WATER PLAN:

2008 - 2013

8 October 2007

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1. INTRODUCTION

Wannon Water is proud to set out what it is determined to achieve for its customers over the five years from July 2008.

Wannon Water was formed on 1 July 2005 from an amalgamation of the three predecessor water authorities in southwest Victoria:

- Glenelg Water
- Portland Coast Water
- South West Water

This is the first Water Plan for our customers as an integrated business, as Wannon Water inherited the Water Plans and prices that had been developed by the three previous water businesses.

1.1 Wannon Water's Business and Customers

Wannon Water provides essential water and sewerage services to 70,000 people across 24,000 square kilometres of southwest Victoria, stretching from the South Australian border in the west across to Port Campbell on the south coast and stretching up as far as the Grampians in the north of the region. The major centres of population are Warrnambool, Portland and Hamilton.

The widely scattered character of the region means that Wannon Water has to operate a large number of small plants and systems to guarantee supply to our customers, including 21 water treatment facilities and 16 water reclamation plants. The water supplied to customers comes from similarly widely dispersed sources including the Otways, the Grampians and the Dilwyn Aquifer.

Wannon Water has four important groups of customers:

- Residential customers: domestic households across the region
- Non-residential customers: businesses (excluding major customers)
- Major Customers: 13 large industrial customers
- Rural customers: farming enterprises who may receive by agreement either a treated or untreated water supply, depending upon their location, or are in a gazetted rural district

Table 1-1: Wannon Water Customer Numbers & Consumption 2006-07

Source	Main Towns	Residential	Non-residential	Major	Rural	Total
Otways	Warrnambool Camperdown	17,464	2,017	8	1,205	20,694
Dilwyn West	Portland Port Fairy	8,012	1,075	3		9,090
Dilwyn East	Timboon	901	104		108	1,113
Grampians	Hamilton	4,911	777	2	221	5,911
Tullich Bore	Casterton	1,009	181		160	1,350
Other	Coleraine Penshurst	1211	271		120	1,602
Total Customers		**33,508**	**4,425**	**13**	**1,814**	**39,760**
Volume (ML)		**6,018**	**2,139**	**3,020**	**2,438**	**13,615**
% of supply		44.2%	15.7%	22.2%	17.9%	100%

1.2 Our Vision, Mission and Values

Wannon Water has developed a mission and vision that encapsulate its guiding principles:

Vision: Wannon Water will be a sustainable business meeting the expectations of its communities through a focus on economic, environmental and social responsibility, innovation and best use of water resources.

Mission: Wannon Water provides water and sewerage services that contribute to the sustainable growth, health and well being of the community and environment in the southwest of Victoria.

Wannon Water recognises the principles set out in the *Public Administration Act 2004* and has adopted the following values that best typify its objectives:

- **Respect** – we care for the well being, safety and development of our staff.
- **Innovation** – we encourage continuous improvement by fostering creativity, experimentation and intellectual openness.
- **Integrity** – we will be ethical and accountable for our actions.
- **Equity** – we will be socially responsible in providing access to water services and will have compassion for customers experiencing financial hardship.
- **Sustainability** – we will strive to deliver outcomes that account for social, environmental and financial sustainability.
- **Customer satisfaction** – we will strive for customer satisfaction and will consult with the community on relevant issues.

1.3 Amalgamation

The process of amalgamation in creating Wannon Water was a major exercise involving:

- Welding together three disparate organisations and systems into a quality customer focussed water business
- Putting in place standardised and effective systems to ensure improved and consistent compliance with external obligations
- Restructuring to establish a well trained and professional team to carry the responsibility for service delivery
- Rectifying major outstanding issues identified after the amalgamation
- Re-setting priorities across the single organisation to ensure that the works program delivered the best return for the total investment available.

The Board and Management Team committed serious time and resources to making sure that the business established robust and effective systems and revalidated its priorities and expenditure plans to deliver optimal outcomes for water customers across the region.

1.4 Drought

The other major factor that has driven business decisions and expenditure since 2005 has been the continued serious drought. Wannon Water developed a Drought Response Plan which included the introduction of permanent water savings measures on 1 May 2006, and a new four-stage Water Restrictions By-law.

The drought triggered the need for additional expenditure, in particular the sinking of extra bores to prevent Hamilton from running out of water, and has brought forward other projects to provide

greater security for many communities. The drought has also decreased revenues in the Hamilton area as customers reduced consumption in response to the water restrictions. This is a challenging business environment. The net estimated cost to Wannon Water is $1.14M which has been included as an expense line in the 2008-9 year in order to recover this amount.

This Water Plan includes a comprehensive *Water Supply Demand Strategy* that identifies a prudent and responsible investment program to enhance security of supply and promote water conservation over the next fifty years. This will ensure that the region has continued access to water for domestic and business needs to support community health and well being.

1.5 Customer Service

Customer service is the heart of Wannon Water's business. Wannon Water commits to delivering high quality services to all customers, and to putting things right quickly and without fuss if things go wrong. Customers are consulted through numerous routes to develop and implement policies and programs. Wannon Water welcomes customer contacts and complaints as they help us learn how to improve service delivery.

An independent customer satisfaction survey was commissioned in May 2007 to assess whether or not customers were satisfied with Wannon Water's performance. The level of customer satisfaction was exceptional, with 94% of domestic customers and 94% of business customers indicating that they were 'extremely-satisfied' or 'satisfied' with the overall level of services provided. The comparable figures for 2006 were 92% and 93% respectively.

Customer Service Benchmarking Australia was engaged in 2006 by the Essential Services Commission to assess the contact centre customer service delivery of regionally based Victorian water business. Wannon Water was rated the first out of the 15 Victorian water businesses assessed. This benchmarking demonstrates the quality of Wannon Water's customer service culture.

Wannon Water inherited three very different sets of customer service standards from the merged water businesses. In the 2005-06 year a revised single set of customer service performance targets were adopted following consultation with and support from Wannon Water's Customer Engagement Committee and approval by the Essential Services Commission. These targets focus the organisation's attention on those issues that matter most to customers.

Given the high level of customer satisfaction with the services provided by Wannon Water in the first regulatory period it is intended to roll forward the same levels of service targets into this Water Plan. Wannon Water is confident of maintaining a high level of customer satisfaction and achieving the service standards set out in this Water Plan.

1.6 Innovation and Sustainability

Wannon Water is committed to developing a business that is sustainable in the fullest sense of the word – promoting water conservation and re-use of recycled water, minimising the impacts on the environment, supporting the community and ensuring long-term commercial viability.

The drought and climate change create a significant challenge for all communities. Customers expect Wannon Water to take a lead in developing sustainable policies and practices. A specialist group of staff has been established to identify, develop and help direct innovative ways to help Wannon Water promote greater innovation and sustainability.

2. WATER PLAN EXECUTIVE SUMMARY

2.1 Introduction

In this Water Plan, Wannon Water sets out proposals to ensure the continued delivery of high quality, secure water and sewerage services to 70,000 people across a large area of southwest Victoria.

The priorities and targets in the plan have been developed through a collaborative exercise involving our customers, who seek high quality services at a reasonable price, and water industry regulators, who are concerned to ensure compliance with external obligations.

This Water Plan provides a proper balance between the expenditure needed to maintain levels of service consistent with the Customer Charter and setting water, sewerage and trade waste charges at a reasonable level to fund the business.

Wannon Water sought and received feedback and comments from customers, stakeholders, regulators and the wider community to ensure that the Water Plan represents a consensus view of the program of works and targets needed to ensure the long-term sustainable delivery of services to communities in southwest Victoria.

2.2 Overview of First Price Period

Wannon Water has delivered against the commitments in the Water Plans from the three prior water authorities in the region. Wannon Water has:

- Consistently achieved the suite of consolidated Customer Service Standards agreed with the Customer Engagement Committee and the Essential Services Commission. Robust and reliable systems have been implemented to record actual performance against targets;
- Created an integrated business with a higher level of professional capacity and compliance to meet customer and stakeholder expectations;
- Made good progress in delivering the capital works projects nominated in the 2005 - 2008 Water Plans of the three prior water authorities;
- Developed and implemented additional projects in response to implementation of the Drought Response Plan;
- Implemented actions arising from a post-merger due diligence audit; and
- Systems in place to complete capital works projects by the end of the first Water Plan period with a total value in excess of the commitments of the three former authorities.

Overall, customers in the region can be confident that the charges levied for water, sewerage and trade waste services have been used properly to deliver high quality services and respond to an unprecedented drought

Key Outcomes for the Second Price Period

Programs are proposed to ensure restoration of secure water supplies to the whole region in response to the unprecedented drought conditions of the last couple of years. Expenditure is also required to upgrade water reclamation plants to protect the environment and allow increased water recycling. Beyond that there is a prioritised program of works to ensure continued delivery of efficient and high quality services across the region.

The twelve major capital works projects in the Water Plan, in order of value are:

- $33.40M to construct the Hamilton Grampians Inter-Connector Pipeline to upgrade the security of water supply consistent with the *Water Supply Demand Strategy*;
- $7.33M to construct an office building in Warrnambool to provide reasonable workplace conditions for employees;
- $6.72M to upgrade the water reclamation plant at Portland to achieve compliance with the discharge licence issued by the EPA;
- $4.73M to provide SCADA telemetry monitoring of key assets in Wannon Water's service area;
- $3.37M to construct the Casterton to Coleraine pipeline to upgrade the quality of water delivered to Coleraine in accordance with an undertaking issued by the Department of Human Services;
- $3.30M to provide sewerage services to Dutton Way near Portland consistent with the Minister for Water's determination of Dutton Way as a priority one project under the *Country Towns Water Supply and Sewerage Program and capping of existing landowner contributions;*
- $3.30M for an aerobic digester cell at the water reclamation plant at Warrnambool to service growth and to reduce odour at the biosolids treatment facility in line with the EPA licence.
- $3.18M for rural and urban water mains replacements in Camperdown to maintain levels of service;
- $2.05M to provide a water supply service to Dutton Way near Portland;
- $1.73M to provide sewerage services to the West Portland area consistent with the draft wastewater management plan issued by Glenelg Shire Council;
- $1.53M to provide additional infrastructure to increase water recycling across the region consistent with the *Water Supply Demand Strategy*; and
- $1.15M to provide sewerage services in the Wangoom Road area of Warrnambool to service growth in the development corridor.

Wannon Water aims to maintain the levels of service set out in the Customer Charter. Wannon Water considers that the current targets in the Customer Charter represent a proper balance, delivering quality services that focus on the priorities for customers at a value for money price. Given the excellent customer level of satisfaction (94% in 2007) no changes are proposed to the existing levels of service targets except for the introduction of two Guaranteed Service Levels backed by payment for non performance impacting on individual customers.

The two Guaranteed Service Level payments to be introduced from 1 July, 2008 relating to the frequency of unplanned water supply interruptions and the frequency of sewer spills on a customer's property (refer section 6.9.6 for details).

2.3 Price Increases

The impact of the proposed price increases required in this Water Plan will vary across the water and sewerage systems depending on the location and characteristics of the individual customer. However, in order to provide an indication of the scale of the pricing changes proposed, this section provides indicative examples of a typical 200 kL/yr customer.

Table 2-1 shows the impact of the proposed price rises for households in the three main urban centres, if those households used an average of 200kL/yr. The table shows the combined bill for water and sewerage for the current year and the proposed bill for each year of the price period.

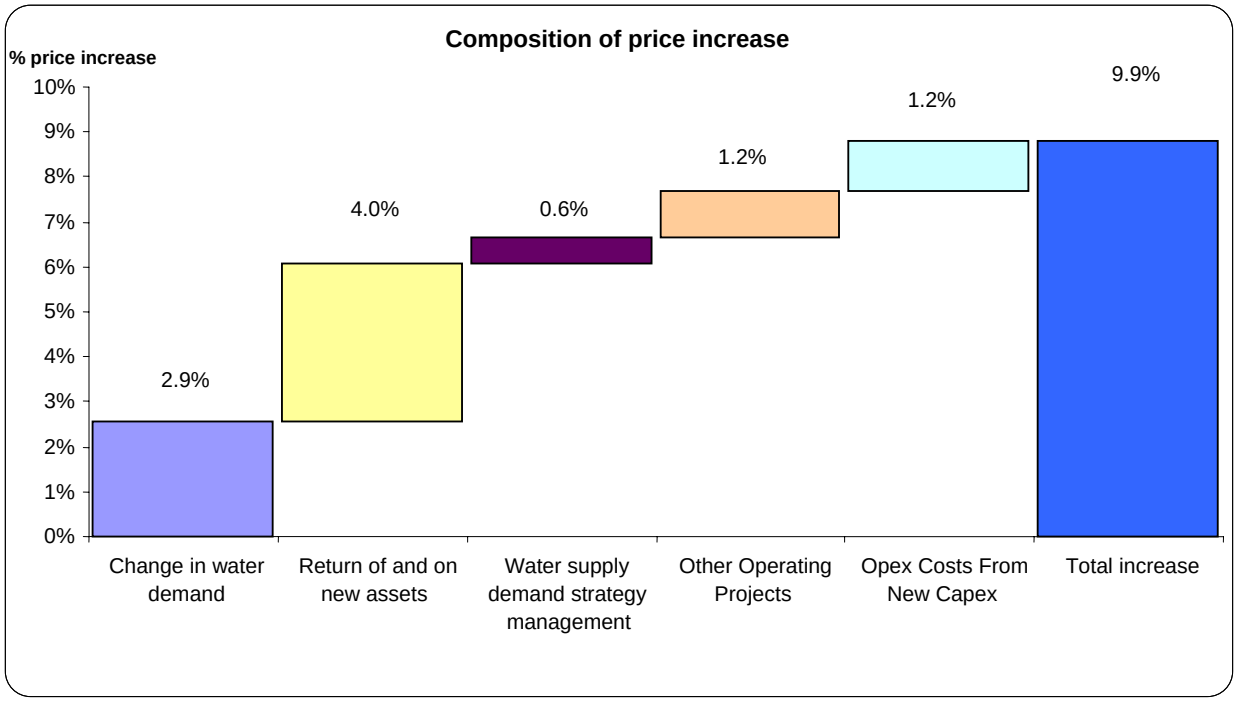
Table 2-1: Indicative Price Rises for 200kL Consumers for combined Water and Sewerage

	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
Hamilton (200kLs prop)	$665.11	$690.87	$797.72	$921.78	$1,065.93	$1,233.55
Portland (200 kLs property)	$566.14	$619.30	$707.71	$810.64	$930.71	$1,071.05
Warrnambool (200kLs property)	$725.20	$736.61	$787.52	$842.32	$901.32	$964.88

Table 2.1 shows how costs of major works have been allocated to the customer centres that benefit from those works, with Hamilton customers experiencing a greater price rise to pay for necessary supply augmentation, than customers in Warrnambool. Across the whole service area customer bills will increase by an average of 9.9% per annum over the five years of the Water Plan.

Annex G provides a wider range of indicative examples across a variety of consumption levels.

Figure 2-1: Core Components of Price Increases



2.4 Expenditure Forecasts

2.4.1 Operating Expenditure

The schedule of operating expenditure proposed over the life of the Water Plan is set out in Table 2.2:

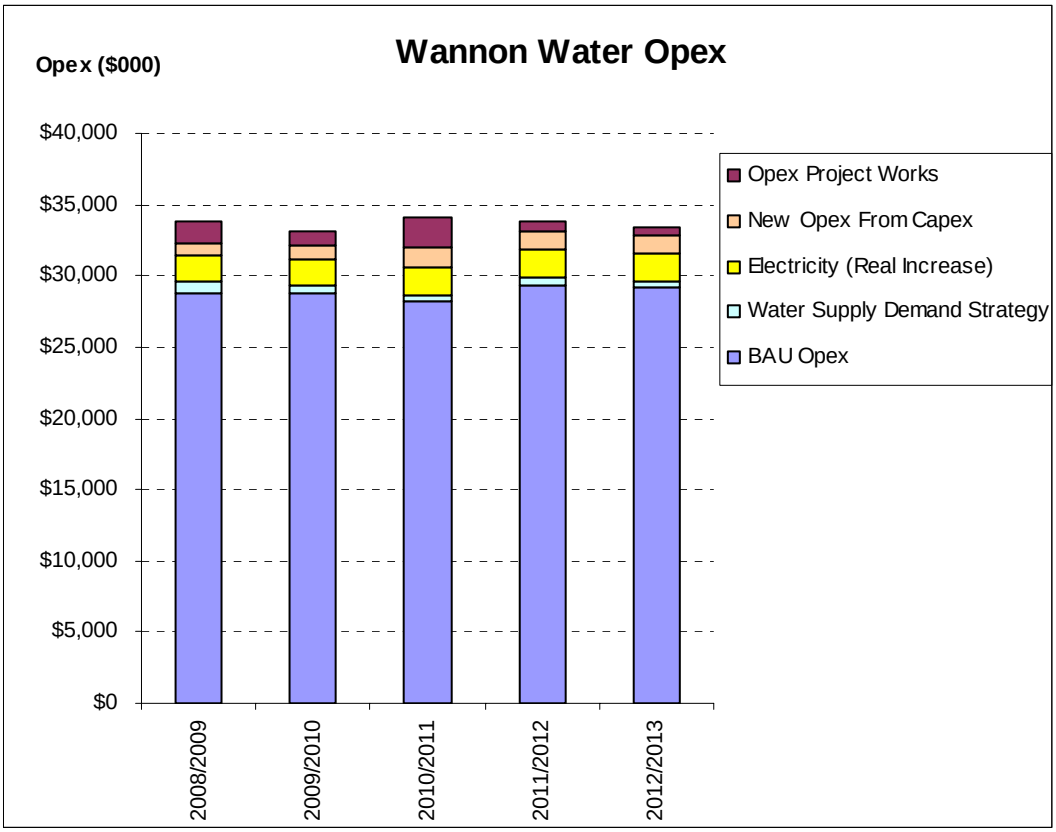
Table 2-2: Operating Expenditure proposed over Water Plan ($M)

2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
$25.23	$25.91	$28.44	$33.85	$33.20	$34.50	$33.95	$33.50

Comparative figures are provided for the earlier price period. The increase reflects the process of establishing Wannon Water as a credible new business taking over the responsibility of service delivery from the three smaller merged authorities. The figures indicate the operating expenditure required to meet the higher levels of service and compliance that are now the minimum baseline for water corporations.

The main issue for this Water Plan is to track the trends in operating costs over the five years of the price period. Figure 2-2 indicates the changes in operating costs over the five years of the Water Plan against a baseline set by the level of operating expenditure in 2007-08 (defined here as business as usual).

Figure 2-2: Operating Costs for the Price Period



This figure demonstrates that the baseline business as usual operating costs are relatively stable at around $28M/yr. The variation in costs between years is then driven by a number of factors:

- Costs will be incurred in implementing the *Water Supply Demand Strategy*, through, for example, marketing of water saving options for customers, audits, metering, water harvesting, evaporation retardants, etc;
- Wannon Water's electricity costs are predicted to double as from 1 July 2008 at the end of its current contract. This additional cost has been identified as a discrete element;
- There are additional operating costs that result from new capital projects. The most significant ones are pumping costs for the new Hamilton pipeline and additional capacity required at both the Warrnambool and Port Fairy water reclamation plants; finally

- There are significant initiatives to implement the obligations in this Water Plan, such as desludging of sewerage lagoons and increasing biosolids re-use in line with licensing requirements. These are defined as Operating Projects as they do not involve capital expenditure.

2.4.2 Capital Expenditure

A realistic program of capital works is proposed to provide the infrastructure and capacity needed to deliver the standard of service and compliance required. The program is front-loaded to respond to a number of early priorities, in particular augmentation of Hamilton's water supply to enhance security of supply consistent with the *Water Supply Demand Strategy*. Stripping out this one project reveals a program at a relatively steady rate of between $13M and $18M per annum.

Table 2-3: Expenditure Schedule for Capital Works Program ($M)

2009	2010	2011	2012	2013	Total
$25.16	$43.80	$12.82	$16.77	$11.54	$110.09

In developing the forward capital works program Wannon Water has reviewed the main drivers for expenditure. These are set out in Table 2.3:

Table 2-4: Key Drivers for Water Plan ($M)

Primary Driver	Total	Percentage of Total
Asset Replacement or Refurbishment	$26.73	24%
Corporate Services	$0.85	1%
Efficiency Improvement	$13.89	12%
Growth	$11.15	10%
Level of Service	$33.70	31%
New Systems & OH&S	$6.51	6%
Regulatory Compliance	$17.26	16%
Total	**$110.09**	**100%**

2.5 Revenue Requirements

The revenue required to deliver these commitments and ensure adequate finance for the proposed expenditure is calculated from three key elements:

- **Operating Expenditure:** this is to be recovered in the year in which it is incurred;
- **Return on Capital:** this provides a commercial return on the value of the capital invested in the business. This value comprises an opening regulatory asset base (RAB) updated by the addition of new validated capital expenditure less depreciation, contributions and disposals; and
- **Regulatory Depreciation:** this provides a return of the value of the capital invested in the business over the life of the asset.

Taking these factors together generates an overall revenue requirement of $235.87M for the five years of the second price period.

Table 2-5: Total Revenue Requirement – Water Plan ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13	Totals
Operating expenditure	$33.85	$33.20	$34.50	$33.95	$33.51	$169.01
Return on Assets	$7.24	$8.39	$9.25	$9.63	$10.02	$44.53
Depreciation	$4.53	$4.37	$4.72	$4.78	$4.93	$23.33
Total	**$45.62**	**$45.96**	**$48.47**	**$48.36**	**$48.46**	**$236.87**

2.6 Annual Price Change

The revenue required to fund the business requires an average annual real price increase of 9.9% for the 2008-2013 regulatory period.

Wannon Water has modelled the proposed prices for each separate water or sewerage system based on the principle that subject to social equity considerations, prices should be set to reflect the real costs of each system. Both water and sewerage have similar average price increases required for the 2008-13 regulatory period. The average water price increase of 10.83% is due the expected reduced demand, and the major augmentation of the Hamilton supply. Actual real increases during the price period range from 5% to 12.66% for differing communities.

The sewerage component has a different set of circumstances. Although the increase across all sewerage systems is 9.34%, some systems require a substantially higher increase to meet the costs of the provision of the sewerage service. This is generally due to one of two reasons, a) the past sewerage revenue received has been insufficient to meet the cost of providing the service, or b) significant infrastructure costs are required along with increased operating costs to meet Environmental Protection Authority required standards. Previously, in the majority of instances, sewerage costs have been cross subsidised from the water component. Actual real increases during the price period range from 5% to 20% for differing communities.

As a social equity measure, the maximum annual price increase for any water or sewerage system will be capped at CPI plus 20 per cent. Any revenue shortfall resulting from applying this cap will be recovered from the wider customer base in part by setting a minimum annual price increase for any water or sewerage system at CPI plus 5 per cent.

The proposed prices for each water or sewerage system have been modelled to assess the impact of implementing the proposed expenditure program. The resulting prices for water and sewerage systems have been each grouped into five broad price bands. For a complete discussion on pricing refer to Section 8 of this Water Plan.

2.7 Tariff Structures

This Water Plan establishes a uniform set of tariff pricing principles to be applied from 1 July 2008 to simplify and consolidate the very different pricing principles and tariff structures adopted by the three merged water authorities into a single consistent pricing structure.

Greater emphasis has been placed on water volume charges for residential customers, such that residential customers who consume large volumes of water will incur higher than average increases in water charges. This will be achieved by increasing the relative weighting given to the water volume charge relative to the fixed water service charge. A three tier water volume charge will apply to all residential customers to send a strong pricing signal to use water efficiently. This pricing reform is consistent with the objective of achieving a demand reduction target per capita of 30 per cent as set out in Wannon Water's *Water Supply Demand Strategy*.

The water service charges for all customers are scaled based on the size of the connection to the water service.

It is proposed to control future price increases through what is known as a tariff basket. This sets a single price cap for the weighted average mix of services provided. This approach will provide Wannon Water with the flexibility it needs to adjust tariffs between customer groups to respond to anomalies that become evident from the implementation of the revised tariff structure. The extent of any change in prices will be subject to rules and approval from the Essential Services Commission.

Trade waste charges have been restructured to place greater emphasis on "polluter pays" which will result in higher charges for those customers discharging high strength trade waste to the sewerage system. The trade waste charges also create incentives for cost effective pre-treatment of trade waste and salt reduction to create recycled water opportunities. This approach to setting trade waste charges will ensure that trade waste customers incur the real costs that their discharge makes on the sewerage system related to the primary cost drivers of volume and load strength of trade waste.

2.8 Customer and Regulator Consultation

This Water Plan has been subject to review by Wannon Water's Customer Engagement Committee, which endorsed the priority and scale of the proposed works and their impact on future pricing of services. The Customer Engagement Committee was also involved in assisting Wannon Water to set the service level targets for inclusion in the Customer Charter. This Charter is consistent with the service level commitments set out in this Water Plan.

Proposals for major projects and the wider *Water Supply Demand Strategy* have been subject to extensive engagement and consultation through specific issue committees and community workshops conducted across the service area.

The program of works and the priorities set result from continuing dialogue between Wannon Water and its main regulators, including the Environment Protection Authority Victoria (for environmental compliance) and the Department of Human Services (for drinking water quality).

This Water Plan was released for wide community, customer and stakeholder comment on 31 July 2007. Copies were placed on the Wannon Water website and advertising was placed in local media inviting interested parties to attend public meetings to provide feedback on the draft Water Plan.

In practice, no responses were received and a small number of people attended the public meetings. The local media reported under the heading ":**Public quiet on water plan: No challenge to extra cost"** that:

> *"The apparent lack of concern points towards a shift in public attitudes over the value of water with most customers prepared to either use less of the diminishing resource or pay more for it" (The Standard – 7 Sept 2007, page 7*)

Wannon Water interprets the limited response as an indication that customers had been properly and fully engaged in the development of the proposals and priorities in the draft Water Plan – so the draft had contained no surprises. This engagement had been particularly evident in the major public meetings that were arranged in drafting the *Water Supply Demand Strategy* – which

dealt with the issues that were of greatest concern to customers. Customers understand that there are real costs in ensuring a truly sustainable water supply business.

In addition, all major customers were individually briefed by Wannon Water regarding the Water Plan and to promote discussion on the probable implications for their business. Most major customers welcomed the greater certainty that the Water Plan represented as it provided a firm basis for medium term investment decisions. A few major customers indicated that the increased prices may cause a significant challenge but the large majority had no significant issues or concerns.

3. OUTCOMES FOR FIRST REGULATORY PERIOD

3.1 Overview

Wannon Water has delivered against the commitments set out in the Water Plans from the three predecessor water authorities in the region. Wannon Water:

- Is delivering against a suite of consolidated Customer Service Standard systems in place to record our performance against targets;
- Has created a new integrated business with a higher level of professional capacity and regulatory compliance to meet heightened customer and stakeholder expectation;
- Has made substantial progress in delivering the key projects nominated in the previous Water Plans;
- Implemented the Drought Response Plan and imposed water restrictions and delivered additional projects to secure emergency water supplies for the Hamilton system;
- Implemented additional projects identified in the due diligence assessment undertaken following the amalgamation; and
- Has systems in place to complete the capital works by the end of the first Water Plan period with a total value in excess of the commitments set out in the Water Plans of the three predecessor water authorities.

Overall, customers in the region can be confident that the charges for their water services have been used wisely and properly to deliver high quality services and respond to an unprecedented drought

3.2 Service Standards and Other Outcomes

3.2.1 Developing Targets

Wannon Water inherited different targets for levels of service from each of the three predecessor water authorities and the interpretation of definitions differed between those businesses. For the first 18 months of the first regulatory period Wannon Water reported to the Essential Services Commission on performance by reference to those businesses to allow comparison between the commitments made and the level of service provided in practice.

In November, 2006 Wannon Water received approval from the Essential Services Commission for a consolidated suite of Service Standards incorporating the targets that Wannon Water commits to achieve for the benefit of all customers. The process of developing those targets has involved close consultation with our Customer Engagement Committee. Wannon Water believes that these targets represent a proper balance, delivering quality services that focus on the priorities for our customers at a value for money price. The standards are contained in our Customer Charter and are reproduced in Table 3-1.

A vital part of the process has been to develop robust and reliable systems and processes to collect and report data on actual performance in meeting those targets. The recording systems previously in place within the predecessor water authorities could not produce reliable and authoritative information that could be compared with some of the targets set in the first Water Plan. The most recent Essential Services Commission Performance Report for the 2005-06 year records that Wannon Water was unable to provide reliable data for some of the indices.

Wannon Water is confident that it now has the systems in place to generate reliable data to report with confidence the actual performance of the organisation in meeting the targets for each level of service.

3.2.2 Reporting on Achievements for Service Delivery

This section sets out the performance of Wannon Water in meeting the agreed service delivery targets set out in the Customer Charter approved by the Essential Services Commission. Reporting against these targets is more meaningful than reporting against the targets set by each of the water authorities that merged to form Wannon Water. The predecessor authorities included a number of additional standards outside the core suite adopted by the Essential Services Commission. However, systems were not set-up to allow the authorities to measure their actual performance against those targets. It is not possible, therefore, to report on achievement against these legacy standards.

Table 3-1 records Wannon Water's performance for the 2005-06 and 2006-07 years against the targets in the Customer Charter. This table shows that all levels of service targets were achieved except for the following service levels where the drought related climatic conditions contributed to Wannon Water narrowly missing two targets for the accumulative performance to 30 June 2007:

- Unplanned water supply interruptions restored within five hours (per cent)
- Average time to attend sewer spills and blockages (minutes)

Wannon Water's performance regarding these two service levels was impacted by:

- Maintenance staff were deployed to maintain drought relief bores in the Southern Grampians catchment to ensure a supply of water to customers connected to the Hamilton water supply system; and
- The high number of sewer blockages resulted from tree roots seeking out water flowing in the sewers due to a lack of soil moisture. A root foaming program was implemented to reduce the number of blockages and will be largely self-funding from labour savings in the operations budget through reduced attendance at blockages.

In two areas improved systems are being implemented in the current price period to record and report actual performance regarding:

- The number of customers experiencing more than 5 unplanned water supply interruptions;
- The number of customers experiencing more than 3 sewer blockages.

Wannon Water will have the capability to report on these targets by June 2008 as an outcome of an upgrade of the geographic information system. The audit trail for calculating many of the service standard outcomes will also be improved with the implementation of a Mobile Information Management System project which will automate data input in the field at the point that the work is undertaken. The project also has the potential to deliver business efficiencies in maintaining compliance with the service levels set out in the Customer Charter.

Table 3-1: Performance Targets: Actual Service Delivery: 2005/06 and 2006/07

Service standard	*Target*	*2005-06 Actual*	*2006-07 Actual*	*Average*	
Water					
Unplanned water supply interruptions (per 100km)	10.00	7.83	10.44	9.13	✓
Average time taken to attend bursts and leaks (priority 1) (minutes)	35.00	11.25	17.35	15.06	✓
Average time taken to attend bursts and leaks (priority 2) (minutes)	60.00	56.21	29.10	45.60	✓
Average time taken to attend bursts and leaks (priority 3) (minutes)	240.00	50.16	168.00	113.63	✓
Unplanned water supply interruptions restored within 5 hours (%)	97.00	93.4	98.4	96.3	×
Planned water supply interruptions restored within 5 hours (%)	90.00	91.3	93.0	91.8	✓
Average unplanned customer minutes off water supply (minutes)	9.90	8.99	6.10	7.54	✓
Average planned customer minutes off water supply (minutes)	9.00	6.12	3.08	4.59	✓
Average frequency of unplanned water supply interruptions (number)	0.09	0.089	0.07	0.08	✓
Average frequency of planned water supply interruptions (number)	0.05	0.03	0.02	0.027	✓
Average duration of unplanned water supply interruptions (minutes)	108.00	100.57	87.29	94.69	✓
Average duration of planned water supply interruptions (minutes)	180.00	190.54	142.56	171.05	✓
Number of customers experiencing more than 5 unplanned water supply interruptions in the year (number)	0	n/a	n/a	n/a	
Unaccounted for water (per cent)	12.00	9.90	10.75	10.29	✓
Sewerage					
Sewerage blockages (per 100km)	38.30	40.44	23.47	31.90	✓
Average time to attend sewer spills and blockages (minutes)	30.00	31.96	27.59	30.32	×
Average time to rectify a sewer blockage (minutes)	90.00	83.01	89.25	85.35	✓
Spills contained within 5 hours (per cent)	98.00	98.4	100.0	99.2	✓
Customers receiving more than 3 sewer blockages in the year (number)	0	n/a	n/a	n/a	

The comparison of actual performance against the targets shows that there was an improvement in compliance from 2005/06 to 2006/07. Based on an average over the two years, there are two service standards that did not achieve the target, being:

- Unplanned water supply interruptions restored within 5 hours (%), and
- Average time to attend sewer spills and blockages (minutes).

In both instances, the actual result in 2006/07 was better than the target. This is due to improved internal feedback of actual monthly results to the operations staff enabling them to focus and prioritise on service areas where improvement is needed. It is anticipated that both targets will be achieved in 2007/08 enabling the three year average also to be achieved for the first regulatory period.

3.2.3 Performance for Customer Service

This section reports on Wannon Water's performance during 2005-06 in meeting the customer service standards in the Customer Charter.

Table 3-2: Customer Service Performance

Service standard	Target	2005/06 Actual	2006/07 Actual	Average	
Complaints to Ombudsman per 1,000 customers	0.60	0.31	0.15	0.23	✓
Telephone calls answered in 30 seconds (%)	98.9	99.76	99.92	99.83	✓

Wannon Water achieved both performance targets to 30 June 2007. It is anticipated that Wannon Water will continue to meet both targets over the second regulatory period.

During 2005-06, 12 complaints were handled by the Energy and Water Ombudsman Victoria (EWOV) and in 2006-07 the number of complaints handled by EWOV reduced to six.

Wannon Water publishes EWOV's details on all four quarterly bills, reminder and warning notices issued to customers and actively refers customers to EWOV where it is felt that the views of the 'independent umpire' will benefit both parties.

In 2006 the Essential Services Commission engaged Customer Services Australia to benchmark the performance of all regional water utilities in Victoria regarding the quality of the customer service provided by their customer contact centres. Wannon Water received the highest rating of all regional water authorities. This benchmarking demonstrates the quality of our employees' customer service culture.

3.3 Delivery of Key Capital Projects

3.3.1 Overview of Capital Projects

Wannon Water has made good progress in delivering the key projects set out in the Water Plans of the three predecessor water authorities. The capital works program was amended during the regulatory period to make provision for high priority projects associated with securing emergency water supplies for the Hamilton system due to the drought and management of risk following a due diligence review of the organisation following the merger of the predecessor authorities.

