Coliban WATER

Application for Tariff Adjustment

10 March 2010

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Table of Contents

1 Executive Summary

This is an application for a review of Coliban Water's pricing tariffs under the 'uncertain and unforeseen events mechanism' of the Coliban Water Determination (ESC 2008 Determination).

Water availability through inflows into our catchment storages are now at unprecedented lows that were unforeseen at the time of formulation of our current Water Plan.

During the 2008/09 financial year (the first year of the regulatory period) our customer water demands are 46% less than those forecast. This trend has continued into 2009/10 with a further 40% reduction in demand forecast for this financial year.

Coliban Water has reviewed and revised the supply assumptions given the continued dry conditions. These include that inflows will average the last five years and that allocations from the Goulburn system will average 60%.

The water demands that can be sustained under the above revised supply conditions have been modelled using the most recent water consumption and customer behaviour trends. Water demands for the remaining three and half years of the regulatory period are estimated to be only 66% of the water demands of the ESC 2008 Determination.

These revised water demands will produce a net prescribed revenue shortfall of $36.91 million over the regulatory period; nearly $30 million of this shortfall occurs in the first three years of the regulatory period.

A reconciliation of the 'revenue requirement' shows that the $358.65 million as required under the ESC 2008 Determination has now increased marginally to $359.11 million due to the impacts on drought on our operational expenditure (over forecast by $3.90 million) and capital expenditure (under forecast by $3.43 million).

Coliban Water is not applying for a change to the 'revenue requirement' as the additional $0.46 million requirement will be addressed through planned productivity improvements.

Accordingly, the overall shortfall that Coliban Water is seeking to address is $36.91 million.

The objectives of Coliban Water's proposed pricing strategy are:

- To increase prescribed revenue by $10.19 million
- To address the concerns of the Victorian Auditor General's Office
- To remain within the net prescribed revenue of the ESC 2008 Determination
- To remain within the revenue requirement of the ESC 2008 Determination
- To ensure the interest cover is within acceptable limits

After extensive research on customer behaviour and attitudes, Coliban Water has developed the following pricing strategy:

- Reduce the three step residential volume allowance from 200 kilolitres per step to 150 kilolitres per step
- Bring forward the Central residential volumetric prices by 12 months
- Apply the Central price rate increase to the Northern River pricing zone
- Bring forward the fixed access prices by three years

The first three proposed pricing changes will increase revenue by $10.73 million while the last change to decrease access fees will reduce revenue by $0.54 million.

In total, our pricing strategy will increase revenue by an estimated $10.19 million.

The only change to rural, recycled and non-residential pricing is the proposed decrease in fixed access fees which apply to all customer groups.

Extensive customer engagement and stakeholder involvement will continue throughout March 2010 on the merits of Coliban Water's pricing strategy.

2 Introduction

Our current Water Plan was submitted to the Essential Services Commission (Commission) in October 2007.

Ongoing drought was not anticipated with assumptions in the current Water Plan predicting an easing of restrictions and an increase in associated revenue.

We have not received our full allocation of Goulburn water because of ongoing drought. We purchased additional temporary water to secure supply and to ease restrictions in Bendigo from Stage 4 General Exemption (GE) to Stage 3 at the start of 2009.

Water from the Goulburn system is of a lesser quality than water in our catchment storages and requires a higher level of treatment. This poorer water quality currently limits our ability to further ease restrictions in Bendigo.

Financially, continued low inflows have meant increased expenditure to purchase temporary water to maintain reliable supply, and decreased revenue because we have not been able to ease restrictions.

The key assumption in the current Water Plan of being able to substantially ease restrictions in the short to medium term has proven to be incorrect.

Even if the assumptions in the current Water Plan were correct, our key financial viability indicators would have only started to reach the minimum financial benchmarks set by the Department of Treasury and Finance towards the end of the regulatory period.

The Auditor General noted in its October 2009 report:

> *When analysing the trends of each indicator over the four-year period, Coliban Water has been identified as having a high financial-sustainability risk.*

And recommended that:

> *Coliban Water should critically review their current and forecast financial capacity and continue to explore strategies to improve its financial sustainability in the short and long-term.*

Coliban Water is applying to use the “uncertain and unforeseen events mechanism” within the ESC 2008 Determination to provide a more sustainable financial pathway forward.

This application is based on the guidance paper provided by the Commission.

Section 3 of this report provides an overview of the methodology and models that we have used in the development of this application. Section 4 describes the principles that were used and our overall aim. Section 5 provides the information and justification for the application specifically relating to demand forecast. Section 6 describes the financial implications of our proposal. Section 7 details our proposed tariff restructure with Section 8 articulating the impacts on revenue requirement and expenditure. Section 9 describes the impact of the application on our financial indicators. Finally, Section 10 provides an overview of the consultation process used to develop this application.

3 Overview of Methodology

Our process for developing this application has included the creation of a Board sub committee to oversee and guide the process, development of new more sophisticated models, review of operational and capital expenditure, market research including willingness to pay analysis for our major centres and stakeholder engagement.

3.1 Model development

Over the last six months we have built comprehensive resource and revenue models to assist in the development of this proposal. These models and the key assumptions underpinning them are included in *Appendix 1*.

3.2 Review of operational and capital expenditure

We have reviewed both capital and operational expenditure. Both these are discussed at length later in the application.

3.3 Understanding our customers

An important part of this proposal has been market research to understand our customer's attitudes, behaviours and willingness to pay to further ease restrictions.

3.4 Stakeholder consultation

In the development of this proposal, Coliban Water has been continually liaising with key stakeholders, including, Department of Sustainability and Environment (DSE), Department of Treasury and Finance (DTF) and the Victorian Auditor General's Office (VAGO). Whilst these agencies have no formal role in approval of the tariff adjustment, it is important that we keep them informed of our proposal and progress.

4 Our Aim

To put Coliban Water on a more sustainable financial pathway through:

- positive cash flow next financial year;
- breaking even in the final year of the regulatory period;
- staying within ESC 2008 Determination revenue requirement;
- remaining within the ESC 2008 Determination net prescribed revenue in the final year of the Water Plan; and
- interest cover between 1.5 and 3 times.

Achieved through:

- changing our inflow and demand assumptions;
- reducing the step tariffs; and
- bringing forward already approved price increases.

4.1 Our principles for the pricing review

To guide the development of this application Coliban Water has developed a series of principles.

These are aligned with the Water Industry Regulatory Order (WIRO).

Being conservative: In all our assumptions and modelling we have been conservative. That means we are being cautious rather than being overly optimistic with regard to demand consumption and inflow assumptions.

Equitable: We have aimed to distribute the cost of drought equitably across the region and between users groups.

Sustainability: Our pricing model should encourage responsible sustainable use.

Paying our way: Pricing should enable us to cover our costs and not allow for “super profits”.

Fairness: Pricing should reflect that the essential use of water is a social good.

Flexibility: Our pricing model should responsibly enable variable water prices to be adjusted based on scarcity.

5 Demand Forecasts

Forecasting catchment inflows and customer demands are two of the most critical steps in the formulation of our standard fees and charges.

Revenue from volumetric charges, including non-residential wastewater volumetric charges, are directly related to water demands.

Our level of revenue is therefore highly sensitive to water demands; over-estimating demands and inflows that don't eventuate can lead to significant shortfalls in expected revenue whereas under-estimating demands can translate into excessive income over and above the 'revenue requirement'.

The continuing dry weather conditions have significantly reduced inflows to our catchment storages to record lows; over the last five years inflows have been 83% less than the long-term historical average.

The availability of Goulburn water since August 2007 to the northern parts of the Coliban system via the Goldfields Superpipe has softened the impact of drought.

However, it has still been necessary to continue with harsh water restrictions in some areas to align demand with supply where there are no cost effective alternatives.

5.1 Significant differences between Actual and Forecast Demand Levels

Total customer demand levels for the first 18 months of the regulatory period are shown in the following table and are 41% less than the ESC 2008 determination levels.

Table 1. Comparison of Actual Water Demand with ESC 2008 Determination.

	Notes	Unit	2008/09	2009/10 (Half Year)	Total
ESC 2008 determination					
Central	1	ML	16,107	6,831	22,938
Northern Rivers	1	ML	5,712	2,417	8,129
Non Potable	1	ML	49	21	70
Rural	2	ML	9,600	0	9,600
Total		ML	31,468	9,269	40,737
Actual Water Demands					
Central		ML	11,335	5,425	16,761
Northern Rivers		ML	3,874	1,734	5,608
Non Potable		ML	62	26	87
Rural		ML	1,779	0	1,779
Total		ML	17,050	7,185	24,235
Difference					
Central		ML	(4,772)	(1,405)	(6,177)
Northern Rivers		ML	(1,838)	(683)	(2,521)
Non Potable		ML	13	5	17
Rural		ML	(7,821)	0	(7,821)
Total		ML	(14,418)	(2,084)	(16,502)
Percentage Difference %					
Central		ML	-30%	-21%	-27%
Northern Rivers		ML	-32%	-28%	-31%
Non Potable		ML	26%	23%	25%
Rural		ML	-81%	0%	-81%
Total		ML	-46%	-22%	-41%

Note 1 First half of year assumed to be 40% of ESC 2008 Determination forecast

Note 2 Rural demand is assumed to be in second half of year

There are significant differences between actual demands and the ESC 2008 determination levels in both the Central and Northern Rivers pricing zones with 27% and 31% reductions respectively.

In 2008/09 rural customers received only 19% of the ESC 2008 determination forecast demand with an 'emergency' supply made under Ministerial Qualification of Rights.

Only the Non-Potable residential category has had demands greater than the ESC 2008 determination. However, this accounts for only 17 megalitres in total.

5.2 Explanation for the difference between Actual and Forecast Demands

The severe dry conditions and reduced available water has reduced water demands well below those levels forecast in the current Water Plan.

5.3 Events not within the control of Coliban Water

The unforeseen continuing dry weather conditions have significantly reduced river inflows into our catchment storages.

The average inflows over the last four years are the lowest on record and not experienced in the time preceding the current Water Plan.

The current Water Plan had assumed that the dry conditions between 1997 and 2007 would ease and that Goulburn system allocations would return to 100%. Neither of these events occurred.

At the time of developing the current Water Plan, there had been significant reductions to inflows to the Coliban storages with average inflow over the ten years from 1996 to 2007 of 27,700 megalitres or only 45% of the long-term historical average of 62,000 megalitres. As shown in *Figure 1.*

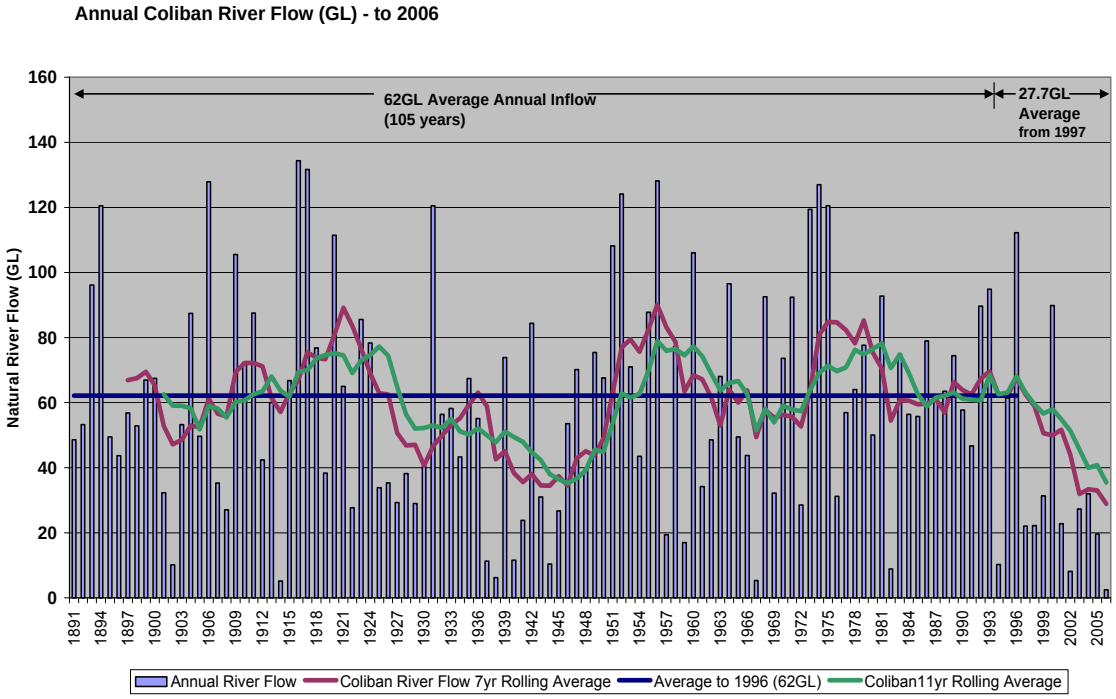

Figure 1. Annual Coliban River flow up to the 2006 when the current Water Plan was written.

