Barwon Water

DRAFT 2008 WATER PLAN

AUGUST 2007

1. Executive Summary

1.1. Introduction

This proposal discusses the outcome of the current regulatory period 2005/06 – 2007/08, including relevant factors that have impacted on Barwon Water during the regulatory period. It also sets out Barwon Water's short to medium-term business plan in response to the Essential Services Commission 2008 Water Price Review for the regulatory period 2008-2013.

Like most other areas of Australia, Barwon Water's region has experienced drought conditions over the past 10 years, the impact of which has been exacerbated by the 2006/07 record dry conditions resulting in stream flows reducing to 50 per cent of the past 10-year average. With storage levels already low, the 2006 low inflows necessitated Stage 1 water restrictions being introduced for the Greater Geelong supply area in July 2006, increasing to Stage 4 water restrictions by December 2006. In addition, Stage 2 water restrictions were introduced in Colac in November 2006, with similar restrictions implemented in Apollo Bay due to insufficient water storage.

As identified throughout the *Draft 2008 Water Plan* these drought conditions have caused Barwon Water to re-evaluate the timing and design of a number of projects.

1.2. Background

Barwon Region Water Corporation (trading as Barwon Water) is the largest water corporation outside metropolitan Victoria. It provides world standard water and sewerage services to more than 270,000 permanent residents over 8,100 square kilometres. The population increases by more than 198,000 to 469,000 during holiday periods.

Barwon Water's asset base of approximately $1 billion includes more than 5,000 kilometres of pipes, 10 major reservoirs, 10 water treatment plants and nine water reclamation facilities.

Barwon Water is a major employer in the region employing operational, engineering, strategic planning, financial and administrative specialists.

1.3. Revenue requirement and proposed annual price change

The *2008 Water Plan* for Barwon Water will deliver a real price increase, improved performance and long-term sustainable water and sewerage services for customers.

- Total revenue required $703M
- With a real price increase of 12 per cent per annum.

1.4. Key outcomes for the *2008 Water Plan*

In the *2008 Water Plan*, Barwon Water is committed to delivering the following outcomes to customers -

- Continuation of current service standards, particularly security of supply through substantial new investment:
    - constructing a Melbourne to Geelong interconnection project at a cost of $100M, to be completed by June 2012. Up to 16,000 megalitres a year will be supplied to Geelong
    - delivery of the Anglesea borefield project for $70M, making available up to 7,000 megalitres per year
    - investigations into other water supply options, including system interconnection and aquifer recharge.
- Sustainable future:
    - through a uniform water conservation message and innovative tariff design
    - investment in alternative water sources

- sustainable biosolids management delivering 100 per cent beneficial use
- water recycling initiatives, including delivery of the Northern Water Plant, which will increase sewerage system capacity in northern Geelong, reduce potable water use by 2,000 megalitres per year, and reduce ocean discharge
- greenhouse gas abatement and energy efficiency through a reduction in emissions of 13 per cent by 2013
- providing sewerage to small towns
- managing and monitoring river health
- effective and innovative trade waste management.

- Research and development initiatives through:
  - aquifer storage and recovery trials and investigations
  - groundwater investigations in south-west Victoria
  - smart metering and billing options
  - alternative water use
  - innovative solutions to small town sewerage.

1.5. Forecast capital expenditure requirements

Barwon Water's capital expenditure requirements have been established through a robust asset management planning process. This planning process ensures the forecast capital expenditure required for the upcoming regulatory period reflects the underlying characteristics and performance of Barwon Water's assets and is consistent with Barwon Water's demand forecasts, customer service standards and other obligations.

Table 1-1 shows Barwon Water's forecast capital expenditure requirement for the upcoming regulatory period.

Table 1-1 2008/09 – 2012/13 capital expenditure requirements ($M, real)

	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Headworks	43.49	12.96	52.61	51.76	1.64	162.46
Pipelines/network	32.13	37.44	41.69	65.4	56.51	233.17
Treatment	3.42	2.10	4.51	1.62	2.34	13.99
Corporate	4.72	6.12	8.62	8.12	5.22	32.80
Recycled water	9.49	40.27	15.36	2.88	1.05	69.06
Total	93.25	98.89	122.79	129.78	66.76	511.48*

* This figure does not include government and customer contributions, gifted assets or proceeds from disposals

Barwon Water has significantly reprioritised the capital program to manage impacts of the drought. This has involved bringing forward to 2006/07–2008/09 a number of projects originally forecast for later in the upcoming regulatory period.

