts.

3.2.2 Rural Consultation Committee

In parallel, Coliban Water manages a rural consultation committee as a forum through which the authority engages customers supplied off the rural supply channel system.

The committee, which meets four times a year, includes representatives from both small stock and domestic (S&D) users and larger irrigators and orchardists.

An important priority for the business over the past two years has been to foster recognition that water supplies for the region are a shared resource providing benefits to both urban and rural customers. Investment in leakage control in the rural supply system will provide additional water security for urban customers and a higher standard of service for the rural customer base.

3.2.3 Special Interest Focus Groups

The above committees provide a regular, continuing forum and process whereby Coliban Water can seek input and feedback on issues across the business.

We supplement this with special focus group meetings as required to promote discussion, feedback and contribution to policy on key issues, eg:

- the tiers and charges for inclining-block tariffs;
- the development of a revised Water Restriction bylaw; and
- priorities for Water Security and the need for investment.

3.2.4 Youth Advisory Council

This innovative program brings together a group of students from Years 10–12 every month to provide Coliban Water with a youth perspective on water issues. Both Coliban Water and the participants benefit from the program.

The young adults develop their skills in a formal business setting and gain an understanding of the water and natural resources industry by interacting with staff working in this field.

Coliban Water gains insights into the opinions and concerns of young people and also gets valuable advice and feedback about how best to communicate with this sector of the community.

The opinions of the Youth Advisory Council have shaped the priorities for the Water Plan and have helped us develop communication tools that are meaningful for young people.

3.2.5 Interaction with Local Government, CMA and Community Groups

Various mechanisms are used to ensure regular interaction with Local Government, other Water Businesses, Catchment Management Authorities and community groups. Working parties, formal meetings and informal communication on joint projects and programs are part of our strategy to ensure ongoing dialogue with stakeholders. We also regularly engage with community groups through information sessions, presentations and targeted workshops.

3.3 Monthly Complaints Analysis

A further tool to gauge customer concerns and issues is the analysis of customer complaints received. Coliban Water holds a monthly review meeting which assesses all complaints received over the previous month.

The objective is to ensure that a proper and appropriate response was provided in each case and also to try and identify evidence of repeated problems where the individual complaint is indicative of a systemic problem. In this second case, the aim is to develop a change program to resolve the issue at source.

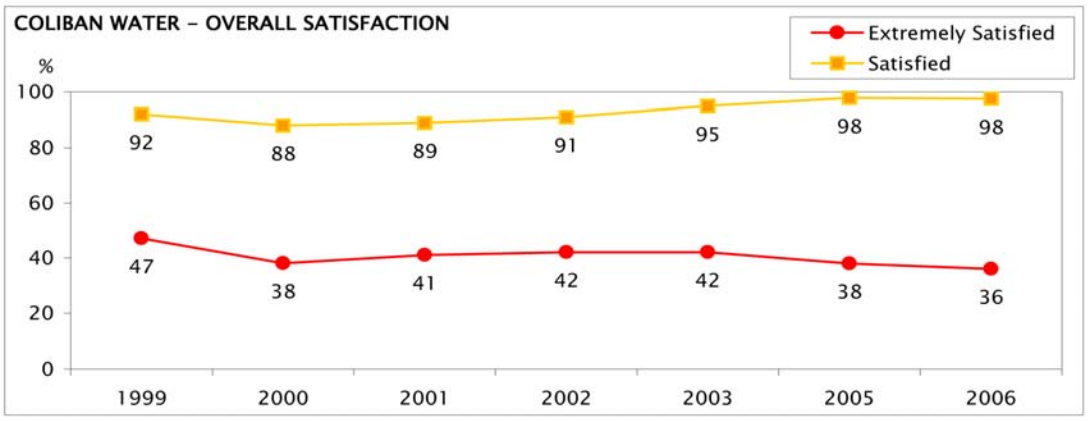
3.4 Customer Surveys

Coliban Water undertakes regular surveys to assess customers' perceptions of the Authority, and their experience of interacting with the business. There are two main surveys:

- An annual Customer Satisfaction (Perception) Survey: this tracks general feedback from the customer base on how Coliban Water is perceived; and
- A Contact Survey: this seeks feedback on how well Coliban dealt with an issue where a customer made a specific contact.

The results of both surveys indicate a high level of general satisfaction with the performance of the business.

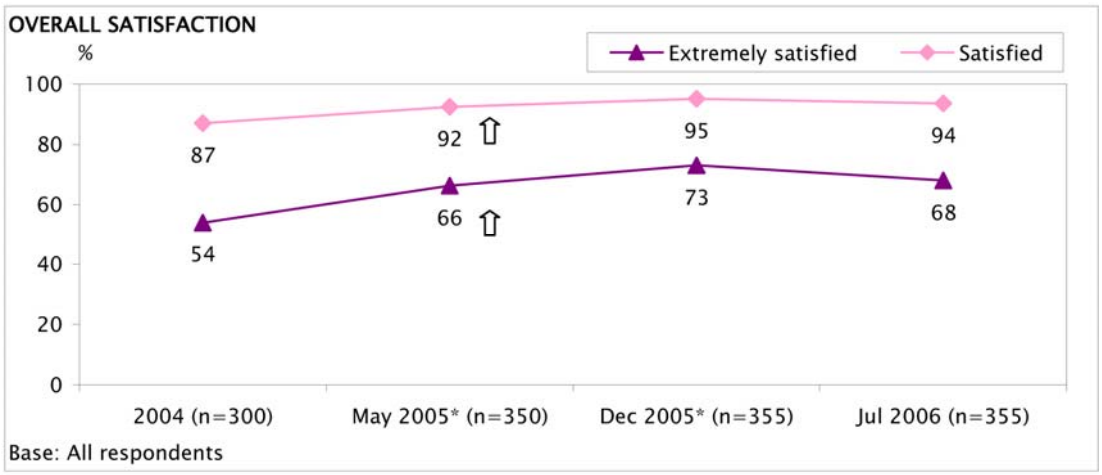
Figure 3-1: Overall Satisfaction Score[3]



Overall, 98% of customers indicated in the Customer Satisfaction Survey that they are satisfied with the performance of the business, with a trend for an increase in this percentage over time. However, there is a fall-off in the percentage who report that they are 'Extremely Satisfied', down from a plateau of around 40% of customers over the period 2000-05 to a figure of 36%. An analysis of the figures indicates that this reflects understandable concerns about the drought and impact of water restrictions.

A parallel survey, the Customer Contact Survey, is undertaken on a regular basis to assess the satisfaction of customers who have actively made contact with Coliban Water with a query, complaint or suggestion. The outcome is broadly similar, with a high level of overall satisfaction recorded, as well as a generally higher level of extremely satisfied although this also reported a downwards trend in 2006.

Figure 3-2: Customer Contact Survey Satisfaction[4]



[3] Market Solutions Pty Ltd (2006), *Coliban Water - Customer Satisfaction Survey 2006*, p 9.
[4] Market Solutions Pty Ltd (2006), *Customer Contact Survey – July 2006.*

3.5 Consultation on the Water Plan

This Water Plan played an important role as a mechanism for us to engage further with our customers. This process ensured that there was broad understanding and consensus across the region on the need for the investments proposed.

Coliban Water implemented a comprehensive exercise to expose a draft of this Water Plan and the associated proposals to public comment in August 2007:

- the Plan was presented to our customer consultative committees;
- we drafted a shorter brochure with a summary of the key elements for wide circulation to customers and interested stakeholders on request;
- we developed a media launch and pack to promote wide-scale exposure in the local press and media outlets;
- we held three information briefing sessions for community leaders, members of the public and interest groups. Originally five sessions were arranged, but two were cancelled due to lack of public interest;
- we developed a comprehensive website package including
    - a summary of the Water Plan
    - a set of answers to frequently asked questions (FAQs);
    - an on-line pricing estimator to allow customers to calculate the probable impact of the proposed price rises on their own water bills;

Overall, there was a low level of expressed interest or response. Over 30 contacts in total were received (in the form of letters, emails or phone calls). Themes arising included the increasing cost of water, potential hardship for pensioners, inequity in the rural systems and queries about the major investments proposed.

Coliban Water believes that the low level of response reflects the effectiveness of the consultation undertaken over the past five years, particularly in the engagement of the public in the debate over water security. Indeed, the impact of that prior campaign can be seen in the response at the public meeting in Castlemaine that supported retention of Stage 4 restrictions in the longer-term as a way to reduce consumption.

4 Service Outcomes for the New Water Plan Period

This section is the heart of the Water Plan. It:

- Affirms the obligations that underpin the Water Plan;
- Identifies the outcomes that Coliban Water proposes to achieve over the life of the Water Plan and the key targets; and
- Outlines the projects and expenditure proposed to achieve those outcomes.

The section is split into a number of main parts:

1. **The Board's Strategic Plan:** this sets objectives for Coliban Water against four key result areas;
2. **The Statement of Obligations:** this identifies the core duties imposed through *the Statement of Obligations* issued by the Minister for Water, Environment and Climate Change;
3. **Environmental Obligations:** this focuses mainly on those areas where the EPA acts as the licensing authority;
4. **Water Quality Obligations:** this focuses on those areas where the DHS acts as the regulator of drinking water quality;
5. **Water Security:** this addresses the core issue for water customers in the region; and
6. **Customer Service Standards:** this focuses on the commitments in *the Customer Charter* and on targets set by Commission.

In developing the work programs needed to ensure full compliance with our obligations it has become evident that in many areas we are facing progressively more challenging compliance standards even within what is deemed 'business-as-usual'. This approach involves a stricter and more rigorous enforcement of existing obligations rather than explicit 'new obligations' in terms of legislative requirements. The effect, however, is the same in terms of a requirement for additional costs both for capital and operating expenditure.

4.1 Board's Strategic Plan

The Board's Strategic Plan sets objectives and targets for four key result areas:

- Securing Water for the Future: *To secure sufficient sustainable water resources for the future needs of the region.*
- Customer Service: *To deliver high quality services to meet current and future customer needs and expectations.*
- Organisational Sustainability: *To be an organisation that has people and systems to ensure organisational sustainability.*
- Environmental Sustainability: *To contribute actively to the sustainability of the regional environment.*

The detail of the Board's targets for each area is included in the relevant sections below.

4.2 Statement of Obligations

The *Statement of Obligations* from the Minister for Water, Environment and Climate Change sets out the full range of areas and activities which Coliban Water and its Board are obliged to deliver. These obligations underpin all the outcomes and targets that the Water Plan sets out to achieve.

This section reports on those obligations in three ways:

- In cases where significant costs are incurred, the detail of actions proposed is recorded under the later headings for more specific duties;
- a number of specific obligations are dealt with below; while
- for the remainder, a brief confirmation of the actions being taken to demonstrate compliance is provided in the following table.

Table 4-1: *Statement of Obligations* - Coverage in Water Plan

Section	Subject	Compliance
Section 6	Guiding Principles	Met through corporate planning process
Section 9	Board Performance	Annual review completed
Section 10	Customer and Community Engagement	3
Section 11	Managing Risks	4.2.1
Section 12	Responding to Incidents and Emergencies	Off-site business continuity program
Section 13	Managing Assets	Professional comprehensive program
Section 14	Dam Safety	4.2.1
Section 15	Conserving and Recycling Water	4.3
Section 16	Water Supply Demand Strategy	4.5
Section 17	Metering	All new customers are metered
Section 18	Responding to Drought	4.5
Section 19	Sewerage Services to Un-sewered Urban Areas	4.4.7
Section 20	Sewerage Connection to Properties	4.4.7
Section 21	Trade Waste	4.4.5
Section 22	Regional & Local Government Planning	Well established partnerships
Section 23	Research and Knowledge	4.2.3
Section 24	Sustainable Management	Part of Environmental Management System Certification
Section 25	Environmental Management System	4.4
Section 26	Blue Green Algae	4.2
Section 27	River and Aquifer Health	4.2
Section 28	Monitoring River Health	4.2

4.2.1 Section 11: Risk Management and OH&S

Risk management plans are in place across the business and six-monthly reviews are undertaken in line with AS/NZ 4360.

OH&S is a critical issue for the business and is one of the top eight priorities for this Water Plan. This also implements the Board's target for Organisational Sustainability of *No reportable OH&S incidents.*

Coliban Water commissioned a comprehensive OH&S risk review of its facilities as part of its outsourcing contract. The review revealed a high level of safety risks. In response, Coliban Water developed a prioritised risk reduction program in

conjunction with CAMS (the contract manager). The main focus of works is on providing safe systems, equipment and training for:

- Fall arrest systems;
- Manual handling risks;
- Electrical equipment upgrades;
- Safety grates; and
- Access arrangements.

The project budget is around $4M spread over the Water Plan period.

4.2.2 Section 14: Dam Safety

Coliban will reassess its dams risk portfolio over the next five years, starting with an inundation survey in 2007/08. This will be followed by a full dams portfolio risk assessment from 2009. This risk assessment of critical dams infrastructure will involve expenditure of $500k. Capital works resulting from these investigations will occur after 2013.

4.2.3 Section 23: Research and Knowledge

Coliban Water is joining Water Quality Research Australia Ltd, a national water research centre that replaces the CRC for Water Quality and Treatment in 2008.

The new research centre will conduct ongoing research into priority issues in water supply, recycling and wastewater management, further development of the Australian Guidelines for drinking and recycled water and facilitate uptake of knowledge transfer. The cost of this collaborative engagement will be $50k/year.

Coliban is also a member of the Water Services Association of Australia (WSAA), one of the leading players in the commissioning of research on issues of significance to the Australian water sector. This research covers both product quality and certification and wider issues. Our membership costs $10k/yr with an additional $15k/yr as our contribution to research initiatives.