The short-term average inflows (as shown by the red and green lines on the chart above) were declining but were nevertheless not that dissimilar to the inflow pattern of the 1930's and early 1940's.

It was therefore not unreasonable to assume that the inflows to our storages would recover, as had occurred in previous dry periods, and at worst would be at least the average of the preceding 10 dry years. Even during this very dry period leading up to 2007 an above-average inflow of 90,000 megalitres was received in year 2000 that further supported the assumption that good inflows could be reasonably expected.

Also, at the time of finalising the current Water Plan, Coliban Water gained access to the Goulburn system via the Goldfields Superpipe. This source of water was to supplement the water received by natural inflows to the Coliban storages and Lake Eppalock for which Coliban Water has an 18% share of inflows.

The average irrigation allocation in the Goulburn system for the proceeding ten years was 91%. Based on the assumption that the dry weather conditions in the Goulburn system would ease, or at least not worsen, it was assumed that an annual allocation of 60% would be made in 2008/09 and thereafter would be 100% with this equated to a forecast average allocation of 91% over the period of the Water Plan.

Coliban Water has a current permanent entitlement of 22,480 megalitres slightly greater than the 20,000 megalitres planned at the time of the current Water Plan formulation.

The assumptions regarding inflows to Coliban storages and Goulburn allocations did not eventuate. Inflows to the Coliban storages in the last four financial years have averaged only 9,600 megalitres. The short-term rolling average inflows have declined far lower than in any previous dry spell of the past 120 years as shown by the green and red lines in *Figure 2.*

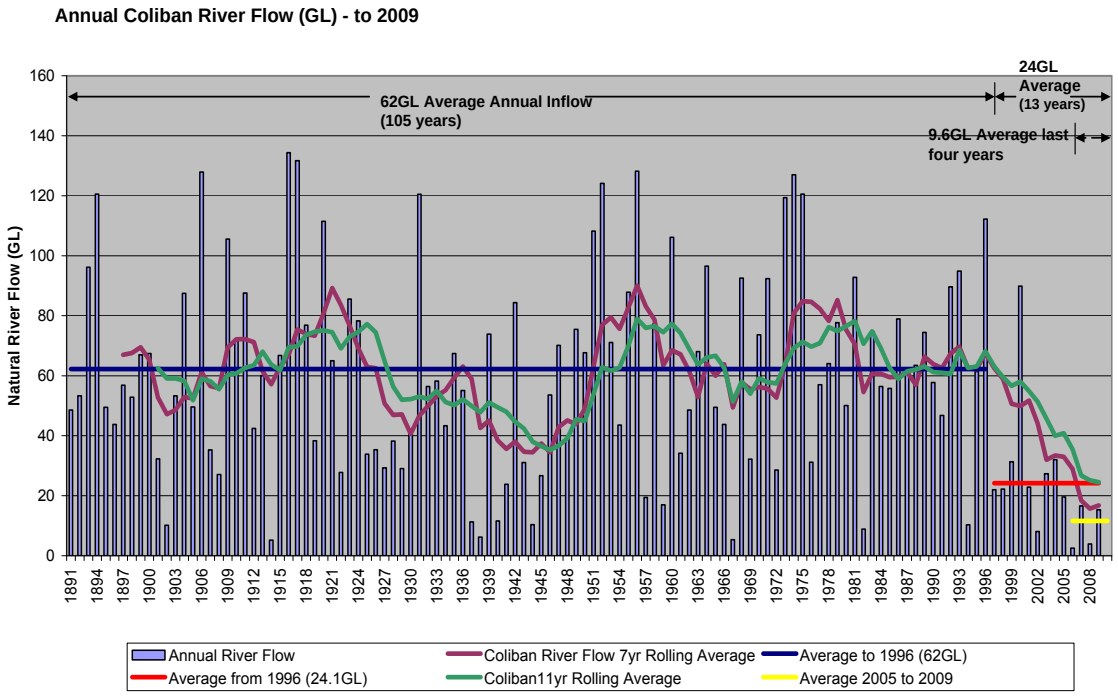

Figure 2. Annual inflow including post development of the current Water Plan.

There have been step reductions in inflows over the last 13 years as shown in *Figure 3*, the last five years have seen an 83% reduction in the long-term average inflow.

Inflows are now at unprecedented low levels, well below that of the 1930's and 1940's.

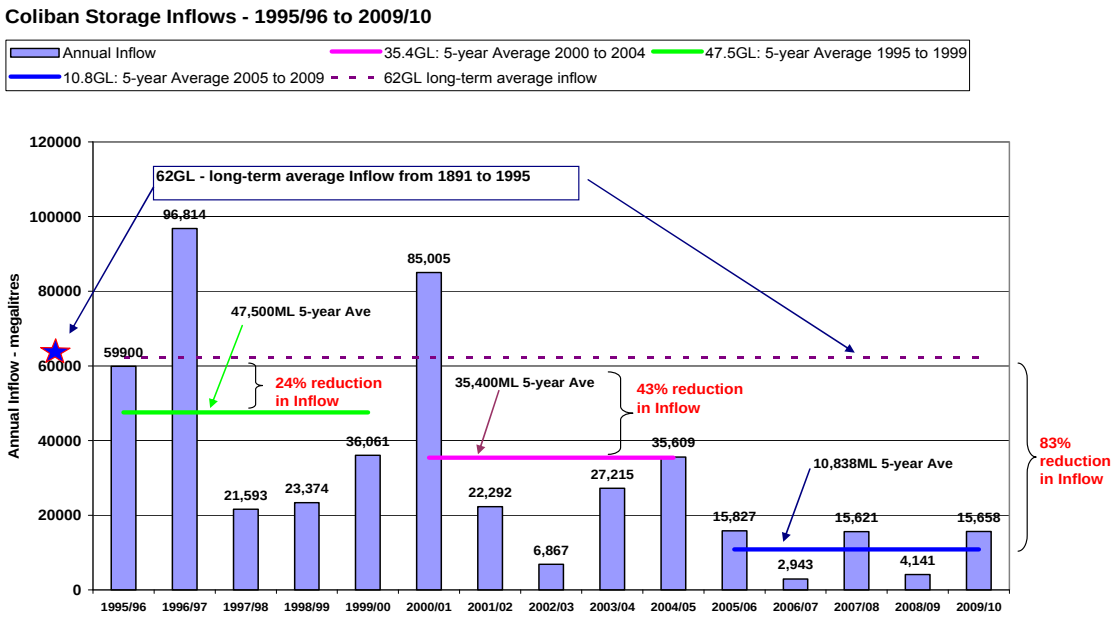

Figure 3. Five year reductions in inflows.

The poor inflows have kept storage levels below 25% as shown in *Figure 4*. In order to conserve water in the Coliban storages, Coliban Water has limited the Coliban storage supply to Castlemaine and Kyneton supply areas while supplying our major centre of Bendigo, which accounts for 80% of our customer households within this system, with Goulburn system water via the Goldfields Superpipe.

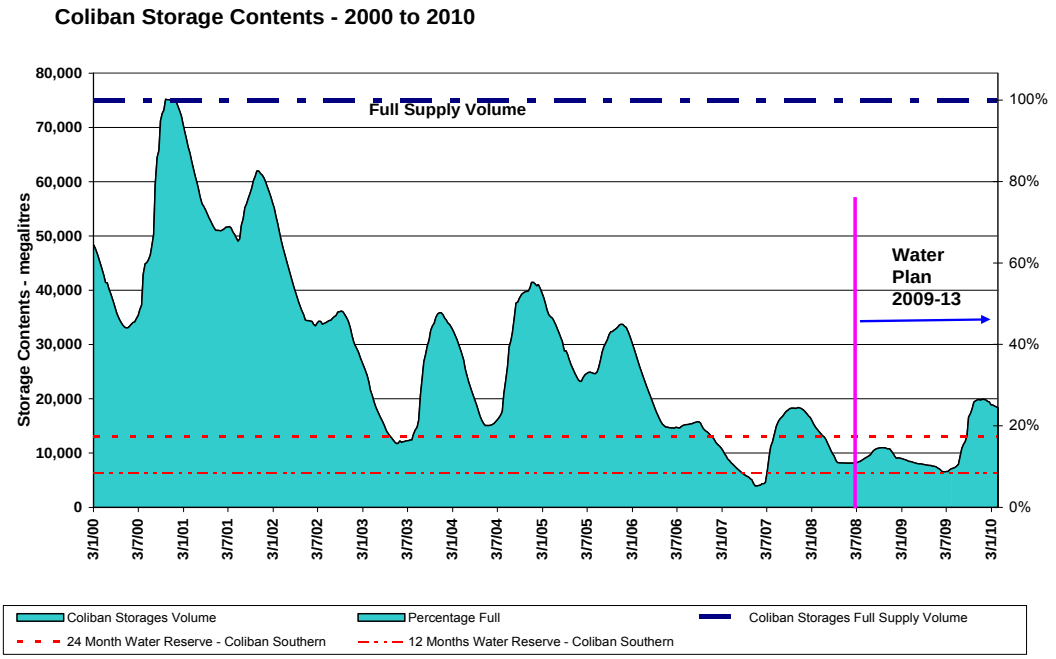

Figure 4. Storage contents 2000 to 2010

Below average Goulburn system allocations have also had a significant impact. The Goulburn system allocation in 2008/09 was only 33% and is currently 60%. Minimal, if any, further allocation is expected in 2009/10. These are two of the lowest Goulburn system allocations in recent history and for the last four years Goulburn system allocations have averaged 45% only.

For the purpose of this application we have assumed an average annual allocation of 60%.

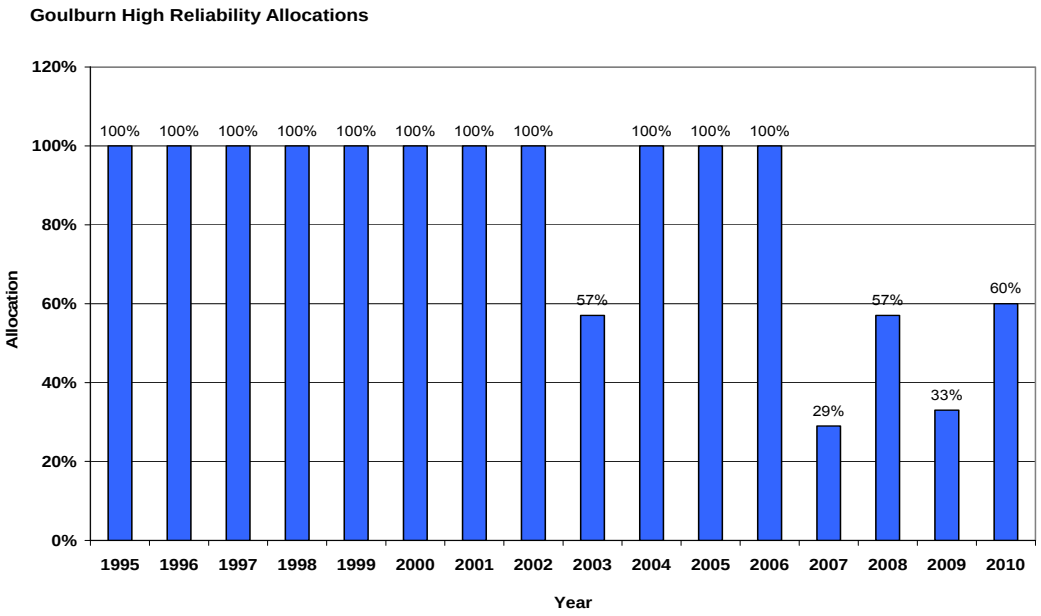

Figure 5. Historic allocations on the Goulburn System.