Following the merger in 2005, there was a necessary stock-take and revalidation of priorities. That process led to the temporary deferral of program implementation during 2005-06. However, since then Wannon Water has put systems in place to facilitate completion of its capital works program. Four main steps have been taken to promote enhanced implementation:

- The appointment in August 2006 of a specialist engineering consultancy to provide design services for a five year period, thus gaining efficiencies in the preparation of detailed designs for projects;
- Structured program planning has seen the design phase of projects being brought forward to ensure that projects will be ready to construct in the final year of the price period;
- Bundling of like projects into combined contracts – as with say water main replacements to minimise contract procurement overheads and delays; and
- Training of staff in project management to further increase efficiency in the completion of the capital works program.

Wannon Water is confident that it will deliver a substantial and appropriate program of capital projects by the end of the first price period.

3.3.2 Prioritising Capital Projects

Wannon Water has concentrated on delivering effective outcomes that represent good value for money. In implementing its capital works program Wannon Water has been careful to ensure that it focuses on the key priorities for the business and its customers. A number of factors have been significant in that process.

Wannon Water inherited the key capital projects that were nominated in the Water Plans of the three previous water authorities. As part of the amalgamation process those projects were subject to a rigorous process of reprioritisation to ensure that the integrated program across the whole organisation represented best value for money and concentrated on clear priorities. Further, following amalgamation, the Board initiated a due diligence audit. This audit identified a range of urgent projects that had not been included in the Water Plans of the merged authorities.

Finally, new demands have been placed on the business since the original Water Plans were approved. These have prompted the need for new and additional expenditure – key examples are to respond to the drought and compliance with the new *Safe Drinking Water Regulations 2005.*

The following section reports on progress against the capital programs that were set out in the original Water Plans for the three previous water authorities. In the succeeding section the additional projects that will be undertaken are set out.

3.3.3 Glenelg Water Projects

There has been good progress in completing the capital works program, with $7.2 million of the program already completed. The remainder is programmed for completion by the end of the first price period.

Key items already completed include the upgrade of the Casterton water treatment plant to manage quality risk, and provision of effluent scrubbing at the Hamilton wastewater treatment plant (now known as the Hamilton water reclamation plant) to produce recycled water for a major industrial user.

The 30 km pipeline project to connect Coleraine to the Casterton water treatment plant was delayed due to significant cost escalation which triggered a re-visit of the concept design. Construction of the project will now commence in the 2007-08 financial year and is scheduled for completion by December 2008. The completion of the biosolids drying beds at Hamilton was also extended to ensure an optimal outcome.

Table 3-3: Glenelg Water Projects Progress report: July 2005 to 30 June 2007

Project	Project description	Current status/expected completion date
Casterton water treatment plant upgrade	Treatment plant upgrade to manage water quality risk.	Completed other than for the Defects Liability Period.
Tertiary water reclamation plant at Hamilton	Plant to supply recycled water to major user.	Completed other than for the Defects Liability Period.

Project	Project description	Current status/expected completion date
Hamilton water reclamation plant biosolids dewatering and handling system	Construction of additional sludge drying beds and installation of sludge thickener.	Completed other than for the Defects Liability Period. Tendered and construction of drying pans scheduled for completion in 2007-08
Water renewals / replacement	Replacement of water mains that have reached the end of their economic life.	1.74 km replaced in 2005-06. 0.67 km replaced in 2006-07. 3.23 km to be constructed in 2007-08.
Water augmentation for subdivisions.	Water reticulation extension in Hamilton.	Completed.
Sewer augmentation for subdivisions.	Sewer reticulation extension in Hamilton.	Completed.
Coleraine pipeline works to manage water quality risk	Construction of approximately 30 km of pipeline and associated pump station.	Scheduled to commence in 2007-08 and completion by June 2009 in accordance with the DHS undertaking.

3.3.4 Portland Coast Water Projects

The priority of capital works projects of Portland Coast Water program was more affected by the need for program revalidation post amalgamation. As at 30 June 2007, $8.6 million of capital works have been completed. Progress has been made on many key projects, with the new water supply scheme for Dartmoor already completed, the Portland water reclamation plant upgrade underway, and a major renewals/replacement program for both water and sewer infrastructure in-hand.

Three key projects have been deferred:

- Funding originally allocated for a water reuse scheme at Port Fairy was transferred to the higher priority new belt-press project at the Port Fairy water reclamation plant. The reuse project will be re-assessed as part of the business-wide *Recycled Water Strategy*;
- The concept design for the West Portland sewerage scheme, to provide sewerage services to this backlog area has been completed following community consultation. The statutory planning processes have deferred the completion to 2009; and
- The concept designs for the Dutton Way water supply and sewerage schemes to service 200 lots in a low lying area east of Portland close to the coast have been completed. Glenelg Shire requested that both schemes be deferred pending a review of the Planning Scheme overlay for the Dutton Way area as the current overlay prohibits further development in this area due to risks of inundation and the absence of infrastructure. Extensive planning and project evaluation will need to be undertaken to validate the most appropriate design options in liaison with the Shire Council.

Table 3-4: Portland Coast Water Projects: Progress report: July 2005 to 30 June 2007

Project	Project description	Current status/expected completion date
Dartmoor water supply scheme	Installation of reticulated water supply for the township of Dartmoor.	Completed scheme.
Portland water reclamation plant upgrade	Removal of accumulated sludge and redesign of Portland water reclamation plant.	Completed sludge removal and design upgrade.

Project	Project description	Current status/expected completion date
Water renewals / replacement	Renewal and replacement of water assets to ensure long term service delivery, based on condition and risk assessment procedures.	Funding provision was inadequate for full program. 0.54 km of water mains was replaced in 2005-06 and a further 0.18 km will be replaced in 2007-08.
Sewer renewals / replacement	Renewal and replacement of sewer assets to ensure long term service delivery, based on condition and risk assessment procedures.	A 0.4 km section of the Port Fairy ocean outfall was replaced in 2005/06. The balance of sewer renewal/replacement program is on track for completion in 2007-08. Infiltration studies in Portland were completed in 2005-06 and infiltration studies are currently in progress at Heywood and Port Fairy
Water reuse: Port Fairy	Reuse scheme to supply golf-course, neighbouring farms and an industrial customer.	Deferred due to reprioritisation and allocation of the funding to the Port Fairy water reclamation plant belt press project.
West Portland sewerage scheme	Expanding sewerage services to include the West Portland backlog area.	Concept design completed. Detailed design commenced and project scheduled for completion in 2009.
Dutton Way water and sewer schemes	Expanding water and sewer services to include approx 300 lots in the Dutton Way area.	Design options completed for both schemes. Community consultation on the schemes was deferred at the request of Glenelg Shire Council pending a review of the Planning Scheme Overlay for Dutton Way. In 2006, the Minister for Water determined the Dutton Way sewerage scheme to be a project under the Country Towns Water Supply and Sewerage Program and capped existing landowner contributions. The final design of the Schemes will be presented to the community following outcome of the Council's review of the Planning Scheme overlay. The schemes are scheduled for construction in 2011-12.

3.3.5 South West Water Projects

The South West Water capital works program contained the largest projects in the three previous Water Plans and many of these have been progressed or are on schedule for completion by the end of the first price period. As at 30 June, 2007 $20.5 million of capital works had been completed

The one project that has been deferred indefinitely at this stage is the proposed Port Campbell to Timboon water supply main replacement where a reassessment of current consumption demand, as part of the *Water Supply Demand Strategy*, has reduced the forecast demand in future years.

Table 3-5: South West Water Projects: Progress: July 2005 to 30 June 2007

Project	Project description	Current status/expected completion date
Warrnambool water reclamation plant capacity upgrade	Upgrade of the water reclamation plant to cater for increased growth by the addition of a fifth treatment cell and associated works.	Concept design completed and construction of an aerobic digester cell is scheduled for completion in 2008-09.
Warrnambool water reclamation plant outfall replacement	Replacement of the existing outfall sewer with a larger diameter sewer.	Contract awarded and contractor has commenced construction. Project to be completed in 2007-08..
Camperdown water reclamation plant biosolids facility	Convert biosolids storage and processing facilities to permanent facility including a biosolids drying pan.	Completed Stage 1 works and Stage 2 has been tendered for completion in 2007-08.
Peterborough sewerage scheme	New town scheme: Provision of sewerage scheme, water reclamation plant and recycling infrastructure.	Completed the construction of the water reclamation plant and rising main. Construction of sewerage reticulation is 80% completed and is due for completion in February/March 2008. The water reuse irrigation system scheduled for completion in 2007-08.
Port Campbell water reclamation plant and recycling works	Growth and water recycling. Additional winter storage capacity and expansion of the irrigation area.	Completed the winter storage basin. Design of reuse irrigation works has commenced and is due for construction in 2008. Project delay due to a requirement for compulsory land acquisition.
Dales Road water storage augmentation	Duplicate the existing Dales Road water storage to respond to growth.	Tenders advertised and scheduled for completion in 2007-08.
Water renewals / replacement	Compliance with service standards.	Completed replacement of 4.69 km in 2005-06 and 2.43 km in 2006-07. A further 5.60 km is scheduled for construction in 2007-08.
Sewer renewals / replacement	Compliance with service standards.	0.5 km of sewer mains are scheduled for replacement in 2007-08.
Water Augmentation	Responding to growth.	Completed, 1.28 km of water main was constructed in 2006-07.
Sewer Augmentation	Responding to growth.	Design of three sewer augmentation projects in Warrnambool well advanced for construction in 2007-08.
Port Campbell to Timboon water supply main replacement	Upgrade the existing water main from Port Campbell to Timboon to respond to growth.	Project not required in this regulatory period and deferred due to reduced water supply demand.

3.3.6 Major Additional Projects

On top of the commitment to deliver the key capital projects in the three original Water Plans, Wannon Water has also had to prioritise additional projects in its capital program over the first price period to respond to a number of drivers including:

- New regulatory obligations: such as the need for a $0.624M iron sorption plant at Macarthur to achieve compliance with the *Safe Drinking Water Regulations 2005* water quality standard for arsenic;
- The drought: the Drought Response Plan was activated and additional groundwater bores have been sunk to maintain a water supply for Hamilton under stage 4 water restrictions, at a total cost of $0.36M capital and $0.78M operating expenditure;
- Degraded assets: assets identified following the merger, as at extreme risk of failure will be replaced including Bald Hill Bores, Nos 1 & 2 and the roof of the Bald Hill Basin, at a combined cost of $5.70M;
- Asset Replacement: a new biosolids belt press is to be installed in 2007-08 at the Port Fairy domestic water reclamation plant at a cost of $0.87M; and
- Responding to Major Customer Needs: a $4.6M upgrade of the Port Fairy industrial water reclamation plant has been built to service a major industrial customer with full cost recovery from that customer.

The details of these projects are included in the following sections.

3.4 Capital Expenditure Associated with the Delivery of Outcomes

3.4.1 Overall Capital Expenditure Program

The capital expenditure program approved by the Essential Services Commission for each of the three predecessor authorities is shown below in Table 3.6 (expressed in 1 January, 2007 dollars).

Table 3-6: Capital Expenditure Program in First Price Period ($M)

Authority	2005-06	2006-07	2007-08	Total
Glenelg	$4.0	$2.8	$2.8	$9.6
Portland Coast	$2.4	$2.1	$2.4	$6.9
South West	$14.6	$13.3	$12.1	$40.0
Total	**$21.0**	**$18.2**	**$17.3**	**$55.1**

There are several other components of Wannon Water's capital expenditure program beyond the approved capital expenditure programs of the three Water Plans. These are:

- The $4.6M upgrade of the Port Fairy industrial water reclamation plant to solely service a major industrial customer has been built and is currently in the defects liability period. This project was deliberately excluded from Portland Coast Water's Water Plan as the project was funded externally by the major customer;
- Recent additions to the program to be funded in part by Government grants;
- An accelerated meter installation and replacement program consistent with actions set out in the *Water Supply Demand Strategy*;
- The installation of septage receival facilities at the Hamilton and Warrnambool water reclamation plants;

- Extra works in 2006-07, including consultancy and construction costs of emergency drought response bores and other works;
- Urgent works needing immediate construction, as identified in the various Improvement Plans which form the basis of the proposed capital works program; and
- Design costs associated with the major projects proposed to be delivered in the first year of the Water Plan.

The progress in completion of the forecast capital works program in the 2005-06 year was negatively impacted by:

- The need to implement systems and internal controls following the merger on 1 July, 2005;
- The delay in proceeding with projects pending completion of a post merger due diligence audit; and
- The delay in finalising funding arrangements for the Peterborough Sewerage Scheme project pending a determination by the Minister to include the scheme in the Country Towns Water Supply and Sewerage Program and subsequent consultation with the Essential Services Commission regarding allocation of scheme contributions to existing land owners.

A detailed review of the remaining projects in the program has been completed and Wannon Water forecasts the following capital expenditure for the first regulatory period.

Table 3-7: Projected Total Capital Expenditure - First Price Period (expressed in 1 January, 2007 $M)

Year	Basis	Total
2005-06	Actual	$17.70
2006-07	Actual/Projected	$16.14
2007-08	Projected	$36.20
Total Expenditure		**$70.04**

The total projected capital works expenditure for the first price period is forecast to be $70.04M. Design of the outstanding projects to be completed in 2007-08 is well advanced and Wannon Water has confidence that the total forecast capital expenditure will be competed within the first price period.

However, some of this expenditure will not carry through into the adjusted regulatory asset base (RAB) as capital contributions were received from the State Government or customers.

Table 3-8: Projected Contributions - First Price Period ($)

DESCRIPTION	2005/2006	2006/2007	2007/2008	Totals
Gifted Assets	$1,345,957	$1,800,000	$1,000,000	$4,145,957
Customer Cash Contributions	$1,383,407	$1,432,012	$400,000	$3,215,419
Customer Contribution PF Industrial WRP		$2,136,500	$2,500,000	$4,636,500
Government Grants				
- Peterborough Sewer Scheme	$900,000			$900,000
- Macarthur Water Improvement	$25,000	$115,000	$250,000	$390,000
- Dutton Way Sewer Scheme	$165,000			$165,000
- Dartmoor Water Scheme		$250,000		$250,000
- Hamilton Drought Relief		$105,455		$105,455
- Monivae Development		$110,401		$110,401
Totals	**$3,819,364**	**$5,949,368**	**$4,150,000**	**$13,918,732**

Table 3-9: Adjustment to RAB from First Price Period ($M)

Element	Value ($M)
Gross Expenditure	$70.04
Contributions	$13.9
Net Capex for RAB	$56.14

3.4.2 Capital Expenditure Adjustments

There have been a number of changes between the original capital expenditure plans of the three merged water authorities and the actual program that has been implemented in practice.

a) Savings: There have been savings on some projects, such as:

- $0.60M for the Casterton Water Treatment Plant upgrade;
- $0.90M on the capital cost of the Peterborough Sewerage Scheme; and
- $0.45M for the Portland SCADA installation.

b) Additional Costs: Some projects have required additional expenditure above their budgeted amount or have been brought into the program, including:

- $0.80M – Balmoral water treatment plant (commissioned);
- $1.77M – Coleraine pipeline (detailed design commenced);
- $0.60M – Pre-treatment system for the Hamilton tertiary reclamation plant (under design);
- $0.41M – Septage receival facilities at Hamilton and Warrnambool water reclamation plants (detailed design commenced);
- $0.47M – Bald Hill basin roof replacement (contract works have commenced);
- $2.25M – Bald Hill bore No.1 replacement (contract awarded);
- $2.45M – Bald Hill bore No.2 replacement (new project, contract awarded);
- $1.73M – West Portland Sewerage Scheme (to be funded by scheme contributions);
- $0.34M – Dartmoor water supply scheme (completed);
- $0.22M – Reverse Osmosis water treatment plant at Portland (to be funded by major customer);
- $0.50M – Port Fairy domestic water reclamation plant biosolids belt press (new project under construction));
- $0.74M – Camperdown industrial water reclamation plant upgrade (subject to Council contribution);
- $0.47M – Russell's Creek and North Dennington trunk sewer extensions (under design);
- $0.69M – Warrnambool ocean outfall replacement (contract awarded and works commenced);
- $0.77M – Accelerated water meter replacement program; (meters purchased and installation to be tendered)
- $1.56M – Warrnambool office building (tenders called for architect)
- $0.624M – Macarthur water quality improvement (iron sorption process to reduce arsenic levels, due for completion March 2008) and
- $4.5M – Peterborough Sewerage Scheme (Additional funding costs to the corporation, due to change in scheme status to *Country Towns Water Supply and Sewerage Scheme).*

c) Deferral or Deletion: Some projects have been deleted or deferred to future years, including:

- $0.25M – Port Fairy re-use pipeline;
- $0.35M – Warrnambool water reclamation plant treatment tank mixing;
- $0.24M – Timboon transfer pump upgrade; and
- $0.58M – Timboon pipeline augmentation.

d) Carried Forward: Some projects have been identified as unlikely to be totally completed by 30 June 2008 and will carry-over expenditure into 2008-09. The major transfers to 2008-09 (the first year of the second regulatory period) include:

- $3.37M – Coleraine pipeline;
- $1.73M – West Portland Sewerage Scheme;
- $0.52M – Various telemetry projects;
- $0.48M – Dales Road water basin; Warrnambool
- $1.86M – Warrnambool water reclamation plant digester;
- $0.62M – Port Campbell water reclamation plant lagoon re-lining; and
- $0.34M – Cobden transfer main from water treatment plant.

Wannon Water believes the actual capital expenditure completed over the first price period will represent a well founded, cost effective and prioritised program that balances the commitment in the previous Water Plans with a realistic assessment of new and additional drivers.

Successful completion of the program, despite the disruption of the merger is a strong indication of the capability of the business in planning, designing and implementing capital programs that deliver value for money and ensure customer service and regulatory compliance.

3.5 The Impact of the Drought

The drought has had significant impacts on the community and Wannon Water, particularly as they apply to the security of supply for Hamilton.

2006 was the driest winter on record in Hamilton. Rainfall in August was 29 mm compared with the historical monthly average of 79 mm. August 2006 was in the driest 5% of all years since records began in 1872. The poor rainfall followed a decade of dry years in Hamilton. Seven of the last 10 years have had below average rainfall, and the very low rainfall recorded in 2005 has only happened twice in the last 100 years.

As a result, storages are at their lowest for more than 10 years. On 10 April 2007, the Hamilton storage levels were only holding 16.6% of total capacity. Storage levels for the same time in 2006 were 46%. The Glenthompson system storage level was only 18% and Balmoral, which is supplied with water from the Rocklands Reservoir, was holding less than 2% of capacity.

In response to this severe decline in storage levels, Wannon Water implemented its emergency drought response plan. This required unbudgeted demand management related operational expenditure and capital infrastructure expenditure. The key element of demand management has been the application of Stage 4 Water Restrictions that have now been in force for the Hamilton, Balmoral and Glenthompson water systems since early December 2006.

The expenditure has centred on the construction and operation of drought relief bores in the Southern Grampians area to supplement the traditional surface stream diversions to the Hamilton storages. Two bores have been operating since March 2006 and a third bore was drilled and

commissioned in January 2007. The test drilling for additional groundwater supplies continued and further bores were drilled but only one was successfully commissioned.

Wannon Water has not only been faced with additional costs it has also had to manage with lower revenues as the Stage 4 Water Restrictions have led to a drop in the level of water usage. The total cost of this has been:

Table 3-10: Cost Impacts of the Drought: First Price Period ($M)

Expenditure	Actual 2006-07
Sinking Bores	$0.363
Operations – Drought Response	$0.201
Demand Management	$0.103
Net Lost revenue due to water restrictions	$0.383
Restrictions Enforcement	$0.094
Total	**$1.144**

A requirement of Parks Victoria is that the new bores drilled in the Grampians national park are to be capped as soon as water restrictions are removed, and consequently, there are no capital assets to be carried forward from the exercise. Wannon Water has elected to include a direct claim in the 2008-9 year for the total cost of the drought in 2006-7, as determined above. Current indications are that some drought relayed cost will be incurred in 2007-8, but Wannon Water has elected to absorb this.

3.6 Changes in Legislative Obligations

Three changes have occurred in the regulatory framework within the first price period that has impacted on Wannon Water, beyond that anticipated when the first Water Plans and prices were determined:

- Introduction of tighter drinking water quality standards through the *Safe Drinking Water Regulations 2005*;
- Nomination of towns under the *Country Towns Water Supply and Sewerage Scheme Program*; and
- Introduction of new obligations on the organisation under the *Water (Governance) Act 2006* and revisions to the *Statement of Obligations*.

However, none of these changes have imposed additional costs on Wannon Water during the first price period sufficient to trigger a claim for recovery (ie. above a threshold equal to 2.5% of total revenue, or $1M, whichever is the greater).

3.6.1 Safe Drinking Water Regulations 2005

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

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

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

The most significant effect of the new regulations for Wannon Water is to impose higher standards with regard to the levels of arsenic in drinking water, with a reduction in the allowable concentration from 50ug/ml to 7ug/ml. This change impacted on two water systems sourced from local groundwater:

- **Macarthur,** with a customer base of 150 properties, where the regulations triggered declaration of the water supply as 'regulated', i.e. as being unfit for human consumption or food preparation. Following a community consultation program in 2006 and ballot of customers, Wannon Water resolved to proceed with the construction of an additional treatment process to reduce the level of arsenic to meet the new guideline level of 7ug/ml. An innovative 'iron sorption' process was selected with construction scheduled for completion by March, 2008 at a capital cost of $0.624M, with annual operational costs of $40k commencing from January 2008;

- **Merino,** with a customer base of 170 properties, where the previous groundwater supply was decommissioned and a new pipeline was constructed from the Casterton water treatment plant at a cost of $0.9M. This project had already been included by Glenelg Water within its Water Plan submission.

The significance of this new obligation can be seen in the following table which calculates the unit cost per property of making the investment required to meet the new standard at Macarthur.

Table 3-11: Unit Cost of Improved Water Quality in Macarthur

Capital cost	$624,000
Operating Cost: Present value over 20 years	$490,142
Total cost over 20 years	$990,142
Properties	130
Unit cost: $/property	$8,570

This expenditure will not impact on customers during the first price period, but it is one of the reasons for the heightened level of expenditure over and above the forecast in the original Water Plans.

3.6.2 Country Towns Water Supply & Sewerage Scheme Program

Wannon Water is required under the *Statement of Obligations* to implement priority water supply and sewerage projects under the Country Towns Water Supply and Sewerage Scheme Program, as determined by the Minister for Water, Environment and Climate Change. A key element of this program is that the Minister may cap the contribution required from residential property owners for new sewerage schemes at $800 (or $80 a year for 20 years).

Wannon Water has two sewerage schemes (Peterborough and Dutton Way) that were planned for construction in the first price period on an assumption of full cost recovery from the beneficiary landowners of the scheme. The Minister however subsequently included both schemes within the Country Towns Water Supply and Sewerage Program and made a determination to cap residential property owner scheme contributions.

- **Peterborough**, where the project was originally conceived with each residential landowner contributing a capital scheme contribution of $9,500 per lot. Contributions to this scheme were capped at $800 per lot by the Minister and the State Government provided a funding grant of $900,000 resulting in a revenue shortfall of some $4.5M based on an estimated cost

of $6.4M. However, it is expected that the total construction costs will be less which will also reduce the shortfall in funding.

- **Dutton Way sewerage scheme,** where concept design estimates indicate the project will cost $3.3M, at a unit cost of around $16,500 per property. Contributions from landowners have been capped at $800 by the Minister and this will involve a funding shortfall of $2.25M, assuming a grant of $900,000 is received from the State Government.

- **Macarthur water quality improvement** will be constructed in 2007-08. This project will receive funding grants of $390,000 resulting in a funding shortfall of $234,000.

- **Dartmoor water supply scheme** received a funding grant of $250,000. Further, Wannon Water honoured the previous commitment given by Portland Coast Water to the Dartmoor community to cap scheme contributions at $800 per household resulting in a funding shortfall of $613,570.

Wannon Water will respond to this changed policy framework by including the capital costs of the Peterborough scheme within the adjustments to the opening value of the regulatory asset base at the start of the next price period. This will provide the business with a return on that capital value. However, the business will carry the cash flow impacts of moving from an up-front customer contribution to a return on capital over the life of the asset.

3.6.3 New Obligations on the Board

New mandatory obligations that Wannon Water must meet are:-

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

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

- It converts Wannon Water from an Authority to a Corporation (S85 of the amended Act). This imposes higher and more rigorous standards on the business and the Board, for example the duty to maintain a register of Board Members' interests (S115);
- The Chief Executive becomes a Director of the Board as Managing Director (S99);
- It imposes a wider duty to have regard to sustainable management principles (S93) in carrying out its functions including for example (d) the need for the conservation of biological diversity and ecological integrity; and
- It imposes an obligation to resource collaborative studies with large non-residential water customers to develop water conservation plans and to contribute to their implementation.

Wannon Water has received the *Statement of Obligations* from the Minister for Water, Environment and Climate Change adding additional obligations related to issues such as addressing risk management and taking action to implement sustainability principles. Meeting these new obligations will result in Wannon Water incurring costs over the remainder of the first price period, and will form part of the wider suite of obligations that determine the costs of the Wannon Water in the second price period. These costs cannot be easily broken out and represent part of the wider obligations to meet heightened compliance standards.

3.7 Creating a Robust, Effective Business

3.7.1 Meeting the Compliance Challenge

Wannon Water was established on 1 July 2005. It was formed from three, smaller regional water authorities:

- Glenelg Water – based in Hamilton;
- Portland Coast Water – based in Portland; and
- South West Water – based in Warrnambool.

Those three authorities had served their customers with distinction over the previous eleven years. However, it was recognised that it was difficult for the authorities to meet increasingly stringent standards and expectations regarding drinking water quality, sewage treatment and economic regulation. The small size of the three separate organisations made it uneconomic for each to employ the specialist staff or develop the systems needed to achieve appropriate levels of compliance.

Each of the former authorities was small enough to manage with a minimum of systems and procedures. Experienced staff had worked at each business and so knew about most of the assets and had met many of the customers. That was appropriate for water businesses in the 1990s. It was not a rigorous enough approach to meet current expectations for customer service or regulatory compliance.

Merging the three authorities created a single combined entity that was large enough to meet those increasing demands in a cost effective way through a coordinated approach.

3.7.2 Establishing Robust Compliance

Wannon Water aims to meet best practice in all aspects of our performance:

- Responding to customer needs – to deliver the standard of service our customers expect and, when things go wrong, restoring supplies swiftly every time;
- Meeting the duties set out in the *Statement of Obligations* issued by the Minister for Water, Environment and Climate Change, implementing the spirit as well as the words of the obligations;
- Complying with licensing and legislative requirements – planning to exceed minimum compliance by seeking to identify the actions that can best deliver a whole of system approach - but to do so cost effectively;
- Managing our assets and business well to deliver best possible service at least long-term cost on behalf of current and future generations; and
- Establishing partnerships with key stakeholders in the community and government to play a leadership role in promoting sustainability and servicing growth in the region.

This requires robust quality systems and procedures to ensure that Wannon Water can deliver and demonstrate consistent high standards of service and compliance. Achieving this standard has involved a significant workload across the business involving the Board, senior managers and staff at all levels. It has required:

- A due diligence audit of current arrangements, to know what our current performance and starting position was;
- Planning, to prioritise moving from current performance to acceptable levels of compliance;
- Systems development, to establish the documented procedures and protocols to deliver the defined level of performance on a consistent basis;

- Training, to equip staff with the skills needed to implement the procedures;
- Equipment, to give staff the tools they needed to meet those standards; and
- Monitoring, review, evaluation and reporting to ensure good feedback about how well those new systems have worked in practice to drive continuous improvement.

Undertaking these actions required significant expenditure to establish the raised levels of compliance and meet current expectations in customer service delivery. The following examples give an insight into the changes involved.

a) Occupational Health and Safety

Wannon Water considers the safety and health of its workforce as a high priority. Our staff should be confident that they will go home safe at the end of each workday. It is also a legal obligation and subject to heightened expectations from WorkSafe Victoria.

In response, Wannon Water hired an OH&S specialist to make sure the organisation has a good understanding of what is required, and to help put procedures in place to make sure Wannon Water meets best practice. Wannon Water now has a *Road Map* for OH&S improvement and compliance across the business that involves developing systems, training staff and investing in new equipment. This program will build on the base established by the previous businesses, but will significantly improve the management framework and consistency of approach across our service region. Importantly, Wannon Water expects to achieve at least peer benchmark performance for practical health and safety outcomes.

b) Asset Maintenance and Operation

Most of the assets in a water business are long lived. Many will carry on working year after year with little maintenance, until they break down and need to be replaced. That is generally a false economy. It means that equipment does not operate at design levels of performance and exposes the business to risks of catastrophic failure without warning. That undermines customer service.

It is more efficient in the longer term to maintain and repair or refurbish assets. That also ensures that the business is in control of its core assets, maintains service delivery, understands the potential risks of failure and can plan an optimal replacement schedule.

Wannon Water has had to move the business from the first culture to a professional, asset management approach that controls and actively manages the equipment that delivers its services. So for example, Wannon Water hired an engineering consultant to undertake an audit of all its electrical switchgear across the business. That audit identified that there were many sites where switchboards and other electrical equipment were dangerous and posed a risk to secure service delivery. The consultant also reported that levels of staffing across the business were inadequate to maintain treatment plants, mechanical and electrical and some reticulation assets.

3.7.3 Costs of New Business

Wannon Water has invested in systems, people and equipment to raise performance in maintaining assets at an acceptable level to ensure service delivery and regulatory compliance. That change has required sustained investment above the combined level of operating expenditure from the three previous businesses assumed in the original Water Plans, as demonstrated in Table 3-12.

Table 3-12 : Enhanced Operating Expenditure to Drive Compliance ($M)

Cost Category	2006-07
Glenelg Water	$4.19
Portland Coast Water	$4.83
South West Water	$15.56
Combined Operating expenditure	$24.58
Wannon Water expenditure	$26.86
Cost of heightened compliance	**$2.28**

Wannon Water is still in the process of establishing and bedding down these new systems and protocols. Training staff and implementing new procedures takes time and Wannon Water has developed a staged process to roll-out these new systems on a priority basis. It is not possible to introduce all new systems in one hit.

Wannon Water is recruiting new staff to fill its complement, particularly in skilled engineering positions. This increase in staff numbers is reflected in the rise in operating costs from 2006-07 to 2007-08.

As a result, there will be a continuing program of improvement and implementation through the first price period. It is anticipated that the roll-out will have been completed and maturity of our arrangements will be achieved by the end of the second price period.

3.7.4 Adjusting the Price Path

This Water Plan therefore:

- Proposes to adjust the value of the regulatory asset base to take account of the prudent, necessary and efficient capital expenditure that will have been undertaken by July 2008, to respond to the drought and current compliance priorities;
- Seeks recognition of the heightened level of operating expenditure needed during the first price period as a valid baseline for the second price period; and
- Seeks to recover in the first year of the next price determination the lost revenue resulting from the introduction of water restrictions plus recouping the costs of implementing the drought response plan.

4. WATER SUPPLY STRATEGY

4.1 Water Supply Overview

One of the core challenges that Wannon Water faces is to ensure that customers have access to secure supplies of water at a reasonable price. This has been a major focus of our work since Wannon Water was formed. Its importance has been heightened and confirmed by the ongoing drought.

Wannon Water has developed a comprehensive *Water Supply Demand Strategy* to guide all future decisions in this area. The strategy was developed in line with the guidelines issued by the Department of Sustainability and Environment and incorporating contributions and feedback from the community through a series of public engagement workshops across the region and via the internet.

The lessons from the strategy feed into all parts of this Water Plan:

- Early investment has been required as part of implementing the Drought Response Plan to supplement water supplies for Hamilton. Section 3.3.6 records the additional expenditure required over the first three year price period;
- It forms a major part of the future plans for recycled water use and demand management that are key planks of our future strategy;
- It drives major expenditure for both capital and operating costs over the second price period; and
- It affects the future level of demand (section 8) that will determine the level at which tariffs are set (section 9).

The major outcome is the need to spend $34.2M ($33.4M in the 2008-13 regulatory price period) to achieve acceptable security of supply for the Hamilton water supply system.

4.2 Supply Security Modelling

The first challenge is to judge how much water for supply is likely to be available in the future given the impacts of climate change.

Projections of surface water runoff decline *(Jones and Durack 2005)* have changed long standing assumptions about the availability of historically reliable sources of water. Water supply decline means that a modestly growing or static community can be confronted with the need for supply augmentation, despite successful demand management, as long standing systems of supply move to lower yields.

While the work of Jones and Durack projects gradual and incremental decline in surface water supplies due to global warming across south eastern Australia, emerging experience points to the prospect that decline can be severe and sudden (this is known as stepped climate change). The drying of much of Victoria since 1997 may be the subject of stepped climate change or of a prolonged period of climate variability.

In either case the Department of Sustainability and Environment expects water corporations to make prudent assessments as to the starting point and trending of supply decline. Available

surface water supplies have therefore been assessed using well established models[1] and yields predicted under two different scenarios:

- A medium climate change scenario, in line with recommendations from CSIRO and the Department of Sustainability and Environment; and
- A more severe step climate change, based on continuation of the weather conditions experienced over the last 10 years.

Following advice from the Department of Sustainability and Environment, Wannon Water has opted for the more severe impact as the basis for future supply planning.

Wannon Water will continue to monitor surface flows in practice using the existing array of meters that Wannon Water already has in place. Ground water supplies have been assessed against the Permissible Annual Volume (PAV) for each Groundwater Management Area (GMA). Further work will be needed within the water planning period on the sustainability of these resources.

Key findings arising from the development of the *Water Supply Demand Strategy* and reported in the Strategy (p43) focus on the probability that new water sources for the medium to long term for water systems other than the Hamilton system will be derived from groundwater. The Strategy clearly signals that:

- Knowledge of aquifer dynamics is lacking in southwest Victoria; and
- A scientific knowledge base relating to the recharge of the aquifer systems inclusive of associated land use protection, and the sustainable management of the aquifers of the region needs to be developed.

Wannon Water accordingly has made provision in this Water Plan for the commencement of a groundwater and aquifer research and investigation program. Early indications are that the responsible management agency, Southern Rural Water, strongly agrees with the above findings and positions (p88 of *Water Supply Demand Strategy*) and will be taking a leadership role in the design, implementation and funding of a comprehensive groundwater assets survey.

4.3 Augmentation Priorities

Comparing predicted demand with modelled supply availability has identified two supply systems, the Hamilton system and the Glenthompson system, where supply augmentation is needed as a priority. The larger Otway supply system network requires minor augmentation of the water supply. The remaining eleven supply systems do not require augmentation during the 2008-2013 pricing period.