Coliban also actively encourages staff to attend relevant conferences and courses to improve our knowledge of the water sector. Coliban maintains a training register to ensure good coverage of development activities.

4.2.4 Section 24: Greenhouse Gas Emissions

Coliban Water is acutely aware of the risks presented by climate change to water resource sustainability. The Board has therefore made a commitment to *"Reduce net greenhouse gas emissions by 20% by 2015"*. This also implements duties in the *Statement of Obligations* to promote sustainability.

Coliban Water has developed a Sustainable Energy Management Plan to provide a coherent and validated strategy and plan to minimise emissions. There are a number of key elements:

- Agreement on an appropriate target to meet within the Water Plan period. This has been set at the same target as for 2015 as a stretch target;
- Development of an energy management database reporting system to enable auditable tracking of current emissions and future abatement activities;
- Implementation of emission reduction plans to achieve greater efficiency in energy consumption in asset and plant operation;
- Annual purchase of abatement products to account for the balance of the 20% reduction target; and
- 100% carbon neutral status for all new major projects throughout the Water Plan period through the purchase of off-sets.

Over $230k has been allowed for in the operating costs of the business in each year of the Water Plan to purchase off-setting emission credits.

4.3 Water Security

Water Security is the core issue for our customers due to the impact of the extended drought and reduced catchment yield. Customer attitudes have been assessed and confirmed through an extensive process of consultation.

The drought triggered the need for new and additional expenditure over the first Water Plan period above that originally planned, with many programs brought forward and undertaken over that period. This is dealt with in Section 2.

Obligations to be met

The obligation that drives investment in water security is the legislative requirement in Section 163 of the *Water Act 1989* that establishes the basic functions of an Authority for a Water District. It is also covered in Section 16 of *the Statement of Obligations* that requires the development of a Water Supply Demand Strategy.

Coliban's Commitment

Coliban Water has developed a water security plan that provides a coherent and comprehensive strategy to ensure a secure water future for the region.[5] Four major initiatives are planned for the second Water Plan period that deliver on the priorities in the plan and meet the targets in the Board's *Strategic Plan*:

1. **Rural System:**
   - *Target:* Save 4,000 ML by 2015;
   - *Action:* system reconfiguration.
2. **Additional Supply:**
   - *Target:* Secure additional supply to meet predicted demand till 2055 with at least 15,000 ML per annum being secured by 2008;

[5] Coliban Water (2006), *Securing our Water Future: WaterPlan 2055.*

- *Action:* Purchase of permanent water entitlement from the Goulburn system to supplement supply.

3. **Urban Savings:**

- *Targets:*
  - Reduce annual demand in Coliban system by 4,000 ML by 2015;
  - Reduce per capita annual consumption by 15% in all other systems by 2015.
- *Action:* Reduction in urban leakage across the system and promotion of large user efficiency.

4. **Recycling:**

- *Target:* Substitute 6,000 ML per annum of raw water with recycled water by 2013;
- *Action:* Expansion of recycled water availability to substitute for potable supply and enhance available resources.

Each of these initiatives is explored further below, with their contribution to future supply illustrated in Figure 4-1. The proposed outcome from the suite of measures is to restore water security for residential and non-residential customers to an acceptable level. This is defined as a restrictions policy at level 2 or higher no more than 1 year in ten. It is proposed to achieve this outcome by 2010.

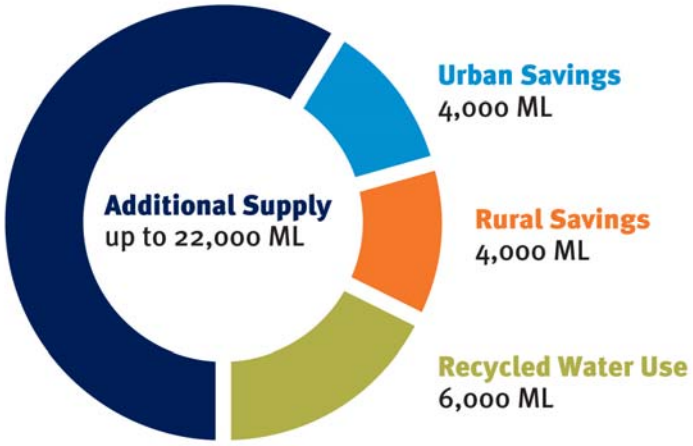


Figure 4-1: Supplementing Water Supplies

4.3.1 Rural System Reconfiguration

Coliban Water runs a rural water supply system. This provides non-potable supply to 1,700 customers through some 450 km of open channel, as well as 10 km of low pressure pipeline and 10 storages.

In common with other traditional channel supplies, the rural supply infrastructure is highly inefficient, with significant losses from wetting-up, leakage and evaporation.

Coliban Water has commenced a significant exercise to review the entire rural supply system to identify the optimal approach to continue supply to the relevant customers at the same time as maximising available water savings. Solutions will include:

- Conversion of open channels to low pressure piped supply;
- Transfer of customers from rural to urban supply; and
- Replacement of supply with treated recycled water.

It is intended that the review will be completed within the 2007/08 financial year, i.e. the third year of the current price period. The detail of the projects and expenditure required will be confirmed as part of that exercise.

At this stage, indicative costs for this reconfiguration over the next price period have been forecast at $40M. This expenditure represents a high unit cost for the volume of water savings generated. However, the expenditure is justified as:

- the current level of losses does not comply with the regulatory and policy framework, with the explicit requirement to minimise leakage under clause 15.1 e) of the Statement of Obligations;
- Customers have indicated that they deem the losses to be unacceptable given current restrictions and evidence of climate change. Public meetings in the development of the Water Demand Supply Strategy[6] supported expenditure to reduce this leakage even though high costs were involved; and
- The outcome of the project will be to generate water savings that will increase security of supply for all customers of the Bendigo system, as the rural supply system shares a raw water source with the potable supply.

4.3.2 The Goldfields Superpipe

The second major element of the Water Security Program is the interconnection of the Coliban and Goulburn systems to supplement supply.

This involves the construction of the Goldfields Pipeline from the Waranga Western Channel, near Colbinabbin, to near Lake Eppalock. The pipeline will be underground and approximately 46 kilometres long. The system will have the flexibility to allow water to be discharged into Lake Eppalock or directly into the Eppalock to Bendigo pipeline. The design of the pipeline allows it to be extended a further 110 km to provide up to 18,000 ML/year to Ballarat.

Based on current estimates, the Coliban Water share of the pipeline will cost around $90M. The State Government has made a budget allocation of $30M and a further $25M has been contributed by the Federal Government through the National Water Initiative. Coliban Water will fund the balance of the project costs through increased tariffs to its customers.

[6] Coliban Water (2006); *Waterplan 2055,* pp 33-35

Costs will be incurred both in the construction of the pipeline and in the purchase of water entitlements in the Goulburn system to provide the additional supply required for Bendigo. It is anticipated that the majority of the construction work will be completed and costs incurred during the current price period. These costs were not included in the original Water Plan and associated prices and tariffs. This Water Plan assumes that an adjustment is required to include that additional capital expenditure within the regulatory asset base.

The major costs incurred in the second price period will be in the purchase of permanent water entitlement on the open market. A value of $22M has been set aside for this exercise, on top of the costs of temporary water purchases in the first three years of the period. In addition, there will be raised operating costs to reflect the need for increased pumping.

4.3.3 Urban Leakage Reduction

Urban leakage is a further area where there is the potential to reduce waste and so enhance security of supply.

Coliban Water faces a challenging operating environment due to the design and construction of its water supply systems. This has meant that its performance in terms of water main breaks has, historically, been higher than for other regional authorities. Coliban Water has faced an average of 33 breaks/100km over the last five years in comparison with an average of 23 breaks/100km for other large regional water authorities.

Coliban Water has an existing program to reduce leakage from its urban supply system. This involved minor expenditure over the first price period. This Water Plan extends and augments that program with expenditure of $1M for urban leakage control in the Bendigo region.

4.3.4 Large-User Water Conservation

The Department of Sustainability and Environment has recently launched a new initiative to promote greater water conservation by non-residential water customers. Under this scheme, major water users will be encouraged to increase their water efficiency through the development of a water management action plan or ‘waterMAP’.

The scheme will apply to non-residential customers using more than 10 ML a year of water at any one site from an urban potable water supply. This will affect businesses, local council sites, hospitals, schools, primary industries using urban supplies, community groups and commercially operated residential style properties. This will be an ongoing requirement, so new large water users will be required to develop a waterMAP within three months of being notified by their water utility.

This scheme will impose costs on Coliban Water through two routes:

- Coliban Water will need to liaise with relevant major users to help promote the scheme and support development of the waterMAPs; and

- It is understood that Coliban Water may be expected to contribute to the costs of implementing the water efficiency initiatives identified.

Annual recurrent costs of around $38K plus capital expenses have been allowed in the Water Plan for the implementation of this initiative.

4.3.5 Expansion of Recycled Water Reuse

Finally, there are significant plans to further extend the use and value of recycled water to customers across the region. Two plans are priorities for the Water Plan period:

a) Harcourt Valley

Orchardists in the Harcourt Valley currently rely on the rural supply system for irrigation. That system has proved insufficiently reliable for their needs in recent years. The Water Plan includes plans to supplement their supplies from recycled water. There are two main options:

- To build a new supply system from the Castlemaine Water Reclamation Plant via Barkers Creek Reservoir; or
- To extend the Epsom to Spring Gully pipeline to service Harcourt from Bendigo's system.

The two approaches have broadly equivalent costs at around $17M over the five years. The decision as to the best option will be driven by alternative possible beneficial uses for the Castlemaine recycled water.

b) Third Pipe Supplies

The second major initiative involves the provision of recycled water for new residential sub-divisions through a third pipe system, with the water used for garden watering and toilet flushing. This would reduce the growth in demand for the potable water supply system. Two such schemes are planned, one at Jackass Flat and the other at Huntly, both on the outskirts of Bendigo. Both would be supplied from the Epsom water reclamation plant. The overall cost is estimated to be $2.5M.

4.3.6 Expenditure for Water Security

The following table confirms the overall expenditure over the Water Plan period proposed to enhance security of water supplies for the region.

Table 4-2: Water Security - Capital Expenditure totals ($M)

Element	Cost
Rural reconfiguration	$40.00m
Harcourt Valley Recycling	$17.00m
Purchase of permanent bulk water	$22.00m
Third pipe systems	$2.44m
Urban leakage control – Bendigo	$1.03m
Total	**$82.47m**

As noted above, these costs do not include the expenditure required to implement the recent DSE initiative to require large water users to develop water management action plans. Detailed expenditure proposals will be included for this initiative in the final submission to the Commission in September.

4.4 Environmental Obligations

Coliban Water will ensure compliance with all legal and licensing obligations, meet best practice in system management and minimise any impacts on the environment. Coliban Water has committed to establishing robust and effective tools and systems to ensure consistent high quality sustainable performance and practice. One example of this is in the certification of our Environmental Management System in June 2006.[7] This implements the duty in Section 25 of the *Statement of Obligations*.

Overall obligations to be met

The main legislative framework for our performance in this area is the *Environment Protection Act 1970* and related State Environmental Protection Policies (SEPPs). Environment Protection Authority Victoria (EPA) plays a lead role in setting and monitoring performance standards in this area.

In the lead up to the drafting of this Water Plan, the EPA published guidance on the requirements that the water industry would be obliged to address over the next price period.[8] This publication has been a key reference in determining priorities and expenditure requirements in Coliban's Water Plan. Other core obligations are:

- EPA Publication 473, *Managing Sewage Discharges to Inland Waters* sets standards for discharge controls;
- SEPP *(Waters of Victoria) 2003*:
  - Clauses 27 to 30 refer to the need to implement the waste hierarchy in the management of wastewater systems;
  - Clause 33 requires the development of sewerage management plans in conjunction with the municipal council and EPA;
  - Clause 35 requires sewerage systems to avoid losses of wastewater through overflows, leakages and collapses;
- SEPP *(Air Quality Management)*: Clause 18 requires continuous improvement in odour management for existing and proposed schemes; and
- EPA *Publication 1069* specifies the particular activities required to meet compliance during the 2008-2013 price period.

In implementing these obligations Coliban Water will be guided by the principles of the waste hierarchy as set out in Section 1I of the *Environment Protection Act 1970* and Clauses 27 to 30 of the SEPP *(Waters of Victoria)*. The hierarchy provides a

[7] AS/NZS ISO 14000 *Environmental Management Systems Standards*

[8] EPA (2006), Publication 1069 *Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008 – 2013 Pricing Determination*.

priority to drive investment decisions: avoidance, re-use, recycling, recovery of energy, treatment, containment and then disposal.

Programs in this area also implement the targets from the Board's Strategic Plan: *to make an active contribution towards achieving the relevant targets set out in the Regional River Health Strategy and the Regional Catchment Strategy by 2010.*

4.4.1 Priorities for the Water Plan

The primary environmental obligations that Coliban Water is committed to meet relate to the operation of our sewerage system. That includes the capture, transfer, treatment and disposal of wastewater, and the reuse of recycled water and biosolids, and all associated activities and risks.

Coliban Water will address six core issues in this Water Plan:

1. Reducing the risk of sewer chokes and spills to meet a 1-in-5 year rainfall event;
2. Improving odour control from sewer pump stations that cause nuisance to the general public;
3. Developing a strategy for disposal of biosolids that is beneficial and sustainable;
4. Enhancing our trade waste management;
5. Maintaining consistent compliance with the licence conditions for our water reclamation plants; and
6. Extending our provision of sewers to unsewered communities.