5.4 Actions in Response to Drought

Measures taken to minimise the impact of drought on our customers have included:

- Purchase of temporary water to supplement the Goulburn system allocations
- Conserving water in the Coliban storages for use by our customers in the Coliban southern system area only (Castlemaine and Kyneton)
- Supplying our major centre of Bendigo, which accounts for 80% of our customer households within the Coliban system, with Goulburn system water
- Transferring the water held in the three Coliban catchment storages to the Lauriston Reservoir where the 'surface area to volume' ratio ensures evaporation losses are kept to a minimum
- Increasing water reserves to meet two years of 'critical human needs'; this reserve now can be built on and provides security to our customers should inflows fall to the levels experienced in 2006/07 and 2008/09
- Purchase of a small "reverse osmosis" plant for Bridgewater and Inglewood to capitalise on saline river and ground water
- Allowing Councils and community groups access to the boarder water market via our infrastructure to maintain public spaces.

5.5 Outlook - Water Availability

We have been conservative in our assumptions of water availability for the next three to eight years. It is important to note that predicting water availability for three years is at best a guess, as there are no authoritive forecasts available this far out.

However, it is also important to note that we haven't taken the extreme position of assuming that water availability will be the same as 2006/07, as this will mean significant price increases in order to meet the revenue requirements.

The approach we have adopted is to assume that Coliban storage inflows for the next three years will be at least the average of the last five years, that is, 10,800 megalitres per year. Under this scenario our share of inflow to Lake Eppalock would approximate to 2,900 megalitres.

Water from the Goulburn system will continue to be necessary to supplement our natural catchment inflows. Our plan allows for an average supply of 20,000 megalitres of Goulburn system water per year; the water that is not allocated through general irrigation allocations will be purchased on the temporary water market.

The *Northern Region Sustainable Water Strategy* forecasts that changes to the total Goulburn system inflows will reduce by 25% under a medium climate change scenario to a worst case reduction of 49% should there be a continuation of the low inflows experienced in the years 1997 to 2007. The high-climate-change scenario is a reduction to inflows of 43%.

In terms of availability of high reliability Goulburn system water to entitlement holders the worst case scenario is that 100% allocation would be received in only 28 years out of 100 as compared to the long-term average of 96 times in 100 years. A zero allocation can also be expected once in 100 years.

Based on these Goulburn system inflow forecasts an annual allocation of 60% has been adopted. This allocation would equate to an average of 13,400 megalitres per year.

In summary, our key water resource assumptions are:

- Inflows into the Coliban catchment storages would average the last five year inflow of 10,800 megalitres per year;
- Inflows in Lake Eppalock would average 2,900 megalitres per year (Coliban Water's 18% share of the total estimated inflow of 16,000 megalitres per year);
- Water taken from the Goulburn system would equate to 20,000 megalitres: this assumes an average annual allocation of 60% or 13,400 megalitres and temporary water purchases as required; and
- A minimum water reserve target of 36,000 megalitres to supply 'critical human needs' for a period of two years as security against a repeat of extreme drought conditions such as those experienced in 2006/07 and 2008/09. This level of water reserves provide essential water security to our communities and minimises the need for sudden and excessive movement in water restriction levels.

These key assumptions have been used in our demand forecast (Coliban Water Resource Model) to project the water demands that can be sustained over the remainder of the regulatory period. Refer to *Appendix 1* for details of the model.

The water demands, shown in terms of water restriction levels, as projected by the Water Resource Model analysis are shown in the *Table 2.*

Table 2. Water Restriction Levels

Coliban Supply System	2010/11	2011/12	2012/13
Coliban Southern	3	3	3
Coliban Northern	3GE	1	1
Coliban Rural	25%	25%	25%

Whilst it is likely that we will be able to offer Stage 1 for the Coliban northern area, customer demand behaviour has changed over the last five years with 70% of households now using water saving measures such as gardening mulch, rainwater tanks and greywater systems (refer to Section 10).

There has also been a substantial change in attitude with regard to outdoor water use, meaning that generally people believe it is important to use less water than before because it is better for the environment and future generations. With this in mind, we expect that Stage 1 demands to be a level equivalent to what would normally have been experienced under Stage 2 with our models being adjusted accordingly.

The Model's projections of storage and water reserve behaviour based on the above key assumptions and water restriction levels are shown in *Figures 6 & 7.*

Figure 6 plots the forecast water reserve position for the Coliban southern storages. *Figure 7* plots the forecast water position for the Coliban northern storages area where the three major holding storages are the Sandhurst Reservoir, Lake Eppalock and Lake Eildon.

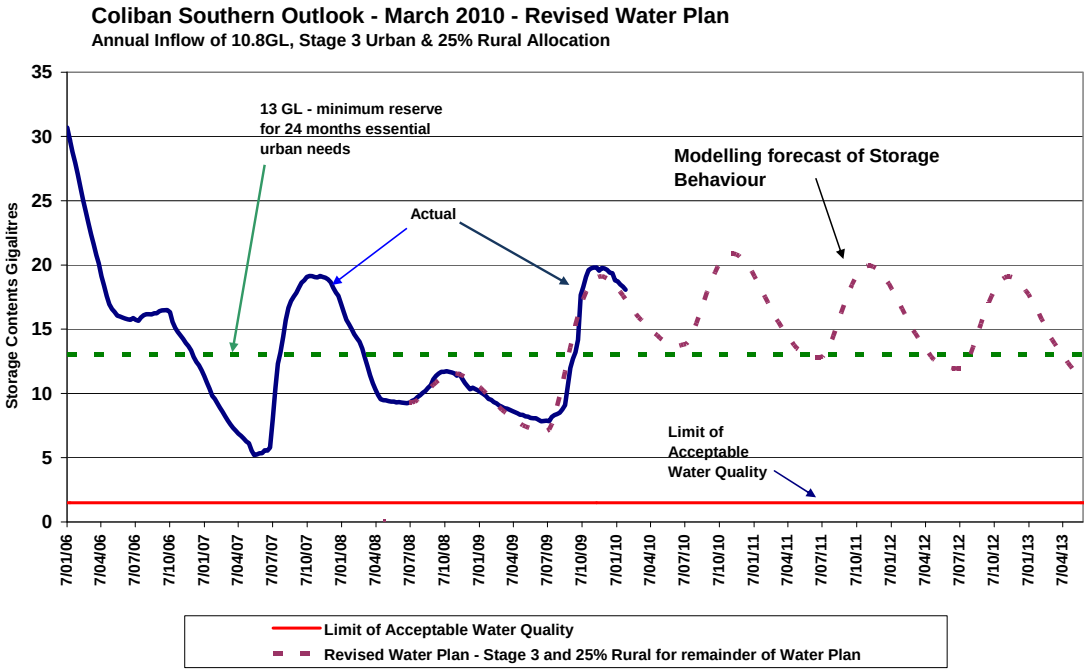

Figure 6. Coliban system southern outlook.

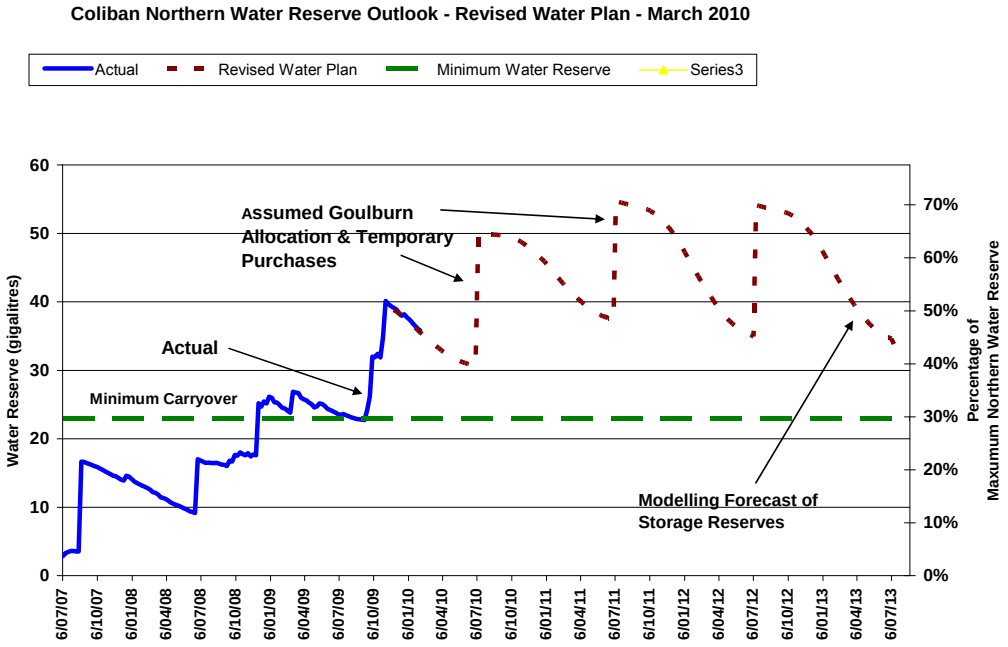

Figure 7. Coliban Northern revised outlook.

In the Coliban southern system, the adopted water demand levels are forecast to generally allow the target reserve of two years of 'critical needs' to be maintained which Coliban Water has adopted as policy.

The reserve equates to 13,000 megalitres as shown by the dotted green line on the Coliban southern system outlook. Inflows greater or less than the assumed inflow of 10,800 megalitres may result in necessary changes to the forecast water restriction levels.

The outlook for the Coliban northern system is better, with some scope to build upon the minimum reserve level of 23,000 megalitres as shown in the *Figure 7*. However, modelling forecasts that long-term water demands under Stage 1 or Permanent Water Saving Rules (PWSR) would draw down this reserve in the last two years of this regulatory period and over the next Water Plan 2014-2018.

For systems other than the Coliban system, forecasts of water resource supply and demand are based on the recent history of Bulk Entitlement allocations, customer consumptions and system operational water needs including system losses.

Table 3. Comparison of Actual and Revised Supply with ESC 2008 Determination.

	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination					
Campaspe	Stage 2	Stage 2	Stage 2	Stage 2	Stage 2
Coliban Northern - Urban	Stage 2	Stage 2	PWSR	PWSR	PWSR
Coliban Northern - Rural	80%	80%	100%	100%	100%
Coliban Southern - Urban	Stage 2	Stage 2	PWSR	PWSR	PWSR
Coliban Southern - Rural	80%	80%	100%	100%	100%
Elmore	Stage 1	Stage 1	Stage 1	Stage 1	Stage 1
Goulburn	PWSR	PWSR	PWSR	PWSR	PWSR
Loddon	Stage 2	Stage 2	Stage 2	Stage 2	Stage 2
Murray	PWSR	PWSR	PWSR	PWSR	PWSR
Trentham	Stage 1	Stage 1	Stage 1	Stage 1	Stage 1
Wimmera	Stage 2	Stage 2	Stage 2	Stage 2	Stage 2
Revised Water Restrictions					
Campaspe	Stage 4	Stage 4/3	Stage 3	Stage 2	Stage 2
Coliban Northern - Urban	Stage 4GE/3	Stage 3	Stage 3GE	Stage 1	Stage 1
Coliban Northern - Rural	Emergency	Emergency	25%	25%	25%
Coliban Southern - Urban	Stage 4GE	Stage 4GE/3	Stage 3	Stage 3	Stage 3
Coliban Southern - Rural	Emergency	Emergency	25%	25%	25%
Elmore	Stage 1	Stage 1	Stage 1	Stage 1	Stage 1
Goulburn	Stage 3/2	Stage 2	Stage 1	Stage 1	Stage 1
Loddon	Stage 4	Stage 4	Stage 3	Stage 3	Stage 3
Murray	Stage 3/2	Stage 2/1	Stage 1	Stage 1	Stage 1
Trentham	PWSR	PWSR	PWSR	PWSR	PWSR
Wimmera	Stage 4	Stage 4	Stage 2	Stage 2	Stage 2

Note:
GE = General Exemption
PWSR = Permanent Water Saving Rules

5.6 Outlook - Water Demand for the remainder of the Regulatory Period (2010 – 2013)

Computer modelling (Coliban Revenue Model) has been used to forecast demands in all water supply systems.

The projected water demands are shown in the following table.

Table 4. Comparison of Revised Water Demand with ESC 2008 Determination.