4.3.1 Hamilton Supply System

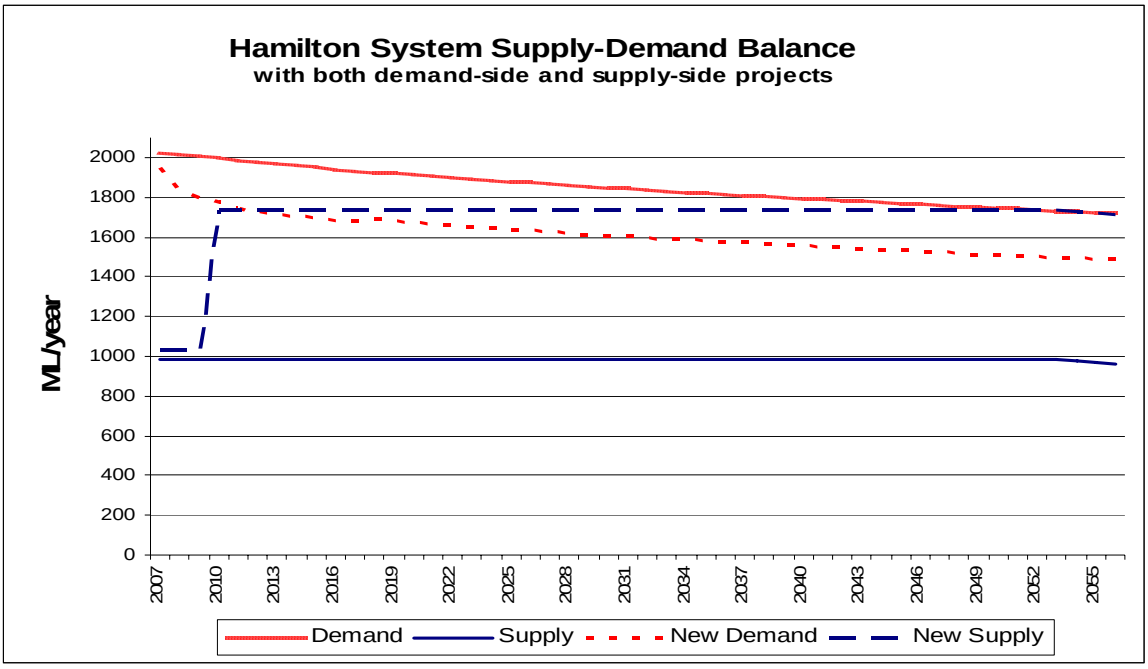
The Hamilton supply system serves Hamilton, Tarrington, Dunkeld and Cavendish. This is the most critically positioned system and requires immediate and significant action to restore system reliability and at the same time allow for compliance with licence conditions regarding environmental flow regimes in the Southern Grampians catchment.[2]

Due to reductions in rainfall and catchment yield the Hamilton system will have a supply shortfall of 1000ML/yr by 2010, or 750 ML/yr assuming success in implementing the demand initiatives set out in the *Water Supply Demand Management Strategy* (Figure 4-1). The Hamilton system is

[1] REALM and related system modelling tools.
[2] *Water Supply Demand Strategy 2007-2055* (p75)

currently subject to Stage 4 Water Restrictions. Water restrictions will need to remain in place until augmentation works are complete in 2010.

Figure 4-1: Hamilton System: Supply and Demand



This figure tells several important stories:

- Reduced rainfall means that existing stream diversions to storages now only deliver half of the traditional demand of the town and surrounding region;
- Effective demand management will reduce the size of the supply augmentation required. This will also provide a supply buffer should urban demand not decline as projected or should some future large customer growth need to be accommodated; and
- Augmentation will deliver a yield sufficient to meet future predicted urban demand. It will also allow Wannon Water to restore the passing flow regimes of natural system flows required under the Bulk Entitlement Licence.

Implementation Plan

The following augmentation works are required to restore the supply demand balance. This work is in addition to the drought response expenditure needed to maintain supply in the short-term, as set out in section 3.3.6.

Table 4-1: Supply Augmentation: Hamilton System

Option Description	Yield	Date yield required	Date to Commence Project Planning
Reducing evaporation from water basins	48 ML	2007	2007
Hamilton Grampians Inter-Connector Pipeline	700 ML	2010	2007

In the short-term, evaporation from storages will be reduced through the use of evaporation retardants.

The medium term supply augmentation investment is to take additional flows from the Rocklands Reservoir in the Grampians, via a new 47 km pipeline to intersect with the Hamilton system (known as the Hamilton Grampians Inter-Connector Pipeline). Rocklands Reservoir currently forms part of the suite of storages that are managed by GWMWater. An alternate option is to construct a pipeline of similar distance to connect the Hamilton storages to the Dilwyn aquifer or Moora Moora Reservoir.

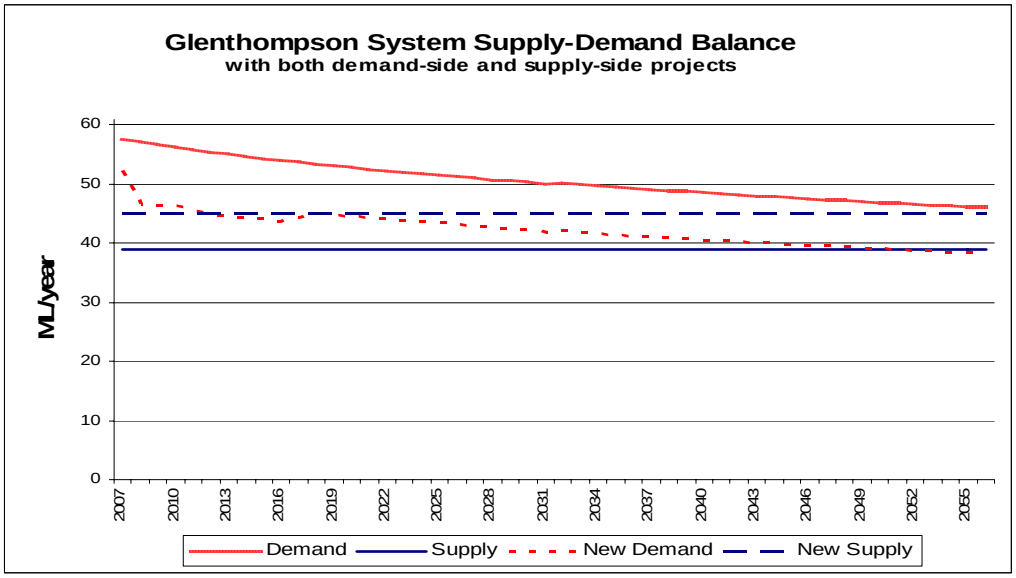
A final decision on which augmentation project proceeds will depend on discussions with a range of relevant stakeholders and submission of a detailed business case to the Major Projects Committee at the Department of Sustainability and Environment. The project will proceed in step with plans for restoring environmental flows in the Southern Grampians streams through the redesign of existing stream off-take structures to deliver required passing flows.

4.3.2 Glenthompson System

The Glenthompson system also demonstrates a shortfall in supply due to reduced supplies from existing storages. Effective demand management and reduction in evaporation from the storage using a retardant should ensure that the reliability of the system increases to an acceptable level, with target reliability met from 2010 onwards.

Beyond 2020, it is assumed that overall demand will fall due to a reduction of population over time.

Figure 4-2: Glenthompson System: Supply and Demand



Implementation Plan

To meet the supply demand gap, the following augmentation works are proposed. This involves the use of a surface coating for the storages to reduce evaporation.

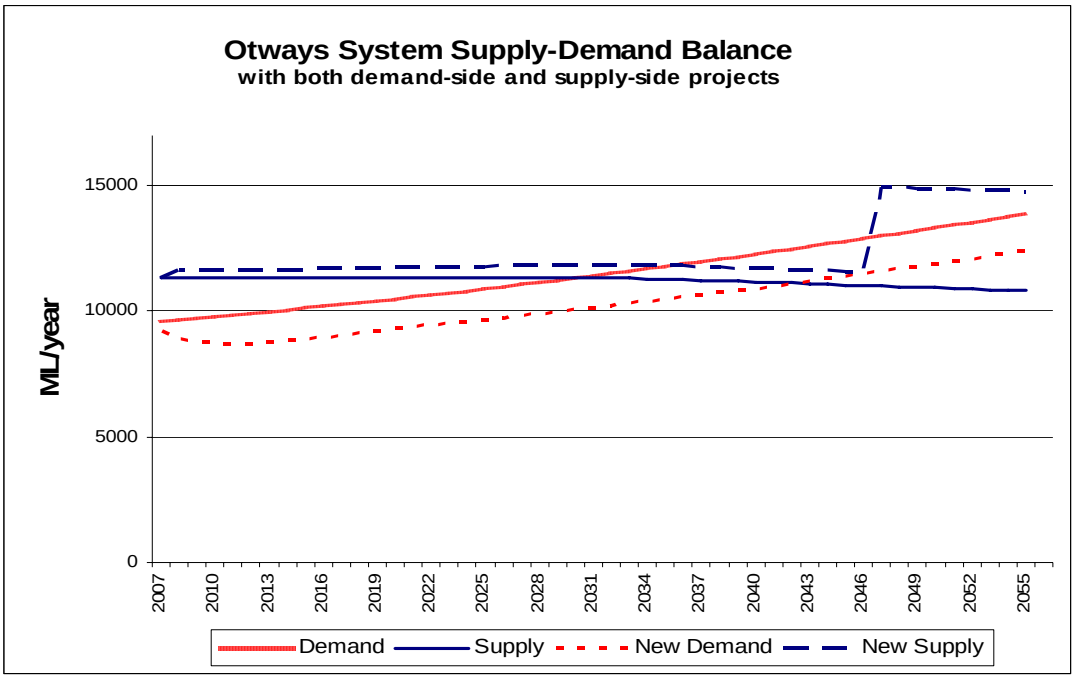
Table 4-2: Supply Augmentation: Glenthompson System

Option Description	Yield (ML)	Date yield required	Date to Commence Project Planning
Reducing evaporation from water basins	6	2007	2007

4.3.3 The Otway System

Current supply is forecast to be sufficient to meet future demand in the Otway system for the next thirty years (Figure 4-3). Major augmentation for the Otway system will not be required until 2047, when new bores will need to be sunk at Curdie Vale to restore the supply demand balance. Effective demand management will defer the need for major augmentation by 10 years.

Figure 4-3: Otway System: Supply and Demand



Implementation Plan

To bridge the projected supply demand gap, the following augmentation works are proposed:

Table 4-3: Supply Augmentation: Otway System

Option Description	Yield (ML)	Date yield required	Date to Commence Project Planning
Water harvesting	300	2043	2007
Additional bore at Albert Park	250	2045	2010
Curdie Vale bores	3,400	2047	2042

The major augmentation work is not required until the year 2047. However, the Water Plan proposes two investments for the 2008-2013 price period:

- An urban water harvesting demonstration project. This involves stormwater collection from roofs of new sub-divisions in Warrnambool – as part of our overall demand management strategy; and
- An additional bore to be constructed at Albert Park.

The proposed bore not only augments supply it also maintains the chemical composition of water supplied to urban and major food processing companies in the zone. The current supply is a

90:10 shandy of Otway sourced water with local shallow groundwater. Growth in this largest urban zone will require more water overall and so a need for more bore water to maintain the current quality parameters.

4.3.4 The Other Eleven Systems

Modelling of the fourteen systems through to 2055 indicates that only three systems have a supply deficit in 2055 following a successful demand reduction program. The needs of two of the systems are urgent and immediate (Hamilton, Glenthompson). The remaining eleven systems appear secure through to 2055 should the demand reduction program be successful and are certainly secure through to 2013 under any likely scenario of possible growth in demand or decline in supply.

Table 4-4: Supply Demand Balance: All Systems

Summary Table of Supply-Demand Balance for all Systems

Supply System	Current Status (2007) Supply	Total Demand	Supply less Demand	Adopted Growth (% p.a.) 2006-10	2011-15	2016-20	2021-25	2026-55	Future Status (2055) Supply	Total Demand	Supply less Demand
Otways System	11360	9600	1760	0.5%	0.6%	0.7%	0.7%	1.05%	10820	13874	-3054
Hamilton System	985	2020	-1035	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	970	1722	-752
Balmoral	60	80	-20	-1.1%	-0.9%	-0.8%	-0.8%	-0.9%	60	40	20
Glenthompson	39	58	-19	-0.6%	-0.5%	-0.4%	-0.4%	-0.3%	39	46	-7
Port Campbell System	1009	390	619	0.5%	0.5%	0.4%	0.3%	0.3%	1009	446	563
Casterton System	1000	560	440	-1.0%	-0.8%	-0.7%	-0.6%	-0.6%	1000	379	621
Caramut	50	47	3	-1.1%	-1.0%	-0.8%	-0.7%	-0.8%	50	19	31
Darlington	10	2	8	-1.1%	-1.1%	-1.0%	-1.1%	-1.8%	10	1	9
Dartmoor	170	16	154	-0.7%	-0.5%	-0.3%	-0.3%	-0.2%	170	10	160
Heywood	333	247	86	-0.4%	-0.3%	-0.2%	-0.2%	-0.1%	333	212	121
Macarthur	80	29	51	-2.3%	-1.8%	-1.7%	-1.7%	-1.6%	80	9	71
Penshurst	250	100	150	-1.2%	-1.1%	-1.0%	-1.1%	-0.9%	250	58	192
Port Fairy	1026	728	298	0.4%	0.5%	0.5%	0.4%	0.6%	1026	895	131
Portland	6222	2258	3964	-0.2%	0.0%	-0.1%	0.1%	0.0%	6222	2298	3924

Port Fairy, Portland, Otways and Hamilton include industries, and Glenthompson includes rural users, with different growth rates.

4.4 Expenditure for Supply Augmentation

The sections above identify the measures required to meet the supply augmentation needs of the region for the period of the next Water Plan. The most significant is the provision of additional supply to the Hamilton area.

Table 4-5: Expenditure for Security of Supply ($M)

Purpose	Works Involved	Cost
Hamilton system	Hamilton Grampians Inter-Connector Pipeline	$33.40
Otway system	New bore at Albert Park (Warrnambool)	$0.17
Total		$33.57

Wannon Water commissioned and received a Project Evaluation Report for the two main options under consideration for the Hamilton-Grampians Inter-Connector Pipeline project. This involved connection to either the Rocklands Reservoir or Moora Moora Reservoir.

Wannon Water and GWMWater management have reached a consensus that supply from Rocklands Reservoir is the preferred option and this recommendation, along with the report, has been submitted to the Department of Sustainability and Environment for review by the Major Projects Committee. The State Government has announced capital funding of $10M towards the $34.2M estimated cost of the project including the cost of the bulk water entitlement.

The Hamilton Grampians Inter-Connector Pipeline project schedule is as follows. It should be noted that a functional design will not be approved until March 2008.

Table 4-6: Project Schedule - Hamilton Grampians Inter-connector Pipeline

Activity Description	Completion
Concept design of options	20 July 2007
Options evaluation report to DSE	3 Aug 2007
Functional design	28 March 2008
VicRoads, DSE, Council & CMA approvals	26 May 2008
Business case submission to DSE	19 Aug 2008
Detailed design	17 Dec 2008
Tender & award contract for pipes	30 Jan 2009
Tender & award contract for construction	31 March 2009
Construction of project completed	25 June 2010

Due to the size of the expenditure and the current uncertainty as to the final design and funding of the pipeline, this project has been included as the major scenario where Wannon Water reserves the right to seek a review of prices if final design and operating costs are greater than those assumed in this Water Plan.

The detail of these arrangements is covered in Section 9.16.2.

5. LISTENING TO OUR CUSTOMERS

5.1 Customer Consultation Overview

Customer consultation and engagement is at the core of Wannon Water's business development strategy. It informs all aspects of this Water Plan. This approach also implements Section 10 of *the Statement of Obligations* on Customer and Community Engagement.

10.1 The Authority must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure, among other matters, that the services it provides reflect the needs and expectations of customers.

Wannon Water faces challenges in consulting with its customer base. Unlike the large urban retail water companies, which have a relatively uniform customer base, Wannon Water services a large number of smaller communities spread over a large geographic area. Customers often have interests that focus on local issues rather than region wide initiatives, so for instance water customers in Hamilton are concerned about security of water supply and have little interest in the groundwater resource servicing Portland and other communities (and vice versa).

In developing its consultation and engagement strategy, therefore, Wannon Water has adopted a flexible approach to the mechanisms it uses:

- Annual customer satisfaction survey;
- Regular consultation with the Customer Engagement Committee;
- Specific issue consultation, by convening local Community Consultative Committees and representative groups;
- Project implementation, via Project Monitoring Committees;
- One-on-One consultation with major customers; and
- Online internet consultation.

Each is discussed further below.

5.2 Consulting on this Water Plan

The development of the Water Plan itself has been the product of extensive consultation across a wide range of stakeholders. This has occurred over time as the priorities for the plan were identified and refined and as part of the public consultation on the exposure draft. This section reports on the key engagement exercise with:

- Our Customer Engagement Committee
- Our wider customer base
- Our major customers
- Our regulators

5.2.1 Customer Engagement Committee

This Water Plan has been subject to review and consultation through our Customer Engagement Committee, which endorsed the broad strategy on the priority and scale of the proposed works and their impact on future bills. The Committee was also involved in assisting Wannon Water to decide on the customer service targets to include in the Customer Charter that form the basis for

the performance commitments set out in this Water Plan. The pricing principles adopted for the water and sewerage tariff structures were determined with significant input from the Customer Engagement Committee and were widely advertised in local newspapers and radio media as being available for public review and feedback to Wannon Water. A number of submissions were received and were assessed and were helpful in determining the final form of the water and sewer pricing structures.

Proposals for individual projects and the wider *Water Supply Demand Strategy* have been subject to extensive community engagement and consultation through community forums and specific issue committees (as listed further below).

5.2.2 Public Consultation on the draft Water Plan

The draft Water Plan was released for wide community, customer and stakeholder comment on 31 July 2007. The Water plan was placed on the Wannon Water website and adverts were placed in media welcoming comments and inviting interested parties to attend public meetings to provide feedback on the proposals. Those meeting were held in Hamilton, Portland and Warrnambool and provided an opportunity for customers to have a one-on-one discussion about any aspect of the Water Plan.

In practice, few responses were received from general members of the public and a limited number of people attended the public meetings. The local Warrnambool daily newspaper reported on this under the heading ":Public quiet on water plan: No challenge to extra cost" and commented that:

> *"The apparent lack of concern points towards a shift in public attitudes over the value of water with most customers prepared to either use less of the diminishing resource or pay more for it.* [3]

Wannon Water also interprets the response as an indication that customers had been properly and fully engaged in the development of the proposals and priorities in the Plan – as the draft had contained no surprises. This prior engagement had been particularly evident in the major public forums that were arranged as part of the drafting of the *Water Supply Demand Strategy* – which dealt with the issues that were of greatest concern to customers. Customers understand that there are real costs in ensuring a truly sustainable water supply business.

An outcome from all consultation undertaken, including that for the *Water Demand Supply Strategy*, is that there is general acceptance that water prices should increase, and that an increase of 20% is not unreasonable where it is justified. A recurring theme from Hamilton customers in particular was that a significant price increase was preferable to ongoing water restrictions.

5.2.3 Major Customer Consultation on the draft Water Plan

Wannon Water consulted directly with its Major Customers on the implications of the proposed pricing for water and trade waste services. Wannon Water's Major Customer liaison officers completed a round of one-on-one contacts with this important customer group, during which an overview of the pricing principles was discussed and specific information was presented on the current and proposed pricing for water and trade waste services for the individual customer.

There was endorsement of the need for consolidating the three previous pricing mechanisms and the pricing principles proposed in this Water Plan, acknowledgement of the removal of discounts for major customers in the former South West Water region, and a strong appreciation that the pricing as

[3] The Standard – 7 September 2007, page 7

proposed would strengthen their own business cases for initiatives to achieve increased water efficiency.

A presentation was also given to the South West Municipal Water Use Committee, covering the 5 local governments in the Wannon Water service region. Local Councils are large multi-site users with total consumption exceeding 600ML.

One formal response was received from the private sector in relation to the proposed charging, seeking clarification on some aspects of the proposal. A record of Major Customer consultation with respect to the Water Plan has been maintained.

5.2.4 Consultation on Water Plan - Obligations

In drafting this Water Plan, Wannon Water consulted widely with the full range of regulatory bodies and outside agencies with responsibility for policy and compliance issues relevant to the performance of the organisation.

The Environmental Protection Authority (EPA) and the Department of Human Services (DHS) were approached by Wannon Water to seek clarity on the obligations that would apply during the second price period. Formal responses were received from both agencies setting out in general terms the obligations that would need to be met during the price period.

Once an initial draft of the Water Plan submission had been developed, a copy was delivered to each regulatory body which summarised the obligations that had been included in the Water Plan with a record of the proposed outcomes to be delivered by Wannon Water. The comments received were generally supportive of the proposed approach. Feedback from this consultation was included in the draft Water Plan that was circulated for public comment in July 2007.

Further formal comments on the draft Water Plan were sought from the Environment Protection Authority (EPA), Department of Human Services (DHS), Department of Sustainability and Environment (DSE), Corangamite Catchment Management Authority, Glenelg Hopkins Catchment Management Authority and the Essential Services Commission (ESC):

- The EPA responded with a supporting letter on the 5th October, but has made two suggestions:-

  a) The Portland Water Reclamation Plant is currently planned for 2011/12 and 2012/13 and the EPA has suggested that this be bought forward due to the poor licence compliance and condition of the plant. At this stage Wannon Water is unable to accede to this suggestion due to the heavy capital commitment already imposed on the Corporation in the first two years of the next price period.

  b) The EPA has also suggested that Wannon Water include a commitment to undertake a Sewerage System Review Audit as a component of Wannon Water's planned upgrade of sewers and pump stations for Camperdown, Hamilton, Heywood and Port Fairy sewage collection system. An estimated cost of an audit review is $0.15M which has not been included in the operational expenditure. Should operational savings be made elsewhere during the life of the plan, then this project will be incorporated.

- DHS responded that it *"broadly supports your draft Water Plan"* and confirmed understandings regarding the application of the *Safe Drinking Water Act 2003;*

- DSE suggested clarification of the costs that will be incurred in a number of areas including drought response, river health, sustainable management and responding to the Terrorism Act. It also sought clarification on a number of minor issues;
- The Corangamite CMA sought additional detail regarding proposed actions in respect to river and aquifer health; and
- ESC published generic supplementary guidance to provide advice to all water companies on matters to take into account in finalising their Water Plans.

The outcome of this feedback has been incorporated into this final submission.

5.3 Customer Satisfaction Survey

Surveys of customers are conducted annually by an independent market research company. The results for the past two years indicate a high level of customer satisfaction with Wannon Water's performance. The annual customer survey conducted in June 2007 yielded the following results for residential and business customers.

Residential customers:

- 94% of residential customers surveyed were extremely satisfied or satisfied overall with the quality of water and sewerage services.
- Overall, Wannon Water's strengths were seen as predominately in the areas of managing sewerage services and customer service.
- Areas identified for improvement included the management of water resources for the future and working to protect and improve the regions biodiversity.

Business customers:

- 94% of business customers surveyed were extremely satisfied or satisfied overall with the quality of water and sewerage services.
- Overall Wannon Water's strengths were seen as predominately in the areas of sewerage services and customer service.
- Areas identified for improvement were the management of water resources for the future and working to protect and improve the regions biodiversity.

Improvements in customer satisfaction since the 2006 customer survey were nominated by customers including:

- Keeping customers informed about relevant issues;
- Management of the water supply;
- Collecting & treating sewage in a responsible and environmentally friendly manner;
- More customers having direct contact with Wannon Water; and
- More customers using sewerage services.

The annual customer surveys have demonstrated a continued high level of customer satisfaction with Wannon Water's performance in the delivery of services (2007 – 94% and 2006 – 92%). Wannon Water considers this to be an excellent outcome given the adverse impacts of the drought on water availability and water quality due to the need to introduce emergency groundwater supplies to the Hamilton system.

The 2007 customer survey results also indicate that:

- More than 90% of business and residential customers consider promoting the increased use of recycled water as extremely important or important, but there is a need for more active promotion of this aspect of our business;
- More than 95% of customers consider working to protect and improve the biodiversity of the region as extremely important or important, but there is a gap in knowledge about Wannon Water's actions and outcomes in this area; and
- There is strong support (85% or more of customers) for the purchase of "green power", or investment in carbon offset projects such as tree planting, and investment in new equipment or procedures to reduce operation generated greenhouse impacts.

5.4 Customer Engagement Committee

Wannon Water formed a Customer Engagement Committee following invitations for expressions of interest from customers. The Committee first met in November 2005 and has met quarterly thereafter. The Committee consists of 13 members drawn from across our service area and is supported by Wannon Water executive management. Committee members were selected following an expression of interest process and were drawn from the residential, small business, major customer and rural customer segments to reflect Wannon Water's customer base.

Regular agenda items include: monitoring key performance indicators, overview of project specific consultative committees, and customer complaints analysis.

Strategic issues on which Wannon Water has engaged with the Committee include:

- Development of the Water Plan Submission including setting tariffs, capital works program and the priorities for the next price period;
- Permanent Water Savings Measures implementation plan;
- Customer Charter development;
- Customer hardship policy development;
- Customer complaints policy development;
- Uniform Water Restrictions development;
- Review of Branxholme water quality consultation plan;
- Review of Macarthur water quality consultation plan;
- Water pricing structure development;
- Sewerage pricing structure development;
- *Water Supply Demand Strategy* including social sustainability assessment of options and consultation and engagement plan; and
- Guaranteed Service Level scheme development for the Water Plan

The operation of the Customer Engagement Committee has been highly successful and has contributed significantly to the development and implementation of key customer related policies and plans.

5.5 Specific Issue Consultation

In preparation for this Water Plan Wannon Water undertook significant consultation. The listing below identifies the breadth of that exercise:

- **Water Supply Demand Strategy**
  Public meetings were convened for the development of a regional *Water Supply Demand Strategy*. Public engagement sessions were held in the major centres of Warrnambool, Portland, and Hamilton. Formal public submissions were also invited via public advertisement and the internet.

- **Port Fairy: Water Quality**
  The existing Port Fairy water supply is sourced from a geothermal aquifer and meets the health standards of the *Safe Drinking Water Regulations 2005.* However, the water contains mineral salts above the taste threshold. Port Fairy customers were consulted regarding their willingness to pay for improved taste. The consultation process involved the mailing of an information pack and ballot paper to all customers. The result of the ballot was that 80.5% of customers were not willing to pay to reduce the mineral salt content to below the taste threshold.

- **Macarthur: Water Quality**
  Meetings were convened with the Macarthur community to address water quality concerns associated with levels of arsenic in the groundwater supply that exceeded the levels set by the *Safe Drinking Water Regulations 2005.* Following engagement with the Macarthur community, a Macarthur Water Quality Consultative Committee was established consisting of nominated customers to assist Wannon Water with the selection of the customers preferred option for the upgrade of the water supply. The consultation process included the mailing of an information pack and ballot to all customers. The result of the ballot was that 91.5% of customers preferred an iron sorption solution to reduce the level of arsenic to below the standards specified by the *Safe Drinking Water Regulations 2005*. This Committee has now been converted to a Project Monitoring Committee to oversee the implementation of the preferred option.

- **West Portland: Backlog Sewerage Scheme**
  A concept design for the West Portland sewerage scheme has been completed and presented to landowners within the proposed scheme. The Glenelg Shire Council is undertaking the community consultation processes in partnership with Wannon Water for this scheme and the Dutton Way water and sewerage schemes.

- **Dutton Way: Water And Sewerage Schemes**
  Options for the Dutton Way water supply and sewerage schemes have been prepared in consultation with Glenelg Shire, the Department of Sustainability and Environment, other stakeholders and landowners within the potential schemes. Formal consultation will be undertaken once Glenelg Shire has clarified the planning overlay for the area.

- **Branxholme: Water Scheme**
  Public meetings were held in Branxholme to determine the level of community support for a non potable water supply scheme. Branxholme currently has no water supply and is reliant on rainwater tanks to meet individual residential and commercial property water needs. The result of the consultation identified a preference for the community not to proceed with a reticulated water supply scheme due to the high cost.

5.6 Project Committees

Where capital expenditure projects involve a long lead-in time Wannon Water generally establishes a local Project Committee with representatives from local customers to help engage the community in the roll-out of the program. Recent examples are:

- Port Fairy Consultative Committee implemented to oversee the option selection and resolution of the augmentation of the Port Fairy water reclamation plant.

- Macarthur Water Quality Project Monitoring Committee – established to oversee the implementation of the preferred option for Macarthur's water quality improvement project.

- Peterborough Sewerage Scheme Project Monitoring Committee – implemented to oversee the development of the Peterborough sewerage scheme and is currently providing community feedback during the construction phase of the project.

5.7 Major Customers

Wannon Water services 13 major customers who represent a significant percentage of demand and revenue, particularly at the local supply level. Approximately 23% of Wannon Water's total water demand is due to these customers, and a majority of them also have significant Trade Waste discharges to the sewerage system. For example, more than 35% of the total volume of sewage treated in Warrnambool is attributable to major customers. It is essential that those customers are fully engaged in Wannon Water's planning processes, as changes in their future demand for services will have major impacts on the need for investment in infrastructure.

Wannon Water has established a new post of General Manager, Innovation and Sustainability, one of whose main responsibilities is to build effective engagement and dialogue with major customers. Regular consultation has been established with major customers particularly in the areas of:

- Forward infrastructure requirements;
- Water efficiency opportunities;
- Assistance with applications for funding;
- Quality of services; and
- Trade Waste policy.

The partnerships and outcomes that have been achieved already demonstrate the regional benefits that can be obtained from this investment, and an ongoing Major Customer program is included in this Water Plan.

5.8 Online Internet Consultation

Wannon Water also used its website as a facility for consultation on a range of issues. The process has sought on-line feedback from customers and other stakeholders, for example on the water and sewerage pricing discussion papers released with media advertisements in 2006 inviting customers to log onto the public website and provide feedback on the discussion papers.

5.9 Implications of Customer Feedback

The strongly expressed priority of customers from all of our consultation is the importance of water security and water conservation. Customers need confidence that Wannon Water will continue to invest to provide secure future water supplies while at the same time they expect us

to demonstrate leadership in promoting water conservation, leakage control and demand management.

The other clear message from the consultation is that customers expect Wannon Water to strike an appropriate balance between cost and quality of service. Faced with a choice between the status quo (with a reasonable standard of service at a reasonable price), and an opportunity to obtain a superior standard at a higher price, the large majority of customers voted for the status quo. This was evident from recent ballots for an upgrade of the Port Fairy and Macarthur water treatment plants to improve the aesthetic quality of the groundwater supply where customers clearly choose to retain the existing balance between cost and quality.

Finally, the consensus from surveys is that our customers believe that Wannon Water is doing a good job and that the current levels of service are meeting customer expectations. Expenditure is therefore proposed at the level necessary to maintain the current service standards and level of satisfaction. However, Wannon Water is not proposing any significant additional expenditure to increase the overall level of customer service within this Water Plan.

6. OBLIGATIONS AND OUTCOMES

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

- Affirms the obligations that are the drivers for the Water Plan;
- Outlines the projects and expenditure that Wannon Water proposes to undertake to meet those obligations; and
- Identifies the outcomes that Wannon Water proposes to achieve over the life of the Water Plan through its customer service performance targets.

The section is split into a number of main sub-sections:

- Statement of Obligations;
- Water Security of Supply and Conservation: this addresses the core issue for water customers in the region;
- Environmental Obligations: this focuses on those areas where the Environment Protection Authority acts as the licensing authority, eg wastewater handling, treatment and disposal;
- Water Quality Obligations: this focuses on those areas where the Department of Human Services acts as the regulator of drinking water quality;
- Customer Service Standards; and
- Other Obligations.

New obligations and business as usual

Most of the obligations Wannon Water face involve a ratcheting up of existing compliance standards rather than the introduction of new requirements. This is part of heightened regulatory and community expectation about the standard of compliance that we need to demonstrate. So for example, under Environment Protection Authority *publication 1069* Wannon Water is required to:

- Develop and implement a consultation program to inform the community on treated effluent mixing zones and ensure that adequate controls are in place to prevent inappropriate uses within mixing zones;
- Prepare a sewerage system management plan, and undertake an audit of that plan to identify and manage environmental risks;
- Develop and implement plans for the management and handling of continuously produced sludge; and
- Develop and implement plans for 100% recycling of biosolids.

Strictly these are not new legal obligations. They are merely more detailed and specific criteria to demonstrate compliance with existing legislation. Wannon Water believes it will fully meet these expectations. However, it is important to recognise that this continuous enhanced compliance comes at a cost and makes it difficult to implement productivity gains year on year.

6.1 Statement of Obligations

Wannon Water operates under a *Statement of Obligations* from the Minister for Water, Environment and Climate Change.

The *Statement of Obligations* sets out the full range of areas and activities which the Minister has determined it is the responsibility of Wannon Water and its Board to deliver. However, these obligations are generally expressed at a generic level, and as outcomes to be achieved rather than activities that must be undertaken. They therefore, underpin everything that the Water Plan sets out to achieve.

A summary of the key sections of the *Statement of Obligations* is provided below, with Wannon Water's responses for this Water Plan. The analysis is focused on those obligations that will impose major costs on Wannon Water in the next price period. Where the obligations relate to major functional areas (such as environmental performance) then the issue is dealt with under the relevant heading later in the section.

Table 6-1: Statement of Obligations Coverage in Water Plan

Section	Subject	Section of Water Plan
Section 10	Customer and Community Engagement	5
Section 12	Responding to Incidents and Emergencies	6.8.3
Section 14	Dam Safety	6.8.2
Section 15	Conserving and Recycling Water	6.2.2
Section 16	Water Supply Demand Strategy	4
Section 19	Sewerage Services to Un-sewered Urban Areas	6.9.1
Section 21	Trade Waste	6.4.4

Section 23: Research and Knowledge

The Authority must:
a) identify the Authority's research needs;
b) prioritise the research needs identified; and
c) identify how the Authority proposes to meet its research needs.

Wannon Water has developed a comprehensive *Innovation Strategy* which includes research needs. This strategy provides the organisational capacity to deliver improved business outcomes derived from this program.

Identified projects to be undertaken during the Water Plan include:

- Reshaping rural and regional urban customer attitudes to water saving and recycling across southwest Victoria in partnership with the Victorian Water Trust, Deakin University and the Alcoa Foundation;
- Completion of a collaborative project investigating the influence of hormones on sewer treatment plants with industry peers and Department of Primary Industries;
- New investigations into priority flora and fauna species occurring on Wannon Water's land base;
- A series of collaborative research projects identified in the *Innovation Strategy*, and including investigations into the sustainability of the Dilwyn Aquifer highlighted in the *Water Supply Demand Strategy*;

- Membership in Water Quality Research Australia, a collaborative research centre of national application with a focus on drinking water quality, recycled water and relevant areas of wastewater management ; and
- Associate membership of the Water Services Association of Australia which commission a range of research projects of high priority to the Australian water industry.

The annual review process for the *Innovation Strategy* includes processes to identify emerging research needs and to initiate projects to meet these needs during the Water Plan period. The following programs are proposed within the Water Plan period.