Each of these issues involves implementation and compliance with existing legislative and licensing obligations. They do not, therefore, involve explicit new legal obligations. However, the extent and detail of the compliance criteria now required is beyond previously accepted practice and are major drivers of expenditure in this Water Plan.

4.4.2 Sewer Chokes and Spills

Our current performance on sewer chokes and spills does not meet best practice and exposes customers and the environment to risk. The current drought has exacerbated the problem as tree roots seek out moisture, increasing the risk of blockages. We are determined to improve in this important area to move our performance to industry norms by the end of the Water Plan period.

Obligations to be met

Clause 35 of the SEPP *(Waters of Victoria) 2003* requires us to avoid losses of wastewater through overflows, leakages and collapses. In particular sewerage systems need to contain flows associated with a 1-in-5 year rainfall event. EPA *Publication 1069* also requires Coliban Water to prepare sewerage system management plans.

Coliban's Commitment

The community and EPA expect rigorous compliance to meet a 1-in-5 year rainfall event. This standard cannot be achieved over-night as it requires significant work to augment the hydraulic capacity of the sewer system and reduce risks of tree root infiltration.

Coliban Water has developed a program of works to address the issue called *Stop the Block*. The works are primarily targeted in Bendigo, where a 20 year program totalling over $61M will improve all facets of our sewer performance.

This program includes:

- Preventative root cutting based on blockage frequency prediction;
- Blockage/spill potential alert devices;
- Chemical root kill and growth inhibition;
- Tree removal;
- Pipeline repair by grouting or part lining; and
- Pipeline renewal by lining or replacement.

The major element of the program is the duplication of 8.7 km of trunk main in the southern growth corridor of Bendigo at Kangaroo Flat, at a cost of $9M. Other upsizing, duplication or replacement of both reticulation and trunk sewers in the Bendigo area will cost $18M. A similar approach, with equally important works on a smaller scale is planned for Echuca, Castlemaine and Kyneton, at a projected cost of $9M.

The outcome by the end of the Water Plan period is that customers and the general public will experience far fewer cases of sewer spills following heavy rain. That improves public hygiene as well as environmental performance as it reduces the likelihood of sewage entering waterways.

4.4.3 Odour & Spill Controls at Sewer Pump Stations

Obligations to be met

Sewer pump stations emit highly pungent odours. This creates a public nuisance for neighbouring communities within built-up urban areas particularly after storm events when turbulent flow causes the release of decomposition products.

The obligation to control odours is covered by the *Public Health Act* and forms part of the licence terms administered by the EPA. Clause 18 of the SEPP *(Air Quality Management)* requires continuous improvement in odour management for existing and proposed schemes.

Coliban's Commitment

Coliban has recently completed a sewer pump station risk assessment following a number of spill incidents. This risk assessment identified a number of assets that require works to improve compliance.

As a result Coliban Water will undertake a major program of sewer pump station refurbishment and replacement. Priority works include:

- replacement/refurbishment of 17 individual pumps stations;
- various works at multiple smaller sites;
- lagoon de-sludging projects at smaller reclamation plants; and
- SCADA monitoring and sewer modelling to identify high risk points in the sewer systems.

The overall cost of this program is $8.4M. The outcome will be a significant reduction in the incidence and severity of sewer overflows, OH&S risks and odour in all towns.

4.4.4 Biosolids

Wastewater treatment involves the separation of the liquid and solid elements of the waste-stream. The treated liquid component is recycled for beneficial purposes. That then leaves the remainder of the waste-stream as a 'biosolid'.

At present those biosolids are seen as a waste-disposal problem and are either consigned to landfill or are spread on pasture. It is recognised that this material should be considered a valuable resource and recycled.

Obligations to be met

The obligation to take action forms part of the terms of our licence for wastewater treatment under the *Environment Protection Act 1970* and is identified as a priority for the Water Plan period in EPA *Publication 1069*. This also implements the EPA's broader policy on waste minimisation and industrial waste management. This policy was introduced in December 2000 to encourage waste minimisation and the reuse, recycling and recovery of waste that cannot be avoided.[9] In the case of biosolids, the EPA's strategy requires the development and implementation of a strategy to ensure the beneficial and sustainable future use of biosolids.

Coliban's Commitment

The objective is that by the end of the Water Plan period Coliban Water should be able to demonstrate 100% beneficial reuse of biosolids. The investment also generates benefits for OH&S, odour risks, storage and transport costs.

The 100% target has been adopted as in Bendigo, which represents by far the largest wastewater reclamation plant, there is very little available land for storage or stock-piling of dry material and high risks of odours off site. This would not represent a sustainable long-term solution.

As a result, Coliban Water has invested in new higher efficiency dewatering centrifuges to reduce the effective weight and volume of the biosolids. The resultant biosolids can then be trucked directly to local farmers for supply as a soil conditioner. This involves costs of $5.3M which will be incurred in 2007/08.

[9] EPA Website: www.epa.vic.gov.au/waste/prescribed_industrial.asp

4.4.5 Trade Waste

Managing trade waste is a critical part of our wider sewerage management program. Effective management achieves a range of outcomes:

- it protects the effectiveness of our water reclamation plants and the OH&S of our staff;
- it ensures continuing compliance with our effluent discharge licences;
- it ensures that recycled water from the plants is fit and suitable for reuse; and
- it allows beneficial reuse of biosolids.

Coliban Water employs a full time Major Customer Manager to act as the primary point of liaison with our major customers. This ensures that Coliban Water is aware of proposed changes in demand and can also promote optimal investments that:

- improve security and quality of supply;
- reduce potable demand through greater water use efficiency, internal recycling and use of stormwater;
- increase use of recycled water; and
- pre-treat waste-streams to minimise discharge load strength and volumes.

These outcomes are promoted through liaison, pricing and trade waste agreements. The Water Plan will continue this program and anticipates further reductions in load to its water reclamation plants as higher levels of recycling and pre-treatment are adopted.

4.4.6 Sewerage Management: Compliance

Coliban Water operates a suite of water reclamation plants where compliance standards are set out in licences issued under Section 20 of the *Environment Protection Act 1970.*

The dispersed population of the region creates a need to provide multiple smaller plants to service the customer base. This eliminates the need to construct costly transport systems and allows Coliban Water to deliver sewerage treatment services at the lowest overall cost. Coliban Water has completed a major program over the last eight years to improve the quality of the treatment capability of its water reclamation plants. The majority of these new plants meet international best practice and are now managed on long-term contracts by specialist operators:

- **Echuca:** Managed under a BOOT scheme with the EPA licence held by Earth Tech;
- **Castlemaine:** managed by Veolia Water, with the plant having been bought back from the receivers when the previous owners of the plant went into receivership;
- **Kyneton:** The plant was constructed and is now operated by Veolia Water under a Design Build Operate contract. $1m has been allowed in the Water plan for expansion of the winter storage ; and

- **Bendigo:** a $5 million contract to improve the quality of treated effluent, including tertiary treatment to reduce phosphorus levels. The plant is managed on an outsourced basis by Campaspe Asset Management Systems (CAMS). CAMS now also operates the biosolids management plant that was previously managed by Castlemaine Wastewater Treatment Pty Ltd.

The contracted out provision provides confidence to customers and other stakeholders that best practice is being met both in terms of costs, which have been subject to market testing and standards, which form the central performance measure of the contracts.

Coliban Water manages these water reclamation plants within its Environmental Management System (EMS), which is accredited to ISO 14001. This provides a structured, consistent framework to drive continuing compliance and ensure continuous improvement in performance. The EMS includes a rolling cycle of plant audits as well as routine compliance assessment and reporting to the Board. This process provides a robust basis for reporting to the Commission.

Coliban Water has worked with the plant operators to enhance performance at lower cost. This has implemented a suite of improvements to plant operation to optimise chemical and oxygen use as amongst other input and operating costs.

The major continuing expenditure is in the tolls for the contracted out operation of the three major water reclamation plants at $8M pa.

4.4.7 Extending Sewerage Services

An important part of customer service is extending services to new customers. Section 19 of the *Statement of Obligations* creates a duty to participate with local councils in identifying areas where reticulated sewerage services are the preferred option.

Coliban Water is proposing to extend services to four backlog areas identified through this process: Bendigo, Heathcote, Castlemaine, and Newbridge.

This involves total expenditure of $5.7M.

4.4.8 Environmental Compliance - Capital Expenditure

The following table confirms the overall capital expenditure proposed for environmental compliance.

Table 4-3: Capital Expenditure – Environmental Compliance ($M)

Project	Cost
Bendigo Reticulation and Trunk Sewers	$22.02
Echuca Reticulation and Trunk Sewers	$5.96
Kyneton Reticulation and Trunk Sewers	$2.75
Sewer Pump Stations	$3.03
Water Reclamation Plant Compliance Works	$2.40
Total	**$36.16**

4.5 Drinking Water Quality and Supply

Coliban Water is proud of the high quality of the drinking water supplied to customers across the region. It is determined to maintain this position.

4.5.1 Obligations Regarding Drinking Water Quality

The major obligations regarding drinking water quality are set out in the *Safe Drinking Water Act 2003* and *the Statement of Obligations*. The *Safe Drinking Water Regulations 2005* came into effect on 15 July 2005. The regulations establish standards for specified elements in drinking water, in line with the provisions in Section 17 of *the Safe Drinking Water Act 2003.*

The other agreed set of relevant standards is the *Australian Drinking Water Guidelines*. These are generally agreed standards that are taken to represent compliance with legal obligations. Meeting these standards also ensures that we fulfil our commitments set out in the Coliban Water *Customer Charter*.

This legislation and standards are implemented with oversight from the Department of Human Services (DHS).

4.5.2 Priorities for Drinking Water Quality and Supply

The priorities in this Water Plan for drinking water quality and supply are:

- Risk management plans;
- Water quality standard compliance;
- Monitoring and reporting; and
- Water supply systems.

4.5.3 Risk Management Plans & Audit

Obligations to be met

Part 2 of the Act requires the preparation, implementation and review of risk management plans relating to the supply of drinking water and regulated water to the public. Sections 10 - 16 require Risk Management Plans to be audited by an approved auditor to assess compliance.

Coliban's Commitment

Water Quality Risk Management Plans were completed in June 2005 for all of Coliban Water's drinking water supply systems.

A report on those plans has been developed into a comprehensive list of actions to manage risks to an acceptable level in all drinking water supplies. The program identifies that capital works are required at 18 Water Treatment Plants to reduce water quality risks.

We will implement a continuing program of internal audits of the risk management plans and review and update them when changes occur to the system.

4.5.4 Water Quality & Treatment Plant Operation

Obligations to be met

Section 17 of the *Safe Drinking Water Act 2003* requires Coliban Water to comply with the quality standards specified in the Regulations for E. coli, turbidity, aluminium (acid soluble), halo-acetic acids and trihalomethanes.

Coliban's Commitment

Coliban Water invested heavily in water treatment facilities over the previous eight years to meet world's best practice through the construction of new water treatment plants for the Bendigo, Castlemaine and Kyneton areas, and the upgrading of the Echuca Water Treatment Plant to improve standards and reduce risks.

This has proved a prudent investment as it has provided the base for continued high quality, low cost water supply. The new regulations pose few challenges for these major plants.

However, the risk management plan audit identified that work is required to ensure that smaller communities across the region are supplied with high quality drinking water that consistently meets the requirements of the Act and Regulations. This identified a number of challenges including:

- raised salinity levels in supplies from the Loddon;
- poor compliance performance of smaller treatment works; and
- lower levels of security of supply.

We will implement the actions flowing from those plans over the next five years. A total of 320 individual items of work are being targeted in this program at a cost of $12M. $7M of this sum will be spent in the current price period, with $5m allocated in this second Water Plan to the upgrade of small town water treatment plants.

In parallel, there is a program to extend pipelines to smaller communities from our major centres where there is surplus capacity and the small older plants do not merit up-grading, involving a cost of $14M. This program covers the townships of Bridgewater, Inglewood, Sebastian, Goornong and Raywood. This initiative was originally included in the first Water Plan. However, higher priority demands have seen the project postponed until this second Water Plan period.

Finally, the high risks of low quality treated water and low water security are being addressed at Gunbower and Leitchville by the replacement of the separate plants at each location with a single new plant at Leitchville and a pipeline from this to Gunbower, at an overall cost of $9M.

The outcome of this investment is that by the end of the Water Plan period all customers in the region with a potable water supply will be able to access drinking water that consistently meets the compliance requirements of the Act. We will retain a small number of customers who continue to be supplied with non-potable *regulated water* in line with Section 6 of *the Safe Drinking Water Act 2003*.

4.5.5 Water Quality Monitoring and Reporting

Obligations to be met

Section 23 of the Act requires Coliban Water to make results available to the public from any monitoring program relating to drinking water. Section 26 requires Coliban Water to produce an annual report on the quality of drinking water and make it available to the public.

Coliban's Commitment

The Authority currently makes water quality information available through a range of channels; namely, annual reports, monthly reports and on request.

4.5.6 Water Supply Systems

Coliban Water's water supply comes from 24 supply systems and 7 supply sources spanning four major river basins. Given the highly dispersed population base Coliban Water has historically operated 34 stand-alone water supply systems. Over the last five years there has been some rationalisation of this position as part of the WaterBITS Project that has extended treated water supply to smaller towns across the region through new pipelines from the major water treatment works in Bendigo and Castlemaine.