	Unit	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination						
Central	ML	16,107	17,077	20,558	20,874	21,192
Northern Rivers	ML	5,712	6,043	6,077	6,142	6,217
Non Potrable	ML	49	52	57	57	57
Rural	ML	9,600	9,600	12,000	12,000	12,000
Total	ML	31,468	32,772	38,692	39,073	39,466
Revised Water Demands						
Central	ML	11,335	12,874	13,003	20,146	20,377
Northern Rivers	ML	3,874	4,782	5,715	5,771	5,831
Non Potrable	ML	62	71	96	104	105
Rural	ML	1,779	1,779	3,096	3,096	3,096
Total	ML	17,050	19,505	21,910	29,118	29,408
Difference						
Central	ML	(4,772)	(4,203)	(7,555)	(728)	(815)
Northern Rivers	ML	(1,838)	(1,261)	(362)	(371)	(386)
Non Potrable	ML	13	19	39	47	48
Rural	ML	(7,821)	(7,821)	(8,904)	(8,904)	(8,904)
Total	ML	(14,418)	(13,267)	(16,782)	(9,955)	(10,058)
Percentage Difference %						
Central	ML	-30%	-25%	-37%	-3%	-4%
Northern Rivers	ML	-32%	-21%	-6%	-6%	-6%
Non Potrable	ML	26%	36%	69%	83%	84%
Rural	ML	-81%	-81%	-74%	-74%	-74%
Total	ML	-46%	-40%	-43%	-25%	-25%

5.7 Key Demand Forecasting Issues

Inflow and water allocation variability is a major issue. In the last 10 years Coliban storage inflows have varied from a maximum of 90,000 megalitres to less than 3,000 megalitres. Goulburn System allocations have varied from 100% to only 29%.

A repeat of the extreme low inflows of 2006/07 and/or 2008/09 would reduce water demands, particularly in the Coliban southern system and in the Coliban rural system.

The water reserves that are now available would, to some extent, moderate the need for the introduction of extreme water restrictions.

Conversely, high inflows to storages would result in an easing of restrictions in the Coliban southern system. However this Coliban system accounts for 15% of households and has only a small influence on the overall revenue raised.

6 Financial Implications

6.1 Net Prescribed Revenue

The continuation of the drought has impacted on Coliban Water's ability to meet the forecast revenues in the ESC 2008 Determination.

Figure 8 below highlights the impact of the drought on Coliban Water's net prescribed revenue and the shortfall from the ESC 2008 Determination.

	Dollars	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
ESC determination revenue requirement	09/10 $M	53.21	54.47	79.13	79.97	82.70	84.24	86.67
ESC determination net prescribed revenue	09/10 $M	47.67	49.18	62.14	73.78	87.04	94.01	100.08
ESC amended net prescribed revenue	09/10 $M	47.67	49.18	54.71	64.29	71.24	89.77	95.23
Re-price net prescribed revenue	09/10 $M	47.67	49.18	54.71	64.29	75.01	94.97	98.64

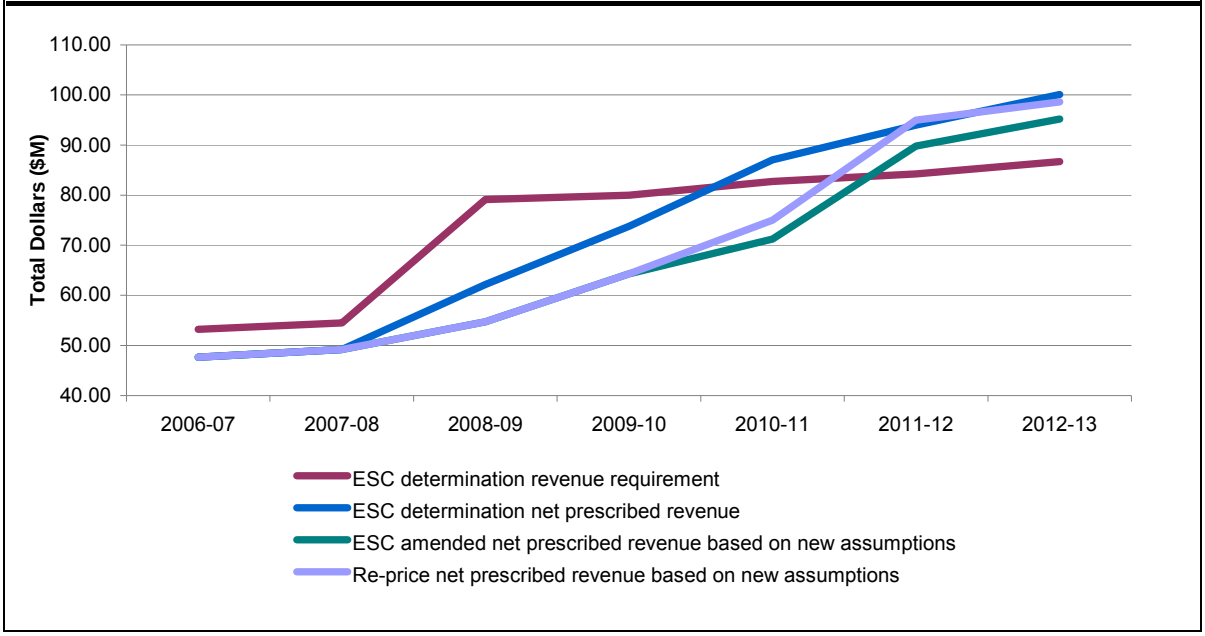

Figure 8. Comparison of Revenue Requirement and Net Prescribed Revenue with ESC 2008 Determination based on new consumption demands.

Table 5 below shows that over the five years of the regulatory period, Coliban Water will have a net prescribed revenue shortfall of $36.91 million. As described in the introduction, this shortfall is attributed to the continuation of the drought.

Table 5. Comparison of Net Prescribed Revenue with ESC 2008 Determination based on new consumption demands.

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
Amended net prescribed revenue							
ESC 2008 price determination	09/10 $M	358.65	62.14	73.78	87.04	94.01	100.08
Amended ESC 2008 price determination	09/10 $M	321.73	54.71	64.29	71.24	89.77	95.23
Difference	09/10 $M	(36.91)	(7.43)	(9.49)	(15.80)	(4.24)	(4.85)
Amended ESC 2008 price determination difference explained							
Water fixed	09/10 $M	1.83	0.49	0.46	0.42	0.37	0.33
Water Volumetric	09/10 $M	(24.08)	(5.37)	(6.95)	(12.32)	(0.99)	(1.23)
Sewer fees	09/10 $M	(4.01)	(0.70)	(0.88)	(1.32)	(0.83)	(0.89)
Rural fees	09/10 $M	(11.61)	(1.95)	(2.25)	(2.79)	(3.09)	(3.46)
Recycled water fees	09/10 $M	0.95	0.10	0.13	0.21	0.30	0.40

The major revenue shortfalls occur in the first three years of the ESC 2008 Determination. Coliban Water's proposed re-pricing is to have the price changes implemented at the start of 2010/11 to improve financial sustainability. This will address the issues identified by VAGO regarding financial sustainability.

The majority of the revenue shortfall relates to water volumetric fees for both residential and rural customers. The continuing drought has impacted on Coliban Water's ability to ease water restrictions in major towns and provide a general rural allocation.

The Northern region has been impacted by the drought with a 31% reduction in actual water demand to date while the Central region has had a 27% reduction. Based on revised forecasted water demand, the Central pricing zone will have a 15.9% reduction in volumetric revenue over the regulatory period while the Northern pricing zone will have an 8.9% reduction. This highlights the need for Coliban Water to share the cost of drought across the entire region.

Revenue from water fixed fees is slightly ahead of the ESC 2008 Determination and will be addressed through this proposed re-price review.

Revenue from sewer fees has also been slightly affected by the lower water demands for non residential customers.

Based on the information provided in *Table 5*, Coliban Water has a water volumetric issue that will be addressed in this re-pricing proposal.

6.2 Revenue Requirement

The continuation of the drought has also impacted on Coliban Water's operational and capital expenditure approved in the ESC 2008 Determination.

To address the financial impacts caused by the continuing drought, Coliban Water has implemented a financial sustainability strategy that is focused on:

1. Continuous review of operational expenditure with a view to continually identify productivity savings so as to minimise the impacts of drought; and
2. Re-prioritise and re-forecast capital expenditure to:
   a. Target investment that underpins water security.
   b. Deliver service standards and objectives of the ESC 2008 Determination.
   c. Where possible re-phase capital expenditure to decrease interest and depreciation charges.

Coliban Water has reconciled the revenue requirement over the five years and as there is less than a 0.2% variation will not be applying to the Commission for a change to the revenue requirement in the ESC 2008 Determination.

The table below shows that over the five years of the regulatory period, Coliban Water has a revenue requirement of $358.65 million. Based on the revenue requirement reconciliation, Coliban Water requires an additional $0.46 million over the approved ESC 2008 Determination. This shortfall will be addressed through productivity savings over the next three years.

Table 6. Comparison of Revenue Requirement with ESC 2008 Determination.

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination	06/07 $M	327.79	72.32	73.09	75.58	76.99	79.21
ESC 2008 determination price adjusted	09/10 $M	358.65	79.13	79.98	82.70	84.24	86.67
Amended revenue requirement	09/10 $M	359.11	75.49	79.05	82.68	86.75	90.29
Difference	09/10 $M	0.46	(3.64)	(0.92)	(0.02)	2.51	3.62

6.3 Proposed Re-pricing

The continuation of the drought in 2008/09 prompted Coliban Water to commence discussions with the DSE, DTF and ESC regarding a pathway to financial sustainability.

This application is for a tariff restructure under Clause 3 and an adjustment of scheduled prices under Clause 4 (uncertain and unforeseen events) of the ESC 2008 Determination.

In summary:

The key drivers for a tariff restructure, under Clause 3 are:

- To ensure the overall strategy remains consistent with the WIRO pricing principles
- Demonstrate a pathway to financial sustainability which addresses VAGOs comments regarding high financial sustainability risk
- To remain within the net prescribed revenue for the 2012/13 financial year as per the ESC 2008 Determination
- To ensure interest cover is between 1.5 and 3 times

Table 7 below shows that over the remaining three years of the regulatory period, the benefit from the proposed re-pricing to Coliban Water's net prescribed revenue shortfall of $36.91 million is an additional $10.19 million.

The majority of the proposed re-pricing will reduce the shortfall in water volumetric revenue.

Table 7. Comparison of Proposed Re-pricing Net Prescribed Revenue with ESC 2008 Determination

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
Amended net prescribed revenue							
ESC 2008 price determination	09/10 $M	358.65	62.14	73.78	87.04	94.01	100.08
Amended ESC 2008 price determination [1]	09/10 $M	321.73	54.71	64.29	71.24	89.77	95.23
Difference	09/10 $M	(36.91)	(7.43)	(9.49)	(15.80)	(4.24)	(4.85)
Proposed price review [2]	09/10 $M	331.92	54.71	64.29	75.01	94.97	98.64
Difference	09/10 $M	(26.73)	(7.43)	(9.49)	(12.03)	0.96	(1.44)
Benefit of proposed price review	09/10 $M	10.19	0.00	0.00	3.77	5.20	3.41
Proposed price review difference explained							
Water fixed	09/10 $M	1.29	0.49	0.46	(0.00)	0.16	0.33
Water Volumetric	09/10 $M	(13.35)	(5.37)	(6.95)	(8.12)	4.42	2.17
Sewer fees	09/10 $M	(4.01)	(0.70)	(0.88)	(1.32)	(0.83)	(0.89)
Rural fees	09/10 $M	(11.61)	(1.95)	(2.25)	(2.79)	(3.09)	(3.46)
Recycled water fees	09/10 $M	0.95	0.10	0.13	0.21	0.30	0.40

[1] Revenue has been adjusted for new demand consumption only, prices remain the same as ESC 2008 Determination

[2] Revenue has been adjusted for new demand consumption and new prices

The continuation of the drought was not predictable or within the control of Coliban Water, hence the application for an adjustment of scheduled prices under clause 4.

Responsible use of water restrictions has been necessary to match supply with demand.

To underpin overall water security for Bendigo and Echuca, Coliban Water has purchased additional temporary water from the Goulburn system. This water is of a lesser quality and has also resulted in an increase in treatment costs.

These impacts have resulted in significant differences between actual and forecast demand levels as described in the demand section above.