The benchmark capital expenditure forecast for the upcoming regulatory period of $511.5M is offset by government contributions of $46M. Significant planning and resource allocation will ensure Barwon Water will continue to deliver the programs set.

Table 1-2 identifies the top 10 capital projects forecast during the upcoming regulatory period.

Table 1-2 Ten major projects for the period 2008/09 – 2012/13 ($M, real)

Project	Drivers	Outcomes	Expected delivery date	Cost
Melbourne Interconnection (water)	Growth/ augmentation	Additional water supply for greater Geelong system	2012	100.0
Geelong Trunk Sewerage Strategy	Growth/augmentation, compliance	Freed up potable water and increase in sewerage system capacity	2011	66.5
Anglesea borefield project (water)	Growth/ augmentation	Additional water supply for greater Geelong system	2010	35.3
Water Main Replacements	Renewals, improved service	Reduced risk of failures – improved service levels	Ongoing	20.0
Shared water and sewer reticulation assets	Growth/ augmentation	Water assets greater than 150mm and sewer greater than 225mm are required to be funded by Barwon Water	Water - 2013 Sewer - 2015	19.6
Armstrong Creek Sewerage Scheme	Growth/ augmentation	Providing sewerage services to new suburb development.	2014	11.7
Bellarine transfer main stage 5 (water)	Growth/augmentation	Increased supply capacity to Armstrong Creek development	2014	11.0
BASIS replacement	Replacement	Replacement of billing system	2012	11.0
Leopold rising No.1 replacement (sewer)	Growth/augmentation	Ability to accept future sewerage flows from Clifton Springs and Leopold	2013	10.4
Apollo Bay / Skenes Creek bulk water supply	Growth/Improvement	Additional water supply for Apollo Bay/Skenes Creek	2011	9.1
Percentage of overall Capital Works Plan				57.6%

1.6. Forecast operating expenditure

The drivers of the forecast operating expenditure are to maintain current service levels and customer expectations and ensure the operation of capital investment is achieved.

Table 1-3 shows Barwon Water is forecasting operating expenditure of $400.5M over the next regulatory period. This reflects prudent and efficient forecasts for the upcoming regulatory period linking Barwon Water's strategic objectives, customer expectations, regulatory obligations and management of prolonged drought, including operation of the Northern Water Plant and sustainable biosolids management.

The proposed operating expenditure does not include any operating costs, or take or pay estimates for the Melbourne interconnection.

Table 1-3 2008/09 – 2012/13 operating expenditure requirement ($M, real)

	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Operations and maintenance	24.49	23.35	20.36	19.87	20.19	108.26
Treatment	19.73	24.51	23.37	23.13	23.57	114.30
Customer service and billing	8.03	8.08	8.13	8.17	8.22	40.63
Corporate	26.52	24.16	24.55	25.01	24.95	125.20
Recycled water	1.19	0.82	0.70	3.69	3.85	10.25
Licence fees	0.36	0.36	0.36	0.36	0.40	1.83
Total	80.31	81.29	77.48	80.22	81.18	400.48

The proposed operating expenditure includes productivity savings through re-assigning work programs to allow new obligations to be absorbed within existing business-as-usual expenditure. These are outlined in Part C of the *Draft 2008 Water Plan*. It also reflects expenditure for training and professional development to ensure Barwon Water undertakes work in the most productive and efficient manner.

1.7. Service standards

Barwon Water's focus during the next regulatory period is to maintain existing high levels of service.

The current drought has led to significant increases in service calls and expenditure to maintain service levels. In light of the current drought conditions, Barwon Water has set proposed service targets for the upcoming regulatory period based on continued drought conditions and related impacts on service delivery. The latter years of regulation are anticipated to see a return to "normal" three-year average results.

This proposal continues to provide an incentive to pursue efficiency improvements through the existing Guaranteed Service Levels payment scheme. The scheme involves making payments to customers who receive a level of service that is less than the average level of performance expected by most customers, and where these services do not meet defined levels of performance.