Obligations to be met

Coliban Water faces obligations regarding water supply under the *Water Act 1989* and under our own Customer Charter. The key commitment under the charter relates to the provision of a minimum flow rate to the property. This rate depends on the size of the meter supply:

Table 4-4: Minimum Flow Commitments (litre/minute)

Diameter (mm)	20	25	32	40	50
Minimum Flow	20	35	60	90	160

Coliban's Commitment

Coliban Water continues to manage highly dispersed systems with multiple locations and little interconnection. This creates costs and operational challenges. The region also faces high levels of growth along the Calder corridor in the south of the region and around the growth centre of Echuca. These will place continuing demands on our supply and treatment systems. Two investments are proposed for the Water Plan period to respond to these obligations and future growth in demand:

- Additional investment to meet Bendigo's 2013 demands – through upsizing and asset duplication of water supply reticulation at a cost of $10M; and
- Echuca low pressure rectification works – to ensure adequate pressure across the western side of the town in response to continuing growth in demand. Preliminary work will be completed in this Water Plan period at a cost of $1M, with further augmentation planned for the third Water Plan period.

4.5.7 Drinking Water Quality – Capital Expenditure Proposed

The following table confirms the aggregate capital expenditure proposed over the Water Plan to ensure consistently high quality drinking water across the region.

Table 4-5: Capital Expenditure – Drinking Water Quality ($M)

Project	Cost
Pipeline to Bridgwater, Raywood and Sebastian to replace WTP's	$10.75
Pipeline to Goornong to replace WTP	$3.53
New WTP and pipeline – Leitchville and Gunbower	$8.91
Water Quality Improvement Program – Small Towns (final)	$5.04
Serpentine WTP Improvements	$1.30
Total	**$29.53**

4.6 Customer Service Standards

Coliban Water is committed to delivering excellent customer service. It is our objective to meet customer expectations for service quality and to perform at a level that places us in the top half of the Victorian water industry.

Delivery of most front-line customer service is contracted out to Campaspe Assets Management Services (CAMS). Their performance is monitored on a monthly basis and the contract terms create powerful incentives for continuous improvement in the quality of the customer service they deliver.

4.6.1 Customer Charter Commitments & the Commission KPIs

Our Customer Charter documents our commitment to customers. The KPIs proposed for the Water Plan are set out in Annex A with the key standards and targets summarised below in Table 4-6.

In developing this suite of performance indicators we reviewed a number of critical factors:

- We reviewed past performance and identified those areas where our performance fails to meet our earlier commitments or is out of line with industry norms;
- We identified the improvements in customer service that will flow from projected expenditure in the Water Plan;
- We reviewed feedback from customer surveys that indicates that most customers believe we currently provide a good standard of service; and
- We assessed the costs of enhancing key indicators, as we are keenly aware that the program of work required to meet our obligations and restore reasonable water security will mean that bills will have to go up.

Table 4-6: Proposed Key Customer Service Standards

Indicator	2008/09	2009/10	2010/11	2011/12	2012/13
Unplanned water supply interruptions (per 100 Km main)	25.00	25.00	25.00	25.00	25.00
Average time taken to attend bursts and leaks - Priority 1 (minutes)	30.00	30.00	30.00	30.00	30.00
Unplanned water supply interruptions restored within 5 Hrs (%)	98%	98%	98%	98%	98%
Average duration of unplanned water supply interruptions (minutes)	110.00	108.00	105.00	102.00	100.00
No. of customers experiencing 5 unplanned water supply interruptions in year (number)	5	5	5	5	5
Sewerage blockages (per 100 Km main)	80.00	70.00	60.00	50.00	50.00
Average time to attend sewer spills & blockages (minutes)	32.00	32.00	32.00	32.00	32.00
Spills contained within 5 hours (%)	99%	99%	99%	99%	99%
Customers receiving 3 sewer blockages a year (number)	4	4	4	4	4
Complaints to Ombudsman (per 1,000 customers)	0.2	0.2	0.2	0.2	0.2
Telephone calls answered within 30 seconds (%)	85%	90%	90%	90%	90%

The outcome of this process was to confirm that our current customer service indicators generally strike the right balance between cost and quality. In this Water Plan we have therefore prioritised expenditure for enhanced customer service in three main areas:

- reducing sewer chokes and spills (see section 4.4.2);
- maintaining our improved response times to water leakages and outages; and
- employing additional staff in customer service to enhance our telephone response time to meet the Commission target of 90% of telephone calls answered in 30 seconds.

We are also driving for continuous improvement to ensure we deliver more and better quality for the same cost. In addition, we have identified a number of other targets that reflect the outcome of the major investments proposed in this Water Plan. These outcome targets are set out in Table 4-7 below:

Table 4-7: Outcome Targets

Indicator	2008/09	2009/10	2010/11	2011/12	2012/13
Greenhouse gas reductions (tonnes CO2/property) (as a % reduction against a 2004 base year)	20%	20%	20%	20%	20%
Recycled water (% of total wastewater discharged)	64%	67%	72%	73%	82%
Biosolids reused (%)	100%	100%	100%	100%	100%
Environmental discharge licence compliance	n/a				
Drinking water quality compliance	97.7%	97.7%	98.8%	98.8%	99.4%
Small town sewerage schemes (nos of connections)		25			
Sewer backlog connections (nos of connections)			340		

We are unable to set a target for the environmental discharge licence compliance at this stage as Coliban Water is currently in discussion with the EPA over the development of a revised 'corporate licensing' scheme.

The drinking water quality targets are set by reference to our compliance with four key standards agreed with DHS: e-coli, aluminium, turbidity and disinfection bi-products. The target represents the percentage of all samples taken that meet the required standards, where the number and type of samples are as agreed with the DHS.

4.6.2 Guaranteed Service Level Scheme (GSLs)

Coliban Water does not propose to introduce a Guaranteed Service Level scheme in this Water Plan as there has been opposition to this approach from our Customer Consultative Committees and in community forums. They had a number of reasons for that response:

- GSLs are funded through higher charges to all customers – that defeats the purpose of creating a real incentive on the business;
- The company is well aware of those areas with lower standards of performance and is working to rectify and resolve the remaining issues; and
- The sums proposed would not be meaningful to customers and would cost more to administer than the benefit that the customers received.

However, Coliban Water is committed to understanding where there is repeat poor service provision and to directing investment and attention to those priority customer groups. Coliban Water convenes a meeting of its service delivery staff once a month to review all complaints received and history of performance. This allows us to identify where there are systemic issues that require attention.

5 Revenue Requirements

This section outlines the core components of Coliban Water's revenue requirements.

5.1 Total Revenue Requirement

Coliban Water's total revenue requirement for the five year price period of the Water Plan is as follows:

Table 5-1: Total Revenue Requirement ($M)

	08-09	09-10	10-11	11-12	12-13	Total
Operating Expenditure	55.19	52.44	51.44	51.15	52.10	262.32
Return on RAB	7.80	7.58	7.36	7.15	6.95	36.84
Depreciation of Assets to 30/6/08	4.28	4.28	4.24	4.06	3.78	20.64
Return on new capital	1.23	3.48	5.51	7.49	8.98	26.69
Depreciation of New Assets	0.90	2.31	3.30	4.22	5.03	15.76
Adjustments from Prior Period	3.64	3.64	3.64	3.64	3.64	18.20
TOTALS	**73.04**	**73.73**	**75.49**	**77.71**	**80.48**	**380.45**

5.2 Operating Expenditure

5.2.1 Operating Expenditure Schedule

The Water Plan assumes the following schedule for operating expenditure over the five-year price period. In this table costs are broken out by functional area.

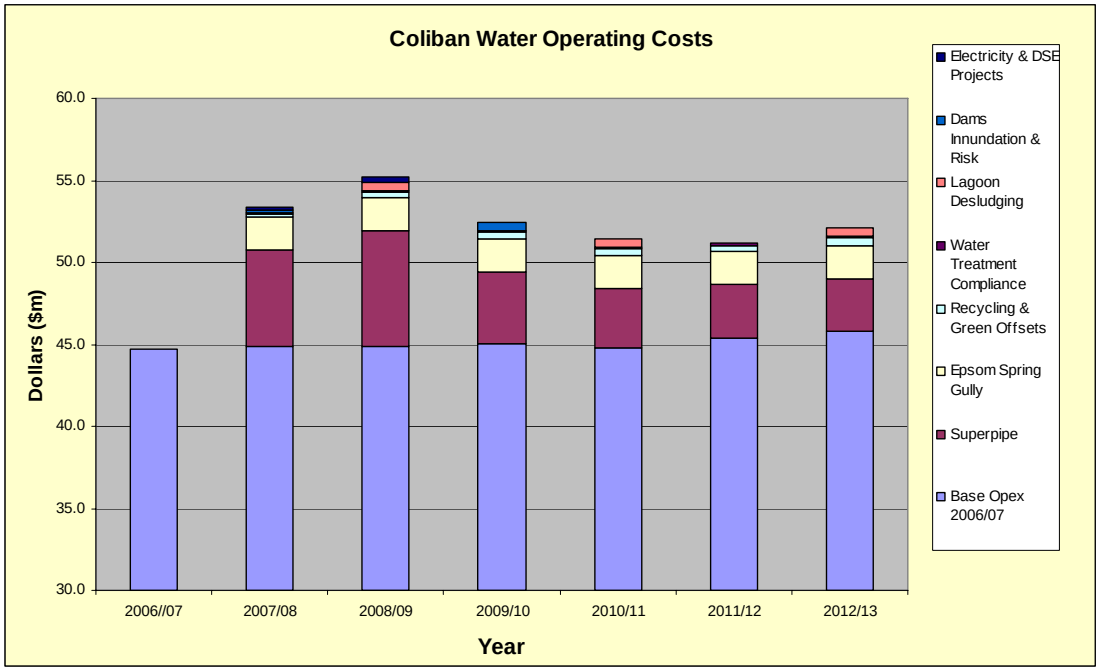
Table 5-2 Operating Expenditure Schedule ($M)

Category	08-09	09-10	10-11	11-12	12-13
Labour	4.93	4.99	5.01	5.08	5.14
Materials & Vehicles	0.32	0.32	0.32	0.32	0.32
Outside Services	1.73	1.67	1.70	1.72	1.74
Licences	0.24	0.24	0.24	0.24	0.25
Bulk Water	5.54	3.15	2.36	2.02	2.08
Outsource Services	26.81	26.66	26.66	26.83	27.89
BOOT Schemes	13.94	13.73	13.46	13.26	12.98
Environmental Contribution	1.69	1.69	1.69	1.69	1.69
Total	**55.19**	**52.44**	**51.44**	**51.15**	**52.10**

The overall level of operating expenditure is significantly higher than that forecast in the first Water Plan, where expenditure was projected as $44.7M for 2006-07 and $52.5M for 2007-08. There are a number of significant additional operating costs that contribute to this raised profile in comparison with the previous price period.

The following chart provides a visual representation of the elements of the operating costs budget by year over the Water Plan period with a baseline opening position set by the costs incurred in 2006/07. In this case, the costs are presented by reference to major projects.

Figure 5-1: Water Plan - Operating Costs



This chart demonstrates the steady baseline operating cost budget that runs through the Water Plan period. The following section demonstrates the continuing productivity gain in this baseline expenditure over the period.

The chart also identifies the significant step up in operating expenditure from this baseline in 2007/08. This increase is driven by the additional costs incurred in delivering a limited number of major projects:

- Water purchases: Purchase of additional water entitlement through the temporary water market for supply through the Superpipe: $7M
- Costs of pumping and pump station – Goldfields Superpipe: $13M
- Operation of Epsom Spring Gully recycling scheme: $11M

Beyond these, the remaining adjustments between years reflect smaller, one-off initiatives such as lagoon de-sludging and dams inundation works.

The reduction in total costs over the plan period reflects the movement from buying water on the temporary market (when it is defined as operating expenditure) onto a permanent basis (when it is classed as capital expenditure). The balance and timing of expenditure between these two approaches is driven by a number of factors including supply availability, relative price and financing considerations.

5.2.2 Productivity: Cost Drivers of Business as Usual

The costs of delivering core services as 'business-as-usual' are increasing over time. These cost increases are not driven by the introduction of new obligations or tied to enhancements in service standards. They are due to major pressures on the business over which we have little control.

Examples of drivers of cost increases include:

- A continuous raising of the bar with regard to regulator expectation regarding compliance.
    - The three major initiatives promoted by the EPA in this Water Plan represent tighter compliance criteria rather than new obligations. These impact both on capital and operating costs;
    - The DHS drinking water compliance drives higher monitoring and reporting costs as well as higher costs for plant operation;
    - Continued improvement and, in some cases, costs to just to reach the service standards set by the Essential Services Commission.
- Significant on-going costs that are driven by the drought such as operation of the Goldfields Superpipe where pumping costs and purchase of temporary water entitlements will initially cost $5.5M/yr;
- Raised political and customer expectations drive higher costs: the most obvious example relates to investments required to promote greater water security in response to the drought and water restrictions. Others include the Board's commitment to meeting Greenhouse Gas Emission targets;
- The tolls payable under the outsourcing scheme for major infrastructure management have built in adjustment factors and gradients. Depending on the escalation basis of the adjustment factors, these may drive automatic cost increases over time;
- The raised level of capital expenditure per year generates higher costs in project delivery and in the consequential operating costs;
- Enhanced compliance costs for OH&S where formal documentation and training is now expected for standard activities;
- Salary creep through the natural progression of time as staff progress up salary scales. Coliban Water has limited staff turnover and so leads to an inevitable increase in total costs;
- IT systems enhancement for instance with the introduction of spam filters for email servers;
- Vehicle leasing cost increases – evident in both fuel and vehicle capital costs;
- Water Enforcement Teams have been introduced to manage compliance with restrictions – these teams will continue to monitor future restrictions and permanent water savings regimes; and
- Risk mitigation requirements associated with management of recycling schemes dictates that new resources are required for close monitoring of the end uses of recycled water.