Table 6-2: Research and Knowledge Program ($M)

Description	Purpose	Works Involved	Cost
Implement Research and Development program identified in Innovation Strategy	Statement of Obligations 23 - Authority must identify how it will meet its research needs	Funding for R&D projects targeted to business needs and identified in updates of Innovation Strategy, to be undertaken by relevant providers (eg Universities, WQRA), preferably in partnership with peers to maximise investment outcomes.	$0.50

Section 24: Sustainable Management

24.1 The Authority must:
a) in performing its functions, exercising its powers and carrying out its duties, apply the Sustainable Management Principles', and
b) demonstrate in its Water Plan how the Authority proposed to apply those principles.

24.2 In applying the Sustainable Management Principles the Authority must develop and implement programs for assessing, monitoring and continuously improving the Authority's sustainability performance, including:
a) responding to climate change;
b) maintaining and restoring natural assets;
c) using resources more efficiently; and
d) managing everyday environmental impacts;
and must include those programs in its Water Plan.

Wannon Water's *Innovation Strategy* has identified a series of priority goals and objectives for continually improving our business performance including natural resource management actions on our extensive land base. Feedback from customers demonstrates strong support for projects that will help achieve our regional biodiversity obligations (refer section 5.3).

Table 6-3: Sustainable Management Program ($M)

Description	Purpose	Works Involved	Cost
Maintaining and Restoring our Land	Statement of Obligations 24 (Sustainable Management)	A program of on-ground land management works to maintain and restore priority sites (up to 25ha), including integration of CMA and DSE objectives. Includes Portland Heathland Management Plan. Requires ongoing monitoring of outcomes.	$0.22

Description	Purpose	Works Involved	Cost
Implementation of Sustainability Assessment and Reporting Framework	Statement of Obligations 24, 25 (Sustainability Systems)	Implement new systems for monitoring and reporting of criteria in Sustainability Assessment and Reporting Framework. Potential for Certification of system, and routine reporting costs.	$0.17
		Total	$0.39

6.2 Security of Supply and Water Conservation

6.2.1 Augmenting Security of Supply

Security of future water supplies is the top priority for our customers and implements fundamental obligations on Wannon Water under the *Water Act 1989* and *Statement of Obligations*. Those obligations combine requirements to ensure continued reliable supply with duties to promote conservation and demand management.

The basis for future action and expenditure is Wannon Water's *Water Supply Demand Strategy 2007-2055.* This provides a comprehensive review of future demand and supply options under-pinned by rigorous scientific modelling to identify the optimal strategy to support these two objectives.

Section 4 of this Water Plan sets out a summary of the Strategy and the expenditure proposed.

6.2.2 Water Conservation and Resource Efficiency

Obligations to be met

Section 15 of the *Statement of Obligations* requires a comprehensive program of water conservation and recycling.

Clause 40 of the State Environmental Protections Policy (SEPP) *(Waters of Victoria) 2003* requires Wannon Water to work with communities and businesses to implement water saving practices (particularly for new developments) and to maximize wastewater reuse in order to conserve potable water. The SEPP further requires Wannon Water to:

- Recycle sewage and biosolids; and
- Deliver water to customers in an efficient manner.

Water conservation is also enforced under Section 1I, 'Principle of Wastes Hierarchy' of the *Environment Protection Act, 1970*. Environment Protection Authority *publication 1069* also obliges Wannon Water to have regard to efficient use of other resources such as energy and chemicals.

Outcomes to be delivered

Wannon Water is committed to its environmental obligation of conserving water and using resources efficiently. This is set out in detail in Wannon Water's *Water Supply Demand Strategy* and *Recycled Water Strategy*. The following program of expenditure is proposed within the Water Plan price period. Other expenditure exists to meet growth in the region.

Table 6-4: Expenditure required for Recycled Water ($M)

Description	Purpose	Works Involved	Cost
Establishment of expanded reclaimed water infrastructure with focus on Warrnambool, Hamilton and Cobden	Statement of Obligations 15. Consistent with White Paper. To implement elements of the Recycled Water Strategy which enable further fit-for-purpose treatment and distribution to customers	Construction of new infrastructure to provide fit-for-purpose recycled water for expanded customer base	$1.53

6.3 Environmental Obligations

Wannon Water is committed to managing its business to ensure compliance with all legal and licensing obligations, meet best practice in system management and minimise any impacts on the environment.

Wannon Water is determined to be a leader in environmental management in the region.

That means looking at everything Wannon Water does with the intention to do it better and with less impact. It also means thinking about our actions within a wider context so that consideration is given to achieving the best outcome at a system level. The following sections cover five core areas and include the environmental obligations imposed on Wannon Water through the *Statement of Obligations:*

- Wastewater Management;
- Greenhouse Gas Emissions;
- Trade Waste Management;
- Catchment, Waterway and Groundwater Management; and
- Monitoring, Auditing and Reporting.

Obligations to be met

The main legislative framework for Wannon Water's performance in this area is the *Environment Protection Act 1970* and associated *State Environment Protection Policies* (known as SEPPs).

The agency with whom Wannon Water works most closely on these issues is the Environment Protection Authority Victoria. In developing this Water Plan submission, Wannon Water has made particular reference to the Environment Protection Authority *publication 1069 "Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008 – 2013 Pricing Determination"*.

The publication was developed to provide clarity to the Victorian water businesses regarding the environmental requirements that the water industry is obliged to address over the next price period. The obligations also include Section 25 of the *Statement of Obligations* on *Environmental Management Systems.*

The Authority must develop and implement an Environmental Management System which;
a) must be in accordance with the following standards from the Standards Australia AS/NZSISO 14000 Series of Environmental Management Systems Standards: (i) AS/NZS ISO 14001: Environmental Management Systems Requirements with Guidance for Use; and; (ii) AS/NZS ISO 14004: Environmental Management Systems General Guidelines on Principles, Systems and Support Techniques; but
b) need not be accredited under those standards.

During the Water Plan period, Wannon Water commits to implementing internationally recognised and industry relevant sustainability monitoring and reporting frameworks, such as the Global Reporting Initiative and Corporate Responsibility Index.

To facilitate an appropriate level of environmental performance under these Sustainability Frameworks, Wannon Water's management systems will be upgraded to include the elements of ISO14000 and ISO14004, and additional operations and maintenance procedures, monitoring and research will be implemented to ensure the systems deliver real on-ground outcomes. Funding has been included in the Water Plan to develop an Environmental Management System consistent with those standards.

Wannon Water maintains an integrated management systems approach, ensuring that daily activities are constantly considering all relevant aspects and impacts across the whole of the triple bottom line. Wannon Water conducts its business activities with consideration given to long term sustainable solutions. Treatment and reuse processes are conducted in accordance with chemical and energy minimisation without being to the detriment of the final product. As such processes are currently monitored and optimised. These are continuing processes and will carry on into the next regulatory period.

In partnership with the Environment Protection Authority, Wannon Water has initiated the use of Life Cycle Assessment methodologies to evaluate alternative environmental outcomes for major infrastructure projects. This methodology will be extended to the design and implementation of a major upgrade to the Portland water reclamation plant, scheduled for 2010. This project will include communication and consultation with customers and other stakeholders regarding the environmental and economic impacts of the project, so that a sustainable solution is achieved.

6.4 Wastewater Management

Wannon Water is the service provider for the collection and treatment of the region's wastewater. This is a vital function to promote public health and protect the quality of our rivers and streams. There are five major parts to this exercise:

- Managing the Sewerage System: to prevent spills and blockages;
- Sewage Treatment and Disposal: treating the wastewater in our Water Reclamation Plants and reusing or discharging of the waste stream;
- Trade Waste Management: managing the composition and treatment of waste streams received from non-residential customers;
- Sludge and Biosolids Management: managing the solid wastes generated by reuse as a soil conditioner; and
- Management of Odour: minimising our impacts on our neighbours.

6.4.1 Wastewater Management Obligations

A comprehensive legislative and licensing regime sets compliance standards for these activities, implemented in partnership with Environment Protection Authority Victoria. Core obligations include:

- *Environment Protection Act 1970*: eg. Section 20 requires the organisation's water reclamation plants to be licensed;
- Environment Protection Authority Publication 473, *Managing Sewage Discharges to Inland Waters* sets standards for discharge controls;
- SEPP *(Waters of Victoria) 2003*:

  - Clauses 27 to 30 make reference to the need to implement the waste hierarchy in the management of wastewater systems;
  - Clause 33 requires the development of sewerage management plans in conjunction with the municipal council and EPA;
  - Clause 35 requires sewerage systems to avoid losses of wastewater through overflows, leakages and collapses;
- SEPP *(Air Quality Management)*: Clause 18 requires continuous improvement in odour management for existing and proposed schemes; and
- Environment Protection Authority *Publication 1069* specifies the particular activities required to meet compliance during the 2008-2013 price period.

In implementing these obligations Wannon Water will be guided by the principles of the waste hierarchy as set out in Section 1I of the *Environment Protection Act 1970* and Clauses 27 to 30 of the SEPP *(Waters of Victoria)*. The hierarchy prioritises in order: avoidance, re-use, recycling, recovery of energy, treatment, containment and then disposal.

6.4.2 Managing the sewerage system

Wannon Water operates the sewerage system to minimise risks of blockages and spills. This protects the environment and ensures that the relevant levels of service targets set out in the Customer Charter are achieved.

Obligations to be met

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

- Current design and management standards for the installation or replacement of sewerage systems;
- An investigation program to identify existing infrastructure that does not comply with the minimum design criteria;
- A program to monitor and provide reporting systems to the Environment Protection Authority of sewage spills from the system; and
- A work program to rehabilitate systems that fail the minimum criteria, with prioritisation based on the potential environmental impacts and practical rehabilitation measures available.

Outcomes to be delivered

Wannon Water's sewer replacement/rehabilitation works program is based on the condition and criticality of sewer mains, including environmental impact considerations. Wannon Water will complete a sewer condition assessment, hydraulic capacity and infiltration study for each of the sewerage systems by June 2008. This will provide the basis for a prioritised program of relining and replacement. Current experience suggests the high priorities are:

- Port Fairy and Heywood sewerage systems to reduce infiltration; and
- Warrnambool sewerage system, where significant sewer upgrades are required to meet current and future demands.

Wannon Water currently has a Sewage Spills Response Plan which has been endorsed by the Environment Protection Authority. This will continually be reviewed through the regulatory period. Wannon Water's performance will also be further enhanced through the commissioning of a Mobile Information Management System which will provide field based employees with online

access to information systems in vehicles. This will enable faster response to service faults and incidents that occur as staff will have on-line access to up-to-date information on all assets and direct two-way online contact with the customer call centre.

6.4.3 Wastewater Treatment and Disposal

Obligations to be met

Section 20 of the *Environment Protection Act 1970* requires Wannon Water's water reclamation plants to be licensed. Wannon Water is obliged to comply with all requirements of each licence. Water reclamation plants not achieving 100% compliance must have a detailed activity plan to achieve full compliance within the 2008 – 2013 regulatory period.

Obligations are articulated in the 1995 Environment Protection Authority Publication 473 *Managing Sewage Discharges to Inland Waters and* Clause 30 of the SEPP *(Waters of Victoria) 2003:*

- Upgrade treatment plants to meet minimum standards for discharge to waterways;
- Mixing zones associated with sewage discharge to be identified and progressively reduced; and
- Ecological risk assessments to be conducted on the impacts of discharges to water bodies in consultation with waterway managers, coastal plans and the Environment Protection Authority.

Outcomes to be delivered

Major capital upgrades are to be carried out on the Portland, Port Fairy, Warrnambool, Hamilton and Dunkeld water reclamation plants to ensure they become fully compliant with the Environment Protection Authority discharge licences. The following is the planned schedule of works:

- Port Fairy domestic water reclamation plant ($0.89M) and Warrnambool water reclamation plant ($3.30M),upgrades to be undertaken in 2008-09;
- Hamilton water reclamation plant: an upgrade of the biosolids handling facility ($0.80M) by 2008-09;
- Dunkeld water reclamation plant: the organic capacity ($0.13M) to be increased in 2009-10;
- Port Campbell water reclamation plant: re-lining of lagoons ($0.68M) in 2010 to 2012 to prevent groundwater contamination; and
- Portland water reclamation plant: major upgrade ($6.72M) to achieve licence compliance in 2012/2013.

Ocean outfall monitoring will be carried out at Portland, Port Fairy and Warrnambool to determine mixing zones at these ocean outfall sites. The following table represents the current agreed ocean outfall monitoring program with the Environment Protection Authority:

	2006-07			2007-08			2008-09			2009-10			2010-11			2011-12			2012-13		
	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ	BS	T	MZ
W'bool							✓	✓	✓					✓		✓					
Portland					✓		✓							✓		✓		✓			
Pt Fairy	✓				✓	✓	✓							✓		✓					✓

BS = Biological Survey, T = Toxicity Sampling, MZ = Mixing Zone Study

6.4.4 Trade Waste Management

Obligations to be met

The Environment Protection Authority does not have a direct regulatory role in trade waste management. However, Wannon Water must comply with a number of obligations that mandate a robust trade waste management strategy. These include obligations to encourage waste minimisation and dealing with waste parameters that impact on the beneficial uses of effluent in the receiving environment.

Section 21 of the *Statement of Obligations* also imposes duties in this regard.

21.1 The Authority must develop policies and practices to manage trade waste:
a) to protect its sewerage systems, including treatment works and processes, and the health and safety of the public and of people working in or operating those systems', and
b) to minimise environmental impacts consistent with any licence issued under the Environment Protection Act 1970., and
c) improve the quality of trade waste entering its sewerage systems in order to maximise opportunities for the reuse of wastewater and biosolids.

21.2 In developing trade waste management policies and practices, the Authority should be guided by the waste management hierarchy principle set out in section 1I of the Environment Protection Act1970.

21.3 The Authority must develop and implement systems for managing compliance with trade waste agreements between the Authority and customers.

Wannon Water has a trade waste policy that complies with the above requirements. The policy was approved by the Board in January 2007. Key elements of the policy include objectives to:

- Protect the environment;
- Protect the health and safety of employees and the public;
- Maximise opportunities for re-use of reclaimed water and biosolids;
- Recover costs associated with providing trade waste services;
- Encourage waste minimisation, cleaner production and pre-treatment of higher strength wastes; and
- Promote compliance with agreements, permits and the Trade Waste By-Law.

Outcomes to be delivered

Wannon Water is committed to the implementation of a new Trade Waste management system, in which customers are required through the Trade Waste Management Plan to reduce both volume and contaminant loads which are discharged to sewer.

Wannon Water has established a Major Customer liaison program to establish a partnership approach with our largest water users and trade waste customers. Implementation of our new Trade Waste management system will include ongoing dialogue with this customer base, and the potential for sustainability covenants incorporating shared benefits will be actively explored in association with the Environment Protection Authority. There will be an increased emphasis on the potential for beneficial reuse, consistent with our *Recycled Water Strategy.*

Wannon Water has revisited its trade waste charges (refer comments section 4.5) to place greater emphasis on polluter pays and create a pricing outcome that delivers incentives for pre-treatment of higher strength wastes before disposal to the sewerage system. This will also create the opportunity for water recycling consistent with objectives set out in Wannon Water's *Water Supply Demand Strategy*.

6.4.5 Sludge and Biosolids Management

Obligations to be met

The paper *Moving towards Sustainable Biosolids Management – A Cooperative Venture (2002)*[4] sets out an agreed program to identify risks associated with biosolids and to develop plans for its sustainable management. Environment Protection Authority *publication 1069* also requires Wannon Water to:

- Develop and implement plans for the management and handling of continuously produced sludge; and
- Develop and implement plans for 100% biosolids recycling.

Outcomes to be delivered

A comprehensive biosolids management study is to be undertaken to provide Wannon Water with an agreed program for biosolids management. This will be coupled with new regional biosolids treatment facilities to be developed at the Hamilton water reclamation plant site by 2008-2009 and at the Portland water reclamation plant site to coincide with the upgrade of the plant.

Wannon Water will be working with regulators and communities over the regulatory period to establish a Biosolids Management System. The system will address issues including:

- Management procedures for the removal, collection, treatment and application of biosolids for individual systems;
- Recurrent surveys of lagoons with project dates for desludging; and
- Promotion of biosolids and identification of potential third party users.

6.4.6 Management of Odour

Obligations to be met

Clause 18 of the SEPP *(Air Quality Management)* requires continuous improvement in odour management for existing and proposed schemes.

Outcomes to be delivered

Wannon Water is committed to continuous improvement in odour management. A number of major capital works have been identified to reduce potential odour issues as follows:

- The development of the biosolids drying facilities at the Portland and Hamilton water reclamation plants will be designed to minimise any odour generation. The works at Portland will coincide with the overall water reclamation plant upgrade to commence in 2010-2011;
- The primary lagoon at the Hamilton water reclamation plant will be desludged in 2007-2008, reducing the potential for odour production from the lagoon; and

[4] The cooperative group had representatives from: EPA, DSE, Victorian water businesses and the Victorian Water Industry Association.

- An aerated digester will be constructed at the Warrnambool water reclamation plant to reduce the volatile content of the biosolids therefore significantly reducing the odour generated when the biosolids are transferred to the Camperdown Biosolids Facility. The project will commence in 2008-2009.

6.4.7 Expenditure Program for Wastewater Management

The following chart confirms the major expenditure proposed for the management of wastewater across Wannon Water over the next price period.

Table 6-5 : Expenditure on Wastewater Management ($M)

Location	Activity	Date	Cost
Sewage Treatment and Disposal			
Portland	Upgrades for licence compliance	2012-2013	$6.72
Port Fairy	Upgrades for licence compliance	2008-2009	$0.89
Warrnambool	Upgrades for licence compliance	2008-2009 & 2012-2013	$3.30
Hamilton	Biosolids handling upgrade	2008-2009	$0.80
Port Campbell	New Winter Storage and reuse area	2008-2009	$0.53
Cobden	Refurbishment of irrigation system	2010-2011	$0.08
Sludge and Biosolids Management			
	Biosolids Management System		$0.06
Total			**$12.38**

6.5 Greenhouse Gas Emissions and Energy Efficiency

Obligations to be met

Clause 33 of the SEPP *(Air Quality Management) 2001* requires Wannon Water to assess greenhouse gas emissions to the atmosphere from licensed premises and develop an action plan to mitigate any impacts.

In addition, Clause 24.2 of the *Statement of Obligations* requires Wannon Water to plan to respond to climate change:

> *24.2 In applying the Sustainable Management Principles the Authority must develop and implement programs for assessing, monitoring and continuously improving the Authority's sustainability performance, including:*
> *a) responding to climate change;*

Outcomes to be delivered

Total greenhouse gas emissions for the 2006/07 financial year were in the order of 40,000 tonnes.

Wannon Water has developed a Strategic Plan to reduce greenhouse gas emissions with guidance from the *Greenhouse Emissions Reduction Framework*. This Water Plan sets a target of a 10% reduction in current emissions, equivalent to 4,000 tonnes per year, by 2013.

Wannon Water has an active greenhouse management program, and will continue to implement the actions developed by the Industry Energy Management Working Group. Priorities include:

- Construction of a new office facility in Warrnambool to integrate best-practice energy and water management principles to achieve a 5 star rating for the building;
- An organisation-wide energy management program developed in partnership with Sustainability Victoria to be implemented and actioned through our asset replacement program and targeted plant upgrades.
- Further research and investigations into opportunities for energy generation through technologies such as mini-hydro or wind power will also be undertaken;
- Progressive increase in our use of "green" energy, supporting a wider move to greenhouse friendly base-power load under mandatory emissions reductions programs;
- The establishment of offsets through investment in plantation forestry; and
- A new vehicle policy to reduce fleet emissions of 10% by 2013. This will be achieved through a combination of vehicle selection, driver training and the use of alternative communications technology to reduce road travel.

Further, improved energy and greenhouse efficient criteria will be incorporated in the design and construction phase of new assets, consistent with the approach identified in our *Water Supply Demand Strategy*. This approach aims to achieve no net increase in emissions as a result of new infrastructure

The major expenditure for the Water Plan is based on a dual approach to reducing the greenhouse impact of our base energy requirements through:

- green energy purchases and
- establishment of offsets.

The balance in investment between renewable energies and offset plantations will be based on product availability, ability to audit and document the offset, price per tonne emissions reduction, and ability to leverage additional beneficial outcomes such as increased biodiversity outcomes in our service region.

The following programs of expenditure are proposed within the Water Plan period:

Table 6-6: Climate Change Impacts ($M)

Description	Purpose	Works Involved	Cost
Establishment of Greenhouse offsets	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in Greenhouse Gas Emission Offset project to achieve a 5% reduction in Wannon Water greenhouse gas emissions.	$0.56
Utilisation of Renewable Energy	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in renewable energy to achieve up to 5% reduction in Wannon Water greenhouse gas emissions. 1% per annum increases for 5 years.	$0.30
		Total	$0.86

6.6 Catchment, Waterway and Groundwater Management

Wannon Water recognises that its area of influence extends beyond extracting water for supply and managing wastewater discharge points. Wannon Water is actively involved with local partnership projects for waterway and terrestrial environments.

Wannon Water maintains an active monitoring and management program to minimise the environmental risks and impacts of our activities on aquatic ecosystems, including aquifers, surface and coastal waters.

Ongoing funding of these programs during the Water Plan period includes:

- Ocean monitoring programs associated with three treated water discharge points at Warrnambool, Portland and Port Fairy, and
- Maintenance of routine Environment Protection Authority compliance sampling programs.

Wannon Water's *Recycled Water Strategy* includes a hierarchy to prioritise reuse projects. This hierarchy targets potable, river and groundwater substitution and enhancing environmental flows, to provide regional sustainable water cycle benefits. Funding is included in this Water Plan to deliver three priority recycled water projects consistent with this objective.

The establishment of on-ground management and restoration works for Wannon Water's natural assets during the Water Plan period will include investigations in partnership with the Environment Protection Authority and the Glenelg Hopkins Catchment Management Authority into the potential for the use of recycled water use for the reinstatement of wetlands at Bald Hill in Portland, and an appropriate allocation of funds for ongoing monitoring of our success in achieving specific aquatic targets.

Future research proposed under our *Innovation Strategy* includes the monitoring and evaluation of environmental conditions for priority sewerage schemes, such as assessing the beneficial impact on the Curdie's Inlet from implementation of the Peterborough Sewerage Scheme.

The following programs of expenditure are proposed within the Water Plan period:

Table 6-7: Natural Asset Protection ($M)

Description	Purpose	Works Involved	Cost
Maintaining and Restoring our Land	Statement of Obligations 24.2, 27, 28 - maintaining and restoring our natural assets. Anticipated Corporate Sustainability principals.	Ongoing monitoring programs to determine outcomes of program of on-ground land management works to maintain and restore priority sites.	$0.05

6.6.1 Managing Environmental Flows

Obligations to be met

The SEPP *(Waters of Victoria) 2003* is the key reference document for policy obligations in this area:

- Clause 41 requires that adequate environmental flows be provided to waterways, wetlands, lakes and estuaries. Bulk Entitlements secured by Wannon Water are to incorporate provisions for passing flows for environmental purposes;

- Clause 42 requires that the release of the flows from water storages minimise any impacts on down stream beneficial uses; and

- Clause 43 requires that works on or adjacent to surface waters need to be managed to minimise environmental risks and to protect other beneficial uses.

In this area Wannon Water is also subject to duties imposed through the *Statement of Obligations* in Section 27 River and Aquifer Health and Section 28 Monitoring River Health.

Outcomes to be delivered: Environmental Flows

An independent audit will be completed on compliance with the provision of environmental flows to establish a baseline reference point for future action.

The Water Plan includes major augmentation of Hamilton's water supply from the southern Grampians. This project is also expected deliver improved compliance for environmental flow regimes for the southern Grampians surface water systems, through remedial works on weir off-takes. Wannon Water will seek an application to vary environmental flows to meet both potable and environmental outcomes.

In addition, remedial works at the Konongwootong Reservoir (north of Coleraine) are planned for the regulatory price period, where the design of the works will include liaison with the Glenelg Hopkins Catchment Management Authority to mitigate any risks to fish movement and downstream water quality.

Wannon Water's *Recycled Water Strategy* includes a hierarchy to prioritise various reuse projects. This hierarchy targets potable, river and groundwater substitution and enhancing environmental flows, to provide regional sustainable water cycle benefits. Funding is included in the plan to deliver three priority recycled water projects consistent with this objective.

Outcomes to be delivered: Discharges

Wannon Water endeavours to minimise unlicensed wastewater discharges to surface waters and meet licence requirements. The following works have been identified to minimise the risk of unlicensed discharges:

- Infiltration investigations into the Heywood sewerage system and relining of sewers ($0.13M);
- Replacement of manhole covers in Cobden and Camperdown sewerage systems to minimise infiltration ($0.10M);
- Review of the winter storage requirements at the Casterton water reclamation plant by 2009-2010 ($0.05M);
- New Winter Storage and reuse area to be developed for the Port Campbell water reclamation plant in 2008-2009 ($0.57M);
- New winter storage design for the Hamilton water reclamation plant ($0.04M). The project will be initiated in 2009-2010 with construction taking place in the third Water Plan;
- Refurbishment of the irrigation system at the Cobden water reclamation plant to allow additional land to be irrigated by 2010-2011 ($0.23M); and
- Investigations into potential potable substitution using recycled water.

6.6.2 Groundwater Management & Protection

Obligations to be met

- Clause 45 of the SEPP *(Waters of Victoria) 2003* requires the protection of groundwater quality from the impact of the organisation's operations; and
- Clause 21 of the SEPP *(Groundwaters of Victoria) 2002* requires that all practicable measures be undertaken to prevent pollution of the groundwater.

Outcomes to be delivered: Groundwater Management

An assessment was undertaken in 2006-07 of the risk of contamination of the Port Campbell Limestone formation in Warrnambool. This identified a number of specific risks that will be addressed over the Water Plan period, in consultation with Warrnambool City Council. These measures are intended to protect the quality and quantity of the local groundwater which is used to supplement the urban water supply for Warrnambool, Koroit and Allansford.

Wannon Water will continue to undertake comprehensive ground water monitoring and analysis to ensure there is no pollution of the ground water resulting from either sewerage treatment or irrigation with recycled water. All new treatment and storage lagoons will be lined in accordance to the Environment Protection Authority guidelines ensuring that no leakage will occur.

Ongoing monitoring of the sustainability of our reuse systems will be undertaken in line with our *Recycled Water Strategy* and the expectations of the Environment Protection Authority and our communities.

6.6.3 River and Aquifer Health

Obligations to be met

Section 27 of the *Statement of Obligations* also imposes duties in regard to the protection of waterways, aquifers and wetlands.

27.1 The Authority must manage the impact of its activities on any waterway, aquifer or wetland to minimise environmental impacts on and risks to the aquatic system,

Wannon Water will contribute funding towards a joint summer passing flow monitoring project with the Glenelg Hopkins Catchment Management Authority. The project will monitor and evaluate the affect of summer passing flows on fish and invertebrates living in refuge pools in several of the southern Grampians streams that are included in Wannon Water's Bulk Entitlement Agreement.

Description	Purpose	Works Involved	Cost
Healthy Rivers and Streams		Monitoring and evaluating the effect of passing flows on fish and invertebrates in streams in the southern Grampians catchment	$0.04M

6.6.4 Monitoring, Auditing and Reporting

Finally, there are obligations on Wannon Water to monitor and audit how well it is complying with the above obligations. The actual outcomes will be reported to the Board, stakeholders and regulators.

Obligations to be met

Environment Protection Authority licences for water reclamation plants have requirements for monitoring of effluent quality, receiving waters and groundwater. They also require annual reporting of licence performance against requirements.

Clause 29 of the SEPP *(Waters of Victoria) 2003* requires that Wannon Water have a monitoring program for receiving waters and to develop environment improvement plans for sites discharging to surface waters. More explicitly, Environment Protection Authority *publication 1069* requires water reclamation plants with surface water discharge to have agreed monitoring programs to assess:

- That the discharge does not display acute lethality at the point of discharge or cause chronic impacts outside any declared mixing zone;
- The impact of the discharge on beneficial uses of the waterway and the size of the mixing zone for the discharge; and
- The management of activities that may be necessary to protect beneficial uses of the relevant waterway. Wannon Water is also required to undertake an assessment of the risks posed to the environment and the users of the environment relating to any discharge.

Environment Protection Authority *publication 1069* also flags an expanded reporting program for the future although the focus will be on achieving efficiencies in reporting that offset these increased demands on water businesses.

Outcomes to be delivered: Water Reclamation Plants

Wannon Water will continue to monitor all discharges to the environment to ensure they comply with the Environment Protection Authority licences to discharge. In addition, Wannon Water will deliver a comprehensive sampling regime of groundwater, soils and surface waters to enable the determination of the impact, if any, on the receiving environment. Stream monitoring is to be conducted on the Unnamed Creek at Simpson to identify the impacts on the receiving environment.

Ongoing funding of these programs during the Water Plan period includes ocean monitoring programs associated with our three treated water discharge points at Warrnambool, Portland and Port Fairy, and the maintenance of our routine Environment Protection Authority compliance sampling programs.

Routine reporting of relevant water quality and quantity data managed by Wannon Water will be made available through the public website, and linkages provided to other agencies who manage related aquatic information sets.

6.7 Water Quality Obligations

Wannon Water is committed to delivering high quality drinking water that meets all legal standards and in line with customers' expectations.

6.7.1 Water Quality Obligations

The primary reference on drinking water quality is the *Safe Drinking Water Act 2003*. The application of the Act was extended through the *Safe Drinking Water Regulations 2005* which came into effect on 15 July 2005.
The regulations establish standards for specified elements in drinking water. This implements the provisions in Section 17 of the *Safe Drinking Water Act 2003* which requires a supplier of water to: *ensure that all drinking water supplied by it to another person complies with the quality standards specified for drinking water in any regulations made for the purposes of this section.*

6.7.2 Risk Management Plans & Audit

Obligations to be met

Part 2 of the *Safe Drinking Water Act 2003* requires Wannon Water to prepare, implement and review risk management plans relating to the supply of drinking water and regulated water to the public. The Act and the associated Regulations have impacted on Wannon Water through increased demands for operational monitoring and control activities in addition to capital works to meet new water quality standards and mitigate risks.

Sections 10 - 16 of the *Safe Drinking Water Act 2003* require Wannon Water's Risk Management Plan to be audited by an approved auditor to determine whether Wannon Water's Risk Management Plans comply with the obligations as specified above.

Outcomes to be delivered

Drinking Water Risk Management Plans have been developed for the water supply systems of Wannon Water.

Wannon Water is committed to validating and verifying such plans through:

- Hazard Analysis Critical Control Point (HACCP) certification;
- Internal audits of the Risk Management Plans at an appropriate frequency;
- Review and update of the Risk Management Plans at an appropriate frequency and when changes occur to the system; and
- Consolidation of the Risk Management Plans into a Drinking Water Risk Management System as one of the major elements of the proposed Integrated Management System.

Wannon Water's Risk Management has been developed on the principles of HACCP. Wannon Water has made the decision to have this system externally certified. This process allows for both internal and external auditing. Funds to undertake take such audits have been allowed for in the operational budget.

6.7.3 Water Quality Standards

Obligations to be met

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

In addition, under Section 10 of the Regulations, Wannon Water must ensure that the water supplied does not contain an algal toxin, pathogen, or any substance or chemical in such amounts that may pose a risk to human health.

Wannon Water is obliged to collect and test water samples at appropriate frequencies.

Outcomes to be delivered

Wannon Water's water supply systems incorporate adequate processes to comply with these water quality standards.

Wannon Water has an undertaking with the Department of Human Services to construct the Casterton to Coleraine pipeline and associated works by 30 June 2009. This project is included in the capital works program at an estimated cost of $5.7M of which $1.7M will be incurred in the 2008-13 price period.

6.7.4 Water Quality Monitoring and Reporting

Customers need to have confidence that their drinking water meets quality guidelines.

Obligations to be met

- Section 23 of the *Safe Drinking Water Act 2003* requires Wannon Water to make available to the public the results from any monitoring program relating to drinking water.
- Section 26 of the Act requires Wannon Water to make an annual report available to the Secretary of the Department of Sustainability and Environment and the public relating to the quality of the drinking water it has supplied.

Outcomes to be delivered

During the 2005-2008 regulatory period Wannon Water devised a new water quality monitoring regime to meet its obligations. The monitoring program validates any concern raised within the Risk Management Plan and adheres to the mandatory water quality monitoring requirements. This has led to significant growth in the amount of water quality parameters measured coupled with an increased frequency.

Wannon Water currently makes water quality information available through a range of channels; namely, annual reports, monthly reports and on request. Wannon Water publishes a comprehensive water quality report on its public website which provides customers with ready access to water quality results.

6.8 Other Obligations

Wannon Water faces a range of other obligations that drive the need for expenditure over the Water Plan period.

6.8.1 OH&S Obligations

Employees of Wannon Water face many potential hazards at work. Wannon Water is obliged under the *Occupational; Health and Safety Act 2004* to ensure the health and safety at work of its employees. The controls required to address compliance are, in most cases, non-prescriptive. That is, Wannon Water must employ control measures which meet the regulations within the practicability of managing its responsibilities for water delivery and wastewater removal. Annex B provides a list of the legislation relevant to Wannon Water.

A significant program of investment in occupational health and safety improvements is included in the Water Plan. This includes capital expenditure on facilities, chemical management, access and manual handling upgrades, totalling approximately $1.1M. This program has been developed using a risk based approach, and will assist Wannon Water to move to full compliance with the Occupational Health and Safety Regulations during the regulatory period.

Table 6-8: Major Capital Expenditure Programs Required for compliance with Occupational Health and Safety Regulation ($M)

Description	Works Involved	Cost
Facilities Access	Confined space improvements, various upgrades and installations of ladders, railing, and guards.	$0.43
Chemical Management	Upgrade and new facilities for chlorine, ammonia and other chemical handling activities at various treatment plants.	$0.29
New Facilities	New depot facilities in Hamilton for Operational staff.	$0.28
Manual Handling	Cranes and lifting gear for pump stations.	$0.09

6.8.2 Dam Safety Obligations

Section 14 of *the Statement of Obligations* imposes duties on Wannon Water regarding Dam Safety.

14.1 The Authority must develop and implement processes to identify, assess, manage, prioritise improvements to, and periodically review the safety of, dams operated by the Authority.

The above obligation to maintain and operate all dams in a responsible manner for the safety of the community is due to the risks associated with the large volume of water in storage. Relevant programs have been established to ensure compliance with the nationally recognised *Australian National Committee on Large Dams (ANCOLD) Guidelines 2003*.

The following activities have been included in this Water Plan period to maintain compliance with the ANCOLD guidelines:

- Develop and update annually a risk based categorisation of all “referable” dams to be known as the “Hazard Category”;
- Annual Inspections of all “referable” dams;
- Maintain all “referable” dams;
- Daily/Weekly Visual Inspections to be carried out on all “referable” dams;
- Update Operational & Maintenance Manuals on a regular basis; and
- Active representation on the Victorian Water Industry’s Dams Working Group.