Table 1-4 identifies Barwon Water's proposed Guaranteed Service Levels for the upcoming regulatory period. This is an increase from the current payment of $50.

Table 1-4 Targets for guaranteed service level scheme

Service attribute	Guaranteed level of service	Payment
Water supply reliability	No more than five unplanned water supply interruptions in any 12-month period.	$65
Sewerage service reliability	No more than three unplanned sewerage service interruptions or more than three sewer spills on to the customer's property within a 12-month period.	$65

1.8. Revenue requirement

Barwon Water is forecasting a total revenue requirement of $703M for the upcoming regulatory period. This is broken down to an annual basis in Table 1-5.

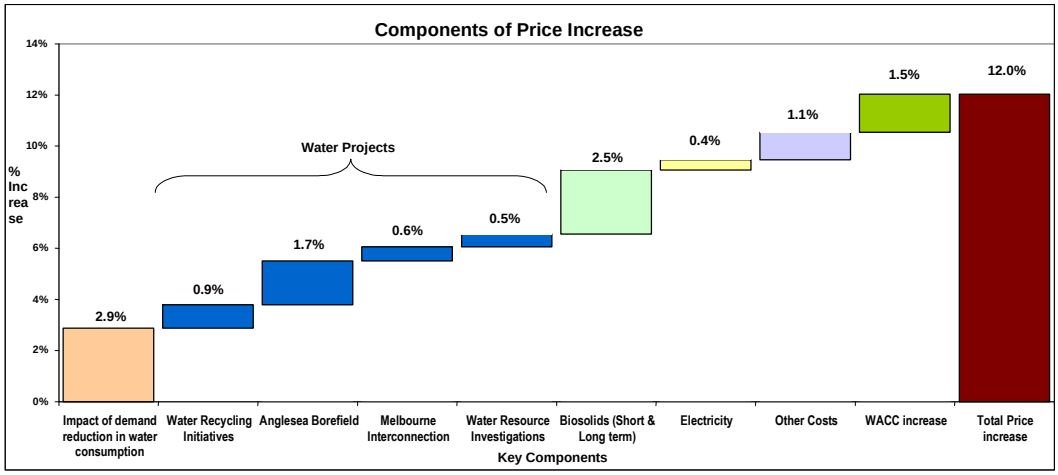
Table 1-5 2008/09 – 2012/13 forecast revenue requirement ($M, real)

Description	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Operating expenditure	80.31	81.29	77.48	80.22	81.18	400.48
Return on assets to 30/06/08	30.21	29.27	28.33	27.45	26.64	141.90
Regulatory depreciation of assets to 30/06/08	14.57	14.57	14.43	12.48	12.36	68.41
Return on new assets	2.42	6.61	11.11	16.90	21.51	58.55
Regulatory depreciation of new assets	1.11	3.38	6.29	9.88	12.38	33.05
Adjustments from last period	0.23	0.00	0.00	0.00	0.00	0.23
Tax (if payable)	0.00	0.00	0.00	0.00	0.00	0.00
Total revenue requirement	128.86	135.12	137.63	146.93	154.07	702.61

Table 1-5 shows the increase required to ensure Barwon Water is able to meet its obligations to customers. This is based on the forward operating and capital programs Barwon Water has forecast is necessary to meet customer demand and continue to provide world standard water and sewerage services.

Figure 1-1 shows how each component of Barwon Water's revenue requirements results in the 12 per cent increase in prices. It shows the forecast capital program contributes largely to the price increase. This capital works program is required to sustain the region's water supply and meet customers' needs.

Figure 1-1 Components of price increase



1.9. Demand forecasts

Demand forecasts are integral to Barwon Water's business planning process. They not only represent the units on which Barwon Water bases revenue, but are essential for forecasting capital expenditure and operating expenditure, including the projects required and the appropriate timing of expenditure.

1.9.1. Customer growth rates

Generally, the connection growth rates are higher than population growth rates. This is due to various trends, including a decline in the average household size and an increase in one-person households.

Both the population growth forecasts and connection growth projections used to calculate volume projections are based on the Department of Sustainability and Environment's *'Victoria in Future'* population projections and local council planning frameworks, in particular structure growth plans.

Table 1-6 outlines the percentage actual and forecast population rate increases from 2005/06 – 2012/13. It shows the actual population rate increase in 2005/06 was 2.2 per cent, which is forecast to decline to a 1.1 per cent increase by 2012/13.