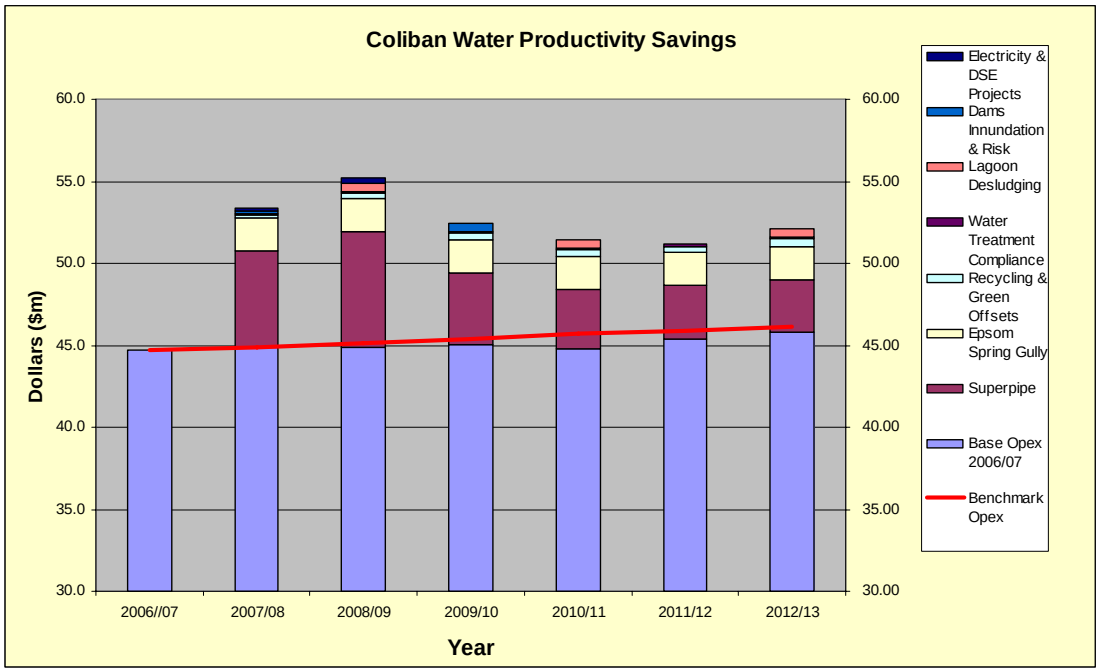
The outcome of these pressures is that Coliban Water faces an increasing cost of doing business.

5.2.3 Productivity Achievement: Operating Costs

Coliban Water is committed to driving for continuous improvement over time – delivering better quality and larger output at lower unit costs. That ensures greater productivity in terms that matter to customers.

Figure 5-2 demonstrates the productivity savings that will be achieved over the Water Plan period.

Figure 5-2: Productivity Savings over Water Plan



The redline represents the Benchmark Opex for the Water Plan period, extrapolated forward from the baseline year in 2006/07 adjusted to take account of two factors:

- an average 1.5%/yr growth to reflect the forecast increase in customer numbers over the plan period;
- less a 1%/yr productivity target.

The chart demonstrates that Coliban Water's baseline operating costs are below the benchmark in all years, generating a productivity dividend for customers before the impact of new initiatives and obligations are added onto the costs.

There are two key examples of how Coliban Water is implementing that commitment to productivity:

a) Market Competition

Coliban Water has adopted a deliberate policy of contracting-out of functions and services wherever this can be demonstrated to deliver benefits to the business and customers. This covers both outsourcing of asset operations and maintenance of Coliban owned assets, and the use of Public, Private Partnership schemes (PPPs) and Design, Build and Operate schemes (DBO) for the construction and operation of its major water and wastewater treatment plants.

The approach has exposed Coliban Water's cost structures and assumptions to the discipline of the market and has allowed Coliban Water to define and manage contracts to ensure delivery of clearly specified service outcomes. Coliban Water can, therefore, clearly demonstrate that the large majority of its service outcomes reflect best practice at a cost that meets market frontiers for competition.

b) Integrated Quality Systems

Coliban Water employs a full-time Manager of Business Improvement whose responsibilities include the identification, management and integration into the whole business culture of improvements in business processes that deliver higher outputs and improved quality at lower costs and with greater efficiency. The first stage of this program has been to construct an integrated quality management system that meets world's best practice. This involves accreditation for all our management systems within a common and auditable framework, covering:

- **Occupational Health and Safety (OH&S):** to ensure the safety and security of our staff and the general public from our operations;
- **Environmental Management Systems (EMS):** to minimise risks from our business to the environment and deliver the obligations in Clause 25 of the Statement of Obligations;
- **Quality Assurance (QA):** to ensure a consistent and appropriate process is followed in delivering high quality services at least cost; and
- **WSAA A Quality System:** to identify and control identifiable risks to business effectiveness and continuity, with a particular focus on drinking water quality.

Through this coordinated program we will enhance the effectiveness of our delivery of projects and management of systems to ensure better outcomes for customers at lower cost. Coliban Water is also using productivity tools such as 6Sigma to analyse its efficiency based on statistical analysis of workloads.

5.2.4 Coliban's Operating Environment

Operating expenditure represents some 69% of Coliban Water's total revenue requirement. There are a number of reasons why this percentage is higher than for many other water authorities:

BOOT Schemes: Coliban Water has led the industry in the use of the market to transfer responsibility for the construction and operation of major plants to the private sector. Authorities who run their own works record the capital value of those plants as an addition to their Regulatory Asset Base, on which they earn a return, and also as the basis for depreciation. In Coliban Water's case those costs are internalised by the contractor running the plant and recovered through the tolls, which then form part of our operating costs; and

Low RAB: Coliban Water was set a very low opening regulatory asset base (RAB) at the start of the regulatory regime in 2005. This means it earns a very low value for the return on capital as a component element in the total revenue requirement. Other similar sized authorities earn five times as much for this element of the revenue stream.

5.3 Capital Expenditure

5.3.1 Validation and Prioritisation

Coliban Water has a well structured process in place to prioritise its capital expenditure program. This is documented in our *Capital Investment Evaluation Manual*. This comprises six core stages:

- Needs identification and justification against obligations;
- Capital effectiveness analysis;
- Scope of capital investment analysis;
- Financial cost analysis;
- Cash flow analysis; and
- Environmental and social impact assessment.

In developing the capital expenditure program for the Water Plan a number of additional criteria and stages have been added to that process:

- **Realistic**: Coliban Water had to be confident that it could deliver the combined program;
- **Impact on bills:** the total cost of the program had to be sustainable in terms of its impact on customers' bills;
- **Coverage:** the final program had to provide appropriate coverage across obligations, with a balance of activity across the region;
- **Timing:** the program had to be scheduled so that the timing of projects was optimal in terms of demands on scare internal and external resources; and
- **Synergies:** the program was coordinated to win maximum synergies between projects.

5.3.2 Capital Expenditure Overview

The resultant capital expenditure program is summarised in Table 5-3, broken out against the major functional areas.

Table 5-3: Capital Expenditure Overview by Functional Area ($M)

		08-09	09-10	10-11	11-12	12-13	Total
Water	Pipelines	17.55	21.61	25.91	15.24	12.09	92.40
	Treatment	10.16	4.92	0.00	0.00	0.28	15.36
	Corporate	1.17	0.45	0.35	0.31	0.39	2.67
	Total	28.88	26.98	26.26	15.55	12.76	110.43
Sewerage	Pipelines	16.50	10.17	7.05	4.74	9.87	48.33
	Treatment	0.26	0.51	1.86	0.06	0.79	3.48
	Corporate	1.02	0.40	0.31	0.27	0.34	2.34
	Total	17.78	11.08	9.22	5.07	11.00	54.15
Headworks	Headworks	0.49	0.43	0.98	0.50	0.22	2.62
	Corporate	0.44	0.17	0.13	0.12	0.15	1.01
	Total	0.93	0.60	1.11	0.62	0.37	3.63
Recycled	Total	0.57	1.27	1.28	17.04	0.05	20.21
Rural	Total	3.36	4.56	7.87	5.64	4.25	25.68
	Totals	**51.52**	**44.49**	**45.74**	**43.92**	**28.43**	**214.10**

This table confirms that the major expenditure for the period is on water pipelines, followed by sewer replacement and renewal.

5.3.3 Drivers of Capital Expenditure

All expenditure has been categorised by five underlying drivers:

- **Renewals:** maintaining the service capacity of existing assets;
- **Growth:** augmenting infrastructure to ensure adequate services are available to respond to growth in demand;
- **Improved Service:** improving service to customers; and
- **Compliance:** investing to ensure robust consistent compliance with drinking water quality or waste effluent discharge licensing.

Analysis of the coordinated program demonstrates that the majority of expenditure is driven by the need to demonstrate compliance.

Table 5-4: Drivers of Capital Expenditure Program ($M)

	08-09	09-10	10-11	11-12	12-13	Total
Renewal	8.37	6.41	15.35	5.42	5.48	41.03
Growth	3.36	7.24	6.94	1.43	2.30	21.27
Improved Service	10.68	16.47	15.26	16.93	12.67	72.01
Compliance	29.11	14.36	8.19	20.16	7.97	79.79
Totals	51.52	44.48	45.74	43.94	28.42	214.10

5.3.4 Our Top Ten Projects/Programs

The top ten major projects for this Water Plan are recorded in Table 5-5. In some cases these represent programs of work rather than specific projects where we are still developing proposals for specific activities.

Table 5-5: Top Ten Projects for Water Plan

What	Why	Where	What	When
Rural system reconfiguration	Water security and improved service	Across rural channel system	4,000ML water savings	2008/09 to 2012/13
Sewer Improvement Strategy	Compliance	Bendigo trunk and reticulation mains	Reduced blockages	2008/09 to 2012/13
Bulk water purchases	Water security and growth	Goulburn system	Off Water Restrictions	2008/09 to 2011/12
Recycled water scheme	Water security	Pipeline to Barker Creek Reservoir	Off Water Restrictions	2011/12
Pipelines for potable supply	Compliance	Bridgewater, Raywood, Sebastian and Goornong	Compliance with DHS	2008/09 to 2011/12
Main channel refurbishment	Water security and renewals	Multiple lengths of box flume & trapezoid channel	Security of supply	2009/10 and 2010/11
Water Augmentation – for 2013 demand	Growth	Bendigo distribution and reticulation systems	Off restrictions	2009/10 to 2102/13
Water Treatment Plant	Compliance	Leitchville and Gunbower	Compliance with DHS	2008/09 to 2009/10
Sewer Pump Stations	Compliance and renewals	Refurbishment/replacement all districts	Reduced blockages	2008/09 to 2012/13
Sewer Improvement Strategy	Compliance and renewals	Echuca trunk and reticulation mains	Reduced blockages	2008/09 to 2012/13

This demonstrates a broad spread across issues and locations, with the largest single investment focussed on modernising our rural supply system to reduce leaks, enhance security of supply for all customers and improve customer service. The following table identifies the expenditure for each project during the Water Plan period. This will provide a program against which Coliban will report progress to our customers and the Commission.

Table 5-6: Top Ten Projects for Water Plan ($M) – expenditure by year

What	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Rural system reconfiguration	3.00	5.00	8.00	12.00	12.00	40.00
Sewer Improvement Strategy	11.85	2.38	2.38	1.95	3.46	22.02
Bulk water purchases	6.00	6.00	6.00	4.00		22.00
Recycled water scheme				17.00		17.00
Pipelines for potable supply	5.37	5.38	2.35	1.18		14.28
Main channel refurbishment		1.76	8.25			10.01
Bendigo Water Augmentations		5.03	3.93	0.40	0.20	9.56
Water Treatment Plant	4.46	4.45				8.91
Sewer Pump Stations	2.59	0.44	0.71	1.62	1.28	6.64
Sewer Improvement Strategy	0.52	1.44	0.28	0.21	3.52	5.96
Totals	**33.79**	**31.88**	**31.90**	**38.36**	**20.46**	**156.39**

5.3.5 Timing and Scheduling

The following table indicates the scheduling and timing of expenditure across the five years of the Water Plan. This demonstrates a sensible and realistic program of works that can be delivered to maintain and enhance customer service.

Comparison with the expenditure delivered and forecast for the last two years of the first price period indicates that the scale of activity is within the project management capability of the business.

The table excludes capital expenditure on the purchase of water to focus on those activities that will command significant project management skills as these are the functions that demand significant oversight.

Table 5-7: Scheduling of Capital Expenditure Program ($M)

	06-07	07-08	08-09	09-10	10-11	11-12	12-13
Total Capital (Gross)	85.14	124.21	51.52	44.49	45.74	43.92	28.43
Less water purchase	7.02	13.00	6.00	6.00	6.00	4.00	0.00
Totals	**78.12**	**111.21**	**45.52**	**38.49**	**39.74**	**39.92**	**28.43**

5.3.6 Capital Expenditure Productivity

Coliban Water is committed to enhancing the productivity of its capital expenditure in parallel with its approach to operating expenditure efficiency.

We are delivering a consistently larger capital expenditure program than we have historically managed. This is driven by our need to meet the challenges of water security and quality. We are confident that we are capable of managing this program and delivering the outcomes required. However, this additional workload has not been matched by an equivalent increase in staffing in the business. We are meeting this challenge through a number of initiatives:

a) Streamlining processes

We are implementing streamlined program authorisation systems. Previously there was a single standard process that was followed for all expenditure proposals irrespective of the complexity or size of the investment required. Coliban Water is introducing a targeted, risk-based prioritisation protocol that streamlines the steps required for lower risk and cost items and focuses senior management time on the more significant proposals.