The key projects that have been identified within the Dam Safety Emergency Management Improvement Plan for the Water Plan period are:

Table 6-9: Expenditure required for Dam Safety ($M)

Description	Works Involved	Cost
Konongwootong Reservoir - Provide stabilising berm and filters, to ensure the stability of the reservoir embankment	Embankment is in poor condition, cracks have appeared on the crest. Seepage has been identified on the toe of the dam. A major upgrade is required.	$0.50
Hamilton No 1 - Sleeve outlet pipe, to ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe.	$0.10
Hartwichs Reservoir - Sleeve outlet pipe, to ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe.	$0.10
Konongwootong Reservoir- Sleeve outlet pipe, to ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe.	$0.10
Hartwichs Reservoir - Strengthen outlet tower bridge, to improve operational safety	Replace outlet tower bridge as it is in poor condition.	$0.04
17 further minor projects	Various works at average of $8,800.	$0.15
	Total	**$0.99**

6.8.3 Incidents, Emergencies and Terrorism

Section 12 of *the Statement of Obligations* imposes duties on Wannon Water to have systems in place to respond to incidents and emergencies. This includes security risks from terrorism.

Section 12: Responding to Incidents and Emergencies
The Authority must include in any plan, system or process to manage its risks, measures to deal with emergencies and incidents, including measures to deal with:
a) the disruption of services; and
b) incidents resulting in waste discharges to the environment; and
c) a dam failure; and
d) potential security risks, including but not limited to terrorist attacks.

Under Section 25 of the *Terrorism (Community Protection) Act 2003*, operators of essential services infrastructure are required to develop a risk management plan. This duty has recently been extended to water utilities and the majority of the required actions will be undertaken in the 2008-2013 Water Plan period. The duties reinforce the existing requirements under *the Statement of Obligations*.

Wannon Water has therefore developed an emergency management plan that is compliant with the *Statement of Obligations* and the *Anti-Terrorism (Community Protection) Act 2003*. The plan has been developed to identify key risks areas, and then devise protocols for effective response and recovery from emergencies. A Business Continuity Plan has also been developed for the key technology platforms. Capital expenditure has been included in the Water Plan to upgrade the Disaster Recovery facility from a 'cold site' to a site that is capable of restoring technology services within 2 hours.

Tasks to be completed to meet Wannon Water's Obligations include:

- Annual Inter-Agency Emergency Management training exercises;
- Continual Development of Contingency Plans as new risks are identified via the enterprise risk framework;
- Regular review and update of existing Contingency Plans not longer than annually;
- Active representation on the Divisional Emergency Planning Committee within the Wannon Water Boundaries; and
- Active representation on the Security Continuity Network via the Department of Sustainability and Environment (DSE).

The following key expenditure programs are proposed within the Water Plan period:

Table 6-10: Expenditure required for Emergency Management ($M)

Description	Purpose	Works Involved	Water Plan Total
Provision of Generator facilities to power various Plant/Facilities	Ensure continuity of services	Generator sets for various Locations including, Fairy St Office, Digby Rd PS, Percy St PS, North & South Otway PS, Pt Campbell, Casterton WTP and Tullich Bores.	$0.40
Disaster recovery and business continuity of technology services	Resumption of IT services	Implementation of backup IT hardware at the disaster recovery room located at the Warrnambool WTP, in event of losing the server room at the Fairy St office.	$0.25
Mandatory requirements under the Terrorism Act	Compliance	Allow for auditing, running exercises, and certification	$0.14
		Total	**$0.79**

6.8.4 Electrical Systems

Wannon Water has an obligation to maintain and operate all electrical systems in a responsible manner for the safety of the community and staff.

Electrical safety at work is subject to the *Electrical Safety Act 1998* and the *Electrical System Obligations (AS/NZS 3000:2000)*. There is a wide range of other relevant Australian standards as well as Industry Standards and Codes of Practice (see Annex C).

Most compliance drivers for electrical system standards predate the first pricing round. However, compliance with electrical system standards was not the subject of serious assessment by the preceding authorities that now constitute Wannon Water.

This area represents a good example of the up-grading in assets and skills that is required if Wannon Water is to demonstrate robust continuing compliance.

A strategic program will be implemented to meet Wannon Water's Obligations. This will comprise five core elements:

- Risk assessment and audit of equipment and locations. This has largely been completed;
- Staged program for asset up-grades;
- Introduction of appropriate preventive maintenance;
- Staff training; and
- Audit.

Outcomes to be achieved in the regulatory period

Indicative projects that have been identified within the Electrical Improvement Plan that relate to the second price period are listed below:

Table 6-11: Expenditure required for Electrical Systems and Safety ($M)

Description / Location	Project Purpose	Extent of Project	Cost
Wyatt Street Pump station	Upgrade dated technology, OH&S.	Replace switch board and controls and consolidate.	**$0.22**
Port Campbell and Timboon pump stations	OH&S, wiring rules, and increased reliability.	Replace existing aged and dilapidated switch board.	**$0.20**
All pump stations which do not have plug connection points available to cater for generator point connection	Environment issues helping to reduce the number and quantity of any potential spills.	All pump stations to be fitted with generator connection plug.	**$0.18**
All zones/locations/assets where a UPS (Uninterruptible Power Supply) exists	To support all critical local hardware that is supplied by the UPS to facilitate alarming and some control and to monitor the asset in the event of power failure.	Maintain all UPSs.	**$0.06**
Further 30 sites	To ensure electrical continuity and safety.	Various works mainly upgraded Switch Boards.	**$1.46**
		Total	**$2.12**

6.8.5 Fluoridation Obligations

Under the *Health (Fluoridation) Act 1973* the Department of Human Services can require the installation of fluoride additive systems at water treatment plants. Under this Act, the capital installation costs are met by the Department of Human Services. However, the fluoridation program requires that a water corporation provide for the operational costs of the fluoridation program. This includes the provision of prudent and efficient expenditure in the operation of fluoridation facilities (maintenance, consumables and testing costs).

The Department of Human Services issued an undertaking to Wannon Water in July 2007 to proceed with fluoridation of the water supplies to Allansford, Koroit and Warrnambool. Budget provision has been made for the operating costs of this fluoridation of water supply from 1 July 2008.

Community consultation by the Department of Human Services regarding the potential fluoridation of the Dunkeld, Hamilton and Tarrington water supplies is expected to be undertaken in the 2007-08 financial year.

Subject to the outcome of this consultation Wannon Water has included provision for the operating cost of fluoridation of the Dunkeld, Hamilton and Tarrington water supplies from 1 July 2009.

Table 6-12: Expenditure required for Fluoridation ($M)

Water Treatment Plant	Date	Annual Opex
Warrnambool	2008	$0.03
Hamilton	2009	$0.02
	Total	$0.05

6.9 Customer Service and Service Standards

There are two important elements to customer service for Wannon Water that will drive expenditure during the second Water Plan period:

- Extending water, sewerage and other services to new customers; and
- Maintaining current levels of service.

6.9.1 Extending Services

Wannon Water is committed to providing services to new customers to meet demand and in line with obligations in Clause 19 of the *Statement of Obligations* and in the SEPP *(Waters of Victoria) 2003.*

Statement of Obligations: Clause 19
19.1 The Authority must participate with municipal councils in the development of Domestic Wastewater Management Plans.

19.2 If reticulated sewerage services:
a) have been identified in a Domestic wastewater management plan as the preferred option for improved domestic wastewater management; or
b) have been nominated by the Minister in any Government program,

the Authority must develop [and implement] a sewerage management plan in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the local community.

Clause 33 of the SEPP *(Waters of Victoria) 2003* requires Wannon Water to develop sewerage management plans in conjunction with the relevant municipal council and the Environment Protection Authority, where they are identified in a municipal Domestic Wastewater Management Plan.

Wannon Water is currently working on three sewerage service projects to implement these requirements, namely:

1. Glenelg Shire Council requirement for backlog sewerage services located in West Portland;
2. Glenelg Shire Council for new town sewerage services to Dutton Way; and
3. Moyne Shire Council for new town sewerage services in Peterborough.

Both the Dutton Way and Peterborough new town sewerage schemes are subject to an $800 cap for customer contributions under the Country Towns Water Supply and Sewerage Program. Implementing these schemes will involve a significant shortfall in contributions and so a need for higher general sewerage charges. Total unfunded costs of $6.7M are identified for the Water Plan period, less any savings in the construction costs against the estimated costs.

The *Municipal Wastewater Management Plans* produced by three of the five local councils in Wannon Water's service area have not identified the need for any new sewerage schemes. Moyne and Corangamite Shire council's are yet to complete their Wastewater Management Plan.

For future price periods Wannon Water will continue to work with local councils to identify what areas (near serviced towns) are appropriate to be provided with sewerage services and what areas are appropriate to have on-site treatment facilities. Life Cycle Analysis principles will be applied during design to assess alternate environmental outcomes. Wannon Water's *Innovation Strategy* will continue to keep us at the forefront of technology in this area.

In addition, Wannon Water will work with local councils and the Department of Human Services to identify circumstances where a new public water supply scheme is justified due to risks from alternative supplies. In this Water Plan one such scheme has been identified at Dutton Way outside Portland.

Table 6-13: Expenditure required for Asset Extension ($M)

Location	Activity	Cost
Dutton Way	New sewerage service	$3.30
Dutton Way	New water supply	$2.05
West Portland	Backlog sewerage services	$1.73
Total		**$7.08**

6.9.2 Customer Service Standards

The analysis of the customer consultation identified in Section 5.1, confirmed that 94% of customers are satisfied or highly satisfied with Wannon Water's current levels of service. In addition, local consultation on specific projects revealed that customers did not want to pay for a premium service.

This Water Plan is therefore based on the presumption that there is no demand for additional expenditure to enhance the general level of customer service currently provided and as set out in the targets in Wannon Water's Customer Charter (Table 6-14).

Table 6-14: Performance Targets: Service Delivery

Service standard	*Target*
Water	
Unplanned water supply interruptions (per 100km)	10.00
Average time taken to attend bursts and leaks (priority 1) (minutes)	35.00
Average time taken to attend bursts and leaks (priority 2) (minutes)	60.00
Average time taken to attend bursts and leaks (priority 3) (minutes)	240.00
Unplanned water supply interruptions restored within 5 hours (per cent)	97.00
Planned water supply interruptions restored within 5 hours (per cent)	90.00
Average unplanned customer minutes off water supply (minutes)	9.90
Average planned customer minutes off water supply (minutes)	9.00
Average frequency of unplanned water supply interruptions (number)	0.09
Average frequency of planned water supply interruptions (number)	0.05
Average duration of unplanned water supply interruptions (minutes)	108.00
Average duration of planned water supply interruptions (minutes)	180.00
Number of customers experiencing more than 5 unplanned water supply interruptions in the year (number)	0
Unaccounted for water (per cent)	12.00
Sewerage	
Sewerage blockages (per 100km)	38.30
Average time to attend sewer spills and blockages (minutes)	30.00
Average time to rectify a sewer blockage (minutes)	90.00
Spills contained within 5 hours (per cent)	98.00
Customers receiving more than 3 sewer blockages in the year (number)	0
Customer Services	
Complaints to Ombudsman per 1000 customers (number)	0.60
Telephone calls answered in 30 seconds (per cent)	98.9

6.9.3 Other Standards and Targets

There are a number of other targets, commitments and standards that have been established in developing this Water Plan or following guidance from the ESC.[5] The following table confirms the key outcomes to be achieved over the period of the Water Plan.

Table 6-15: Other Standards and Targets

Target	2008-09	2009-10	2010-11	2011-12	2012-13
Greenhouse gas emission reduction – tonnes/yr	800	1,600	2,400	3,200	4,000
Recycled water: % of total wastewater	24%	26%	28%	30%	31%
Biosolids reused	100%	100%	100%	100%	100%
Sewer backlog properties serviced	130 in West Portland	0	0	200 at Dutton Way	0
Environmental discharge licence compliance	87%*	90%	90%	95%	95%
Drinking water quality					
Faecal coliform	98%	98%	98%	98%	98%
No target - Total coliform	-	-	-	-	-
Turbidity	95%	95%	95%	95%	95%
Aluminium (mg/L)	0.2	0.2	0.2	0.2	0.2
Flow Rate Targets (L/min)					
20mm	20	20	20	20	20
25mm	35	35	35	35	35

* Wannon Water is currently negotiating a corporate wide licence with the EPA that will include compliance targets.

6.9.4 Reporting on Service Targets

Enhancement of the Geographic Information Systems ($0.02M) to improve asset management will also enable Wannon Water to identify and respond to those customers who experience multiple supply interruptions or spillages. Wannon Water plans to introduce a Computer Aided Dispatch system.

Wannon Water will also install a Mobile Information Management System ($0.86M) which amongst other things will incorporate a computer aided dispatch system resulting in improved customer service and operational efficiencies. These efficiencies will include improved data collection, asset management, occupational health and safety and an improved audit trail for performance reporting. Additional efficiencies will also be realized in the form of reduced overtime, efficient use of vehicles and reduced communications costs. It is anticipated that savings in the next price period will be modest at $0.17M during the set up phase, but the full advantage will be delivered in the subsequent pricing period.

6.9.5 Maintaining Service Delivery

An important part of maintaining effective service delivery is to implement a rolling program to repair and replace water mains and sewers as they become worn-out or over-loaded.

[5] ESC(2007), *Supplementary Guidance to water businesses – draft water plans, Section 6, page 7.*

The Water Plan contains a major program of works to implement this strategy with a total value of $5.68M over the five years to 30 June 2013. Key investments include:

Table 6-16: Expenditure required for Asset Replacement ($M)

Location	Project	Cost
Camperdown	Rural Water Main Replacements	$1.67
Camperdown	Urban Water Main Replacements	$1.51
Cobden	Water Main Replacements	$0.91
Port Fairy	Sewer Main Replacement/Refurbishment	$0.89
Mortlake	Water Main Replacements	$0.70
	Total	**$5.68**

6.9.6 Guaranteed Service Levels

From 1 July 2008 Wannon Water will introduce Guaranteed Service Levels for two key service standards. Wannon Water considers Guaranteed Service Levels to be an incentive to improve key aspects of service rather than merely compensation for customers impacted by failure to achieve the nominated level of service.

A Guaranteed Service Level scheme has to be easily recorded and meaningful to customers. The Guaranteed Service Level's proposed are:

Table 6-17: Guaranteed Service Level Payments ($)

	Guaranteed Service Level	Payment
A	More than 5 water unplanned interruptions in a rolling 12-month period.	$50
B	Sewerage Spills on private property not contained within 5 hours of notification	$500

The selection of the Guaranteed Service Levels and amount to be credited to the customer's next Wannon Water bill were subject to consultation with the Customer Engagement Committee and were deemed appropriate. Where a property is occupied by a tenant and the tenant is a customer, only the tenant's account will be credited for the failure to meet a guaranteed service level. Wannon Water will not make a credit to a customer's account for failure to meet a guaranteed service level if an event is caused by, or is the responsibility, of the customer or a third party.

Analysis of past performance suggests that it is unlikely that Wannon Water will incur a significant number of Guaranteed Service Level payments each year. It is also envisaged that establishing the Guaranteed Service Levels will act as an incentive to drive down the number of events and payments over the five-year period.

Table 6-18: Guaranteed Service Levels: Forecast Number and Value of Payments ($)

		2008-09		2009-10		2010-11		2011-12		2012-13	
GSL	**Payment**	No	$	No	$	No	$	No	$	No	$
A	$50	20	$1,000	15	$750	12	$600	10	$500	10	$500
B	$500	12	$6,000	12	$6,000	8	$4,000	8	$4,000	5	$2,500
Value	Total		$7,000		$6,750		$4,600		$4,500		$3,000

The enhancement of the Geographic Information System is expected to cost $20,000, to enable properties with more than 5 water supply interruptions in a 12-month period to be readily identified.

7. REVENUE REQUIREMENT OVERVIEW

The revenue required to deliver the commitments and proposed expenditure in the previous sections is calculated from three key elements:

- **Operating Expenditure:** this is recovered in the year in which it is incurred. It represents 72.0% of the total revenue requirement;
- **Return on Capital:** this provides a commercial return on the value of the capital invested in the business. This value comprises an opening regulatory asset base (RAB) up-dated by the addition of new validated capital expenditure, less depreciation, contributions and disposals; and
- **Regulatory Depreciation:** this provides a return of the value of the capital invested in the business over the life of the asset.

Taking these factors together generates an overall revenue requirement of $235.87M for the five years of the second price period.

Table 7-1: Total Revenue Requirement – Water Plan ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13	Totals
Operating expenditure	$33.85	$33.20	$34.50	$33.95	$33.51	$169.01
Return on Assets	$7.24	$8.39	$9.25	$9.63	$10.02	$44.53
Depreciation	$4.53	$4.37	$4.72	$4.78	$4.93	$23.33
Total	**$45.62**	**$45.96**	**$48.47**	**$48.36**	**$48.46**	**$236.87**

These elements are reviewed in more detail below.

7.1 Operating Expenditure

7.1.1 Overview of Operating Expenditure

The following table confirms the schedule of operating expenditure proposed over the life of the Water Plan. Comparative figures are provided for the earlier price period. These indicate the increase in the level of operating expenditure required to meet the higher level of service and compliance that is now the minimum baseline for water corporations. They also reflect the process of establishing Wannon Water as a credible new business, taking over the responsibility of service delivery from the three smaller predecessor authorities.

Table 7-2: Operating Expenditure proposed over Water Plan ($M)

2005-6	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
$25.23	$25.91	$28.44	$33.85	$33.20	$34.50	$33.95	$33.51

The raised expenditure over the full period and in particular in 2010-11 reflects a number of projects coming on line:

- Commissioning of the Hamilton Grampians Inter-Connector Pipeline to augment the Hamilton water system;
- Implementation of additional capacity at both the Warrnambool and Port Fairy water reclamation plants;
- Operation of a new Hamilton biosolids facility; and
- Desludging of Water Reclamation Plant lagoons.

7.1.2 Breakdown of Operating Costs

Operating expenditure represents more than 70% of total revenue requirements for the five year price period. There are two important aspects to understand:

- the elements that comprise the total; and
- the trends in those costs over time.

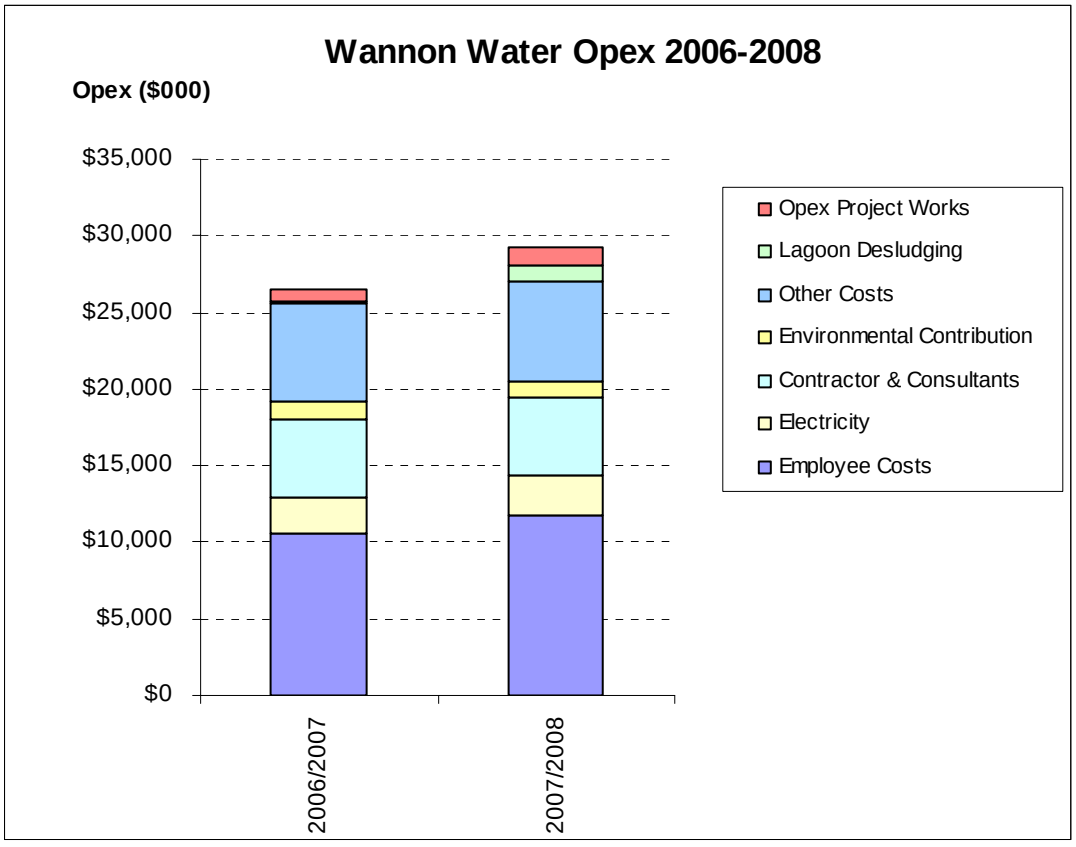
a) Operating Elements

Figure 7-1 illustrates the key component elements of Wannon Water's operating costs for the previous and current financial years. Those costs are driven by three main elements:

- Employee costs
- Contractor and consultants costs
- Electricity costs

The heading 'other costs' covers a multitude of smaller items. On top of these there are then a number of discrete items including lagoon desludging and the recurrent costs of program initiatives (defined as Opex Project Works in figure 7.1). This includes for example the additional pumping from drought relief groundwater bores to service Hamilton.

Figure 7-1: Operating Costs Breakdown 2006-07 & 2007-08

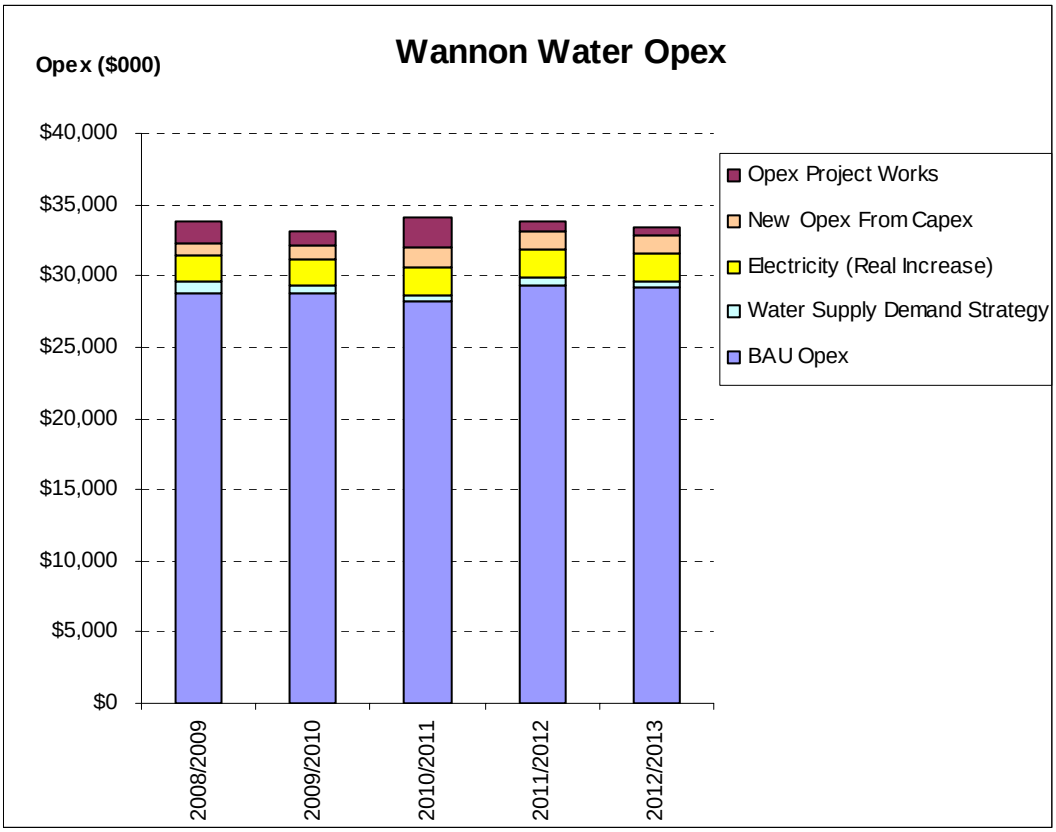


The major driver of the increased costs between the two years is in employee costs, as Wannon Water recruited up to meet to meet its obligations and implementation of EBA pay rises in line with industry norms. In 2007-08 more $1M of expenditure will be incurred associated with additional operating costs for the desludging of the sewerage treatment lagoons at the Hamilton water reclamation plant.

b) Trends through the Price Period

The main issue for the price period is to track the trends in operating costs over the five years of the price period. Figure 7-2 indicates the changes in operating costs over the five years of the Water Plan against the baseline set by the level of operating expenditure in 2007-08 (defined here as business as usual).

Figure 7-2: Operating Costs for the Price Period



This figure demonstrates that the baseline operating costs are relatively stable at around $27M/yr. The variation in costs between years is then driven by a number of factors including:

- Costs to be incurred in implementing the *Water Supply Demand Strategy*, through, for example, marketing and education, audits, metering, water harvesting, evaporation retardants etc;
- Wannon Water's electricity costs are predicted to double as from 1 July 2008 at the end of the current contract. This additional cost has been identified as a discrete element;
- Additional operating costs that result from commissioning of new capital projects. The most significant ones are pumping costs for the Hamilton Grampians Inter-Connector Pipeline and additional upgrades of the Warrnambool and Port Fairy water reclamation plants; finally
- Significant initiatives to implement the obligations in this Water Plan, such as desludging of sewerage lagoons and increasing biosolids re-use in line with licensing requirements. These are defined as Opex Projects as they do not involve capital expenditure.

7.1.3 Justification of Forecast Expenditure Levels

Wannon Water is still a relatively young organisation formed from the three predecessor authorities. The following table reproduces the data from Section 3 that outlined the enhanced cost incurred in 2006-07 in creating an entity that meets current regulatory and customer expectations.

Table 7-3: Enhanced Operating Expenditure to drive Compliance ($M)

Cost Category	2006/07
Glenelg Water	$4.19
Portland Coast Water	$4.83
South West Water	$15.56
Combined Operating expenditure	$24.58
Wannon Water expenditure	$26.86
Cost of heightened compliance	**$2.28**

This higher cost involved in delivering higher standards will need to be maintained through the second price period as the new cost of business as usual. However, Wannon Water is still in the formative stages of developing systems and procedures to ensure consistent robust compliance with regulatory obligations and high standards of customer service. Costs will increase over the next three to four years as those systems are implemented.

The amalgamation and restructure of the business also identified that some areas of the business did not have adequate resources to meet appropriate compliance and asset maintenance practices. In response engineering consultants were commissioned to review the adequacy of human resources of water and sewerage treatment and systems operations field staff and vehicles.

The largest deficit of resources identified was in the treatment systems of the former Glenelg Water and Portland Coast Water. Resources have therefore been increased (in 2007-08 by $0.48M) to ensure that planned maintenance of treatment plants is undertaken in accordance with asset management requirements and to address mandatory OH&S compliance issues. This level of cost is ongoing throughout the next price period and has been included in the business as usual segment.

A deficit of resources was also identified in the systems operations and maintenance, particularly in the north west of the service area, where there was a general deficit of resources to carry out planned maintenance. It is proposed to free up operations staff for this work by contracting out the meter reading that is currently undertaken in-house. Some additional resources amounting to $0.11M have been included for this in 2007-08 and the ongoing cost has been included in the business as operational expenditure for the next price period. In addition $0.13M has been allowed in 2007-08 for contract meter reading.

Finally, there is also a significant backlog of work required that involves raised levels of operating expenditure – the main example being the de-sludging of water reclamation plants which is required to maintain EPA licence compliance as well as reduced odour and to enable the beneficial re-use of biosolids. The de-sludging of the lagoons at the:

- Hamilton water reclamation plant ($1,01M) has been allowed for in 2007-08; and
- Casterton water reclamation plant ($0.36M) has been allowed for in 2010-11.

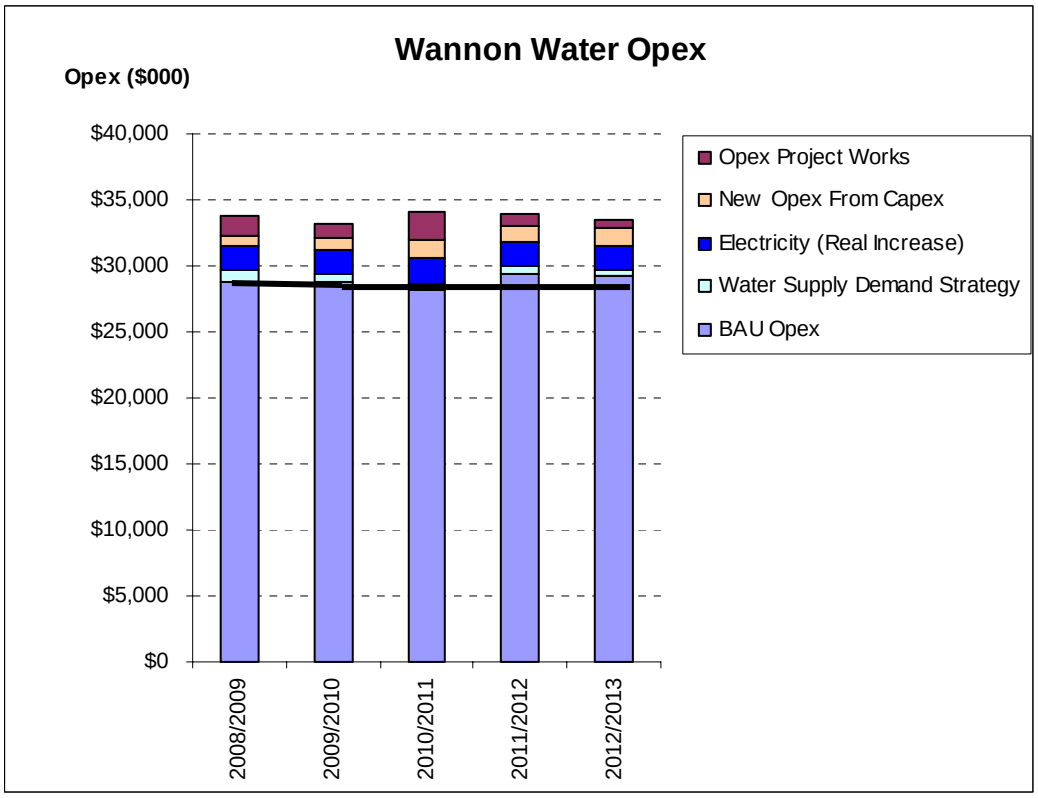
7.1.4 Productivity Improvement

Wannon Water is committed to delivering real gains in productivity over the period of the Water Plan. However, the definition of that productivity gain requires assessment both of outcomes and costs. The sections above confirm the growth required to ensure that Wannon Water adequately delivers against regulatory and customer expectations. This was the justification for the merger of the three prior water authorities.

Figure 7-3 reproduces the operating costs trends from above and super-imposes a line that represents the equivalent of a 1%, growth-adjusted, productivity gain per year. This shows that Wannon Water is close to meeting this productivity target despite the challenge of building an effective and regulatory compliant organisation.

The major driver of expenditure costs over the productivity curve is employee costs. This is driven both by total numbers to achieve regulatory compliance and by EBA pay rises. Those rises impact heavily on young public sector organisations such as Wannon Water that employ a large percentage of staff at junior levels with annual award increments that exceed the rate of inflation.

Figure 7-3: Productivity Assessment



Wannon Water is also implementing enhanced systems to deliver greater outputs are reduced costs.

The roll-out of SCADA and the Mobile Information Management System coupled with mechanical services monitoring system will occur over the price period. These systems will yield productivity benefits both in terms of unit costs and in terms of the level of service provided to customers.

The first year of full implementation in 2010-11 is likely to result in higher initial resource requirements due to software implementation, staff training and change management. The commencement of the productivity benefits will commence in the 2012-13 year with the full benefits being realised in the next Water Plan.

7.2 Capital Expenditure

7.2.1 Asset Management, Capital Investment Planning & Validation

Wannon Water has a robust Asset Management System in place that enables an appropriate balance between new and replacement/refurbishment assets to be maintained. The objective of Wannon Water's Asset Management Policy is to manage infrastructure assets in a way which will meet customer needs, protect the environment, public, workforce and property and optimise the value of the assets to the business over the asset's total lifecycle.

Wannon Water follows a well-structured and disciplined Investment Plan Policy and process to develop the capital expenditure program for inclusion in the Water Plan. This required that all proposed projects were documented through an Improvement Plan. The inherent risk of not undertaking individual projects was assessed in accordance with the Project Risk Assessment Framework. The decision on the individual project or initiative was taken in line with a Project Proforma Spreadsheet detailing:

- Confirmation of legal and regulatory obligations;
- Assessment of current performance and compliance;
- Confirmation of non-compliance and need for action;
- The project driver (regulatory, new system, level of service, growth, asset replacement, corporate, OHS risk reduction or efficiency improvement);
- Evaluation of alternative strategies for action;
- Assessment of cost and practicality considerations;
- Collation and review of full capital expenditure program with indication of operating cost implications;
- Availability of government or other external funding;
- Risk assessment and ranking to prioritise the program;
- Assessment of scheduling of activity and expenditure; and
- Executive team critique to validate the selection of the final program to match obligations and service delivery requirements.

The final program of capital expenditure was prioritised according to the level of risk, the importance of the project driver and its implications for the expenditure program.

7.2.2 Key Capital Projects for the Water Plan

Table 7-6 sets out the detail of the top 20 key projects that will be delivered during the Water Plan period.