Sections 7 and 8 explain the proposed re-pricing application in more detail.

7 Clause 3: Tariff Restructure

As part of the proposed price review, Coliban Water has developed a new tariff strategy for residential customers only that remains consistent with the WIRO pricing principles.

The proposed tariff pricing strategy has four key guiding principles that have underpinned the recommended price changes:

- The entire region shares the impacts of the drought.
- Keep price increases within the current approved ESC 2008 Determination.
- Ensure the net prescribed revenue is within the ESC 2008 Determination for the 2012/13 financial year.
- Progress towards the financial viability targets in the current ESC 2008 Determination.

The key changes to the residential pricing strategy are:

- Reducing the three step tariffs from 0 – 200 kilolitre – 400 kilolitre to 0 – 150 kilolitre – 300 kilolitre to:
  - provide appropriate incentives for the sustainable use of water;
  - better match the first step with average household; and
  - move the step tariff closer together as we intend to review the appropriateness of continuing with a step tariff structure as part of the development of the next Water Plan
- Revised tariff schedule for Northern River Pricing zone customers who are proposed to pay the same residential price increase as the Central Pricing zone customers to:
  - Ensure the entire region contributes equitably to the costs of drought
- Revised price movements by bringing residential volumetric prices forward 12 months to improve cash flow
- Revised price movements by bringing the three year residential access fee decrease forward to reduce the fixed portion of bills in the short term

Bringing the three year residential access fee decrease forward to reduce the fixed portion of the bill in the short term represents a balance between responding to our customer research in which it was clear that customers want more control of their water bill and recognising that within the current framework that the fixed price structure represents a risk to the business.

Coliban Water is aware that this strategy is not in line with the Commission's guidelines. The financial impact to Coliban Water by decreasing the fixed water access fees is $0.54 million over the remaining three years of the Water Plan. Based on the analysis in the *Table 5* and *Table 7*, the reduction in access fees is justified for the remainder of the regulatory period and its further review will be part of the next Water Plan development.

As part of the development of the next Water Plan, Coliban Water intends to better align fixed costs with fixed charges (including sewer access).

Table 8 below shows the net impact of the proposed pricing strategy on Coliban Water's net prescribed revenue will be $10.19 million. Over the remaining three years of the regulatory period the benefit derived from the lowering of the step tariffs is $6.75 million while the increase in prices will account for $3.44 million.

Table 8. Key Factors explaining Benefit of Proposed Price Review Tariff Strategy.

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
Net prescribed revenue item							
Impact of changes to pricing steps	09/10 $M	6.75	0.00	0.00	2.13	3.04	3.09
Impact of bringing forward price increases	09/10 $M	3.44	0.00	0.00	1.64	2.16	0.32
Benefit of proposed price review	09/10 $M	10.19	0.00	0.00	3.77	5.20	3.41
Impact of changes to pricing steps	09/10 $M	6.75	0.00	0.00	2.13	3.04	3.09
- Central region	09/10 $M	4.90	0.00	0.00	1.43	2.27	2.30
- Northern rivers region	09/10 $M	1.82	0.00	0.00	0.69	0.76	0.77
- Non Potable	09/10 $M	0.03	0.00	0.00	0.01	0.02	0.02
Impact of bringing forward price increases	09/10 $M	3.44	0.00	0.00	1.64	2.16	0.32
- Central region	09/10 $M	2.56	0.00	0.00	1.33	1.74	(0.04)
- Northern rivers region	09/10 $M	0.85	0.00	0.00	0.30	0.40	0.34
- Non Potable	09/10 $M	0.03	0.00	0.00	0.01	0.02	0.02

As part of the next Water Plan review, we would also like to move to a framework that enables Coliban Water to adjust variable charges if there is a change to variable cost (i.e. temporary water price and associated treatment charges) as presented in *Figure 9*.

This would ensure that Coliban Water can better manage uncertainty associated with predicting allocations and inflows.

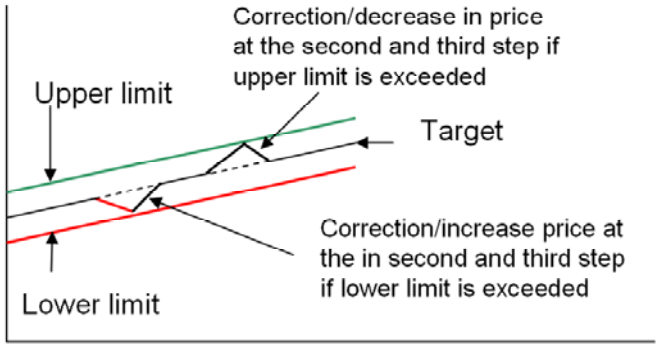

Figure 9. Possible process for managing unknown variable costs.

We recognise that this would require substantial modelling and we would like to work with the Commission to explore this possibility.

7.1 The Proposed Tariff Strategy (Central Pricing Zone):

The key drivers for changing the Central Pricing Zone tariffs are:

- Lower demands (-27% as shown in *table 1*.) due to the impacts of drought which have reduced revenue. The major towns of Bendigo, Castlemaine and Kyneton where forecast to be on PWSR, but have been restricted to Stage 4 and Stage 3
- The impacts of drought has meant lower water allocations from the Goulburn system and the need to purchase additional temporary water
- Water cartage has been needed in smaller towns that have critically low supply levels.

The Proposed Tariff Strategy:

Table 9 below shows the proposed price movements for the remaining three years of the regulation period for Central Region residential customers.

Table 9. Comparison of Central Region Residential Price changes with ESC 2008 Determination

	Notes	Price base	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination price adjusted							
Water access fees		09/10 $M	$103.30	$100.39	$97.56	$94.81	$92.14
Volumetric step 1		09/10 $M	$1.05	$1.34	$1.50	$1.68	$1.81
Volumetric step 2		09/10 $M	$1.27	$1.62	$1.81	$2.03	$2.18
Volumetric step 3		09/10 $M	$2.09	$2.66	$2.98	$3.32	$3.58
Amended central region residential prices							
Water access fees		09/10 $M	$103.30	$100.39	$92.31	$92.27	$92.23
Volumetric step 1		09/10 $M	$1.05	$1.34	$1.67	$1.81	$1.81
Volumetric step 2		09/10 $M	$1.27	$1.62	$2.03	$2.18	$2.18
Volumetric step 3		09/10 $M	$2.09	$2.66	$3.32	$3.58	$3.58
Difference							
Water access fees		09/10 $M	$0.00	$0.00	($5.25)	($2.54)	$0.09
Volumetric step 1		09/10 $M	$0.00	$0.00	$0.18	$0.13	$0.00
Volumetric step 2		09/10 $M	$0.00	$0.00	$0.21	$0.16	$0.00
Volumetric step 3		09/10 $M	$0.00	$0.00	$0.35	$0.26	$0.00

Customer Impacts

Figure 10 below shows the customer impacts on a residential household in the Central Pricing Zone using 170 kilolitres per year.

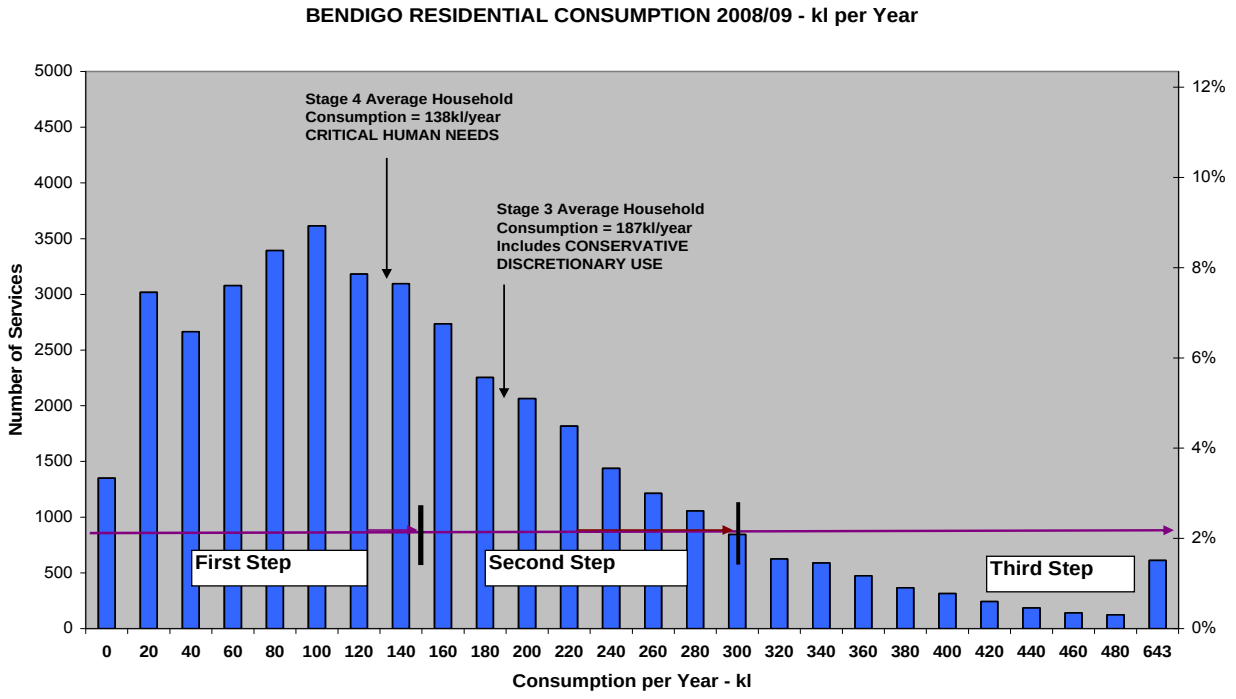

Figure 10. Bendigo Residential Consumption 2008/2009 – kl per Year

The proposed pricing strategy will mean the household will pay an additional $66.06 over the remaining three years of the regulatory period.

The customer impact in the 2010/11 financial year will be the greatest with a yearly increase of 11.55% or an additional increase of $31.40. These increases are still lower than the previous two financial years.

Table 10 compares the proposed prices to the ESC 2008 Determination. It also highlights the customer impacts.

Table 10. Customer impacts on Household using 170kls from Central Region compared with 2008 Determination.

	Price base	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination price adjusted							
Fixed charges	09/10 $M	$465.79	$502.82	$559.72	$592.68	$609.22	$626.59
Volumetric charges	09/10 $M	$129.66	$178.99	$228.23	$254.90	$284.69	$306.88
Total bill	09/10 $M	$595.45	$681.81	$787.94	$847.58	$893.92	$933.47
Yearly percentage increase (%)	09/10 $M		14.50%	15.57%	7.57%	5.47%	4.42%
Yearly dollar increase ($)	09/10 $M		$86.36	$106.13	$59.64	$46.33	$39.55
Amended central region residential prices							
Fixed charges	09/10 $M	$465.79	$502.82	$559.72	$587.26	$606.55	$626.59
Volumetric charges	09/10 $M	$129.66	$178.99	$228.23	$291.73	$314.45	$314.45
Total bill	09/10 $M	$595.45	$681.81	$787.94	$878.98	$921.00	$941.04
Yearly percentage increase (%)	09/10 $M		14.50%	15.57%	11.55%	4.78%	2.18%
Yearly dollar increase ($)	09/10 $M		$86.36	$106.13	$91.04	$42.02	$20.04
Additional yearly dollar increase ($)	09/10 $M		$0.00	$0.00	$31.40	$27.08	$7.57

7.2 Proposed Tariff Strategy (Northern Pricing zone)

The drought has not only impacted on the Central Pricing zone, but also the Northern Pricing Zone therefore we are proposing a similar strategy as the Central zone. The key drivers for changing the Northern Pricing Zone tariffs are:

- Lower demands (-31% as shown in *Table 1*.) due to the impacts of drought which have reduced revenue. The major town of Echuca was forecast to be on PWSR, but has been restricted to Stage 3 and Stage 2 due to the drought.
- The impacts of drought has meant lower water allocations from the Goulburn system and the need to purchase additional temporary water.
- Water cartage has been needed in smaller towns that have run out of water or been affected by blue green algae outbreaks in the Murray River System.

The Proposed Tariff Strategy

Table 11 below shows the proposed price movements for the remaining three years of the regulation period for Northern Pricing Zone residential customers.