This will allow Coliban Water to deliver a larger capital expenditure program with the same in-house team over a shorter period.

b) Bundling of procurement

We are reducing the costs and overheads involved in contract procurement and project management through the bundling together of small projects of a similar nature into larger contracts. So, for example, rather than let multiple small-scale contracts for sewer relining we will let a single coordinated contract that would cover a number of different locations and time periods.

5.4 Regulatory Asset Base

The Regulatory Asset Base (RAB) generates one important part of our required revenue. There are two stages to the process of up-dating the RAB for the purposes of this Water Plan:

- Up-dating the RAB across the first price period; and
- Rolling forward the RAB for the second price period.

5.4.1 Updating the RAB

The initial value of the RAB was set by the Minister for Water as at 1 July 2004. This needs to be up-dated to take account of the efficient and prudent capital expenditure that Coliban Water has incurred over the first, three-year price period. That process involves the following steps:

	04-05	05-06	06-07	07-08
Opening RAB	7.53	19.98	38.30	67.90
Plus capital expenditure	19.84	22.08	85.14	124.21
Less contributions	6.63	2.93	54.35	35.58
Less disposals proceeds[10]	0.27	0.0	0.0	0.0
Less depreciation	0.49	0.83	1.19	1.48
Closing RAB	**19.98**	**38.30**	**67.90**	**155.05**

In this exercise, Coliban Water has treated the additional expenditure to respond to the drought as efficient and prudent expenditure. This reflects the significant changes that have occurred in the expectations regarding supply reliability and catchment yield in response to climate change.

[10] Disposals are of such a low value that they have generally not been included in this calculation.

5.4.2 Rolling forward the RAB

The next stage of the process is to calculate the forecast value for the RAB through the second pricing period.

We calculate that the RAB for the business will grow from a figure of $155.0M at the beginning of the second price period to a figure of $321.1M in June 2013.

	08-09	09-10	10-11	11-12	12-13
Opening RAB	155.05	199.10	234.72	270.30	303.70
Plus capital expenditure	51.52	44.49	45.74	43.92	28.43
Less contributions	2.29	2.28	2.62	2.25	2.28
Less disposals proceeds	0.0	0.0	0.0	0.0	0.0
Less depreciation	5.18	6.59	7.54	8.27	8.80
Closing RAB	**199.10**	**234.72**	**270.30**	**303.70**	**321.05**

a) Contributions

The Water Plan assumes certain levels of customer contributions to our revenue in line with the VWIA Framework and Approach.

	08-09	09-10	10-11	11-12	12-13
Class 1: $500/lot	0.10	0.10	0.11	0.10	0.10
Class 2: $1,000/lot	1.39	1.39	1.59	1.37	1.39
Class 3: $2,000/lot	0.80	0.79	0.92	0.78	0.79
Total	**2.29**	**2.28**	**2.62**	**2.25**	**2.28**

b) Disposals

Coliban Water routinely disposes of assets at the end of their useful life. This plan assumes that the value of those asset disposals is insignificant in terms of its impact on the regulatory asset base.

c) Depreciation

Coliban Water proposes to adopt the standard industry policy of straight-line depreciation across the economic life of our assets. This drives the following depreciation profile grouped in to five main asset life classes ($M).

	08-09	09-10	10-11	11-12	12-13
Pipelines (60 yrs)	1.37	1.78	2.29	2.82	3.34
Dams & Reservoirs (100 years)	0.19	0.21	0.22	0.24	0.24
Structures / Equipment (25 years)	2.26	2.80	3.06	3.26	3.40
Corporate (5 years)	1.35	1.80	1.98	1.96	1.83
Intangible (1,000 years)	0.00	0.00	0.00	0.00	0.00
Total	**5.18**	**6.59**	**7.54**	**8.27**	**8.80**

d) Other Factors

Weighted Average Cost of Capital: It is Coliban Water's preference to adopt the recommendation of the Commission on the appropriate weighted average cost of capital (WACC) to determine the return on capital. This is currently set at 5.1% real.

Taxation Liability: Coliban Water will not be liable for taxation within the Water Plan period.

5.5 Adjustment

Coliban Water incurred significant costs in the first price period that were additional to those forecast in the Water Plan. In addition, the imposition of water restrictions resulted in a loss of revenue.

An adjustment is therefore sought at the start of this price period to reflect:

- A one-off offset to reflect a minimum revenue loss of $15.4M; and
- Inclusion of additional net capital expenditure of $84.6M in the regulatory asset base that was necessarily incurred in the first price period.

The impact of the adjustment of the lost revenue alone will add an average of around $29/yr per property to the cost of both water and sewerage services.

The recovery of lost revenue is required to protect Coliban Water's financial viability as measured against the four key indicators determined by the Commission.[11] Table 5-8 sets out the minimum level advised by the Commission for each indicator and then reports the forecast levels for Coliban Water given recovery of the lost revenue.

Table 5-8: Financial Indicators

Financial Indicator	Min	2008/09	2009/10	2010/11	2011/12	2012/13
Interest Cover	1.5	0.53	1.37	2.06	2.40	2.71
Gearing (%)	65	26.2	26.3	25.8	24.8	22.7
Internal financing ratio (%)	35	-9.1	11.5	36.8	54.6	108.7
FFO/Net debt (%)	10	-2.6	2.3	6.8	9.1	11.6

This table indicates that even with the recovery of the lost revenue, Coliban Water will only begin to approach the minimum benchmarks of financial viability towards the end of the price period. In the absence of that recovery, the business would not meet minimum viability criteria.

[11] ESC (2005), *Regulatory Asset Values*, table 4.2, page 18.

5.6 Total Revenue Requirement

Coliban Water's total revenue requirement for the five-year price period of the Water Plan is therefore as follows:

Table 5-9: Total Revenue Requirement

	08-09	09-10	10-11	11-12	12-13	Total
Operating Expenditure	55.19	52.44	51.44	51.15	52.1	262.32
Return on RAB	7.80	7.58	7.36	7.15	6.95	36.84
Depreciation of Assets to 30/6/08	4.28	4.28	4.24	4.06	3.78	20.64
Return on new capital	1.23	3.48	5.51	7.49	8.98	26.69
Depreciation of New Assets	0.90	2.31	3.30	4.22	5.03	15.76
Adjustments from Prior Period	3.64	3.64	3.64	3.64	3.64	18.20
TOTALS	**73.04**	**73.73**	**75.49**	**77.71**	**80.48**	**380.45**

6 Demand

This Chapter identifies the probable level of demand from our customers over the next price period.

This will affect the planning assumptions of our business and determine the size of the charges that customers will face. It also affects the financial position of the business.

6.1 Demand Forecasts

6.1.1 Demand Overview

A number of variables are significant in determining future demand:

- Assumptions as to future climatic conditions and the implications for catchment yields;
- Projections as to growth in customer numbers; and
- Judgments as to probable consumption levels per customer.

In these projections we have adopted a generally conservative assumption as to probable levels of demand. The demand forecasts in this Water Plan are based around three key reference documents:

- *WaterPlan 2055: securing our water future* that sets out an analysis of probable supply options;
- *Coliban Water Strategic Plan* that confirms the targets for demand management; and
- DSE's publication, *Victoria in Future* that advises on population growth.

These provide an authoritative and comprehensive review of issues and options.

6.1.2 Demand Targets

Our customers have made it clear that they expect us to demonstrate leadership in water conservation. In our Strategic Plan we have therefore set out targets for the future reduction in water consumption levels across the region and over the life of the Water Plan.

Key action targets are:

- Implement Permanent Water Savings Measures (PWS), once current water restrictions are lifted;
- Reduce annual demand in the Coliban System by 4,000 ML, by 2015;
- Reduce per capita annual consumption in other systems by 15%, by 2015;
- Save 4,000 ML in the rural system, by 2015; and
- Substitute 6,000 ML of raw water with recycled water, by 2013.

6.2 Demand and Supply Modelling Assumptions

In developing projections as to future demand we have had to make various assumptions about key variables related to both demand and supply:

- Rainfall and inflow patterns;
- Implications for water restrictions; and
- Availability of additional supplies from the Goulburn system.

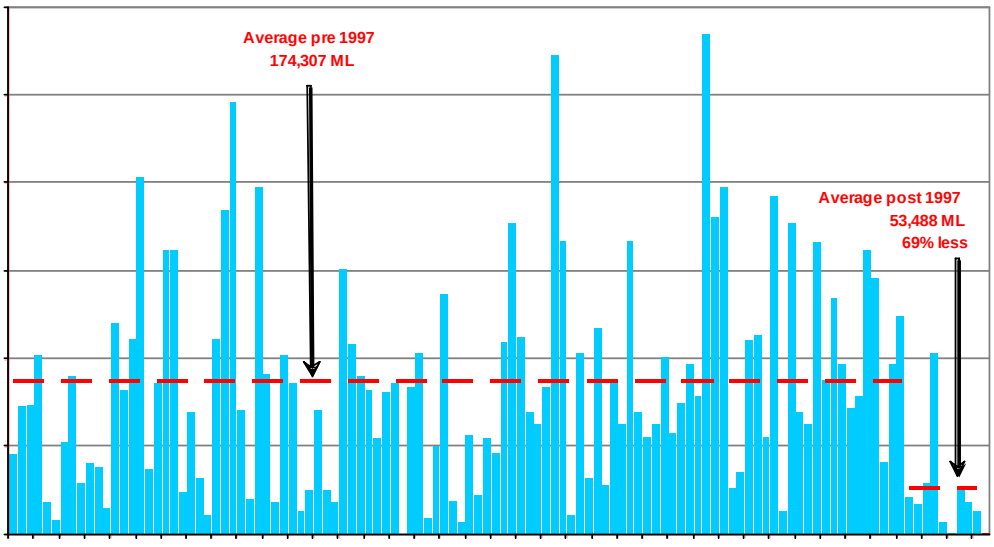
6.2.1 Supply Assumptions

In assessing future supply availability we have taken account of advice on probable future climate and catchment yields from DSE.[12] This guidance suggested a number of possible future scenarios and impacts of climate change on catchment yields.

This advice formed the basis of a comprehensive modelling exercise to assess the probable future levels of supply available across the region.[13]

In this Water Plan we have adopted a conservative estimate that assumes that the recent 'drought' in fact represents a step change in rainfall and catchment yield. Figure 6-1 demonstrates the step change evident in inflows for Eppalock since 1997, with a reduction of 69%. This Water Plan assumes that this step change is indicative of a change in catchment yields for the region as a whole.

Figure 6-1: Step Change in Eppalock Inflows post 1997



[12] DSE (2006), *Water Supply Demand Strategy – scenario based on continuation of dry conditions.*

[13] Coliban Water (2007), *Water Supply Demand Strategy: Coliban System – Step climate Change*

6.2.2 Decision Path

The demand and supply strategy then involves a number of key factors and assumptions:

- we have adopted a conservative assumption with regard to catchment yield in line with the step change in rainfall identified above;
- we are determined to move urban customers off Stage 4 Water Restrictions by 2008-09 and onto Permanent Water Savings by 2010-11;
- in parallel, we intend to return rural customers to 100% allocation by 2010-11 with 80% availability from 2008-09;
- we have set an objective of restoring capacity reserves in the reservoirs of the region of two years average demand, by the end of the Water Plan;
- these objectives necessitate supply from the Goulburn System delivered through the Goldfields Superpipe, of 10 GL in 2007-08 and 20 GL/yr from 2008-09 onwards.

The following table indicates how decisions on those variables have been factored into the Water Balance Model for the Coliban System.

This shows additional Stage 4 restrictions in place in Bendigo until the end of the current price period when additional supplies should start to flow through the Goldfields Superpipe. This will allow restrictions to be lifted overtime first of all to Stage 2 and then to Permanent Water Savings, in parallel with an improving allocation to the rural customer base.

Table 6-1: Modelling Assumptions for Demand & Supply – Coliban System

		Bendigo (Coliban System) Water Balance Model								
		ENTER INFORMATION IN THE HIGHLIGHTED CELLS ONLY								
	Run Model from week No.		**38**	**date:**	**17/03/07**					
	Scenario		**2006/07**	**2007/08**	**2008/09**	**2009/10**	**2010/11**	**2011/12**	**2012/13**
		Urban	**Stage 4**	**Stage 4**	**Stage 2**	**Stage 2**	**PWS**	**PWS**	**PWS**
		Rural Allocation	**Priority**	**Priority**	**80%**	**80%**	**100%**	**100%**	**100%**
		Rain & Inflow Pattern	**0%**	**8%**	**8%**	**8%**	**8%**	**8%**	**8%**
			No Rain at All	**Dry to Very Dry**	**Dry to Very Dry**	**Dry to Very Dry**	**Dry to Very Dry**	**Dry to Very Dry**	**Dry to Very Dry**
	Goulburn Pipeline Entitlement (GL)		**0.0**	**10.0**	**20.0**	**20.0**	**20.0**	**20.0**	**20.0**

The modelling indicates that the target of two years average demand in storage at the end of five years would not be met under this scenario, with a total storage of 37.5 Gl against an annual demand of 28.3 GL. It indicates how difficult it is to achieve improvements in storage levels in an era of continuing low inflow patterns.

Similar modelling and projections have been completed for the Northern Rivers System.

6.3 Demand Requirement

The final stage has been to model the number of customers and total consumption across the region, by year, taking account of projections as to the relative effects of Stage 4 and Stage 2 Water Restrictions and Permanent Water Savings on per capita consumption.