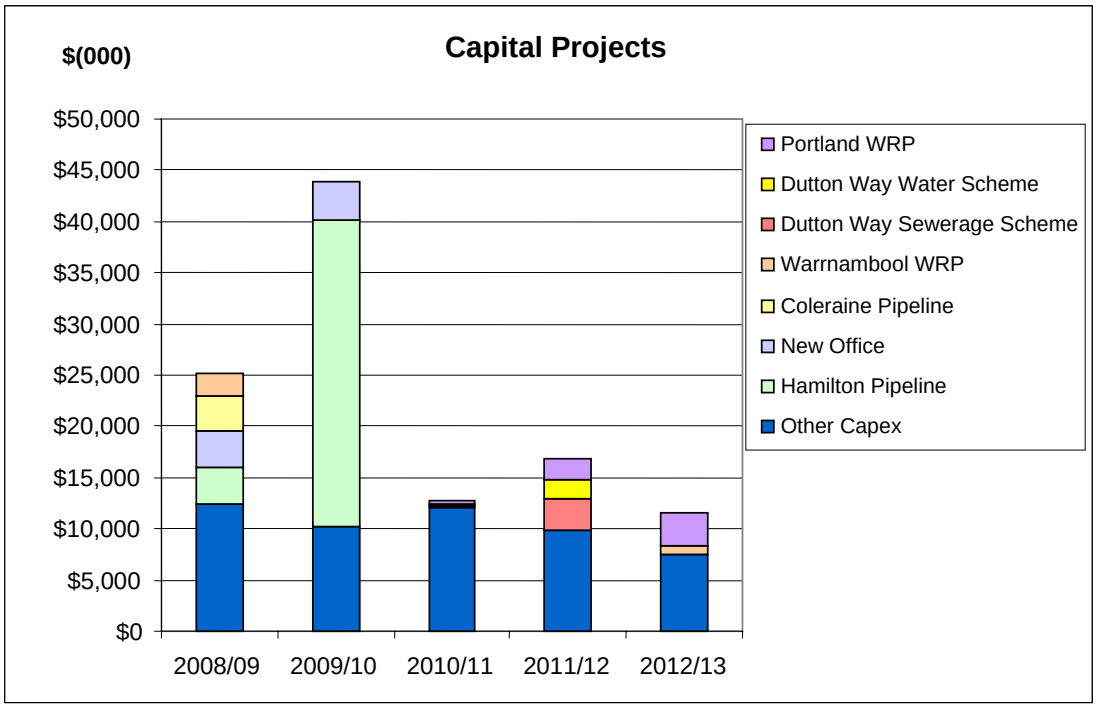
Table 7-4 confirms the implications of this program for Wannon Water's expenditure profile over the five years of the Water Plan.

Table 7-4: Expenditure Schedule for Capital Works Program ($M)

2008-09	2009-10	2010-11	2011-12	2012-13	Total
$25.16	$43.80	$12.82	$16.77	$11.54	$110.09

The program is front-loaded to respond to a number of early priorities, in particular the augmentation of Hamilton's water supply and the construction of a new office building in Warrnambool to consolidate staff currently accommodated in sub standard accommodation across four separate buildings located around Warrnambool. Apart from these two projects the capital works program is relatively steady in the final three years of the price period.

Figure 7-4: Components of Capital Expenditure Program



Wannon Water is well placed to deliver the program as it has allowed funding in the current Water Plan to design Year 1 works to be ready for construction in 2008/09. The five year program has been determined taking into account the need for adequate time to deliver projects. Wannon Water has engaged a major engineering consultant firm through a tender process for the life of the program to further ensure that project timelines are met. Appropriate projects of a like nature such as water main replacements and sewer replacements will be bundled together into single contracts to gain further efficiencies in time and costs.

7.2.3 Key Drivers for the Water Plan

In developing the forward capital works program Wannon Water has reviewed the main drivers for expenditure. These are:

Table 7-5: Key Drivers for Water Plan ($M)

Primary Driver	Total	Percentage of Total
Asset Replacement or Refurbishment	$26.73	24%
Corporate Services	$0.85	1%
Efficiency Improvement	$13.89	12%
Growth	$11.15	10%
Level of Service	$33.70	31%
New Systems & OH&S	$6.51	6%
Regulatory Compliance	$17.26	16%
Total	**$110.09**	**100%**

Table 7-6: Top Twenty Capital Projects for Wannon Water for the 2nd Price Period

Project and reason	Cost of project	Project driver
Hamilton Water Supply Augmentation To provide additional supply to the Hamilton water system. The need for this was identified in the Water Supply Demand Strategy. Plus capital costs of purchasing water entitlements.	$33.40 (Total project cost is $34.20M, of which $0.8M will be spent in the current period on the design of the project)	• Level of service
Construct Warrnambool Office Building To provide a single office in Warrnambool which will provide efficient workplaces and facilities for staff currently located in four offices.	$7.33M	• Efficiency improvement • OHS risk reduction
Portland Water Reclamation Plant Upgrade The existing plant, based on reed bed technology, had an inadequate design and was poorly constructed which has led to ongoing Environment Protection Authority licence compliance failures requiring an extensive rebuild.	$6.72M (Total project cost is $6.94M of which $0.22M will be spent in 2007-08)	• Asset replacement or refurbishment
Coleraine Pipeline Works The existing water supply to Coleraine from Konongwootong Reservoir poses an unacceptable risk under the requirements of the *Safe Drinking Water Act*. An alternative supply for the Casterton Water Supply System has been proposed which is the subject of an undertaking with the Department of Human Services.	$3.37M (Total project cost is $5.07M of which $1.7M will be spent in 2007-08)	• Regulatory Compliance
Dutton Way Sewerage Scheme To provide sewerage services to Dutton Way, which is a priority project under the Country Towns Water Supply and Sewerage Program. The Glenelg Shire and the Environment Protection Authority have concerns with the discharge of raw septic tank effluent in this area.	$3.30M (Total project cost is $3.430M of which $0.13M was spent in current water plan period)	• New Systems
Hamilton Water Reclamation Plant Biosolids Upgrade The Hamilton plant has not consistently met Environment Protection Authority licence compliance with regard to odour emanating from the plant. The construction of sludge handling facilities is required.	$0.80M (Total project cost is $1.6M of which $0.8M will be spent in 2007-08)	• Regulatory Compliance
Warrnambool Water Reclamation Plant Capacity Upgrade This project is required to meet growth in sewerage demand and to lessen the risk of odour complaints from the sludge handling facility located at Camperdown.	$3.30M (Total project cost is $4.84M of which $1.54M will be spent in 2007-08)	• Growth • An efficiency improvement will also be gained as the process will result in less sludge produced which will need to be transported from Warrnambool to Camperdown.

Project and reason	Cost of project	Project driver
Dutton Way Water Scheme The Glenelg Shire has requested that water services be provided to Dutton Way due to concerns regarding polluted groundwater being used for drinking water. This project will only proceed if landowners support the funding of the Scheme.	$2.05M (Total project cost is $2,18M as $0.13M will be spent in current water plan period)	• New Systems
Camperdown Rural Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$1.67M	• Asset replacement or refurbishment • Level of service is improved as customers will experience fewer outages caused by water bursts.
Provision of Recycled Water Infrastructure to Increase Recycling Throughout Wannon Water The Statement of Obligations and the White Paper *Our Water our Future* requires Wannon Water to implement elements of the Recycled Water Strategy, which will enable further fit-for-purpose treatment of the recycled water and distribution to customers. Targets are established within the Water Supply Demand Strategy.	$1.53M	• Regulatory Compliance. Wannon Water is required to set and achieve recycling targets in its Water Supply Demand Strategy. • New Systems are required to deliver recycled water.
Camperdown Urban Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$1.51M	• Asset replacement or refurbishment • Level of service is improved, as customers will experience fewer outages caused by water bursts.
West Portland Sewerage Scheme Provide sewerage services to properties located in the West Portland growth area. The Glenelg Shire and the Environment Protection Authority have concerns with the discharge of raw septic tank effluent in this area.	$1.73M (Total project cost is $1.91M as $0.18M will be spent in current water plan period)	• Growth • New systems
SCADA at Various Sites Throughout Wannon Water To provide security and efficiency of operation at various sites throughout Wannon Water.	$4.73M (Total project cost is $6.40M as $1.67M will be spent in current water plan period)	• Efficiency improvement

Project and reason	Cost of project	Project driver
Port Fairy Water Reclamation Plant Domestic Stream Upgrade The existing domestic stream is unable to handle peak hydraulic and organic loads during the holiday season, which leads to non-compliance with the Environment Protection Authority licence. The effluent disinfection UV system is not working reliably.	$0.89M (Total project cost is $0.97M as $0.08M will be spent in 2007-08)	• Regulatory Compliance
Wangoom Road, Warrnambool Sewerage Scheme To provide Sewer services to properties within the Wangoom Road growth area of Warrnambool.	$1.15M	• Growth
Mobile Information Management System To deliver increased efficiencies in office-to-field-to-office data collection, transfer, processing and KPI/Asset condition reporting. The ability to capture new data has not previously been accessible.	$0.86M	• Efficiency improvements will be gained within the Operations Department field staff workforce. • The level of service will also be enhanced. • Corporate Services
Cobden Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$0.91M	• Asset replacement or refurbishment • Level of service is improved, as customers will experience fewer outages caused by water bursts.
Port Fairy Sewer Main Replacement/Refurbishment The Asset Management System has identified sewer mains that are structurally unsound or have a high incidence of blockages and/or overflows that require replacing.	$0.89M	• Asset replacement or refurbishment • Level of service is improved, as customers will experience fewer instances of sewage spills and sewer blocks.
Mortlake Water Main Replacements The Asset Management System has identified water mains that have a high burst frequency that require replacing.	$0.70M	• Asset replacement or refurbishment • Level of service is improved, as customers will experience fewer outages caused by water bursts.
Port Campbell Water Reclamation Plant Relining Lagoons The Environment Protection Authority has raised concerns with the protection of groundwater at this site from contamination by leaking effluent from the lagoons and winter storage.	$0.68M	• Regulatory Compliance

The table below indicates the timing of the works and expenditure against each of the top twenty identified projects over the life of the Water Plan. In each case, it is assumed that the project outcomes will be delivered at the end of the last financial year in which funding is indicated.

Table 7-7: Expenditure Profile for Top Twenty Projects ($M)

Project	2008-09	2009-10	2010-11	2011-12	2012-13
Hamilton Water Supply Augmentation	$3.5	$29.9			
Construct Warrnambool Office Building	$3.7	$3.629			
Portland Water Reclamation Plant Upgrade			$0.4	$1.969	$3.288
Coleraine Pipeline Works	$3.37				
Dutton Way Sewerage Scheme **			$0.25	$3.05	
Hamilton Water Reclamation Plant Biosolids Upgrade	$0.8				
Warrnambool Water Reclamation Plant Aerobic Digester Cell	$2.176			$0.05	$0.7
Dutton Way Water Scheme **			$0.15	$1.9	
Camperdown Rural Water Main Replacements			$0.476	$0.306	$0.891
Provision of Reclaimed Water Infrastructure	$0.05	$0.075	$0.7	$0.7	
Camperdown Urban Water Main Replacements		$0.131	$0.812	$0.428	$0.135
West Portland Sewerage Scheme	$1.727				
SCADA at Various Sites Throughout Wannon Water	$0.34	$2.489	$0.15	$1.751	
Port Fairy Water Reclamation Plant Domestic Stream Upgrade	$0.797				$0.056
Wangoom Road, Warrnambool Sewerage Scheme		$0.031	$1.118		
Mobile Information Management System		$0.313	$0.55		
Cobden Water Main Replacements			$0.229	$0.105	$0.578
Port Fairy Sewer Main Replacement/Refurbishment	$0.175	$0.18	$0.18	$0.171	$0.18
Mortlake Water Main Replacements			$0.341	$0.35	$0.012
Port Campbell Water Reclamation Plant Relining Lagoons			$0.411	$0.271	

** Note – **Dutton Way** – not withstanding that the Dutton Way Sewerage Scheme is a priority project under *the Country Towns and Water Supply and Sewerage programme*, the Department of Planning has a planning overlay on most of the subject area which prohibits any further development at the present time. The Glenelg Shire Council is undertaking a review of the planning scheme overlay and until this issue is resolved, there is uncertainty as to whether the Dutton Way water scheme and the Dutton Way sewerage scheme will proceed.

7.3 Financing Capital Investments

The Regulatory Asset Base (RAB) generates one important part of our required revenue as it drives both the return on capital and regulatory depreciation. There are two stages to the process of up-dating the RAB for the purposes of this Water Plan:

- Firstly, up-dating the RAB across the first price period; and
- Second rolling-forward the RAB for the second price period.

7.3.1 Updating the RAB

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

a) Establish Total Capital Expenditure Over First Price Period

The first step is to confirm the total of the actual and projected capital expenditure for the first price period. The following table confirms actual expenditure for all 2005-06 and 2006-07. Forecast projections are provided for the remainder of 2006-07 and for the last year of the first price period.

Table 7-8: Projected Total Capital Expenditure - First Price Period (expressed in 1 January 2007 $M)

	2005-06	2006-07	2007-08	Total
Expenditure	$17.70	$16.14	$36.20	**$70.04**

The total projected capital works expenditure for the first price period is forecast to be $70.04M. Design of the outstanding projects to be completed in 2007-08 is well advanced and Wannon Water has confidence that the total forecast capital expenditure will be competed within the first price period.

b) Confirm Contributions Over First Price Period

However, some of this expenditure will not carry through into the adjusted regulatory asset base (RAB) as capital contributions were received from the State Government and customers.

Table 7-9: Projected Contributions - First Price Period ($M)

DESCRIPTION	2005-2006	2006-2007	2007-2008	Totals
Gifted Assets	$1.346	$1.80	$1.00	$4.146
Customer Cash Contributions	$1.383	$1.432	$0.40	$3.215
Customer Contribution PF Industrial WRP		$2.137	$2.50	$4.637
Government Grants				
- Peterborough Sewer Scheme	$0.90			$0.90
- Macarthur Water Improvement	$0.025	$0.115	$0.25	$0.39
- Dutton Way Sewer Scheme	$0.165			$0.165
- Dartmoor Water Scheme		$0.25		$0.25
- Hamilton Drought Relief		$0.105		$0.105
- Monivae Development		$0.11		$0.11
Totals	$3.819	$5.949	$4.15	$13.918

c) Derive Updated RAB

The final stage is to net off contributions and other receipts from the new capital expenditure.

Table 7-10: Updating the RAB ($M) in 1 January 2007 dollars

	2005-06	2006-07	2007-08
Opening Asset Base	85.60	97.32	105.35
plus capital expenditure	17.70	16.14	36.20
less customer contributions	1.38	3.57	2.90
Less government contributions	1.09	0.58	0.25
less regulatory depreciation	2.84	3.26	3.59
less disposals	0.67	0.70	0.80
Closing Asset Base	97.26	105.35	134.01

In this exercise Wannon Water has treated the additional expenditure actually incurred in response to the drought as efficient and prudent expenditure and therefore rolled this forward into the RAB. In this Water Plan, Wannon Water has:

- Two years of actual data; and
- One year of forecasts.

7.3.2 Rolling Forward the RAB

The next stage of the process is to calculate the forecast value for the RAB through to the end of the second pricing period. There are a number of key aspects of that exercise that need to be determined:

- Customer and Government contributions;
- Disposals of assets; and
- Regulatory depreciation on both new and existing assets.

Taking these elements together Wannon Water has calculated that the RAB for the business will grow from a figure of $134.01M at the beginning of the second price period to a figure of $199.75M in June 2013.

Table 7-11: Rolled Forward RAB ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Opening Asset Base	134.01	149.85	179.16	183.29	193.77
plus capital expenditure	25.16	43.80	12.82	16.77	11.54
less customer contributions	0.94	0.43	0.77	1.10	0.55
less government contributions	3.23	9.00	-	-	-
less regulatory depreciation	4.53	4.37	4.72	4.78	4.93
less disposals	0.62	0.69	3.20	0.41	0.55
Closing Asset Base	**149.85**	**179.16**	**183.29**	**193.77**	**199.28**

7.4 Other Factors

7.4.1 Weighted Average Cost of Capital (WACC)

Wannon Water proposes to adopt the recommendation of the Essential Services Commission on the appropriate weighted average cost of capital (WACC) to determine the return on capital. This is currently set at 5.1% real.

7.4.2 Taxation Liability

Wannon Water will not be liable for taxation within the Water Plan period.

7.5 Total Revenue Requirement

Taking all these factors together generates an overall revenue requirement of $236.87M for the five years of the second price period.

Table 7-12: Total Revenue Requirement – Water Plan ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13	Totals
Operating expenditure	$33.85	$33.20	$34.50	$33.95	$33.51	$169.01
Return on Assets	$7.24	$8.39	$9.25	$9.63	$10.02	$44.53
Depreciation	$4.53	$4.37	$4.72	$4.78	$4.93	$23.33
Total	**$45.62**	**$45.96**	**$48.47**	**$48.36**	**$48.46**	**$236.87**

8. DEMAND

8.1 Introduction

This chapter sets out an estimation of the probable demand for the services that Wannon Water will provide to its customers over the next price period. This is an important judgment as it is one of the key factors in determining the size of the charges that customers will face. It also affects the financial position of the business.

Assuming that restrictions will ease and water consumption returns closer to historic levels would mean higher levels of demand and so lower unit costs for water. In these circumstances, if demand is lower than forecast (because water restrictions and the drought continue) then Wannon Water will not recover sufficient revenue to cover its reasonable costs. On the other hand if a more conservative position on the levels of future demand is assumed then charges will be higher and there is the potential that Wannon Water might recover more than is required.

The best available estimates of future demand were made during the development of Wannon Water's *Water Supply Demand Strategy* (June 2007). Wannon Water has made a significant investment in time, energy and money in this Strategy, which includes capital investment to reduce demand in order to ensure the future security of water supply. The predicted outcomes reflect the collective wisdom of consultants, staff and Wannon Water's wider community. The Water Plan revenue requirement mirrors the capital investment required to ensure the future security of water supply as detailed in the *Water Supply Demand Strategy*. It is therefore prudent that the demand forecasts used also align with demand predictions made in the *Water Supply Demand Strategy*.

8.2 The End Use Demand Model

The demand predictions made in the *Water Supply Demand Strategy* are made using an end-use demand model developed by MWH Australia Pty Ltd specifically for this work (MWH June 2007, *Wannon Water Water Supply Demand Strategy 50 year demand forecast*). This end-use demand model:

- Climate-corrects current demand (using the last 5 years of consumption history) to generate the starting point from which projections are made;
- Uses current (2006) information on the number of residential, non-residential, rural, and major industry connections for each of the towns/customer zones served;
- Uses forecasts of household and population growth derived from historic trends and *Victoria in Future (2004)*;
- Projects a baseline forecast to 2055, which incorporates both reductions in per capita consumption due to increased uptake of water efficient appliances and increased discretionary use over the 50 year planning horizon. The most probable industry demand (assuming no water conservation actions) has also been incorporated into the baseline; and
- Projects a forecast of "managed demand" to 2055, which incorporates an adopted package of demand reduction measures. It is this forecast which is presented here as the most likely set of demands across Wannon Water's towns in the period 2007-2013.

8.3 Current Water Customers

Wannon Water provides water and sewerage services to 70,000 people across 24,000 square kilometres of southwest Victoria, stretching from the South Australian border in the west across to Port Campbell on the south coast and extends as far as the Grampians in the north of the region. The major centres of population are Warrnambool, Portland and Hamilton.

The widely scattered character of the region means that Wannon Water has to operate a large number of small plants and systems to guarantee supply to our customers, including 21 water treatment facilities and 16 water reclamation plants. The water supplied to customers comes from similarly widely dispersed sources including the Otways, the Grampians, the Dilwyn Aquifer and other ground water aquifers.

8.3.1 Customer Classes

Wannon Water has four important groups of customers:

- Residential customers: domestic households across the region
- Non-residential customers: businesses (excluding major customers)
- Major Customers: large industrial customers
- Rural customers: farming enterprises who may receive by agreement either a treated or untreated water supply, depending upon their location

Table 8-1: Wannon Water Customer Numbers & Consumption 2006-07

Source	Main Towns	Residential	Non-residential	Major	Rural	Total
Otways	Warrnambool Camperdown	17,464	2,017	8	1,205	20,694
Dilwyn West	Portland Port Fairy	8,012	1,075	3		9,090
Dilwyn East	Timboon	901	104		108	1,113
Grampians	Hamilton	4,911	777	2	221	5,911
Tullich Bore	Casterton	1,009	181		160	1,350
Other	Coleraine Penshurst	1211	271		120	1,602
Total Customers		**33,508**	**4,425**	**13**	**1,814**	**39,760**
Volume (ML)		**6,018**	**2,139**	**3,020**	**2,438**	**13,615**
% of supply		44.2%	15.7%	22.2%	17.9%	100%

Residential demand is clearly the largest class of consumer. The chart also confirms the significance of large customers who together make up more than 22% of total demand. Rural customer demand exceeds other non-residential demand.

The charts below show consumption across the major urban centres and customer zones for 2005-2006. The four categories of customer type are shown. For most towns residential consumption is clearly the dominant category of water use. In 2005-2006 residential customers used 6,786 ML or 42% of all water usage.

Figure 8-1: Water Supply Water Consumption – More than 1000 ML pa

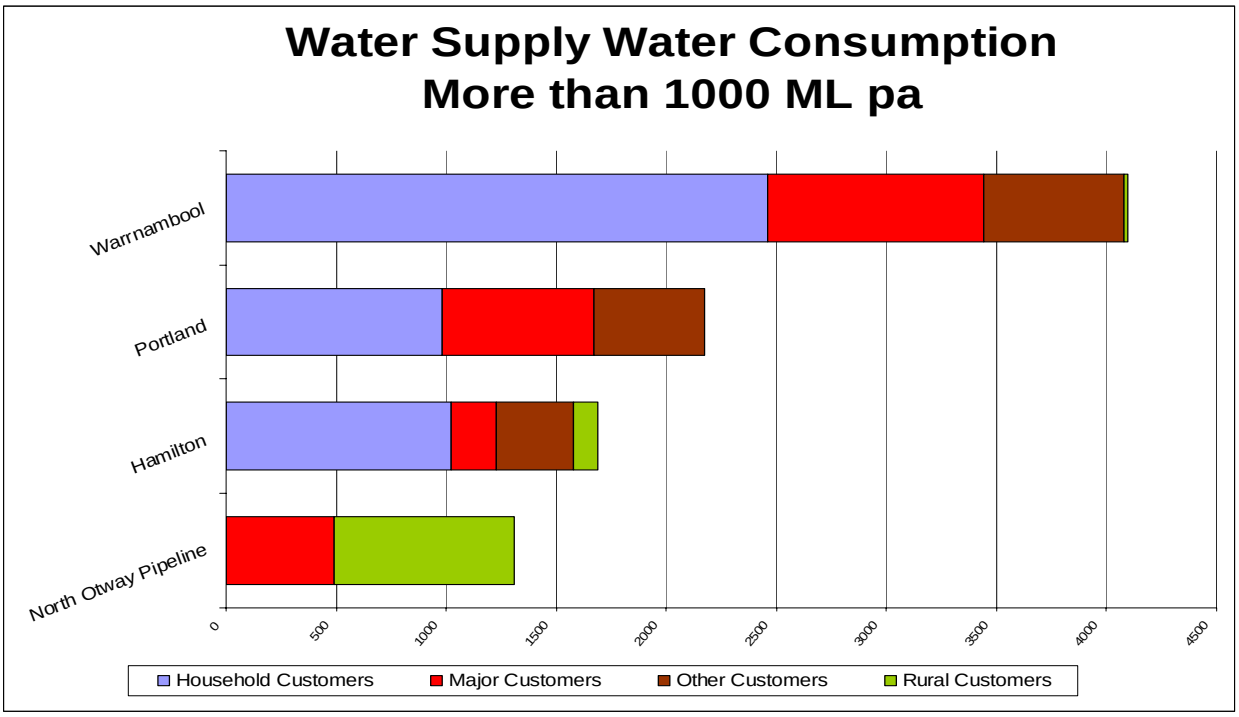
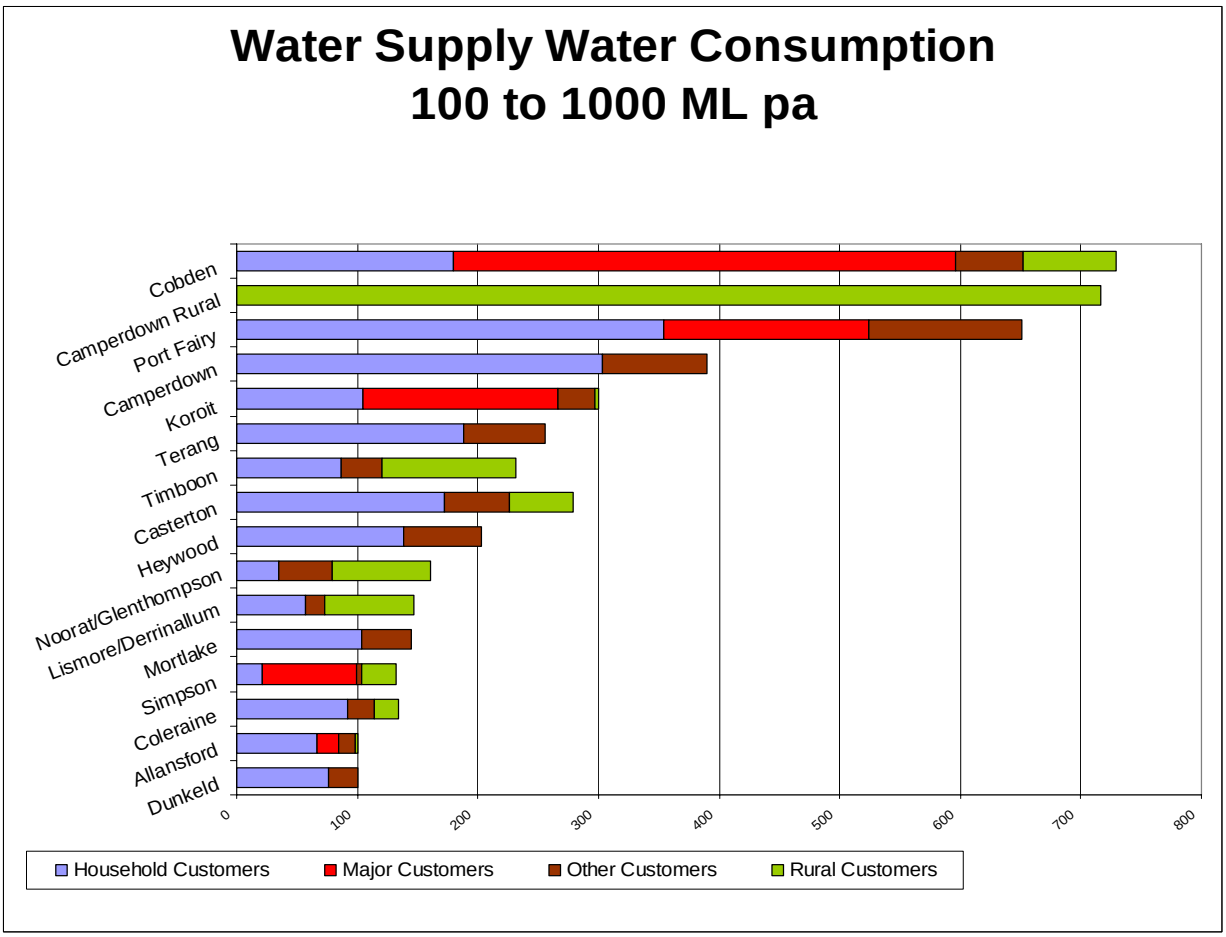


Figure 8-2: Water Supply Water Consumption – 100 to 1000 ML pa



However, the charts also emphasise that large customer consumption is an important water use issue for Wannon Water. The charts demonstrate that a new major customer, a growing major customer or a departing major customer will have a big impact on the water use profile of some centres.

Looking at customer type indicates the importance of the current suite of major customers to the southwest, particularly in milk and food processing.

Table 8-2: Large Customer by Industry Sector

Type of Industry	Number Of Customers	Consumption 2005/2006
Milk/Food Processing	7	2,013 ML
Metal Refinement	1	615 ML
Pharmaceutical Products	1	170 ML
Fibre Processing	1	157 ML
Health Services	2	103 ML
Port Facility	1	75 ML

Wannon Water has, as part of this Water Plan, carried out a round of discussions with all major customers to identify patterns of growth, potential new demand and opportunities for water use efficiency. Major customers are aware that water pricing and trade waste pricing directly impact on business operating costs and that there is a strong business case for water use efficiencies.

8.3.2 Multi-Site Water Users

As well as the large single site customers there are multi-site water users such as local government and schools. The five councils of the region collectively use about 740 ML of water each year. Just over 600 ML of this water is supplied by Wannon Water. Water is used for open space maintenance, three saleyards, swimming pools, road construction and for a myriad of other social and community purposes. Warrnambool City Council has a licence for shallow aquifer access. Groundwater is reticulated by the council contributing to the greening of a significant portion of the public open space assets of Warrnambool. Southern Grampians Shire uses an historic municipal reservoir for the maintenance of the Hamilton Botanic Gardens and several popular playing fields. It will be vital for these municipal systems to be managed in a sustainable way because, should these systems fail, it is unlikely that Wannon Water would be able to step in as the default supplier.

Wannon Water has been very pleased to be able to play a support role over the past year in a project which has resulted in the five councils of the southwest committing to develop Sustainable Water Use Plans. Targeted water use efficiencies totalling 60 ML (10% of currently supplied water) has been nominated. Wannon Water will be working with the five councils as the plans move to implementation.

The education facilities of the southwest are another generic multi-site large user of water. Wannon Water will engage with the schools of the region in the development of a best practice campus template so that, over time, each school can move through a menu of actions and investment to achieve new standards of water use efficiency. The students of today are the first generation of Australians who will experience the impacts of climate change for the whole of their lives.

In 2008, Wannon Water will explore with the schools the ways in which the student bodies and Wannon Water can add value to the way in which the challenges of the future can be best engaged with, understood and responded to for the southwest.

Table 8-3: Significant Water Users by Type

Significant User Type	No of Customers	Consumption 2005/6(ML)	% of Total Wannon Water Consumption
Major Customer >40 ML/year	13	3,133	19.5
Large Customer 10-40 ML/year	39	634	3.9
Local Government (multi site)	5	600	3.7
TOTALS	**57**	**4,367**	**27.1**

In 2005 the councils of the region, with support from the Department of Sustainability and Environment, published the 'Great South Coast - Investment and Development Snapshot' listing likely or probable major investments to occur over the next five years. Wannon Water has not, within this Water Plan, built in assumptions about the timing of the investments or even the final form they might take. However the scale of the investments, the total reliance in some instances on large volumes of water and associated linkages with labour force housing growth means that Wannon Water will be closely involved with some project proponents as their projects move forward.

Wannon Water will be seeking closer involvement with Regional Development Victoria during 2008 so as to better understand the potential for impacts tied to the contingencies of water supply, wastewater generation and recycled water opportunities associated with facilitating a range of nationally important new investments.

8.4 Customer Numbers and Population Trends

8.4.1 Modelling Projections

Population and household changes for the Wannon Water region through the second price period are based on projections from the Department of Sustainability and Environment publication *Victoria in Future (2004)*. The picture is one of slow or steady growth in coastal regions of the southwest, with population decline projected for inland areas. The *Victoria in Future* population and household projections are for 11 statistical local areas (SLAs) in southwest Victoria. Historic trends for household growth in towns within these SLAs from both census data and council records was used to disaggregate the *Victoria in Future* household projection into a change in residential connections per year in the parts of each town serviced by Wannon Water.

Changes in residential water use are linked to total population numbers and changes in household composition (i.e. the number of people per house). So water demand may remain at the same level even when total population declines, if those people are spread over a larger number of houses.

Overall growth or decline in water demand has been calculated from the population and household projections. The projected consumer demand from Wannon Water's 36 towns and communities has been consolidated into the projected demand for the 14 water supply systems.

Table 8-4 Projected Changes in Regional Population and Household Size (No.)

	Population					Household Size				
System	**2006**	**2010**	**2015**	**2020**	**2055**	**2006**	**2010**	**2015**	**2020**	**2055**
Otway System	42,382	43,710	45,434	47,108	60,222	2.47	2.39	2.31	2.23	1.94
Hamilton	9,983	9,848	9,642	9,425	7,930	2.43	2.35	2.27	2.20	1.98
Balmoral	198	191	183	174	116	2.30	2.23	2.15	2.08	1.65
Caramut	100	96	92	88	60	2.20	2.13	2.05	1.98	1.81
Casterton	2,907	2,804	2,681	2,563	1,873	2.26	2.20	2.12	2.04	1.68
Darlington	20	19	18	17	7	2.20	2.13	2.05	1.98	1.81
Dartmoor	248	239	232	225	197	2.30	2.23	2.14	2.07	1.83
Glenthompson	134	125	114	105	60	1.86	1.81	1.74	1.69	1.49
Heywood	1,282	1,269	1,249	1,230	1,110	2.37	2.30	2.22	2.14	1.95
Macarthur	303	270	239	213	90	2.67	2.55	2.45	2.37	1.96
Penshurst	490	466	437	410	262	2.41	2.34	2.26	2.19	2.02
Port Fairy	2,714	2,823	2,947	3,056	3,652	2.12	2.06	1.99	1.93	1.86
Portland	10,132	10,114	10,163	10,072	9,428	2.28	2.21	2.14	2.06	1.86
Pt Campbell	1,387	1,448	1,520	1,574	1,702	1.98	1.92	1.85	1.80	1.68
TOTAL	**72,282**	**73,424**	**74,952**	**76,259**	**86,708**					

8.4.2 Account Growth by Customer Category and Region

The following tables confirm the customer base as at June 2008 and the changes predicted in the number of accounts over the price period for the key supply systems, taking account of the projections on population and household size.

Table 8-5: Account Growth - Hamilton System (No.)

Account Category	2008	2009	2010	2011	2012	2013
Residential Base	4,836					
New Residential Infill		5	4	5	3	3
New Residential Greenfield		15	14	14	12	10
Non Residential Base	834					
Non Residential Change		-3	-3	-3	-3	-3

Nearly all of the residential growth will occur in Hamilton. Population decline in Cavendish can be expected with modest growth in population and dwellings at Dunkeld and Tarrington.

Table 8-6: Account Growth - Otway System (No.)

Account Category	2008	2009	2010	2011	2012	2013
Residential Base	19,167					
New Residential Infill		31	32	31	31	33
New Residential Greenfield		296	293	286	284	286
Non Residential Base	1,919					
Non Residential Change		15	16	14	13	11

About 80% of the projected building activity will occur in Warrnambool with strong activity also at Allansford and Koroit. Modest growth in dwellings will take place at Terang and Timboon.

Table 8-7: Account Growth - Other Systems (No.)

Account Category	2008	2009	2010	2011	2012	2013
Residential Base	10,419					
New Residential Infill		57	58	58	56	51
New Residential Greenfield		0	0	0	0	0
Non Residential Base	1,436					
Non Residential Change		-1	-1	-1	-1	-1

The infill estimates include some greenfield activity because modest new subdivision activity will occur at Portland and Port Fairy (the two largest towns in this group). Very little new building will occur at Coleraine and Casterton. Activity will be concentrated along the coast at Portland, Port Fairy, and Port Campbell and at Peterborough (following the completion of the Peterborough Sewerage Scheme). About 40% of the new accounts will be at Portland, and about 40% will be at Port Fairy, with the balance distributed between Port Campbell and Peterborough.

Table 8-8: Total New Accounts: Residential and Non-Residential (No.)

System	2009	2010	2011	2012	2013
Hamilton	20	19	19	15	13
Otways	327	325	317	315	319
Other	57	58	58	56	51
Total	424	402	394	386	383

The number of major customers is expected to remain static through the price period. The number of rural customers is expected to remain static across all rural systems with no new customers to be taken on.