Table 1-6 Forecast increase in population rate (%)

Population rate	2005/06 Actual	2006/07 Actual	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Total region	2.2	1.6	1.2	1.2	1.2	1.2	1.2	1.1

Barwon Water's non-residential customer connections grow at a similar rate to residential customer connections. Given this, Barwon Water has applied the same growth rate to non-residential customers going forward as has been applied to residential customers.

Table 1-7 provides the connection growth rate for the region from 2005/06 to 20012/13. It shows the forecast connection growth rate will increase at a reasonably steady rate on a year-by-year basis.

Table 1-7 Forecast increase in connection rate (%)

Connections	2005/06 Actual	2006/07 Actual	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water	2.0	1.7	2.0	1.9	1.9	1.8	1.8	1.8
Sewer	1.9	1.7	2.0	1.9	1.9	1.8	1.8	1.8

1.9.2. Water volume demand

A number of significant variables impact water volume demand. These are:

- the influence of existing water restrictions on customer consumption, brought about by low stream flows due to changing weather patterns and climate change
- population growth rates and economic growth
- impact of price on demand
- water conservation, which can be influenced by government policies
- implementation of recycled water initiatives of potable water substitution which reduce demand for potable water, for example the operation of the Northern Water Plant.

Table 1-8 represents Barwon Water's forecast water demand over the next seven years. It shows a decline in demand from 2005/06 to 2007/08 due to water restrictions to counter the drought. An additional drop in demand is forecast in 2011/12 taking account of the Northern Water Plant. However, demand is projected to increase to 2012/13 as the region recovers from the drought and water restrictions are lifted.

Table 1-8 Forecast metered water volume demand (megalitre)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Residential	24,835	19,779	17,636	19,208	21,055	21,839	22,666	22,863
Non-residential	13,625	12,774	11,229	12,230	13,405	13,904	11,408	11,507
Total	38,460	32,553	28,865	31,438	34,461	35,743	34,074	34,369

1.10. Proposed price increase

Barwon Water is forecasting a 12 per cent per annum price increase for the upcoming regulatory period. This increase is based on:

- the recovery of costs associated with providing services through sufficient revenue
- maintaining Barwon Water's two-part tariff structure (volume charge and service charge) throughout the upcoming regulatory period
- expenditure forecasts equitably and efficiently recovered from residential and non-residential customers, providing for rebalancing revenue collected between residential and non-residential customers in line with demand.

1.10.1. Proposed water and sewer tariff prices

Table 1-9 reflects Barwon Water's proposed water and sewer prices for the upcoming regulatory period.

Table 1-9 Forecast water and sewer prices 2007/08 – 2012/13 ($M, real)

	2007/08 (actual)	2008/09	2009/10	2010/11	2011/12	2012/13
WATER PRICES						
Residential and non-residential						
Water volume charge	0.95	1.35	1.51	1.69	1.90	2.13
Water service charge	148.29	102.66	115.00	128.84	144.33	161.69
SEWER PRICES						
Residential						
Sewer volume charge	1.14	-	-	-	-	-
Sewer service charge	184.00	326.08	365.30	409.24	458.46	513.61
Non-residential						
Sewer volume charge	1.14	1.17	1.31	1.46	1.64	1.84
Sewer service charge	184.09	206.23	231.04	258.83	289.96	324.84

The impact of the proposed tariff structure includes:

- a strong water conservation signal to assist in reducing demand by increasing the variable charge by 42 per cent to $1.35 per kilolitre
- a decrease in the fixed charge to provide customers more control over the size of their bill. The consequent reduction is from $148.29 to $102.66 in 2008/09
- an increase in the proportion of total water revenue generated from volumetric revenue (61 per cent to 76 per cent)
- rebalancing the water and sewer charges by reducing revenue collected through sewer charges and increasing revenue collected through water charges, reflecting the respective expenditure forecasts proposed during the regulatory period
- a slight increase in the proportion of revenue generated from the non-residential customers, relative to the residential customers.

Table 1-10 identifies the average quarterly water bill for residential customers from the current regulatory period against the first year of the upcoming regulatory period.