Table 11. Comparison of Northern Pricing Zone Residential Prices changes with ESC 2008 Determination

	Notes	Price base	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination price adjusted							
Water access fees		09/10 $M	$103.30	$100.39	$97.56	$94.81	$92.14
Volumetric step 1		09/10 $M	$0.66	$0.73	$0.78	$0.85	$0.88
Volumetric step 2		09/10 $M	$0.82	$0.90	$0.97	$1.05	$1.09
Volumetric step 3		09/10 $M	$1.32	$1.45	$1.57	$1.69	$1.76
Amended central region residential prices							
Water access fees		09/10 $M	$103.30	$100.39	$92.31	$92.27	$92.23
Volumetric step 1		09/10 $M	$0.66	$0.73	$0.91	$0.98	$0.98
Volumetric step 2		09/10 $M	$0.82	$0.90	$1.12	$1.21	$1.21
Volumetric step 3		09/10 $M	$1.32	$1.45	$1.81	$1.96	$1.96
Difference							
Water access fees		09/10 $M	$0.00	$0.00	($5.25)	($2.54)	$0.09
Volumetric step 1		09/10 $M	$0.00	$0.00	$0.12	$0.13	$0.10
Volumetric step 2		09/10 $M	$0.00	$0.00	$0.15	$0.16	$0.12
Volumetric step 3		09/10 $M	$0.00	$0.00	$0.25	$0.27	$0.20

Customer Impacts

Table 12 below shows the customer impacts on a residential household in the Northern Pricing Zone using 170 kilolitres per year.

The proposed pricing strategy will mean the household will pay an additional $65.97 over the remaining three years of the regulatory period.

The customer impact in the 2010/11 financial year will be the greatest with a yearly increase of 9.14% or an additional increase of $19.82. These increases are still lower than the previous two financial years.

The proposed pricing for the Northern Pricing Zone is to increase the prices at the same rate as the Central Pricing Zone. This is to share the impact of drought across the entire region as reduced consumption demand has been across the entire region. This will enable Coliban Water to recoup the revenue shortfall in the Northern River region for the first two years of the current Water Plan.

Table 12. Customer impacts on Household using 170kls from Northern Region compared with 2008 Determination

	Price base	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination price adjusted							
Fixed charges	09/10 $M	$465.79	$502.82	$559.72	$592.68	$609.22	$626.59
Volumetric charges	09/10 $M	$84.78	$112.33	$123.56	$133.19	$143.57	$149.16
Total bill	09/10 $M	$550.57	$615.15	$683.28	$725.87	$752.79	$775.75
Yearly percentage increase (%)	09/10 $M		11.73%	11.08%	6.23%	3.71%	3.05%
Yearly dollar increase ($)	09/10 $M		$64.58	$68.13	$42.59	$26.92	$22.96
Amended central region residential prices							
Fixed charges	09/10 $M	$465.79	$502.82	$559.72	$587.26	$606.55	$626.59
Volumetric charges	09/10 $M	$84.78	$112.33	$123.56	$158.43	$170.78	$170.78
Total bill	09/10 $M	$550.57	$615.15	$683.28	$745.69	$777.32	$797.37
Yearly percentage increase (%)	09/10 $M		11.73%	11.08%	9.14%	4.24%	2.58%
Yearly dollar increase ($)	09/10 $M		$64.58	$68.13	$62.42	$31.63	$20.04
Additional yearly dollar increase ($)	09/10 $M		$0.00	$0.00	$19.82	$24.53	$21.61

7.3 Rural Customers

Rural customers accounted for approximately one third of the revenue shortfall due to the continuing drought ($11.61 million). During the remaining regulatory period Coliban Water will not be in a position to recoup the reduction in rural revenue in the ESC 2008 Determination.

It is hard to justify any increase to rural customers given that the majority have had zero allocations for a number of years. In recent years, government has provided a rebate to cover access charges when the allocation is less than 30%.

Over the coming years, we will be renewing our rural systems and would like to discuss with the Commission the process for adjusting prices as each of the rural systems is modernised, to ensure that non modernised systems and customers are not unfairly disadvantaged.

The current Water Plan had decreases of CPI on access charges. We are proposing to have no further increases or decreases until they are modernised.

7.4 Hardship

Coliban Water assists customers through difficult times in a number of ways including:

- Provide information on options for flexible payment arrangements based on the customer's capacity to pay, and provide written confirmation of the agreed arrangement
- Renegotiate the amount of a customer's flexible payment plan if there is a change in their circumstances
- Provide information on Coliban Water's Hardship Policy and Government concessions (including the Utility Relief Grant Scheme and other Government financial assistance programs)
- Ensure that customers who are eligible for a concession have that benefit applied to their account
- Provide information about free, independent and accredited financial counselling services
- Provide access to a language interpreter service at no cost

8 Clause 4: Uncertain and Unforeseen Events

As part of the application, Coliban Water has developed new forecast water consumption demand levels that better reflect the outlook for the remaining three years of the regulatory period as discussed in the demand forecast section earlier in this document.

Table 7 shows the net impact of the proposed pricing strategy on our net prescribed revenue will be $10.19 million which is underpinned by the proposed consumption demand levels.

If we do not achieve the proposed consumption demand levels in the remaining three years of the regulatory period, the proposed net prescribed revenue will be reduced.

One of the key risks to achieving the proposed consumption levels is Coliban Water's ability to treat water from the Goulburn system. To minimise this risk and manage the continued increase in population, it is planned to upgrade the Sandhurst Water Treatment Plant in Bendigo and associated sludge facilities. These works were not planned in the ESC 2008 Determination but are a result of the ongoing drought.

We have been able to budget the increase water treatment costs in the revenue requirement from the ESC 2008 Determination due to managing operational expenditure and re-prioritising capital works into latter years of the regulatory period.

8.1 Revenue Requirement

As mentioned previously, Coliban Water is not applying to the Commission for an amendment to the revenue requirement set in the ESC 2008 Determination.

The continuation of the drought has impacted on our operational and capital expenditure approved in the ESC 2008 Determination. To address the financial impacts caused by the continuing drought, we have implemented a financial sustainability strategy that is focused on:

1. Continuous review of operational expenditure with a view to identify productivity savings so as to minimise the impacts of drought
2. Re-priorities and re-forecast capital expenditure to:
    a. Target investment that underpins water security
    b. Deliver service standards and objectives of the ESC 2008 Determination
    c. Where possible re-phase capital expenditure to minimise interest charges.

The Coliban southern system has hit critically low levels. To ensure water security to towns like Castlemaine and Kyneton, we have diverted substantial internal resources towards planning and development of a business case for a new pipeline to expand our water grid. As it is not know at this point in time whether this will be needed as an emergency option, it has not been included in this proposal.

Table 13 shows a comparison of the revenue requirement from the ESC 2008 Determination and the forecast over the remaining regulatory period. The reconciliation shows a difference of $0.46 million which we will continue to minimise over the regulatory period.

Table 13. Reconciliation of Revenue Requirements with ESC 2008 Determination

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
Operating expenditure	09/10 $M	247.95	60.18	55.75	55.59	55.69	56.99
Return on assets to 30/6/08	09/10 $M	34.71	8.40	8.17	7.93	7.71	7.49
Regulatory depreciation of assets to 30/6/08	09/10 $M	17.09	4.06	4.06	4.01	3.84	3.58
Return on new assets	09/10 $M	29.33	2.30	5.78	7.78	8.94	9.91
Regulatory depreciation of new assets	09/10 $M	17.01	1.31	3.33	4.49	5.19	5.82
Adjustments from last period	09/10 $M	12.57	2.89	2.89	2.89	2.89	2.89
ESC 2008 determination price adjusted	09/10 $M	358.65	79.13	79.97	82.70	84.24	86.67
Operating expenditure	09/10 $M	251.85	57.06	56.30	57.13	58.64	60.42
Return on assets to 30/6/08	09/10 $M	34.71	8.40	8.17	7.93	7.71	7.49
Regulatory depreciation of assets to 30/6/08	09/10 $M	17.09	4.06	4.06	4.01	3.84	3.58
Return on new assets	09/10 $M	25.89	1.78	4.30	6.22	8.50	10.10
Regulatory depreciation of new assets	09/10 $M	17.01	1.31	3.33	4.49	5.19	5.82
Adjustments from last period	09/10 $M	12.57	2.89	2.89	2.89	2.89	2.89
Amended revenue requirement	09/10 $M	359.11	75.49	79.05	82.68	86.75	90.29
Difference	09/10 $M	0.46	(3.64)	(0.92)	(0.02)	2.51	3.62

8.2 Operating Expenditure

The table below shows the proposed forecast of the operational expenditure over the regulatory period which is forecast to increase by $3.90 million.

Table 14. Comparison of Operating Expenditure with ESC 2008 Determination

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination	06/07 $M	226.62	55.00	50.96	50.81	50.90	52.09
ESC 2008 determination price adjusted	09/10 $M	247.95	60.18	55.76	55.59	55.69	56.99
Amended operating costs	09/10 $M	251.85	57.06	56.30	57.13	58.64	60.42
Difference	09/10 $M	3.90	(3.12)	0.55	1.54	2.95	3.43

Table 15 below shows the reconciliation of the operational expenditure for the 2008/09 financial year. Expenditure for the 2008/09 year was $3.12 million below the ESC 2008 Determination due to the key factors identified below.

Table 15. Reconciliation of 2008/2009 Operating Expenditure with 2008 Determination

	2008/09 Actual		2008/09 ESC 2008		Variance
	08/09 $M	09/10 $M	06/07 $M	09/10 $M	09/10 $M
Water	25.47	26.11	26.56	29.06	(2.95)
Sewerage	19.56	20.04	19.08	20.88	(0.84)
Bulk water	1.41	1.44	0.91	1.00	0.44
Recycled water	1.24	1.27	1.85	2.02	(0.75)
Rural water	6.00	6.14	4.46	4.88	1.26
Licence fees	0.27	0.28	0.24	0.26	0.02
Environment Levy	1.73	1.78	1.90	2.08	(0.30)
Difference	55.69	57.06	55.00	60.18	(3.12)

The key factors affecting the operational expenditure over the regulatory period as shown in *Table 16* are:

- Decrease in operational and maintenance expenditure due to capitalisation of temporary water purchases
- The need to purchase additional temporary water from the Goulburn system to meet demand water consumption levels over the regulatory period
- A reduction in Build Own Operate Transfer (BOOT) Tolls over the first three years of the regulatory period due to lower water consumption demands. These will align when water restrictions are eased in the final two financial years

- The Water Treatment Plant (WTP) in Bendigo will be upgraded in 2010/11 to enable the easing of water restrictions in the final two years of the regulatory period. The increase in costs will be based on BOOT Toll increases for the capital works to the plant and additional operational expenditure for hiring of centrifuges to treat the increase in sludge.

Table 16. Key factors explaining difference in Operating Expenditure

	Price base	2008/09	2009/10	2010/11	2011/12	2012/13
Expenditure item						
Operation and maintenance	09/10 $M	(1.69)	0.00	0.00	0.00	0.00
Goulburn water purchases	09/10 $M	(1.39)	0.82	1.39	1.39	1.39
Boot Toll decrease for lower flows	09/10 $M	(0.71)	(0.27)	(0.30)	0.00	0.00
BOOT Toll increase for WTP upgrade	09/10 $M	0.00	0.00	0.45	1.08	1.08
WTP sludge management	09/10 $M	0.00	0.00	0.00	0.48	0.96
Other	09/10 $M	0.67	0.00	0.00	0.00	0.00
Total difference explained by key factors	09/10 $M	(3.12)	0.55	1.54	2.95	3.43

8.3 Capital Expenditure

One of Coliban Water's financial sustainability strategies to manage the impacts of the drought has been to re-prioritise the capital works program. This is achieved through the monthly Project Control Committee process which reviews current Water Plan budgets and project progress.

This initiative has multiple objectives:

- Minimise the price impacts on customers.
- Allow for resources to be allocated to planning for critical security projects that were not in the ESC 2008 Determination.
- Allow for the building of corporate knowledge within the organisation through a transition of reliance on contractor project managers.

As part of the proposed re-pricing application to the Commission, we have re-phased capital projects to lesson the impacts of drought and the minimise the price impacts to customers.

Table 17 below shows the amended gross capital costs compared to the ESC 2008 Determination.