8.5 Water Demand Management & Supply Efficiency

8.5.1 Demand Management Strategy

The second major factor that drives overall demand is the level of demand per customer. That level of consumption is driven by a number of factors including house size, climate, price and demand management programs implemented by the corporation.

A program for demand management and water supply efficiency has been mapped out and costed as part of our *Water Supply Demand Strategy*. Wannon Water has nominated a goal of a 30% reduction in per capita water use by 2015 (from a base year of 1997).

Table 8-9: Water Efficiency Target: Average per capita water use

Year	Usage level (litres/person/day)
1997	757
2006	611
2015	530

Wannon Water is implementing a range of cost effective demand reduction measures during the Water Plan period and beyond to achieve these demand reduction targets. The measures include:

- Inclining block water tariffs for residential customers;

- Sustainable water use plans for municipalities;
- Community education regarding demand reduction;
- Major customer water saving initiatives;
- Permanent low level restrictions on water use;
- Rural customer demand management;
- Leakage detection and reduction in reticulation networks;
- General indoor retrofit of homes;
- Metering of all properties;
- Installation of water efficient shower heads;
- Water harvesting from roofs in new subdivisions in Warrnambool; and
- Reducing evaporation from open water storages.

Supporting the implementation of these initiatives will be a collaborative research project involving Deakin University, Wannon Water and the Alcoa Foundation investigating barriers to adoption of water conservation among our regional and rural customer base. This is an innovative and original research initiative for the regional water sector.

8.5.2 Baseline for Demand Projections

This plan takes the consumption patterns for 2005-06 as the baseline for the forecast of future demand. 2005-06 was the first year that Wannon Water collected data as a single entity. In that year Wannon Water delivered 14,247ML to customers. The baseline year also provided the foundation for the detailed analysis in the development of the *Wannon Water - Water Supply Demand Strategy 2007-2055 (June 2007)* which defines the water use demand management plan of Wannon Water.

Key features of 2005-06 were:

- Climatic conditions were at the drier end of the last ten years of weather outcomes in the southwest;
- The position across the different systems showed considerable variation:
  - For the Otway system, total demand had shown a consistent decline every year over the previous five years;
  - For Hamilton, drier weather had stimulated demand to the highest level on record; and
  - Portland consumption was 15% higher than for the previous three years;
- Customers were starting to engage in water saving programs on the back of heightened interest in the metropolitan market, but no serious restrictions were yet in place and mandated Permanent Water Savings Measures were not introduced until May 2006; and
- Patterns of water use by major customers were steady.

Specific demand management programs have then been developed for each customer group.

8.5.3 Urban Residential Water Use

Average residential demand depends on a number of factors:

- Number of people per household – there is a basic level of water usage per household;
- Size of properties – smaller houses and units have smaller gardens and use less water per capita;
- Climate – the drier weather over the last five years has seen higher demand in Hamilton as people use more water on their gardens;
- Price – higher charges and stepped tariffs create incentives to save water; and

- Demand management programs – these combined with publicity and education can reduce water consumption levels.

For all urban supply systems a demand reduction program has been developed to achieve the nominated targets of per capita water consumption. The program describes and costs the demand management program elements and calculates the specific contribution of each element to the nominated target. Primary initiatives for residential customers include Permanent Water Saving Measures, the inclining-block tariff and community education. Specific demand projections have been developed for the major urban centres:

Hamilton: Severe water restrictions have been imposed on the four towns in the Hamilton Water System. Stage 4 restrictions mean that all outside watering is banned. No garden watering is allowed at any time, by any means. Vehicles have to be cleaned using a bucket filled from a tap and only windows, mirrors and lights may be cleaned.

These restrictions have had a dramatic effect on demand in the system. Consumption during the summer months of 2007 was 105ML/month which is only marginally above traditional winter consumption rates of 102ML/month, and far short of the normal summer consumption of 250ML/month.

Higher level water restrictions are likely to remain in place for customers connected to the Hamilton water system through to June 2010. The demand management initiatives implemented mean that it seems probable that the lifting of water restrictions in 2010 (following construction of the Hamilton Grampians Inter-Connector Pipeline) will not result in a return to historic levels of water consumption. Demand may also be reduced following the introduction of the three tier volume water charge from 1 July, 2008. Further; the substantial price increases required to fund augmentation of the Hamilton water supply system to enhance supply security consistent with the *Water Supply Demand Strategy* will also influence the future demand for water.

Glenthompson: Severe water restrictions are also in place in the much smaller Glenthompson system. Remedial action should restore the supply demand balance from 2008-09. However restrictions are likely to remain in place pending reservoir replenishment.

Otways: Smaller percentage reductions are also evident from the impact of the Permanent Water Savings Measures across the larger Otways System introduced in July 2006. The results to-date indicates a 4% reduction in annual residential water use across both Warrnambool and Camperdown. This outcome exceeds modelling projections as well as exceeding notional estimates of a 2% saving at this stage in the demand management program.

Portland: The Portland customer base has generally been less receptive to water savings measures. It is too early to pick a trend response to the introduction of Permanent Water Savings Measures but experience from elsewhere suggests it is reasonable to expect a 2% decline in demand from July 2008.

8.5.4 Major Customers

Major Customers used 3,020ML in 2006-2007. This constitutes 22.2% of total regional water consumption. Wannon Water has concluded a demand assessment program with these customers to understand their future investment decisions and learn of projected changes in water use or trade waste generation. Three significant proposals were revealed:

- Installation of a reverse osmosis treatment plant is being considered in consultation with a major customer to enable increased on-site recycling of water to reduce current potable supply for a major part of its business demand. This would involve a reduction in overall demand in Portland of 150ML/year from July 2008;
- Greater use of recycled water with substitution of 80ML/year in Hamilton by July 2008 is under review for a major customer;
- A major Warrnambool customer aims to achieve 90% substitution of potable supply from late in 2008 following a decision to develop a geothermal groundwater bore as its main source of water supply. This will reduce demand in Warrnambool by 280ML/year.

The combination of these three proposals generates water savings of 510ML/yr. A second phase of dialogue with major customers is planned for 2008 focussed on the 39 customers who use 10-40ML/year.

Wannon Water will also continue to work with local councils across the region to help facilitate the implementation of actions developed under the *Sustainable Water Use Plans* prepared by local government, which aim to achieve an average 10% reduction in water use by 2012.

8.5.5 Rural Customers

Currently Wannon Water services 1,814 rural customers. Some of these customers receive an untreated water supply by agreement. Total demand is around 2,400ML/year, representing some 18% of total supply. No growth in accounts is projected for this customer category. A freeze on accepting new rural customers will remain in place pending demonstrated system efficiencies by the existing rural customer base.

The rural customer base is expected to maintain current water consumption levels with a number of divergent drivers balancing themselves out (that is, growth in the milk food sector will be off-set by de-stocking in drier grazing country and moves to greater on farm water use efficiency following pressures from pricing changes).

8.5.6 Water Efficiency Targets Summary

Achieving the water efficiency targets set out in the *Water Supply Demand Strategy* involves an active structured program impacting on all customer segments combined with the more effective management of water supply systems. It aims to achieve an overall annual saving in demand of 2,000ML by 2015. Other factors such as residential growth will at the same time increase total demand.

Table 8-10: Summary of Main Actions for Water Efficiency by 2015

Customer Group	Major Action	Saving (ML Total)	Saving (litres/person/day)
Residential	10% reduction / 1.25% per year	680	24.8
Local Government	Sustainable Water Use Plans	83	3.1
Major Customers	Current Initiatives	150	5.7
Major Customers	New Initiatives	641	14.3
Rural Customers	Demand Management	100	3.8
Supply System	Efficiency Program	356	13.5
Total		2,010	65.20

The effects of these actions have been incorporated into the end-use demand model to project demand over the new price period. The savings are highest in the early years of implementation

and vary by supply system. The management program is expected to reduce the overall annual consumption across the region as follows, in the period between 2005-06 and 2008:

- Hamilton System 180ML
- Otways System 860ML
- Other System 370ML
- **Total 1,410ML**

This means that net annual demand across the region (factoring in residential growth and the probability of maintaining higher level water restrictions for the Hamilton system) is expected to fall from the level of 14,480ML in 2005-06, to a starting point for the start of the new price period of 13,146ML. Over the price period demand is projected to continue to decline then stabilise.

8.5.7 Monitoring of Demand Projections

Wannon Water has carried out detailed analysis of water demand for 2006-07 to test the validity of the savings and efficiency regime forecast under the *Water Supply Demand Strategy*.[6] This is critical in validating water charges and in planning supply augmentation programs.

This analysis supports the assumptions behind the 2005-06 demand baseline and, importantly, validates the effectiveness of the demand management measures and projections in meeting the long term demand reduction targets set by Wannon Water.

Critical features of the 2006-07 demand year are:

- Climatic conditions at the extreme of what has been identified as a decade of below average rainfall for the southwest along with elevated average temperatures.
- The Hamilton supply system moving from above average demand in 2005-06 (108% of a five year rolling average) to 69% of demand in 2006-07 following the introduction of severe water supply restrictions.
- The impact of the introduction of Permanent Water Savings Measures for 2006-07 contributed to a 2.9% decline in average residential demand.
- Better understanding of demand drivers from the important non residential customer sectors especially rural customers and major customers.
- Reassurance from the 2006-07 data sets that the specific demand management programs developed for each customer group which have move to the Water Plan are reasonably based and are tracking towards target achievement

Two examples of this demand modelling verification follow. The first relates to the Otway system, which is the largest discrete supply system of Wannon Water. This shows demand at or below predicted levels for both domestic and non-residential customers. The modelling for non residential customers excludes 9 customers which are not major, but are sufficiently large to otherwise distort the outcomes.

[6] Wannon Water (2007);*Water Consumption 2006 – 2007,* Report and Discussion Paper, August 2007.

Figure 8-3: Kilolitres per Household – Glide Path – Otway System

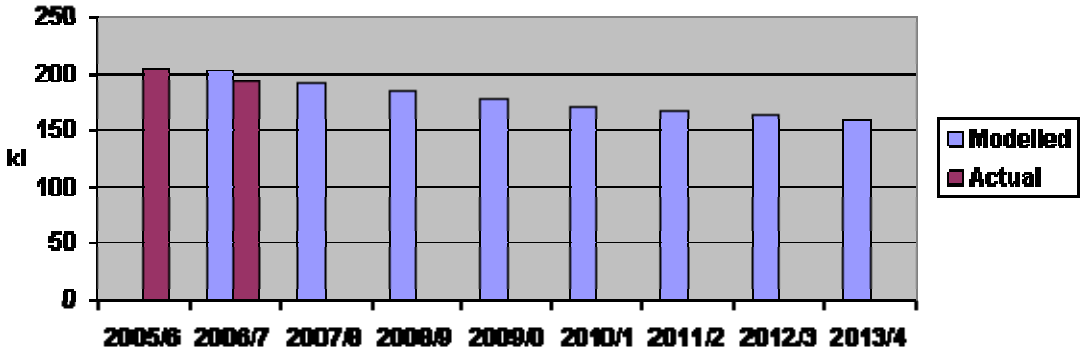
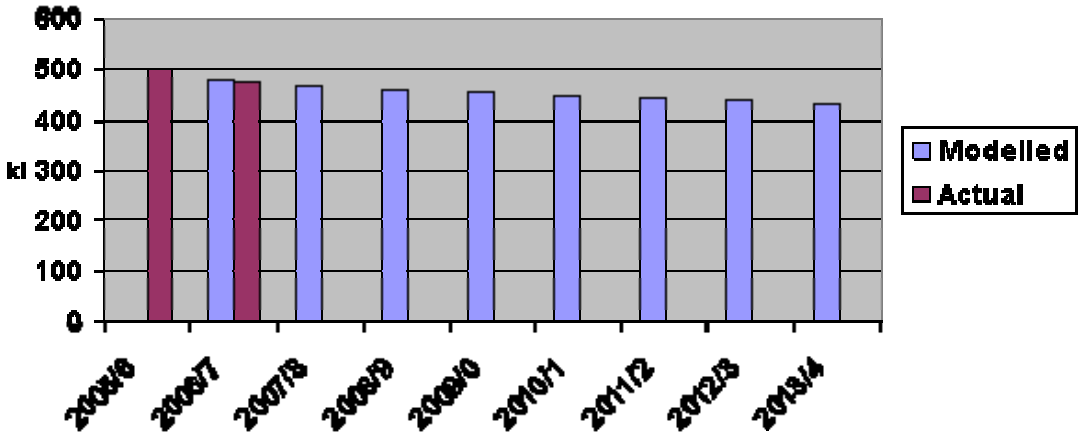


Figure 8-4: Kilolitres per Non Residential Accounts– Glide Path – Otway System



The second example reports on demand in Hamilton. The monitoring confirms the extent of demand modification occurring for this supply system. Given the prospect of severe restrictions continuing for this system through to 2010 there are clear implications in respect of operating costs, revenues and prospectively pricing.

Figure 8-5: Kilolitres per Household – Glide Path – Hamilton System

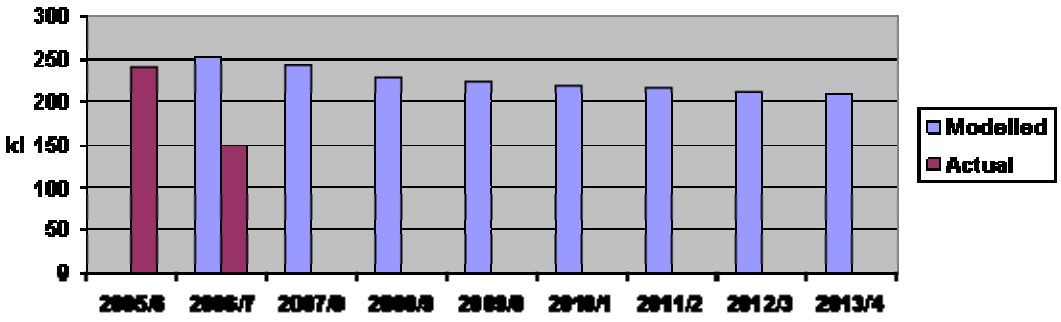
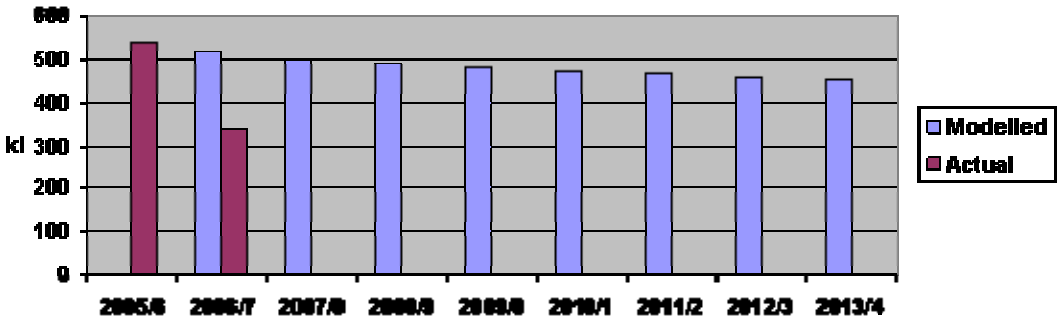


Figure 8-6: Kilolitres per Non Residential Account – Glide Path – Hamilton System



Note that the largest assumed reduction in household demand was for 2008/9, coinciding with the first year of introduction of stepped tariff pricing. Given the prospect of severe restrictions continuing to 2010/11 consumption will continue to be depressed and customer exposure to the proposed pricing signals will be deferred to 2012 and beyond

8.6 Total Billable Demand

The end-use demand model has used the above data on customer types, account growth, and demand management to construct the following projections for total billable water demand over the five years of the Water Plan.

Table 8-11 (below) takes each of the major customer groups in turn and shows projections for total water demand for each of the years of the Water Plan. Each customer group is reviewed across three supply systems:

- The Otway system, the largest discrete system, with approximately 60% of normal total demand;
- The Hamilton system, separately treated because of the certainty of medium term demand stress;
- Other systems, being an aggregate of smaller, reasonably secure systems with demands equalling about 28% of normal total demand.

Table 8-11: Total Billable Water Demand (ML)

	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
Residential							
Otways	3377	3362	3327	3258	3206	3159	3166
Av. kL/connection	*194*	*190*	*185*	*178*	*172*	*167*	*165*
Hamilton	718	741	744	747	871	923	952
Av. kL/connection	*151*	*155*	*155*	*155*	*180*	*190*	*195*
Other	1923	1883	1833	1809	1793	1779	1767
Av. kL/connection	*192*	*187*	*181*	*178*	*175*	*173*	*171*
Residential Total	**6,018**	**5,986**	**5,904**	**5,814**	**5,870**	**5,861**	**5,885**

	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
Non Residential							
Otways	1051	1039	1034	1029	1024	1021	1019
Av. kL/connection	*478*	*469*	*463*	*457*	*451*	*446*	*441*
Hamilton	256	271	273	273	298	312	310
Av. kL/connection	*340*	*360*	*365*	*365*	*400*	*420*	*420*
Other	832	812	801	789	778	769	760
Av. kL/connection	*568*	*555*	*548*	*540*	*533*	*527*	*521*
Non Res Total	**2139**	**2,122**	**2,108**	**2,091**	**2,100**	**2,102**	**2,089**
Rural Customers							
Otways	1968	1890	1900	1910	1920	1930	1940
Av. kL/connection	*1633*	*1568*	*1576*	*1585*	*1593*	*1602*	*1610*
Hamilton	129	124	125	125	126	127	127
Av. kL/connection	*582*	*561*	*566*	*566*	*570*	*575*	*575*
Other	341	327	329	331	333	334	336
Av. kL/connection	*878*	*843*	*848*	*853*	*858*	*861*	*866*
Rural Use Total	**2,438**	**2,341**	**2,354**	**2,366**	**2,379**	**2,391**	**2,403**
Major Customers							
Otways	2037	1970	1830	1730	1730	1630	1630
Av. kL/connection	*254624*	*246250*	*228750*	*216250*	*216250*	*203750*	*203750*
Hamilton	191	190	190	190	190	190	190
Av. kL/connection	*95500*	*95000*	*95000*	*95000*	*95000*	*95000*	*95000*
Other	792	800	650	650	650	650	650
Av. kL/connection	*264000*	*266666*	*216666*	*216666*	*216666*	*216666*	*216666*
Major Use Total	**3,020**	**2,960**	**2,670**	**2,570**	**2,570**	**2,470**	**2,470**
Sub total	**13,615**	**13,409**	**13,036**	**12,841**	**12,919**	**12,824**	**12,847**
Standpipe/Metered Hydrant Sales	**133**	**100**	**110**	**110**	**110**	**110**	**110**
Total Billable Demand	**13,748**	**13,509**	**13,146**	**12,941**	**13,029**	**12,934**	**12,957**
Annual Change		*-1.77%*	*-2.76%*	*-1.51%*	*+0.60%*	*-0.73%*	*+0.18%*
Annual Change	**Actual**	**Estimate**	**Water Plan Forecast**				

8.6.1 Assumptions and Forecast Factors

The following factors and assumptions were critical in determining future demand projections.

1. **Residential Otways** – this large customer group is tracking in line with modelled targets (for 2006/07 average residential consumption at 194 kL bettered the modelled target of 202 kL). Camperdown/Cobden have, in a dry year and without the assistance of water restrictions, moved average residential demand to186 kL. The key to significant and continued demand modification is achieving change across the Warrnambool customer base. Larger downward movements in demand for 2008/9/10 are linked to the replacement of a dual step tariff with a three step rising block system.

2. **Residential Hamilton** – with restrictions likely to remain in place until supply augmentation works occur in mid 2010, demand will continue to be suppressed. Most customer use will be below the high usage threshold of the rising block tariff system for 2008/9/10. Pre-restriction modelling contemplated total residential consumption of 1038 Megalitres in 2012/13 with average residential demand at 213 kL. After four years of restrictions average household demand for Hamilton is likely to lock in at below 200 kL.
3. **Residential Other** – identification and separation of rural customers has recently occurred within this group. The largest drop in average use is forecast for 2008/9/10 being the first two years of a rising block tariff system. While Portland and Port Fairy have been familiar with such a pricing model, Casterton and Coleraine have previously been subject to a single tier pricing system.
4. **Non Residential Otways** – the target of a 10% decline in average demand by 2012/13 is tracking as modelled. Planned water efficiency programs with local government, schools, the hospitality industry and the accommodation industry will be rolled out and demand will continue to decline.
5. **Non Residential Hamilton** – restrictions in 2006/7 (and the impact of Permanent Water Savings Measures) resulted in a significant decline in demand of 151 kL (37.1% of demand in 2005/6). With four years of serious water restrictions ahead the new demand baseline will only start to show a meaningful increment from 2010. As with earlier residential modelling for Hamilton, demand by non residential customers will not return to historic levels during the next planning period.
6. **Non Residential Other** – After adjusting the 2005/6 customer status baseline to separate rural customers and recalibrating the 10% target of demand reduction by 2012/13 the target looks more than achievable. Township consumption averages within this group range from 152 kL per customer in Coleraine to 824 kL per customer in Port Fairy. The potential for demand reduction is significant (see also 4 above). This demand forecast could well be on the high side.
7. **Rural (all three groups)** – an extremely dry 2006/7 drove a 4% increase in demand and the total probably represents the outer limit of demand over the next few years. Demand is driven by the needs of livestock and is therefore hostage to rainfall patterns. Demand by this customer group will continue to be volatile and difficult to forecast. A 4% drop in demand is estimated for 2007/8 and thereafter provision is made for an incremental 0.5% annual increase in demand representing the net outcome of;
    - Greater on farm water use efficiency
    - Productivity increase as the milk production industry grows in the southwest.
8. **Major Customers (all three groups)** – Provision has been made for a proposed water efficiency investment by a Portland customer likely to reduce demand on Wannon Water by 150 Megalitres. This provision was first planned for three years ago and while an outcome is now more certain the issue gives emphasis to the difficulty of longer term planning with major customers. A second major customer plans substantial substitution of its current Wannon Water demand and is moving to reduce annual demand by 90% or 280ML. These two efficiencies are equal to about 15% of current major customer use. Within the Otways group a return to average rainfall conditions and the build up of dairy herds over the next few years will translate into additional demand. All major customers are required to commit to the waterMAPs program involving process review, the setting of targets for water demand reduction and annual exposure of outcomes. This will contribute to a reduction in demand.
9. **Standpipe/Metered Hydrant Sales** – record demand occurred in 2006/7.A return towards average rainfall conditions for 2007/8 will see demand by rural residents decline. Subsequent years will see demand oscillate around 105 ML to 115 ML per year.

8.7 Wastewater Demand

8.7.1 Wastewater Overview

Demand for wastewater transport and treatment services is generated by;

- Residential customers;
- Non – residential customers including minor trade waste generators;
- Customers subject to major trade waste agreements; and
- Infiltration especially from stormwater.

Demand for wastewater treatment services is reduced by;

- Leakage from sewer mains which reduces the volume of wastewater received at treatment plants;
- Reduction in infiltration;
- Customers recycling or diverting wastewater previously discharged as trade waste;
- Residential customers reducing domestic discharges due to lower water demand and by diversion of grey water.

8.7.2 Historic Wastewater Demand

Wannon Water has 17 secondary water reclamation plants and one tertiary water reclamation plant.

Table 8-12: Historic Wastewater Demand by Treatment Zone (ML)

Treatment Zone	Annual Flow 00-01	Annual Flow 01-02	Annual Flow 02-03	Annual Flow 03-04	Annual Flow 04-05	Annual Flow 05-06	Annual Flow 06-07
Camperdown Domestic	486	363	375	577	546	373	289
Camperdown Industrial	NA				9	7	7
Casterton	118*	121*	113*	133*	124*	194	215
Cobden	506	151	164	201	219	189	162
Coleraine	79	85	80	92	87	72	65
Dunkeld	NA	NA	6	23	38	43	32
Hamilton	953	889	830	1014	910	845	689
Heywood	232	290	270	251	270	240	227
Mortlake	74	89	89	98	106	100	93
Port Campbell	60	60	55	65	63	65	56
Portland	1264	1249	1145	1146	1340	978***	1125
Port Fairy Domestic	611	651	622	616	668	660	626
Port Fairy Industrial							
Simpson	34	19	31	38	23	23	14
Terang	253	251	257	313	285	253	184
Timboon	9	25	43	54	60	59	56
Warrnambool	3369	3383	2900	3005	2895	2908	2904
TOTAL	**8048**	**7626**	**6980**	**7620**	**7643**	**7009**	**6744**

* Flow meter issues with this site

Est - no information

*** New metering in 2005-2006. The figure of 978 Megalitres understates real volumes received

8.7.3 Understanding Historic Demand for Wastewater

Focussing on the last five years provides insights into drivers of wastewater demand:

- The reduction in total wastewater flows over the period from 2002 – 2007 (826ML or a drop of 9%) is mainly associated with the reduction in trade waste flows by 26.6%. Fonterra is notable with trade waste volumes reducing from 525ML to 45ML.
- Demand at the largest Treatment Zone of Warrnambool (excluding trade waste) is stable at about 2900ML per annum, with increased residential services balanced by shifts to household water use efficiency and possibly reduced infiltration.
- Towns that were sewered between 1999 and 2002 have seen the percentage of serviced properties move from 0% to near 100%. This increase is evident across Dunkeld, Mortlake and Timboon (the same phenomenon for Allansford and Koroit is embedded in the Warrnambool Treatment Zone data).
- The Camperdown domestic system is known to be subject to stormwater infiltration during wet to average rainfall years. The reticulation system has been the subject of intensive program activity to identify and reduce stormwater and groundwater infiltration.
- Hamilton became subject to Stage 4 Water Restrictions in 2006-07. Many householders have acted to divert grey water for garden watering.

8.7.4 Wastewater Demand Forecast 2008 – 2013

Wastewater demand will be relatively stable over the Water Plan period across the main wastewater treatment systems. Four wastewater treatment plants will operate at historically low levels of demand should current rainfall conditions continue (ie at Hamilton, Camperdown, Terang and Cobden). New demand growth will not push the bounds of current treatment capacity.

Total wastewater demand is estimated to fall within a band of 6,750 to 7,500ML with the following factors influencing the outcome (listed in descending order of impact).

1. Return to average rainfall conditions will lift the volumes of infiltration. The impact will be significant for the Camperdown, Terang and Cobden systems totalling an additional 300ML. Across all other centres the prospect is for an additional 100ML.

2. Continued residential growth in the Warrnambool zone will lift demand by 25ML/yr (giving total new demand of 125ML by 2013).

3. Continuation of severe water restrictions for Hamilton through to 2010 will influence greater grey water diversion investment by householders. The eventual lifting of restrictions will not see all grey water diversion systems discontinued. Hamilton could move down to 650ML and, after the lifting of restrictions could move demand towards 750ML by 2012 (a range of -39 to +61ML on the 2006-2007 demand).

4. The Water Demand Management Strategy of Wannon Water has targeted a program of residential water use efficiency. As well, it is likely that local government will retrofit a number of sporting facilities to use less water and produce less waste water. Cumulative actions will reduce wastewater generation (demand to decline by 25ML).

8.8 Trade Waste

Trade Waste Customers are important economic drivers of the region, and Wannon Water acknowledges them as important to the sustainability of the southwest of Victoria.

Trade waste from major customers is the most variable and unpredictable wastewater stream, in terms of volume, percentage of total volume, composition, and price impact. The risks associated with variable trade waste flows are managed by engaging in direct and regular consultation with each major customer so as to better anticipate production changes and by applying common pricing principles to arrive at individual pricing agreements.

8.8.1 Historic Trade Waste Demand

Trade waste volumes for the customers subject to major trade waste agreements are shown below for the period 2002-2007.

Table 8-13: Historic Trade Waste Demand (ML)

Treatment Zone	2002-3	2003-4	2004-5	2005-6	2006-7
Warrnambool	1,858.39	1,828.83	1,824.10	1,607.81	1,310.56
Port Fairy	194.85	223.84	208.13	161.44	163.93
Hamilton	130.00	130.00	139.45	128.37	117.52
Camperdown	30.00	30.00	45.00	32.10	32.00
Mortlake	4.26	6.31	3.38	3.74	2.74
Totals	**2,217.50**	**2,218.98**	**2,220.06**	**1,933.36**	**1,626.75**

There has been a greater than 25% reduction in trade waste demand over the last five years, with one customer contributing to the major part of that reduction. Other relevant factors are:

- Below average rainfall may have contributed to a decline in milk food processing activity over the past two years with an associated fall in trade waste volumes.
- The reduction in Hamilton Treatment Zone trade waste demand is tied to a direct response by the customer to the water supply shortage associated with Stage 4 Water Restrictions for residential customers
- The Mortlake customer ceased trading in 2006-7.

8.8.2 Trade Waste Demand Forecast 2008 – 2013

It is forecast that overall demand will be relatively stable over the Water Plan period.

New trade waste demand growth is proposed by a customer in the Warrnambool Treatment Zone. A 12.5% increase in trade waste production is planned from 2008 which will increase demand by 105ML/yr. An increase in demand of this order fits comfortably within the treatment capacity of the plant.

Demand may also increase in the Warrnambool Treatment Zone following any return to seasonal rainfall closer to the average. Such a change could influence milk volume production with trade waste volumes increasing by about 150ML.

Total annual trade waste demand is estimated to fall within a band of 1,600 to 2,000ML, with the following factors driving demand change outside this band.

1. The milk food processing sector of south eastern Australia will continue to see restructuring over the decade ahead associated with continued water deficits. Milk production volumes for areas north of the Great Dividing Range will decline and herd development will increase in the southwest of Victoria. Constraints in milk food processing capacity in the southwest will lead to new investments.
2. In the first instance Wannon Water will look for new or expanding processing plants to manage all trade wastes internally. However, a new treatment capacity within the Warrnambool Treatment Zone may be in the strategic interest of the industry and of the State.
3. Large customers generating trade wastes will work towards water savings targets with Wannon Water and will be subject to annual exposure of water consumption details. Some actions in reducing water use will also reduce the volumes of trade waste demand.

Trade waste prices for the second price period send signals as to the real costs of treatment and to promote reduction in strength in line with our *Recycled Water Strategy*. Those prices are cost reflective for the key drivers of volume, BoD, suspended solids and ammonia. Wannon Water expects those signals to drive a reduction in the strength of the load received even if the total volume remains constant over the pricing period. This will lead to a reduction in revenue.

8.9 Recycled Water Demand

8.9.1 Recycled Water Demand

The last decade has seen growing recognition of the value of recycled water in the southwest:

- Recycled water, when clearly linked to supply security is now perceived as a valuable resource;
- The concept of using recycled water is no longer linked to a few adventurous pioneers. If the water is available there is no shortage of interest in its use;
- The value of recycled water is also better understood by water authorities. There is now reticence about entering into long term contracts for the supply of recycled water for irrigation, if this means that recycled water will not be available to promote potable water substitution within the urban supply zone.

The *Water Supply Demand Strategy* proposes two streams of activity:

- To increase the percentage of recycled water from 24% in 2006 to 35% of wastewater by 2015;
- To shift the mix of reuse away from irrigation to higher value application.

8.9.2 Current Recycled Water Use

Table 7-13 records current recycled water use across the region by Treatment Zone.

Table 8-14 : Current Recycled Water Use by Treatment Zone (ML)

Treatment Zone	Volume Available	Volume reused	% Reuse	Agriculture	Urban / Industrial
Camperdown Domestic	215.5	215.3	100	198.4	17.1
Camperdown Industrial	0.3	0.3	100	0.3	0
Casterton	132.3	103	78	93	10

Treatment Zone	Volume Available	Volume reused	% Reuse	Agriculture	Urban / Industrial
Cobden	94.6	87	92	87	0
Coleraine	1.0	1	100	0	1
Dunkeld	13.2	13	100	0	13.2
Hamilton	624.6	327.3	52	230	97.2
Heywood	127.9	127.9	100	127.9	0
Mortlake	3.8	3.8	100	3.8	0
Port Campbell	25.4	25.4	100	25.4	0
Port Fairy Domestic	626.0	0	0	0	0
Port Fairy Industrial	164.0	0	0	0	0
Portland	1,125.0	0	0	0	0
Simpson	4.2	3.3	79	0	3.3
Terang	110.9	110.9	100	110.9	0
Timboon	49.4	40.9	83	40.9	0
Warrnambool	4,215	0	0	0	0
Totals 2006-7	**7,537**	**1,059**	**14%**	**918**	**142**
Comparison 2005-6	**8,801**	**2,231**	**25%**	**2,169**	**58**

In comparison with the figures for 2005-06, the decline in application of water for agriculture is significant. The key factors contributing to the decline were the reduction in overall wastewater flows, due to lower levels of infiltration, and a decision to reduce the application of recycled water on Wannon Water's farm property at Hamilton due to drought contingency planning.

The table demonstrates two contrasting stories regarding current recycled water use in the region. For most inland towns (where volumes are low) new demand for recycled water is constrained by current supply agreements, which account for 100% reuse, and in situations such as Timboon and Cobden the 'remnant' available volume is generally less secure than the allocated 'core' volume. While, by contrast, in Portland, Port Fairy and Warrnambool significant volumes of wastewater (6,030ML) are currently un-used.

Reuse of this recycled water in coastal areas is currently constrained by:

- **Warrnambool** – high salt loadings from milk processing, local government use of low cost ground water source for much of the public open space, and high costs of transporting recycled water to any end user; and
- **Port Fairy & Portland** – traditional low cost of potable water, no demand for supplementary water for agriculture during winter, few reasonable irrigation opportunities in immediate vicinity.

8.9.3 Recycled Water Demand Forecast 2008 – 2013

Three main scenarios are projected for future recycled water use:

1. Increased demand is confined to inland towns. Marketing draws interest in respect of the limited unused volumes, and in storing and using the less secure additional flows forecast under the recycled water details above. Under this scenario, annual recycled water use will be within a band of 1,050 to 1,600ML with a theoretical outer limit of 1,900ML.

2. Potential private sector interest in developing a new recycled water reuse scheme using recycled water as an alternative resource to traditional groundwater sources.

3. A major new entrant to the region promotes greater re-use as it is unable to meet its water needs from current potable sources. Power generation investments and timber pulp processing have both been mooted as prospects but are still over the horizon.

Under all three scenarios, the financial implications for Wannon Water are not material, as in all cases charges involve full cost recovery on the 'beneficiary-pays' principle.

The inland systems associated with Scenario 1 have seen primary producers make capital infrastructure investments and enter into long-term, low-cost take-for-use agreements. Further inland expansion as detailed would involve potential users in a high cost per secure megalitre (ie the construction of private storages to hold seasonal infiltration yields).

The three large coastal plants involve a very low-cost discharge regime and any proponent for recycling would need to be able to meet the high costs of processing and transporting the recycled water to its end use. Any charges from Wannon Water would meet broader pricing principles regarding cost recovery and a beneficiary pays methodology. However, given the high costs of establishing a private recycling system, it would not realistic to expect a high unit cost for the water.