Table 1-10 Quarterly water bill for residential customers ($, real)

Use per annum	2007/08 ($)	2008/09 ($)
75 kl	54.89	50.98
150 kl	72.70	76.29
200 kl	84.57	93.16
300 kl	108.32	126.92

Note – 1kl = one kilolitre = 1,000 litres

Table 1-11 below identifies the average quarterly bill for non-residential customers within the region from the current regulatory period against the first year of the upcoming regulatory period.

Table 1-11 Total quarterly bill for non-residential customers ($, real)

Use per annum	2007/08 ($)	2008/09 ($)
500kl	337.35	384.39
1,000kl	591.61	691.56
3,000kl	1,608.64	1,920.22
5,000kl	2,625.68	3,148.89
10,000kl	5,168.26	6,220.56

1.10.2. Pricing for water recycling

Barwon Water has implemented a recycled water strategy that establishes recycled water as a key element in the successful management of water as a scarce resource.

Recycled water prices for non-residential customers are calculated on an individual basis applying the pricing principles below. These are consistent with the principles outlined in the Essential Services Commission's Guidance Paper[1].

The pricing principles are:

- maximise revenue earned from recycled water services, having regard to the price of any alternative substitutes and customers' willingness to pay
- cover the full cost of providing the service
- include a variable component.

[1] Essential Services Commission: 2008 Water Price Review – Guidance Paper, March 2007

1.10.3. Miscellaneous charges

Barwon Water is developing a core set of miscellaneous services to provide a simpler and more concise list of services clearly linked to the service activity. A review of miscellaneous charges has been undertaken to ensure prices are transparent, efficient and based on recovering the full cost of providing the service.

It should also be noted that all prices will vary depending on the service provided.

The completion of the review will be finalised for inclusion in Barwon Water's final *2008 Water Plan* on 8 October 2007.

1.11. Proposed form of price control

Barwon Water is proposing a tariff basket methodology as its form of price control for the upcoming regulatory period. This methodology allows updates of annual prices by increasing certain prices more than others, provided the average weighted price increase is maintained. In addition, to ensure substantial customer impacts do not occur, one particular price cannot be increased more than the overall price increase plus 3 per cent.

Application of this approach achieves the following:

- greater flexibility to adjust prices year on year. This would allow a re-allocation of revenue collection in-line with changing and unforeseen costs in relation to particular services
- an opportunity to modify current pricing structures during the regulatory period. This may include reducing the sewer volume charge for non-residential customers to reflect more businesses recycling water within their business.

1.12. New customer contributions

Barwon Water proposes a minor increase to account for Consumer Price Index movement to the charge per lot for new customer contributions. The charge is based on the water efficiency of developments, with the standard charge varying according to the water sensitivity of developments and the demand for future infrastructure.

The three different charges proposed are:

- $550 per water and sewer lot where there is minimal impact on future water resources and can be provided for in current capacity
- $1,100 per water and sewer lot where developments will require further investment within six years to cater for development. Where shared assets must be constructed ahead of schedule and the 'bring-forward' costs are greater than $1,100 the resulting calculated charge should apply
- $2,200 per water and sewer lot for developments that will create demand for water resources over and above high-density, water-efficient homes.

1.13. Customer and regulator consultation

The *Draft 2008 Water Plan* incorporates community feedback from project-focused consultation undertaken in accordance with Barwon Water's community engagement strategy. In addition, in the last quarter of 2006 a survey was undertaken into alternative pricing structures and our customers' willingness to pay for non-obligatory aspects of our operations, including the purchase of renewable energy and costs associated with investigating recycled water options.

In developing the *Draft 2008 Water Plan,* Barwon Water has consulted with regulators, including the Department of Sustainability and Environment, the Environmental Protection Authority and the Essential Services Commission.

Barwon Water also has a number of consultative groups, which continue to provide regular feedback. This feedback has been considered in developing the *Draft 2008 Water Plan.*

On 14 August 2007, Barwon Water will begin further community consultation on the *Draft 2008 Water Plan*. Barwon Water will engage in targeted community consultation to inform stakeholders about the *2008 Water Plan* and give opportunities for customers and

stakeholders to provide written submissions before 8 September 2007. The *Draft 2008 Water Plan* will also be submitted to the Minister for Water, the Treasurer and each Regulatory Agency for comment.

These submissions and feedback will be considered in developing the final *2008 Water Plan.*