Table 17. Comparison of Gross Capital Expenditure with ESC 2008 Determination

	Price base	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination	06/07 $M	76.04	42.29	32.94	17.14	28.02
ESC 2008 determination price adjusted	09/10 $M	83.20	46.27	36.04	18.75	30.66
Amended gross capital costs	09/10 $M	64.94	31.47	47.25	45.82	25.00
Difference	09/10 $M	(18.26)	(14.80)	11.21	27.07	(5.66)

To enable us to fund the Bendigo Water Treatment Plant upgrade and absorb the additional costs of drought, the proposed amended new capital expenditure phasing will provide necessary savings to the return on assets for all new capital works.

These savings reduce the revenue requirement which offsets the impacts of drought and minimises the need for us to increase prices dramatically.

Table 18 below shows the reconciliation of the proposed new capital expenditure compared to the ESC 2008 Determination.

Table 18. Amended new capital expenditure

	Price base	NPV	2008/09	2009/10	2010/11	2011/12	2012/13
ESC 2008 determination price adjusted							
Opening asset base	09/10 $M	422.79	0.00	79.39	119.83	148.51	159.62
plus capital expenditure	09/10 $M	193.89	83.20	46.27	36.04	18.75	30.66
less customer contributions	09/10 $M	11.17	2.51	2.49	2.87	2.46	2.49
less government contributions	09/10 $M	0.00	0.00	0.00	0.00	0.00	0.00
less regulatory depreciation	09/10 $M	17.01	1.31	3.33	4.49	5.19	5.82
less disposals (all disposals included in existi	09/10 $M	0.00	0.00	0.00	0.00	0.00	0.00
Closing asset base	09/10 $M	588.50	79.39	119.83	148.51	159.62	181.96
Average asset base	09/10 $M	505.65	39.69	99.61	134.17	154.07	170.79
Return on assets (new)	09/10 $M	29.33	2.30	5.78	7.78	8.94	9.91
Amended new capital expenditure							
Opening asset base	09/10 $M	365.03	0.00	61.29	87.14	127.28	165.66
plus capital expenditure	09/10 $M	190.10	64.94	31.47	47.25	45.82	25.00
less customer contributions	09/10 $M	10.27	2.35	2.28	2.62	2.25	2.28
less government contributions	09/10 $M	0.00	0.00	0.00	0.00	0.00	0.00
less regulatory depreciation	09/10 $M	17.01	1.31	3.33	4.49	5.19	5.82
less disposals (all disposals included in existi	09/10 $M	0.00	0.00	0.00	0.00	0.00	0.00
Closing asset base	09/10 $M	527.85	61.29	87.14	127.28	165.66	182.56
Average asset base	09/10 $M	446.44	30.64	74.22	107.21	146.47	174.11
Return on assets (new)	09/10 $M	25.89	1.78	4.30	6.22	8.50	10.10
Difference - Regulatory depreciation	09/10 $M	0.00	0.00	0.00	0.00	0.00	0.00
Difference - Return on assets (new)	09/10 $M	(3.43)	(0.52)	(1.47)	(1.56)	(0.44)	0.19

9 Impact on Financial Indicators

The ESC 2008 Determination was developed to improve Coliban Water's financial sustainability. As shown in *Table 19* below, the key financial indicators would be within the acceptable range at the end of the regulatory period. The underlining risk to the assumptions in the current Water Plan was that the drought would end which has proven to be outside the control of Coliban Water.

In the ESC 2008 Determination, $14.43 million of prior year losses was also included to improve Coliban Water's financial sustainability indicators. The Commission was concerned about Coliban Water's interest cover being below 1.5 times and the inclusion of the prior year losses enabled the average of the interest cover over the regulatory period to be 1.45%. The interest cover only just meet the minimum target levels based on the assumption the drought would end.

Table 19 highlights the financial indicators for 2008/09 financial year and the forecast for 2009/10 are impacted by the continuing drought which are unacceptable to VAGO as noted in their report to Parliament.

The proposed re-pricing strategy details a pathway to financial sustainability for Coliban Water for the remaining three years of the regulatory period and puts Coliban Water in an improved financial position at the start of the next Water Plan.

Interest cover will not improve to the minimum target of 1.5 times until the 2011/12 financial year even though the prices have been brought forward twelve months. The average interest cover under the proposed re-pricing strategy over the five years is 1.09% which is less than the 1.45% approved in the ESC 2008 Determination. The average over the remaining three years is 1.67% compared to 1.98% in the ESC 2008 Determination.

This highlights the need for Coliban Water's proposed re-pricing tariff strategy to ensure financial sustainability from 2011/12 onwards.

Table 19. Comparison of Proposed Re-pricing Financial Indicators with ESC 2008 Determination

	Min Targets	2008/09	2009/10	2010/11	2011/12	2012/13
Amended ESC 2008 price determination						
Funds from operations ($m)	Postitive cashflow	(9.10)	1.41	13.13	20.08	27.38
FFO interest cover (times)	Min 1.5-3.0 times	0.23	1.08	1.66	1.94	2.35
FFO/Net debt	Min 10%	(6.27%)	0.60%	4.73%	6.73%	9.26%
Gearing (Net Debt to RAV)	Max 45%-60%	80.54%	97.79%	99.52%	98.25%	90.48%
Internal financing ratio (%)	Min 35%	(11.24%)	3.22%	38.46%	116.38%	89.22%
Amended ESC 2008 price determination						
Funds from operations ($m)	Postitive cashflow	(13.76)	(7.71)	1.49	20.37	23.28
FFO interest cover (times)	Min 1.5-3.0 times	(0.12)	0.55	1.08	1.93	2.02
FFO/Net debt	Min 10%	(9.04%)	(3.36%)	0.56%	6.57%	6.94%
Gearing (Net Debt to RAV)	Max 45%-60%	88.81%	106.58%	105.89%	104.83%	101.56%
Internal financing ratio (%)	Min 35%	(21.74%)	(26.60%)	3.26%	44.36%	94.96%

10 Community Engagement

Our community engagement has involved the following key steps:

1. Understand attitudes
2. Understand behaviours
3. Incorporate (where possible and feasible) key learnings
4. Present draft pricing proposal to community and other stakeholder groups
5. Seek comment
6. Prepare separate community feedback report.

The first two steps in the above process are described below.

10.1 What our communities think

Gaining a detailed understanding of community water behaviours and attitudes is a difficult task. A remarkable aspect of attempting this is the significant variation of views across the population both geographically and in broad consumer segments.

The purpose of undertaking this type of work is not to determine who is doing the right or wrong thing (which of course changes with time and is subjective) but rather to gain a deeper understanding of how we can respond to the needs and preferences of our customers.

10.2 Understanding our customers (survey one)

We conducted focus group meetings in each of the large centres to help design a survey that made sense to customer and then surveyed over 300 people.

From an analysis of the data it appears that there are two key groupings which may be useful when designing pricing frameworks.

Group 1

Customers who were born in the 1940s, own their home and generally either live by themselves or with their partner share similar views and represent about 33% of the sample.

Group 2

Customers who were born after this and have a family, share similar views and represent about 33% of the sample.

Finally, the remainder of the sample was so varied that they could not be grouped.

Table 20 below provides a snap shot of the key differences and similarities to statements that participants were asked to respond to.

Table 20. Snap shot of differences and similarities of customer group thinking

Theme	Group 1 % of sample	Group 2 % of sample
Differences		
Building more dams is the solution to our water shortages	69	28
The long term solution to our water shortages is to increase supply	64	38
Do you have everything you need to save water	47	21
Could you use even less water if you had to	38	75
The long term solution to our water shortages is to reduce consumption	67	75
Climate change is caused by human activity	27	63
Water should be bought and sold be households	13	34
Would you support and increase in prices to drought proof your town	31	47
Similarities		
Water is allocation fairly between rural and urban users (no)	61	68
Households use more water than industry (no)	75	72
Are you concerned about Dams drying and our towns running out of water	85	83
Do you resue water from the bathroom or kitchen	85	83
It is important to save water now for future generations	90	89
Would you support an increase in prices to be able to water gardens more than you currently can (no)	90	79

10.3 Behavioural Change (survey two)

Further to the research work above, we also interviewed an additional 800 people in Bendigo to gain an understanding of household behaviours with regard to water use as part of the Water Smart Behaviour Change Program, supported by the Victorian Government.

Some key observations from this work;

- About 50% of survey participants are not sure of their household consumption.
- About 12% know how to and do regularly read their meter.
- As high as 76% never use a shower timer, they either believe they are responsible enough not to have to or simply do not possess one.
- 40% of participants (at the time of the survey) had not installed a water efficient showerhead.
- 53% of participants claiming to collect grey water from the laundry “all of the time” for the garden.
- 86% claim to check for leaks on a regular basis.
- 69% of participants have not installed flow restricting devices.
- 76% of participants use garden mulch/compost or wetting agents.
- 64% of participants choose drought resistant plants.
- 38% of households have installed some sort of rainwater harvesting tank.

The most striking aspect of this survey was the high level of awareness of the importance of being water wise and secondly that by far the majority of people have changed a number of behaviours to be more diligent in their water use.

This is to be commended.

To put this into perspective, total water consumption has slightly decreased whilst the population has continued to increase.

10.4 Interpretations

There are multiple ways to interpret this information. Below are a few possible interpretations.

Water use
It would appear that if we return to Stage 1 restriction levels, that households will not use as much water as they have in the past as there are a very high number of survey participants that have moved to water efficient gardens.

Willingness to pay
Using a choice modelling approach we have found that people are generally unwilling to pay extra to move to Stage 1. This may be because respondents feel a sense of responsibility to ensure “fairness” in availability around the region.

However, generally people would support a price increase to provide a reliable supply in which the harsh restriction only occurred every 50 years and that they had enough water to be able to water a garden with a hose during certain hours.

Fairness
Clearly people would not like to see a price increase just to ease restrictions. Given that water is seen as scarce doing this would be seen to promote inefficient practices and would be seen as socially irresponsible. It may be seen as unfair to all those that have invested in being water efficient.

Sharing information
There is an opportunity for us to provide targeted information and free water saving devices such as shower heads and shower timers to households. There also appears to be an opportunity to increase the level of personal awareness of water consumption, possibly through making information easier to understand.

Fixed and variable components
There has been a very strong message that regardless of background or location, most people want more control of their bill.

Complementary measures
The findings highlight the need to ensure that any change in pricing is complemented with a hardship program, concession holder rebates and detailed information.

10.5 Pricing Proposal Presentations to the Community

A number of community briefings are proposed across the region. Including

- Bendigo x 2
- Echuca
- Boort
- Rochester
- Castlemaine
- Kyneton

Further to this we have offered a briefing to Mayor's and Chief Executive Officer's of Local Government.

Information about the proposal has been in paid advertisements across the entire region with numerous radio and media interviews being conducted.

We have also created a section on our website to provide detailed information including an on-line 'proposed pricing estimator'.

10.6 Providing comment

We have offered a number of mechanisms for customers to provide comment including:

- Email
- BLOG
- In person
- By post

10.7 Consultation report

As agreed with the Commission, we will submit a separate consultation report after 31 March 2010.

Appendix 1

Computer Modelling

The proposed tariff adjustment for the remainder of the regulatory period uses two computer models to project water demands and revenues.

Coliban Water Resource Model

The Coliban Water Resource Model simulates the operation of the Coliban water supply system (Coliban Northern, Coliban Southern and Coliban Rural) and shows the movement in water reserves for catchment inflow and customer demand scenarios.

The Model was developed specifically for the Coliban system that supplies 80% of our households in the major centres of Bendigo, Castlemaine and Kyneton and nine other smaller surrounding townships as well as the rural sector.

The Model uses recent historical system water demands, evaporation rates, system operational losses and system operational rules including environmental passing flow obligations to simulate the operation of the Coliban system.

The Model has a demonstrated high level of reliability to accurately project water storage behaviour over short-term water resource planning periods of up to seven years. *Figure 11* shows the Model's projection of the Coliban Water system resource position over the seven year period from 2003 to 2009 was within 5% of the actual storage behaviour.