6.3.1 Customer Number Growth

Coliban Water's *WaterPlan* 2055 included extensive analysis and forecasts on probable future population growth and change across the region. The forecasts were based on the projections in DSE's publication *Victoria in Future*, amended in line with sensitivity tests against water connection data, local council projections and the results from the ABS census of population and household data.

This assessment confirms that Coliban Water is facing continued growth. This is true both in the Calder Highway corridor and also along the River Murray.

The overall population of the region is predicted to grow by an average of 1% to 1.4% per year. This will result in a 45% increase in overall demand for water by the year 2055 unless we implement additional demand management and water conservation measures and source additional supplies.

6.3.2 Price Elasticity & Demand Projections

This Water Plan includes projections on forecast future residential water demand. These projections are critical both for water resource planning and for financial modelling and price setting.

Current levels of demand are severely constrained by the Stage 4 water restrictions that have been in place since July 2004 (with a brief respite between November 2004 and November 2005). The outcome has been to see a marked reduction in both total and peak demand, particularly in the summer months.

This Water Plan assumes that Water Restrictions will be lifted and replaced with Permanent Water Savings Measures in 2010. At that date, per capita consumption will be affected by a number of factors:

- the strong and lasting influence of the previous five years water restrictions;
- the impact of Permanent Water Savings measures;
- Significantly increased prices in line with this Water Plan;
- Inclining Block Tariffs with the three tiered volumetric charge;
- Increased water conservation signals from the shift from fixed to volumetric charges; and
- Education and publicity.

In assessing the probable level of future residential demand Coliban Water commissioned research as to the impact of prices on the level of consumption (ie the elasticity of demand by reference to price).[14] This report confirms that water demand is generally inelastic to price (ie that an increase in price is not matched by an equal off-setting reduction in the level of demand). However, there is little research or empirical evidence on the response curve for demand or elasticity to price following the combined impacts of the lifting of restrictions and the imposition of significant price rises.

Coliban Water's experience over the last five years is persuasive that the above factors will result in a lasting step change in behaviour and values regarding water use across the region. The result will be that average residential water consumption will not return to the same levels of demand that existed prior to the recent drought and the introduction of water restrictions, even when those water restrictions are lifted.

In forecasting future residential demand, this Water Plan has, therefore, assumed a 15% reduction in average per capita residential demand between a baseline that represents prior unrestricted demand, and the position in 2010 with the lifting of formal water restrictions but the introduction of Permanent Water Savings measures. This projection is based on judgment and professional experience of managing demand and supply over the last five years.

The relationship between restrictions and per capita consumption is summarised in Table 6-2. The timing of the projected movement from Stage 4 to Stage 2 differs between the different systems. This explains the change in per capita consumption between 2008-09 and 2009-10. A base line figure is provided for 2007-08 to indicate the full effect of Stage 4 Restrictions on average consumption. The figure of 190kL/yr is equivalent to current average consumption in Melbourne as reported by the National Water Commission.

Table 6-2: Projected Residential Per Capita Consumption (kL/yr)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water Restriction Level	4	4/2	2	PWS	PWS	PWS
Per Capita Consumption	191	233	251	288	288	288

[14] Marsden Jacob Associates (2007), *Background on the use of price elasticity of demand in water demand analysis*, 31 May 2007

6.3.3 Total Billable Demand

Table 6-3 then combines forecast growth in customer numbers with projections on per capita consumption to generate an overall demand forecast by year.

Table 6-3: Total Billable Demand across Systems

WATER	2008/09	2009/10	2010/11	2011/12	2012/13
Customer Numbers					
- Residential	58,470	59,414	60,368	61,339	62,323
- Non Residential	6,412	6,493	6,579	6,662	6,746
- Agreement	1,132	1,142	1,154	1,163	1,172
Per Capita Consumption (Kl)					
- Residential	232.6	251.4	288.3	288.3	288.3
- Non Residential	1,095.9	1,135.4	1,252.0	1,251.5	1,251.2
- Agreement	751.9	770.5	927.3	920.4	919.0
Total Consumption (Ml)					
- Residential	13,600.8	14,936.2	17,406.2	17,686.7	17,970.8
- Non Residential	7,027.2	7,372.3	8,236.6	8,337.7	8,440.4
- Agreement	851.2	879.9	1,070.1	1,070.4	1,077.0

WASTEWATER	2008/09	2009/10	2010/11	2011/12	2012/13
Customer Numbers					
- Residential	52,105	52,969	54,052	54,843	55,648
- Non Residential	5,571	5,586	5,655	5,690	5,726

RURAL	2008/09	2009/10	2010/11	2011/12	2012/13
Customer Numbers					
- Pipeline	142	142	142	142	142
- Channel	1,572	1,572	1,572	1,572	1,572
- Storage	10	10	10	10	10
Total Rural Consumption (ML)	**9,600**	**9,600**	**12,000**	**12,000**	**12,000**

6.4 Trade Waste and Major Water Customers

Coliban Water has a dedicated Major Customer Manager, whose role is to be the first point of contact with our thirty or so major customers. That role includes promoting water use efficiency and advising on trade waste.

Over the course of the Water Plan a major Trade Waste review will be carried out. This will cover:

- The trade waste agreements;
- Cost driver analysis to confirm that charges properly recover costs incurred; and
- Incentives and regulatory mechanisms to promote pre-treatment.

Coliban Water will manage its trade waste customers so that trade waste loads do not exceed the capacity of each plant to treat the waste to an appropriate standard. We forecast a stable overall demand profile, with a growth in some sectors off-set by

continuous improvement in resource management and cleaner production initiatives being implemented by other major trade waste customers.

The previous year has seen major successes to promote greater water use efficiency by major customers through the implementation of a coordinated program. There are two notable outcomes:

- Our top 30 customers reduced their aggregate consumption from 4,500 ML in 2003/04 to 3,800 ML in 2006/07, while significantly increasing production output; and
- work with three local councils saw a significant reduction in water usage in swimming pools from an average previous level of 95 ML to a target of 65 ML to an actual level of 41 ML.

This program will be enhanced through the implementation of the recent DSE initiative to require all non-residential customers using more than 10 ML a year of water at any one site to prepare a water management action plan. That will drive down aggregate water demand from non-residential customers.

6.5 Recycled Water

Recycled water will become an increasingly important part of the overall water supply particularly in the Bendigo region. In terms of forecast future demand it is helpful to see recycled water in four categories:

- We have a range of existing supply contracts to farmers, golf-courses and the like which were negotiated before recycled water was recognised as a valuable resource. These contracts are generally not on a commercial basis;
- We anticipate sales of around 350ML/yr as a new supply for local council parks and gardens and for schools and golf-courses. This will provided on a commercial basis at a price that represents a percentage of the potable supply price;
- We are constructing infrastructure to allow recycled water to be supplied to new residential developments. However, the level of supply in practice will depend on the rate at which those new sub-divisions are constructed. It is unlikely that this supply will be significant during this Water Plan period; and
- Much of the recycled water supplied will be used to substitute for the raw water currently delivered through our rural customer supply system. The recycled water will then be treated as and charged for as rural supply rather than as a stand-alone recycled product.

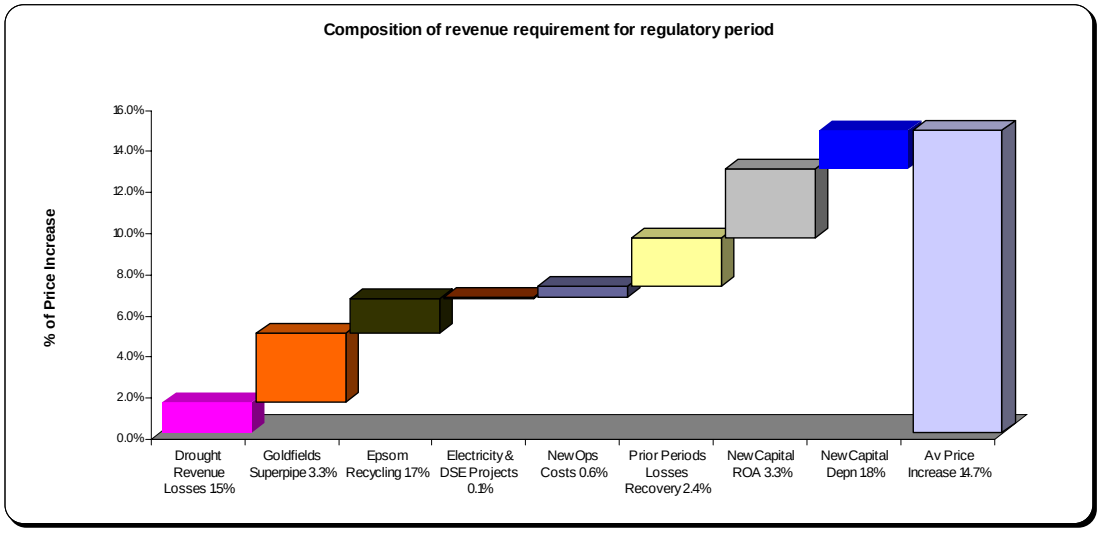
7 Tariffs and Prices

This Section confirms the charges that will be required to generate the revenue requirement given assumptions about future levels of demand.

7.1 Price Rise Drivers

This Water Plan identifies the need for an overall increase in revenues of 14.7% /yr for each of the five years of the price period. The price increase is driven by eight elements that fall into five main categories. These are shown in Fig 7-1 below:

Figure 7-1: Drivers of Price Increases



The factors are:

- **Demand Restrictions:** Demand is constrained during the early years of the Water Plan until supply augmentation programs are in place. As a result, prices need to be higher in early years to account for the lower level of consumption until the establishment of Permanent Water Savings in 2010-11;

- **Supply Augmentation Programs:** Two major projects for the augmentation of the water supply drive a significant increase in operating costs. These are the Goldfields Superpipe and the Epsom Recycling schemes;

- **Other Operating Costs:** operating costs are also driven up by the increase in the price of electricity and other projects such as DSE's waterMAPs initiative;

- **Prior Losses:** Coliban Water lost significant revenues in the first price period due to the reduction in demand following the imposition of water restrictions. It is necessary to recover that revenue to maintain adequate financial viability;

- **Return on New Capital:** the final category of price drivers is the cost of new capital investment. This involves both a return on the cost of capital and a return of capital (equivalent to depreciation).

7.2 Water Supply

7.2.1 Residential Water Charges

Coliban Water faces a serious challenge to restore the balance between customer demand and available supply. Pricing provides one important mechanism to help generate this outcome through its influence on levels of consumption.

Coliban Water undertook modelling to determine the long-run marginal cost of future supply augmentation to help set the relative size of the volumetric component of the two-part tariff. This modelling provides an upper and lower bound for the variable element of the charge. The proposed volumetric charge sits within this band.

The Coliban Water Board is determined that water charges should send strong signals to encourage water conservation. They also believe that customers should be able to exercise choice in the size of their water bill.

As a result, the Board has decided to reduce the size of the access fee for residential water usage from $120 to $100/property pa, and will freeze this figure for the entire period of the Water Plan. All price rises over the five-year period will then be apportioned solely to the volumetric charge. This will promote water conservation outcomes and support the demand management projections in this Water Plan.

7.2.2 Rising Block Tariff

Coliban Water introduced a three tier rising block tariff in its first water plan. Once the current water restrictions are removed this tiered tariff will become more critical in helping restrain a return to previous levels of consumption.

Coliban Water proposes to retain the structure and relativities of the rising block tariff with the following steps:

- Step 1: 0 - 0.548 kL (daily), equivalent to 50 Kl per quarter
- Step 2: 0.549 kL – 1.096 kL (daily), equivalent to 50 to 100 Kl per quarter
- Step 3: 1.097 kL and above (daily), equivalent to over 100 Kl per quarter

7.2.3 Three Supply Zones

Coliban Water proposes to amend its current four zones for water charges to include Rochester within the Northern District as follows:

- Central Districts (Bendigo, Kyneton, Castlemaine, etc) ;
- Northern Districts and Cohuna Low Pressure Systems (Echuca, Cohuna, Rochester, Gannawarra, Gunbower, Leitchville, Mead); and
- Non-Potable (Borung, Jarklin, Macorna, Mitiamo, Mysia, Sebastian, Wychitella)

7.2.4 Non-Residential Water Charges

Non-residential customers are charged an access fee and fire service fee depending on the meter size.

The volumetric charge is standard irrespective of the volume consumed. Research was undertaken to assess whether a tiered volumetric charge would promote greater water use efficiency. It was determined that a stepped tariff would not assist in this objective and that other approaches were more effective in driving reduced demand.

7.3 Wastewater

7.3.1 Residential Charges

Coliban Water will not apply a volumetric charge for wastewater charges for residential properties. This reflects a number of factors:

- sewer sizing is related to stormwater infiltration risks;
- sewerage volume demand is largely inelastic to price;
- it is not practical or cost effective to meter sewerage volumes at a residential property level. It is therefore necessary to use some form of proxy that assumes that sewer volumes are a function of water consumption;
- the increasing re-use of grey-water makes it difficult to use water intake as a proxy for sewer discharges.

The access charge varies between three zones: Major Districts (pre 1999), Minor Districts (pre 1999), and Minor Districts (post 1999). Non-residential customers face a volumetric charge as well as an access fee and their tariffs are subject to the application of a discharge factor.

7.4 Recycled Water

Coliban Water commissioned a report on the application of pricing principles to recycled water. In line with the general conclusions of that report, this Water Plan has set its recycled pricing to:

- apply the same access fee as for the metered urban water supply; but
- apply a discounted volumetric charge at 75% of the non-residential supply charge.