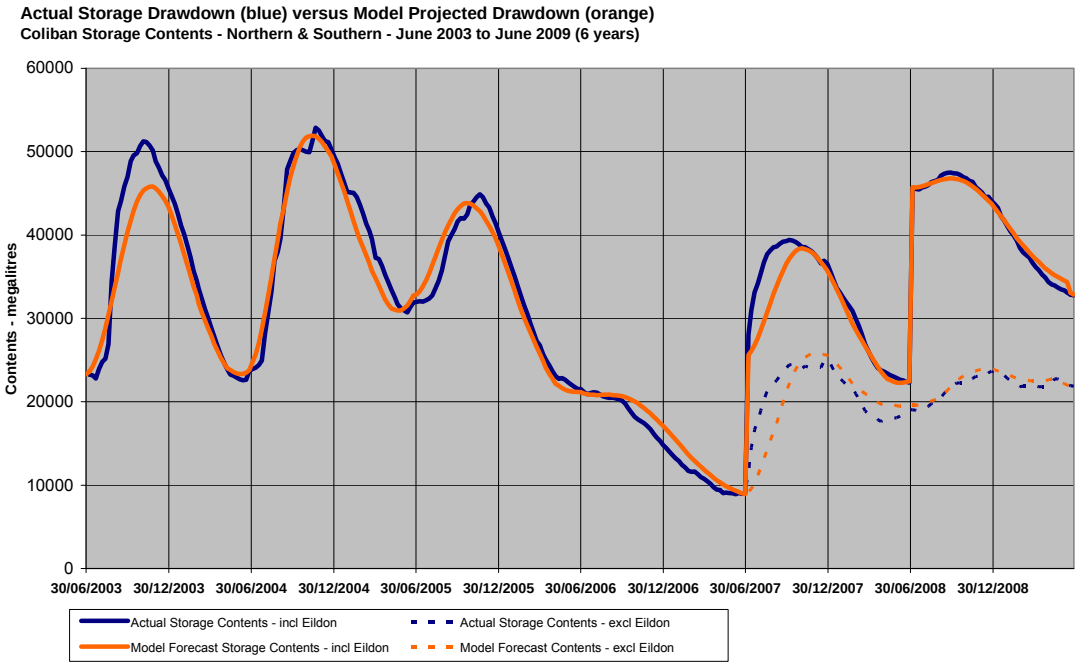

Figure 11. Comparison of actual storage contents with the Model's projected contents.

The Model is important for the analysis of the Coliban system as this system is the most complex of our systems in terms of size and operational variability. The Model allows a broad range of scenarios to be run with considerable flexibility to change water supply and demands, growth rates, evaporation rates and major infrastructure availability.

The key assumptions used in the analysis of the remainder of the Water Plan 2009-13 were:

- Inflows into the Coliban catchment storages would average the last five year inflow of 10,800 megalitres per year
- Inflows in Lake Eppalock would average 2,900 megalitres per year (Coliban Water's 18% share of the total estimated inflow of 16,000 megalitres per year)
- Water taken from the Goulburn irrigation system would equate to an average of 20,000 megalitres; this assumes an average annual allocation of 60% or 13,400 megalitres and temporary water purchases as required.

A minimum water reserve target of 36,000 megalitres to supply 'critical human needs' for a period of two years as security against a repeat of catastrophic drought conditions such as those experienced in 2006/07 and 2008/09. This level of water reserves provide essential water security to our communities and minimises the need for sudden and excessive movement in water restriction levels.

The water demands, shown in terms of water restriction levels, as projected by the Model analysis are:

Coliban Supply System	2010/11	2011/12	2012/13
Coliban Southern	3	3	3
Coliban Northern	3GE #	1*	1*
Coliban Rural	25%	25%	25%

* Customer demand behaviour has changed over the last five years with Stage 1 demands now expected to reduce to a level equivalent to what would normally have been experienced under Stage 2.

\# General Exemption

Coliban Revenue Model

The Revenue Model estimates annual revenue income from rates and charges for the period of the current Water Plan.

The Model improves the accuracy and ease of projecting revenues when there are changes to tariffs and tariff structure. It also allows ready analysis of effectiveness of these changes in meeting corporate objectives.

The Model was developed as part of the current review of Water Plan prices. The revenue to be raised through rates and charges is based on the adopted price structures and the historical patterns and trends with regard to water consumption and customer growth rates.

In very basic terms the revenue is determined as:

$\sum$(Number of Customers x P1) + $\sum$ (Volume Sold x P2)

Where:

$\sum$ is the symbol for the 'sum of'
P1 is the Access Fee – there is a multitude of access fees
P2 is the price of water - there is a multitude of varying water volume charges

The above explanation is very approximate and simplistic as there are other inputs such as miscellaneous levies, trade waste charges and other charges.

The statistical data used by the model relates to both water and wastewater up to the year or quarter proceeding the period of the Water Plan.

This base data is extracted from the Coliban Water data warehouse and includes the number of customer connections, service size and consumption patterns for each customer group and town.

The Model calculates the growth in the various service sizes and types (water, wastewater, fire services etc) and these growth rates are applied to forecast future numbers of connections and in turn used to calculate revenue raised from fixed access fees.

Estimating revenue from volumetric charges is prone to error as consumption rates can vary significantly not only from one stage of water restriction to another but also significantly from town to town, from household to household, and, from month to month.

The Model analyses actual consumption data to address these complexities in order to better estimate the revenue raised from volume charges.

The Model uses recent historical data over the last eight years to calculate the quarterly (three monthly) demand patterns for each of our main 40 towns and is able to relate this demand to the water restriction level in force at the time.

Bendigo's average quarterly consumption per residential service is shown in *Figure 12;* demands increase with the easing of restrictions, as expected, but also vary from quarter to quarter with peak demands in summer and lower demands in autumn, spring and the least in winter.

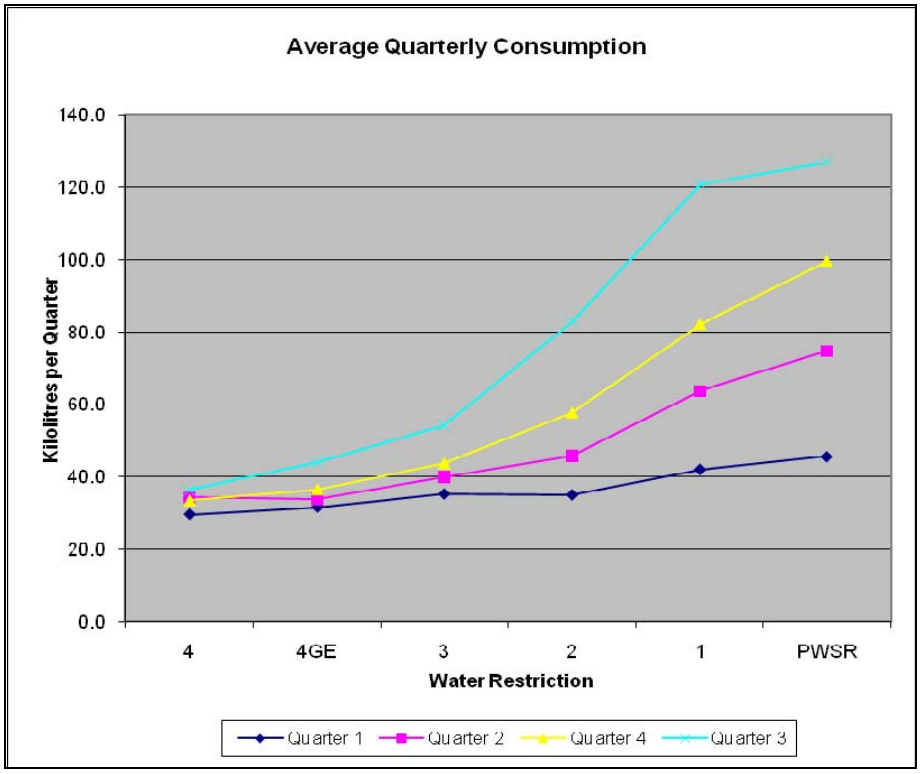

Figure 12. Estimated Bendigo quarterly consumption per residential service.

The Model estimates the above average consumption rates for each town and for each service type (residential, non-residential and agreements) using actual historical data.

Figure 13 shows the distribution of water used by Bendigo households under Stage 3 water restrictions. In all there are 960 different distribution patterns to cover all possible water supply scenarios (40 towns x 4 quarters x 4 water restrictions levels).

These distribution patterns are used by the Model to calculate the volumes of water consumed under each step of the step tariffs and in turn the associated volumetric revenue.

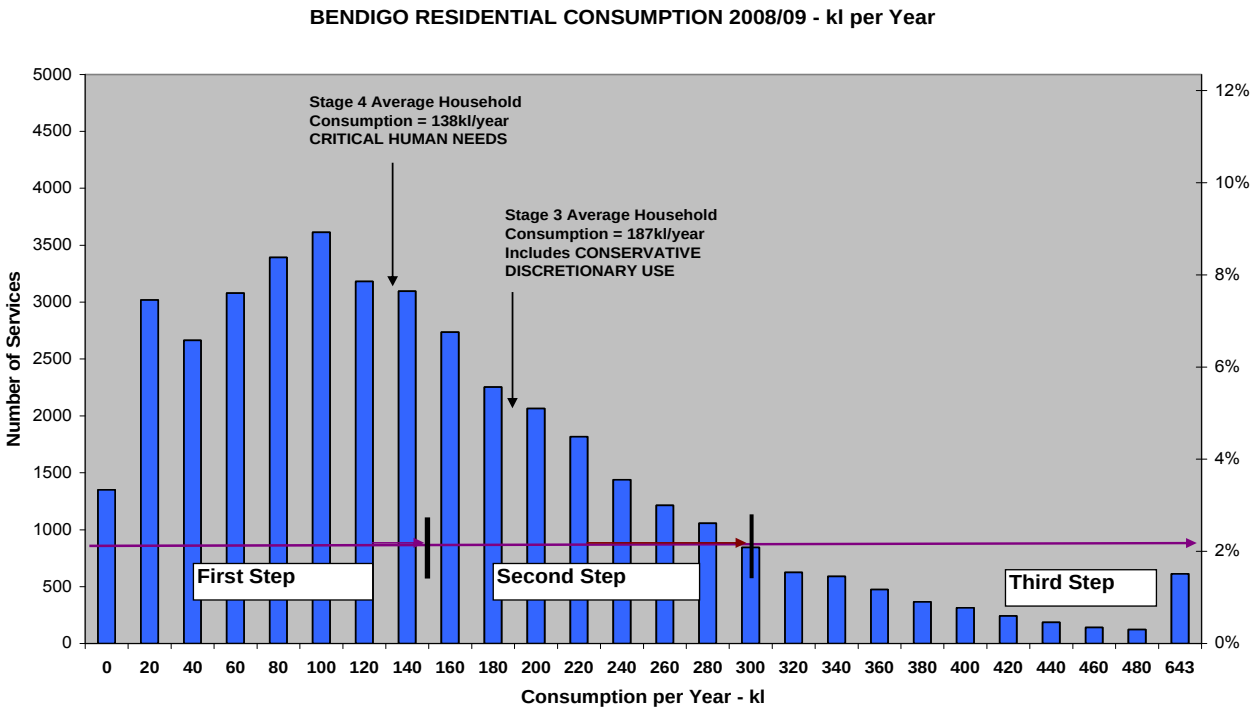

Figure 13. Bendigo residential consumption 2008/09 – kl per year.

Recent water use data provides the necessary information to generate about 55% of all possible water supply demand and water distribution possibilities. Simple algorithms are used to fill the missing gaps in the library of demand scenarios where there is no previous history. Over time there will be continuous improvement in the range of data which will further enhance the accuracy of the revenue estimates.

Revenue estimates

The Model automatically generates the service growth rates and estimated water consumptions.

Some broad assumptions are entered into the Model and these include:

Price Escalation Factors – these percentages must be entered for each price component for each year of the Water Plan. The components relate to water, wastewater, recycled and the rural systems

Water Restriction Levels - the levels entered are those water demands that can be supported by the available water resources. This is determined by the 'Coliban Water Resource Model'.

Inflation (include or exclude) – the exclusion of inflation will calculate revenue in terms of 'real' prices. Real prices can be terms of any year of the Water Plan or preceding year. The inclusion of inflation set prices to 'Nominal' prices that escalate to CPI; this would create statutory prices and revenues.

The estimated revenue, as calculated by the Model, can be increased or decreased by adjusting the 'Price Escalation Factors' or the pricing strategy so as to achieve the pricing and income objectives.