7.5 Rural Customers and Tariffs

Coliban Water provides a non-potable supply to 1,700 customers through the rural supply channel supply. This is a fairly static rural customer base. The planned rural reconfiguration program will include the conversion of some of the system to pipeline and some to urban supply. The process will include the development of revised tariffs.

For this Water Plan, the previous tariffs have been rebalanced with a progressively higher percentage of the total charge being recovered through the volumetric element in order to send stronger signals to promote water conservation.

The $40M expenditure proposed for the reconfiguration of the rural supply system will generate benefits for both rural and urban customers, as the water saved will provide additional security for the whole Bendigo system. The costs are therefore recovered from across the customer base.

7.6 Trade Waste

Coliban Water has a well structured Trade Waste pricing policy that is cost reflective and sends strong signals to reduce both volume and load strength. The charges reflect the relative contribution of the individual customer to the costs of the local water reclamation plant and comply with DSE's and Commission's trade waste pricing principles.

A review of trade waste pricing will be conducted during the second pricing period to re-validate this pricing.

7.7 Miscellaneous Charges

Coliban Water receives small levels of revenue each year from miscellaneous services and fees. The large majority of these come from four services:

- fees for information certificates;
- project management fees for services provided;
- rental income; and
- general miscellaneous services.

The fees are set to be cost reflective.

Coliban Water is redrafting the terms of the documentation to make clear to a customer exactly what service is provided. Coliban would be pleased to be part of an industry-wide process to establish consistency in product definition and fees.

7.8 Cross-Subsidies between Business Units

Coliban Water has commissioned a report on cross subsidies between business units. At present there is under-recovery of costs incurred in the sale of recycled water and rural supplies. There is an intention to move closer to full cost recovery within each Business Unit by the end of the price period.

7.9 Hardship Policies

Coliban Water recognises that the proposed price rises will impose a significant additional burden on families in financial difficulty. Coliban Water has extensive existing policies and practices to respond to customer hardship on a case-by-case basis as they arise. This includes flexibility in payment terms to meet available funds and advice on water audits.

This suite of measures will be appropriate to respond to the increased pressures that will be generated by these pricing proposals.

7.10 Proposed Price Path & Price Impacts

This Water Plan proposes maximum price increases for individual services for each of the five years of the price period, as set out in Table 7-1.

Table 7-1: Proposed Price Path for Products and Services (real)

	2008/09	2009/10	2010/11	2011/12	2012/13
Water					
- Access	-18.91%	- CPI	- CPI	- CPI	- CPI
- Central	35.00%	25.00%	15.00%	15.00%	10.00%
- Northern Rivers	30.00%	10.00%	10.00%	10.00%	5.00%
- Non Potable	10.00%	2.50%	2.50%	2.50%	2.50%
Wastewater					
- Major Districts	18.10%	15.00%	10.00%	5.00%	5.00%
- Envirosafe 1	2.99%	15.00%	10.00%	5.00%	5.00%
- Envirosafe 2	15.00%	15.00%	5.00%	5.00%	0.00%
- Volumetric (Non residential)	25.00%	15.00%	5.00%	5.00%	5.00%
Rural					
- Pipeline Access	-7.66%	- CPI	- CPI	- CPI	- CPI
- Channel Access	-4.76%	- CPI	- CPI	- CPI	- CPI
- Storage access	-11.43%	- CPI	- CPI	- CPI	- CPI
- Capacity Fee	10.00%	5.00%	0.00%	0.00%	0.00%
- Volume Fee	40.00%	30.00%	30.00%	30.00%	30.00%

The implications of these figures for the average changes in price by service by year are shown in Table 7-2.

Table 7-2: Average Price Change for Products and Services (real)

	2008/09	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**Annual**
Water – Average All Customers	**17.5%**	**16.9%**	**11.1%**	**11.5%**	**7.6%**	**16.7%**
Wastewater – Average all Customers	**17.0%**	**15.0%**	**9.5%**	**5.0%**	**4.9%**	**12.5%**
Rural – Average all Customers	**10.3%**	**8.5%**	**7.7%**	**9.6%**	**11.6%**	**11.5%**
Total – Average all Customers	**16.8%**	**15.6%**	**10.3%**	**8.9%**	**6.8%**	**14.7%**

This Water Plan has derived a number of indicative case-studies to illustrate the effect of the proposed price rises on the average bills that customers are likely to face. In these examples it is assumed that per capita consumption is stable across the five year period (and even within the year) as this approach allows comparison between years. However, in practice, consumption is likely to rise as Water Restrictions are lifted over the period. This would also act to increase bills.

Table 7-3: Indicative Impacts on Customer Bills

	Consumption (kL/yr)	2008/09	2009/10	2010/11	2011/12	2012/13
Large House in Bendigo	250	$716	$831	$917	$991	$1,054
Non Residential (80mm) Bendigo	10,000	$14,394	$17,393	$19,642	$22,028	$23,903
Unit in Echuca	150	$560	$622	$672	$704	$732
Rural Property (Channel) (Licence 15,000)	10,000	$3,172	$3,467	$3,744	$4,112	$4,595
Rural Property (Channel)	1,000	$855	$864	$874	$893	$925

7.11 Form of Price Control

Coliban Water believes that a tariff basket best represents an appropriate balance between risk and revenue certainty.

Individual price caps for specified services provide certainty to customers about the prices that they will face. Coliban Water proposes to establish such clarity and certainty for its services by setting out specific caps on the increase in price for each sub-service by year. However, placing these individual price caps within an overall basket of tariffs provides additional flexibility to adjust the specific limits within reason to reflect changes in underlying and shared common costs over the term of the Water Plan.

The main example of the form of adjustment sought is to align wastewater prices for the group of customers known as “Envirosafe 1” with the majority of customers in the category of “Major Districts”. Any adjustment in individual charges will be capped at a maximum change of 2% above the proposed price for that service in that year within the overall bounds of the Tariff Basket.

This approach will also help in re-setting tariffs for rural customers following implementation of the rural reconfiguration program. This conversion program will see channel customers migrate onto a range of different tariffs including a revised piped supply tariff or standard urban supply. Any such change will be cost reflective and revenue neutral in aggregate terms.

7.12 Adjustments to Price Determination

The prices in the Water Plan are based on best professional estimates and projections. The actual costs incurred in practice over the five year period will differ from these figures. In the first instance, Coliban Water will seek to manage within the bounds set by this Water Plan adjusting priorities and programs to balance achievement of outcomes against available revenues.

However, there are limits to the extent of the adjustment and flexibility that is feasible within the prices and programs in the Water Plan. This section proposes two scenarios where prices may need to be reviewed or adjusted.

7.12.1 Rural Reconfiguration Program

The major capital expenditure program in the Water Plan is for the reconfiguration of the rural supply system. The Water Plan currently allocates $40M to the first stage of this reconfiguration.

A major review is underway to identify and develop the optimal strategy and work program. That review will be completed by July 2008. We will select a scope of work from that review that can be delivered within the $40M budget.

However, there is a risk that costs in practice will turn out to be greater than assumed and that public or political pressure mounts to complete a more extensive program than originally agreed. If Coliban Water faces costs from the reconfiguration project more than $2M above current budget by 2010, then it reserves the right to reopen the price determination.

7.12.2 Demand and Price/Revenue Adjustment

On the other side of the ledger, it is recognised, however, that if demand for water exceeds the forecast projections over the course of the Water Plan then Coliban Water will generate greater revenue than is required to run an efficient business as determined in Section 5 above.

In these circumstances, there is a risk that customers will be paying more for their water than is necessary. This outcome would be unacceptable at a time when prices are going up sharply.

Given the uncertainty about the future projections on levels of demand, this Water Plan proposes the following mechanisms to allow prices to be adjusted to respond to actual levels of demand – and consequential levels of revenue - in practice:

- the risks are considered to be limited until the full lifting of water restrictions scheduled for 2010/11 and beyond;
- If in December 2011, levels of demand and consequential revenues are more than 10% above projected levels in this Water Plan, then the price cap adjustment applied for 2012/13 will be amended to generate revenues in the last year of the Water Plan in line with the figures in the Commission's final price determination;
- This adjustment will also take account of any additional prudent expenditure occasioned by changes to operating conditions or external requirements;
- In the following price determination a further adjustment will be made to align overall revenues with overall costs incurred.

Annex A: The Commission Performance Measures

Table Annex A.1: Coliban Water Performance Measures: First Price Period

	2005/06	2006/07	2007/08
Unplanned water supply interruptions (per 100 Km main)			
Actual	20.08	30.29	
Plan	35.00	35.00	35.00
Av Time taken to attend bursts and leaks - Priority 1 (minutes)			
Actual	29.00	31.00	
Plan	30.00	30.00	30.00
Av Time taken to attend bursts and leaks - Priority 2 (minutes)			
Actual	78.00	122.00	
Plan	140.00	140.00	140.00
Unplanned water supply interruptions restored within 5 Hrs (%)			
Actual	98%	98%	
Plan	98%	98%	98%
Planned water supply interruptions restored within 5 hrs (%)			
Actual	99%	100%	
Plan	94%	95%	95%
Av unplanned customer minutes off water supply (minutes)			
Actual	8.70	8.82	
Plan	14.50	14.00	14.00
Av planned customer minutes off water supply (minutes)			
Actual	7.13	3.45	
Plan	7.80	7.50	7.50
Av frequency of unplanned water supply interruptions (number)			
Actual	0.01	.0.01	
Plan	0.10	0.10	0.10
Av frequency of planned water supply interruptions (number)			
Actual	0.012	0.005	
Plan	0.05	0.05	0.05
Av duration of unplanned water supply interruptions (minutes)			
Actual	104.00	111.00	
Plan	145.00	140.00	140.00
Av. duration of planned water supply interruptions (minutes)			
Actual	86.00	76.00	
Plan	155.00	150.00	150.00
No. of customers experiencing 5 unplanned water supply interruptions in year (number)			
Actual	1	21	
Plan	3	2	2
Unaccounted for water (%)			
Actual	25%	25%	
Plan	25%	20%	20%
Sewerage blockages (per 100 Km main)			
Actual	90.01	72.76	
Plan	100.00	95.00	90.00
Av time to attend sewer spills & blockages (minutes)			
Actual	32.00	33.00	
Plan	34.00	34.00	34.00
Av time to rectify a sewer blockage (minutes)			
Actual	36.00	60.00	
Plan	70.00	65.00	65.00

	2005/06	2006/07	2007/08
Spills contained within 5 hours (%)			
Actual	100%	100%	
Plan	99%	99%	99%
Customers receiving 3 sewer blockages a year (number)			
Actual	N/A	N/A	
Plan	4	4	4
Complaints to EWOV (per 1,000 customers)			
Actual	0.36	0.36	
Plan	0.08	0.07	0.06
Telephone calls answered within 30 seconds (%)			
Actual	81%	70%	
Plan	90%	90%	90%

Table Annex A.2: Performance Measures Proposed 2nd Price Period

	2008/09	2009/10	2010/11	2011/12	2012/13
Unplanned water supply interruptions (per 100 Km main)	25.00	25.00	25.00	25.00	25.00
Av Time taken to attend bursts and leaks - Priority 1 (minutes)	30.00	30.00	30.00	30.00	30.00
Av Time taken to attend bursts and leaks - Priority 2 (minutes)	95.00	95.00	90.00	85.00	80.00
Av Time taken to attend bursts and leaks - Priority 3 (minutes)	1,440.00	1,440.00	1,440.00	1,440.00	1,440.00
Unplanned water supply interruptions restored within 5 Hrs (%)	98%	98%	98%	98%	98%
Planned water supply interruptions restored within 5 hrs (%)	98%	98%	98%	98%	98%
Av unplanned customer minutes off water supply (minutes)	10.00	10.00	10.00	10.00	10.00
Av planned customer minutes off water supply (minutes)	5.00	5.00	5.00	5.00	5.00
Av frequency of unplanned water supply interruptions (number)	0.015	0.015	0.015	0.015	0.015
Av frequency of planned water supply interruptions (number)	0.01	0.01	0.01	0.01	0.01
Av duration of unplanned water supply interruptions (minutes)	110.00	108.00	105.00	102.00	100.00
Av. duration of planned water supply interruptions (minutes)	75.00	75.00	75.00	75.00	75.00
No. of customers experiencing 5 unplanned water supply interruptions in year (number)	5	5	5	5	5
Unaccounted for water (%)	20%	20%	18%	18%	15%
Sewerage blockages (per 100 Km main)	80.00	70.00	60.00	50.00	50.00
Av time to attend sewer spills & blockages (minutes)	32.00	32.00	32.00	32.00	32.00
Av time to rectify a sewer blockage (minutes)	60.00	55.00	50.00	50.00	45.00
Spills contained within 5 hours (%)	99%	99%	99%	99%	99%
Customers receiving 3 sewer blockages a year (number)	4	4	4	4	4
Complaints to EWOV (per 1,000 customers)	0.2	0.2	0.2	0.2	0.2
Telephone calls answered within 30 seconds (%)	85%	85%	90%	90%	90%
Greenhouse gas reductions (tonnes CO_2 per property) (as a % reduction against a 2004 base year)	20%	20%	20%	20%	20%
Recycled Water (% of total wastewater discharged)	64%	67%	72%	73%	82%
Biosolids Reused	100%	100%	100%	100%	100%
Environmental discharge licence compliance	N/A	N/A	N/A	N/A	N/A
Drinking Water Quality Compliance	97.7%	97.7%	98.8%	98.8%	99.4%
Small Town sewerage schemes (no of connections)		25			
Backlog sewer connections (no of connections)			340		