Given the uncertainties about any major new development of the coastal wastewater streams and the marginal impacts on costs and revenues, this Water Plan is based on Scenario 1.

8.10 Developer Charges and Levies

The level of developer levies is linked to the forecast level of construction of new dwellings and the growth of the non-residential sector. Wannon Water has based the projection of demand on data from DSE's *Victoria in Future (2004).* Table 7-5 from that publication is reproduced below.\

Table 8-15: Forecast new dwelling construction

System	2008-9	2009-10	2010-11	2011-12	2012-3
Hamilton	20	19	19	15	13
Otways	327	325	317	315	319
Other	57	58	58	56	51
Total	**424**	**402**	**394**	**386**	**383**

While evidence is emerging that for some parts of the State *Victoria in Future (2004)* sets a too conservative projection of residential development the data seems reasonable to Wannon Water as the basis for estimating developer levy demand.

8.10.1 Developer Levies Demand Forecast 2008-2013

Wannon Water forecasts demand at approximately 400 new dwellings and new non residential customers per year.

Factors likely to lead to a variation of this outcome include;

1. An economic collapse at the national level or in terms of institutional funds availability. This scenario is judged as remote.
2. A change in residential growth patterns in Warrnambool should greenfield site development be constrained. This would result in the export of residential demand to nearby hamlets, or to urban rural zones not served by Wannon Water. This outcome might reduce the total projected demand by 10%.

3. A new major production/processing entrant to the region creating new jobs. Because the majority of new positions for any new large business will be found locally the impact in terms of imported staff numbers is less significant and would be generally satisfied within existing housing capacity. Any increase will not be significant and no greater than 2% over the planning period.
4. Changed internal migration patterns and changed settlement patterns associated with climate change. The region will be seen as a desirable residential area and as a more desirable rural production zone in the event of severe national trauma associated with rural industry decline and displacement of rural families. Such a scenario would only unfold towards the latter part of the planning period but could be of the order of a 5 % increase in demand for the final two years.

9. PRICES

9.1 Allocation of Increases to Communities and Customers

The revenue requirement is driven by Wannon Water's need to ensure security of future water supplies for its customers and to comply with environmental and other technical regulators' requirements for water and sewerage systems, whilst maintaining existing levels of service to customers. These issues have been addressed throughout this Water Plan. The outcome is that Wannon Water requires revenue of $235.87M (expressed in 1 January 2007 dollars) over the five year period commencing 1 July 2008 to achieve these goals.

This section of the Water Plan describes how this revenue requirement has been allocated to the various communities that make up the customers of Wannon Water.

9.2 Price Increases

The impact of the proposed price increases required in this Water Plan will vary across the water and sewerage systems depending on the location and characteristics of the individual water user. However, in order to provide an indication of the scale of the changes proposed, this section provides indicative examples of average bills for a variety of illustrative households.

Table 9-1, shows the impact of the proposed price rises for households in the three main urban centres, if those households used an average of 200kL/yr. The table shows the combined bill for water and sewerage for the current year and the impact of the proposed price rises by the end of the price period. The last columns then indicate both the $-value and the percentage of that increase over the five year period.

Table 9-1: Indicative Price Rises for 200kL Consumers for combined Water and Sewerage

	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
Hamilton (200kLs prop)	$665.11	$690.87	$797.72	$921.78	$1,065.93	$1,233.55
Portland (200 kLs property)	$566.14	$619.30	$707.71	$810.64	$930.71	$1,071.05
Warrnambool (200kLs property)	$725.20	$736.61	$787.52	$842.32	$901.32	$964.88

This shows how costs of major works have been allocated to the customer centres that benefit from those works, with Hamilton customers experiencing a greater price rise to pay for necessary supply augmentation, than customers in Warrnambool. On average, customers across the whole of the region will face bills that rise by 9.9% per year over each of the five years of the Water Plan

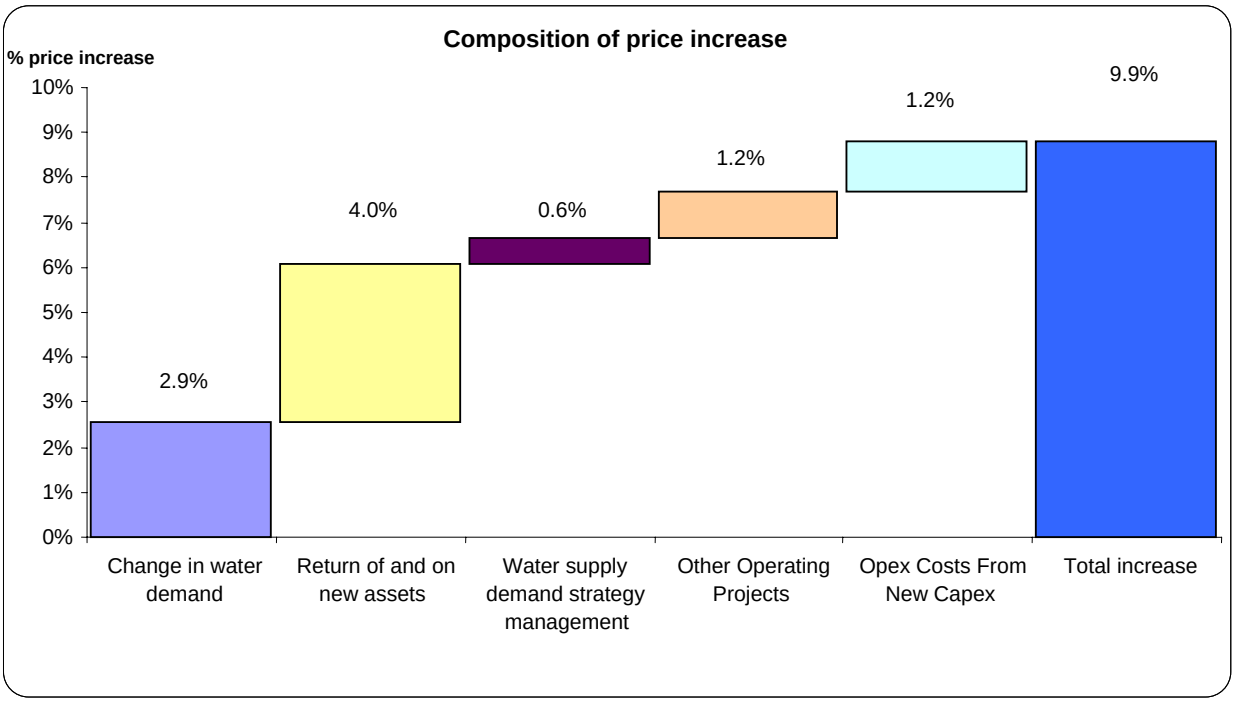
Annex G provides a wider range of indicative examples across a variety of consumption levels.

9.3 Drivers of the Price Increase

The 9.9% price increase per year is driven by five key factors as illustrated in Figure 9-1. These are:

- change in the level of water demand
- the costs of new capital works
- costs of implementing demand strategy management
- the operating costs of new capital projects; and
- other operating costs from new projects.

Figure 9-1: Core Components of Price Increases



9.4 Price Cross Subsidies

Wannon Water has considered the implications of raising this amount of revenue at length. The following cross subsidies have been applied in setting the allocation method for prices.

a) As Wannon Water is an amalgam of three smaller water authorities and while there is a recognition that each system serving communities in southwest Victoria is at a different stage in respect to the quality of assets, maintenance and security of water supply, it has been determined that larger communities should fund their local water and sewerage systems.

b) It is also recognised that sufficient revenue could not be raised in some smaller communities without those communities incurring a major price shock in order to fund their local water and/or sewerage systems. Consequently a social equity cap of a maximum price increase of 20% per annum has been applied for the typical customer consuming 200 kL of water per annum. Any revenue shortfall will be funded by introducing a minimum price increase of 5% for water and sewerage in the second and subsequent years for other systems thereby creating some pricing cross subsidisation from the broader customer base of Wannon Water.

9.5 Modelling Approach

The Essential Services Commission provided a modelling tool to estimate the impact of works and operating expenses on prices. Wannon Water has utilised this model to determine the estimated required revenue and price increases for each community or system (water supply and sewerage) based on the revenue requirement to fund the services over the five year price period from 2008-09 to 2012-13. This model takes into account future operating and capital costs, as well as the current investment in the systems. It also takes into account whether a particular water or sewerage system is currently paying its way or being cross subsidized.

Whilst some price increases may appear significant in percentage terms, the actual dollar value of the increases may be quite small. This is a function of the quantum of existing tariffs that apply. For example if the tariff is low, say $100 dollars and there is a requirement for a further $100 per property, then this is expressed as a 100% increase. However, if the existing tariff was $400, and there is the same $100 need, then the increase is 25%. This mathematical concept should be borne in mind when comparing percentage price changes.

The proposed price increases are due to several factors which may apply to one or more communities:-

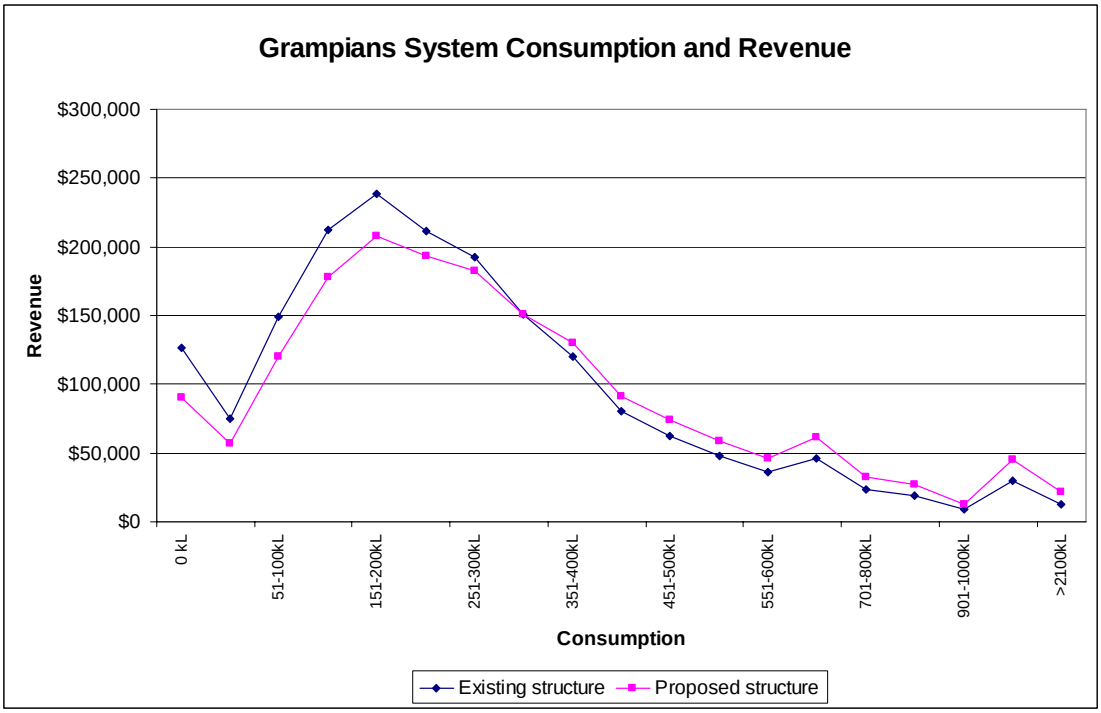
a) the community is on a low base price currently, and the required costs to provide the current service is significant, (eg Port Fairy sewerage); or
b) the system requires significant works in the future (eg Hamilton water supply)

9.6 Water Pricing Concept of Revenue Neutrality

To raise the required water revenue, Wannon Water proposes to reduce the water service charge as a component of the customer total bill and increase the water volume tariff component of the bill. Customers will be given more control over the size of their water bill based on their water consumption.

The graph below demonstrates the effect on revenue of moving from a service charge which reflects 48% of the total water bill for the typical residential customers in Hamilton to one where the service charge represents 30% for the typical customers consuming 200kL per annum. (For a description of the proposed tariffs refer to Section 8.6)

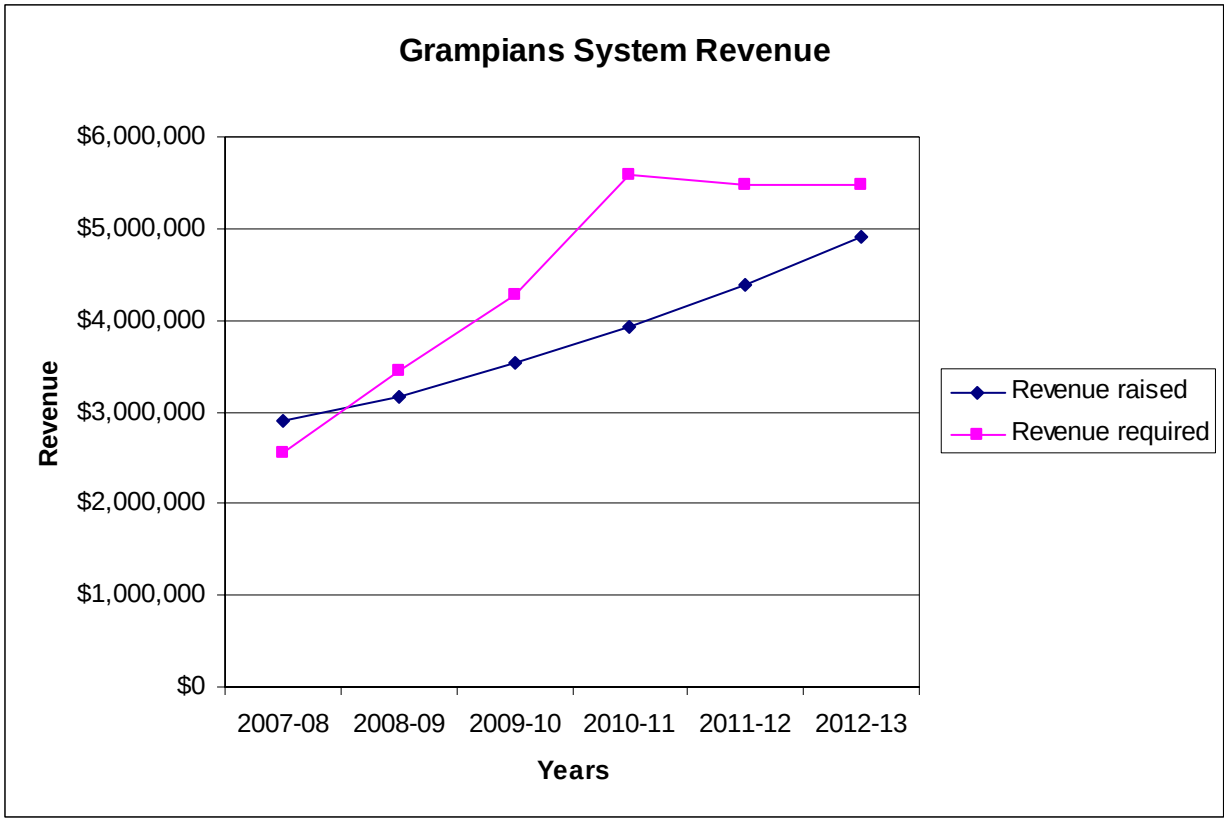
Table 9-2: Comparison of Revenue Raised from Existing Water Tariff Structure and the Proposed Water Tariff Structure



In the above example – whilst the same total revenue is raised for the system, in either model, in the proposed tariff system less revenue is raised from low water users than otherwise would be the case and more is raised from customers consuming more than 275 kL of water per annum. The revenue emphasis is placed on the high user consumption residential customers consistent with the demand management targets set out in Wannon Water's *Water Supply Demand Strategy*.

For most water systems there is a significant revenue increase required over the regulatory period. In order to address both this revenue requirement and to reduce the see saw effect of subsequent price determinations by the Essential Services Commission, Wannon Water proposed in some instances to increase the water revenue by 20% in 2008-09 and subsequent smaller increases in the following years of the determination. However, the transition in tariff structure in some cases meant that this approach placed undue burdens on some customers. Depending on the existing tariff structure and the impacts of moving to the revised structure, where possible an upfront increase has been applied, to enable a smoother transition in prices for the following regulatory period.

For the Grampians system, the initial increase on the 2007-08 year is 9.04% (which addresses the change in tariff structure issues) and then a subsequent 12.66% per annum. This is necessary to fund the Hamilton Grampians, Inter-Connector Pipeline required to ensure a future security of supply. This is reflected in the graph below.



The graph demonstrates two points:-

a) that if the revenue requirement and raised lines were extended into the next period, they would cross over. The Grampians system would be raising sufficient revenue to more than fund its requirements – and therefore there would be a possible price reduction, and

b) That during the coming price period, there will need to be significant cross subsidy from other parts of Wannon Water.

9.7 Water Service Fee and Volume Fee Relationship

Some communities which have:

- Traditionally relied upon rainwater tanks for a large component of their household usage; or
- Alternatively mostly comprise of holiday homes;

have different water usage patterns. In holiday resort towns in order to address the equity issue of permanent residents versus part time residents – it is proposed that the average householder should pay 50% of their total water tariff through the water service charge. In this way part time residents will make a reasonable contribution to the provision of the service. Similarly, in communities which have traditionally relied upon rainwater tanks for their household use, and where the provision of a reticulated system has been to give security of supply and provide for fire fighting purposes, – a 50% fixed service for the average household has been determined as appropriate given that the customers are paying for the availability of the service rather than the use of the service.

These communities are: - Casterton, Coleraine, Dartmoor, Darlington (Non Potable supply), Macarthur, Peterborough, Port Campbell, Sandford and Timboon.

Timboon whilst not strictly fitting the pattern of either a “tank user” town nor being a holiday town is supplied by the same system as Peterborough and Port Campbell, and given the need for an equitable distribution of revenue required, it has been determined that all three communities should pay water tariffs on the same basis. Cavendish, which is a “tank user” town, has not been included above as it is likely to be a beneficiary of the proposed supply augmentation for the Hamilton region and consequently should continue pay on the same basis as customers in Dunkeld, Hamilton and Tarrington.

9.8 Proposed Water Tariffs

Annex D provides the proposed schedule of charges for Wannon Water’s water supply and sewerage systems.

The following tables provide an example of the 30% service fee and 70% volume fee based on a typical 200 kL residential customer only – where the use is less, the service fee forms a higher proportion of the bill and the converse is also true – as the use increases above 200 kL per annum, the volume fee provides more than 70% of the total bill. The same rationale also applies to those tables referenced as 50% service fee, 50% volume fee.

Given there has been significant change in the tariff structure, different increases and decreases apply to different tariff components. The following tables are indicative only and show one size of service (20mm connection) and the middle tier of the residential volume tariff. These increases and decreases would apply to the typical customer within that community or system.

The following tables proposed water tariffs:-

Group 1: Service fee 30% - Volume 70% - Initial reduction of 49.8% on average on the service fee and 70.9% increase on average on the volume fee with a subsequent increase of 8.91% on both components.

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Portland	191.23	0.7559	95.9250	1.2917
Port Fairy	221.44	0.7559	95.9250	1.2917
Heywood	187.46	0.7559	95.9250	1.2917

Notes * (1) – this is the fixed fee per annum applicable to a 20 & 25 mm service
* (2) – this is the usage charge for 45-90 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41 -75 kL of water per quarter

For Group 1 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $1.0760 per kL,
41 to 75 kL- $1.2917 per kL; and
More than 75 kL - $1.9375 per kL.

Group 2: Service fee 30% - Volume 70% (except Darlington) - Initial reduction of 51.5% on service fee and 44% increase on average on the volume fee with a subsequent increase 10% on both components.

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Allansford	193.60	0.7168	93.8809	1.2642
Camperdown Urban	193.60	0.8602	93.8809	1.2642
Cobden	193.60	0.8602	93.8809	1.2642
Koroit	193.60	1.0038	93.8809	1.2642
Lismore/Derrinallum	193.60	1.0038	93.8809	1.2642
Mortlake	193.60	1.0038	93.8809	1.2642
Simpson	193.60	0.8602	93.8809	1.2642
Noorat/Glenormiston	193.60	0.8602	93.8809	1.2642
Terang	193.60	0.8602	93.8809	1.2642
Warrnambool	193.60	0.7168	93.8809	1.2642
Darlington	107.55	0.2758	93.8809	0.3462*(5)

Notes * (1) – this is the fixed fee per annum applicable to a 20 mm service
* (2) – this is the usage charge for 75 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-75 kL of water per quarter
* (5) – this is for a non-potable supply and is for all usage

For Group 2 the proposed three-tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $1.0531 per kL,
41 to 75 kL - $1.2642; per kL, and
More than 75 kL - $1.8963 per kL.

Group 3: Service fee 30% - Volume 70% - Initial reduction of 38% on service fee and 45% increase on the volume fee with a subsequent increase 12.66% on both components.

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Cavendish	186.38	1.0674	115.4747	1.5549
Dunkeld	186.38	1.0674	115.4747	1.5549
Glenthompson	186.38	1.0674	115.4747	1.5549
Hamilton	186.38	1.0674	115.4747	1.5549
Penshurst	186.38	1.0674	115.4747	1.5549
Tarrington	186.38	1.0674	115.4747	1.5549
Balmoral	186.38	1.0674	115.4747	1.5549
Caramut	193.60	1.0038	115.4747	1.5549

Notes * (1) – this is the fixed fee per annum applicable to a 20 and 25 mm service
* (2) – this is the usage charge for all usage in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-75 kL of water per quarter

For Group 3 the proposed three tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $1.2952 per kL,
40 to 75 kL - $1.5549 per kL, and
More than 75 kL - $2.3324 per kL .

Group 4: Service fee 50% - Volume 50% - Initial Increase 7.21% on service fee and 5.17% on the volume fee with a subsequent increase 5% on both components

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Peterborough	193.60	1.1471	207.5566	1.1978
Port Campbell	193.60	1.1471	207.5566	1.1978
Timboon	193.60	1.1471	207.5566	1.1978

Notes * (1) – this is the fixed fee per annum applicable to a 20 mm service
* (2) – this is the usage charge for 75 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-74 kL of water per quarter

For Group 4 the proposed three-tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $0.9978 per kL;
40 to 75 kL - $1.1978 per kL; and
More than 75 kL - $1.7967 per kL.

Group 5: Service fee 50% - Volume 50% - Initial Increase for all except Dartmoor 11.58% on service fee and 12.42% on the volume fee and a subsequent increase 10.49% on both components

	Current tariff	2007-08	Proposed Tariff	2008-09
	Fixed service Fee* (1)	Volumetric Fee* (2)	Fixed service Fee*(3)	Volumetric Fee*(4)
Dartmoor	345.87	0.7559	207.9763	1.2002
Casterton	186.38	1.0674	207.9763	1.2002
Coleraine	186.38	1.0674	207.9763	1.2002
Macarthur	186.38	1.0674	207.9763	1.2002
Merino	186.38	1.0674	207.9763	1.2002
Sandford	186.38	1.0674	207.9763	1.2002

Notes * (1) – this is the fixed fee per annum applicable to a 20 and 25 mm service
* (2) – this is the usage charge for all usage in the existing tariff (except Dartmoor where this is the usage charge for 45-90 kL per quarter in the existing tariff
* (3) – this is proposed fixed fee p.a. applicable to a 20 mm service only
* (4) – this is proposed middle tier charge for 41-74 kL of water per quarter

For Group 5 the proposed three-tier water volume tariff per quarter for residential customers in the first year of the price period is:

0 – 40 kL - $0.9998 per kL,
40 to 75 kL - $1.2002 per kL, and
More than 75 kL - $1.8003 per kL

The above water tariffs for the five groups are indicative only – but demonstrate the shift to give customer control over the size of their water bill and also show the levels of tariff that are required to fund the necessary works and operations for relevant systems. The tariff examples above do not show for instance the various size of service fees, nor do they show rural water tariffs.

9.9 Proposed Sewerage Tariffs

Wannon Water has resolved to treat the provision of sewerage removal from customers as a service and only levy a fixed sewerage service charge to all residential, small business customers and other small non-domestic customers. This means that the current residential and business volumetric tariffs applied in Heywood, Portland and Port Fairy will cease to be applied from 1 July, 2008.

For larger commercial properties where the water volume consumption is equal to or greater than 750 kL per annum, discharge factors will apply to determine a sewerage usage charge to be levied. This charge ensures a measure of equity with residential customers given that the larger volumes of sewage being discharged by those customers to the sewerage systems is far greater than the amount that is discharged by individual households.

The major issues for sewerage charges are twofold,
a) most sewerage systems have significantly under recovered the cost of operation in the past and there is a need to address this imbalance, and/or
b) there is a need for significant works to ensure that the system complies with discharge licence standards of the Environmental Protection Authority or biosolids processing requirements.

Group 1: Fixed Service Fee

	Current tariff		Proposed Tariff 2008-09	
	Fixed Service Fee		Fixed Service Fee	
Allansford	491.8200		536.7170	
Koroit	491.8200		536.7170	
Mortlake	491.8200		536.7170	
Peterborough	491.8200		536.7170	
Timboon	491.8200		536.7170	

For Group 1, this is an initial change of 9.13% and then 5.0% thereafter for remaining four years of the determination.

Group 2: Fixed Service Fee

	Current tariff		Proposed Tariff 2008-09	
	Fixed service Fee		Fixed service Fee	
Camperdown Urban	388.2400		423.6706	
Cobden	388.2400		423.6706	
Simpson	388.2400		423.6706	
Noorat/Glenormiston	388.2400		423.6706	
Terang	388.2400		423.6706	
Warrnambool	388.2400		423.6706	

For Group 2, this is an initial change of 9.13% and then 5.0% thereafter for remaining four years of the determination.

Group 3: Fixed Service Fee

	Current tariff 2007-08		Proposed Tariff 2008-09	
	Fixed service Fee		Fixed service Fee	
Casterton	265.2500		305.9607	
Coleraine	265.2500		305.9607	
Hamilton	265.2500		305.9607	

For Group 3, this is an initial change of 15.35% and then 19.0% thereafter for remaining four years of the determination.

Group 4: Fixed Service Fee

	Current tariff 2007-08		Proposed Tariff 2008-09	
	Service Fee and Volume Fee		Fixed service Fee	
Heywood	274.02*(1)		299.5459	
Portland	246.39*(1)		299.5459	

Note 1 – The 2007-08 sewerage tariffs are based on a typical customer with 200 kL water use per annum and includes an amount for the volume component of the existing tariff.

For Group 4, this is an initial change of 20% which continues for remaining four years of the determination.

Group 5: Fixed Service Fee

	Current tariff 2007-08		Proposed Tariff 2008-09	
	Service fee and Volume fee where applicable		Fixed service Fee	
Dunkeld	380.5900		388.2400	
Port Campbell	388.2400		388.2400	
Port Fairy	372.61*(1)		388.2400	

Note 1 – The 2007-08 sewerage tariffs are based on a typical customer with 200 kilolitres water use per annum and includes an amount for the volume component of the existing tariff.

For Group 5, this is an initial change of 20% and then 13.89% thereafter for remaining four years of the determination

9.10 Tariff Strategy and Structures

Wannon Water inherited three different pricing regimes from the prior authorities. Each of the merged authorities had a different approach to the pricing of water and sewerage services. As a result there is currently very little consistency in how regulated water and sewerage prices are determined for customers in the Hamilton, Portland and Warrnambool zones.

Consequently, two types of changes are being introduced:

- Moving all customers onto the same tariff structure through business rules that establish consistency across the region; and
- Increasing tariffs associated with the maintenance of service standards, meeting regulatory obligations, or obtaining future security of supply.

9.10.1 Principles for Tariff Strategy and Structures

The critical issue for Wannon Water's tariff strategy and structure is to use prices as a tool to help restore the demand supply balance at least long term cost to customers, the regional economy and sustainable water resource management.

The principles and objectives for the 2008-13 pricing determination are therefore as follows:

- To support Wannon Water's *Water Demand Supply Strategy* to help restore demand supply balance;
- To structure water prices to provide incentives for customers to conserve water consistent with targets set in the *Water Supply Demand Strategy*;
- To deliver a pricing regime that our customer relations staff and customers can readily understand;
- To ensure that pricing shocks are not delivered as a result of changing the business rules underlying the tariff structures;
- To establish uniform business rules for determining water and sewerage prices across Wannon Water's service area;
- To ensure prices recover the full costs of sustainably managing Wannon Water's water resources and sewerage systems.

Wannon Water will therefore implement uniform business rules for water and sewerage pricing, but will phase in or out some business rules over time in order to avoid potential price shocks for customers due to the changed pricing methodology.

The Board has adopted the following business rules after consulting with the Customer Engagement Committee and inviting the public to comment on both water and sewerage pricing structure discussion papers. For the purposes of this Water Plan a "business rule" refers to the basis for how a water or sewerage charge is to be calculated.

9.10.2 Fixed Access Charges

(i) Water Service Charge

Definition: A water service charge is the fixed charge levied on the owner of a property connected to a water system.

a) Business Rule – Water Service Charge for Each Installation:

"A water service charge shall be levied on the property owner for each separate connection or each separate occupation (installation) declared to be a serviced property and/or connected to a water system".

A separate occupancy refers to multiple installations of a property including dual occupancies and multi-unit developments at a single property.

Current status:

Hamilton, Portland and Warrnambool zones – This business rule already applies in all three zones, and no change is envisaged.

b) Business Rule – Water Service Charge Based on Meter Size:

"A water service charge shall be determined by the size of the water meter installed at the customer's property. A water meter must be sized based on criteria set out in Wannon Water's metering policy."

Current status:

Hamilton, Portland and Warrnambool zones – This business rule already applies in all three zones (except for 25mm water meters in the Portland zone). This approach provided an unintended incentive for some higher volume customers in the Warrnambool zone to downsize the meter at their property in order to reduce their water service charges. This resulted in some meters at rural and business properties being required to perform beyond the design thresholds leading to excessive meter wear and gross under recording of metered water consumption.

This problem was addressed by the Board endorsing the metering policy including meter sizing criteria.

c) Business Rule – Water Service Charge for Additional Tappings:

"The full water service charge is to be levied for each metered water supply connection of a customer's property to the water supply system."

Current status:

Hamilton and Portland zones - This business rule already applies.

Warrnambool zone - Additional connections of a customer's property to the water supply system only incur a reduced water service charge of $61.75 (2006-07 prices) regardless of the size of the additional metered connection. This represents a cross subsidy for larger water consuming customers.

It is estimated that implementation of this business rule will raise an additional $153,147 (2006-07 prices) revenue in the Warrnambool zone, which will be offset by some further business rule changes for these customers in other areas.

d) Business Rule – Water Service Charges for 25mm Meters:

"Apply business rule (b) for 25mm water meter connections to the water supply system".

Current Status:

Warrnambool zone - This business rule already applies in the Warrnambool zone. A 25mm metered service attracts a water service charge 49% higher than the water service charge for a 20mm metered service. This relationship is close to the engineering principle that an increase in diameter from 20mm to 25 mm meter is an increase in capacity of 56% which makes the Warrnambool factor of 49% reasonable to apply.

The rationale for scaled charges for customers who have a 25mm meter is that the larger 25mm meter enables the customer to draw higher flow rates of water from the system and therefore command a greater share of the infrastructure capacity than a customer with a 20mm metered service. Further under the Customer Charter, Wannon Water must provide a minimum flow rate to a customer based on the size of the connection to a customer's property to the water supply system.

Hamilton and Portland zones - Common water service charges are levied for 20mm and 25mm metered services. This practice fails to recognise the higher capacity of 25mm metered connections.

Implementation of this business rule is estimated to raise an additional $33,661 in the Portland zone and $25,559 in the Hamilton zone in 2006-07 prices, compared to the benchmark. These amounts will reduce as Wannon Water has elected to reduce its reliance on the fixed component of the tariff charge.

e) Business Rule – Water Service Charge for Un-metered Services:

"*Un-metered services attract an elevated service charge to encourage water meter installation*"

Current Status:

Where a property is not metered a volume is estimated for billing purposes. Excluding municipal council properties, there are 325 un-metered services in towns across Wannon Water's service district.

The Un-metered Property service charge will be set at $800 for 2007-08 and the estimation of water volumes cease on 1 July 2008.

Customer costs to install a water meter will be capped by Wannon Water to $500 for a standard water meter and $600 where a radio frequency or remote dial water meter is required to be installed.

The Un-metered Property service charge will not apply to municipal properties and these properties will continue to have estimated water volumes until a water meter is installed by the municipal council.

(ii) Sewerage Service Charge

Definition: A sewerage service charge is the fixed charge levied on the owner of a property connected to a sewerage system.

a) Business Rule – Sewerage Service Charge for Each Installation:

"A sewerage service charge shall be levied on the property owner for each separate connection or each separate occupation (installation) declared to be a serviced property and/or connected to a sewerage system".

Current status:

Hamilton, Portland and Warrnambool zones - This business rule already applies in all zones except that sewerage service charges are not applied to trade waste customers in the Portland zone.

b) Business Rule – Fixed Flat Sewerage Service Charge:

"A fixed flat sewerage service charge shall be levied".

Current status:

Hamilton zone – Sewerage service charge (also known as sewerage availability charge) is levied based on the size of tapping connection to the water service. If a property has multiple water connections a sewerage charge is levied for each water connection. The additional revenue raised in the Hamilton region from this method of setting the sewerage service charge is estimated to be $11,513 (in 2006-07 prices) per annum, and this would be foregone.

In addition, in the Hamilton zone, properties with a greater than 25mm water service connection incur a sewerage availability charge based on size of the water tapping. The rationale for this charge is based on the customer's ability to draw rapidly larger amounts of water into the serviced property, which in turn must be disposed of. The logic is if a property has the ability to command large amounts of water supply resources, then it also has the ability to require large amounts of the sewerage disposal infrastructure. In the absence of a volumetric sewerage charge this was a way of ensuring that potential users of the service have a cost reflective charge.

The amount of additional revenue raised in the Hamilton region from this method of setting the sewerage service charge is estimated to be $87,097 per annum. Moving to a flat service charge for sewerage in the Hamilton zone regardless of tapping size will require a 1.8% increase in the existing minimum Hamilton zone sewerage service charge to account for the lost revenue. However, this increase will be reduced as the final sewerage tariff structure selected includes a volumetric component for the larger commercial dischargers.

Portland and Warrnambool zones – This business rule already applies in the Portland and Warrnambool zones, and a set price is applied for each individual sewerage system.

c) Business Rule – Cistern Charge:

"Remove the Cistern Charge in the Warrnambool zone".

Current Status:

Hamilton and Portland zones - Cistern charges are not levied in the Hamilton and Portland zones.

Warrnambool zone - Customers with more than 4 cisterns are charged $107.94 per cistern. This charge mostly applies to schools and factories which have multiple cisterns. This is another mechanism to charge larger customers for the potential discharge higher volumes of sewage to the sewerage system in substitution of a volumetric charge.

This charge raises an estimated $475,278 per annum in the Warrnambool zone. It is proposed that removal of this charge be revenue neutral to Wannon Water by lowering the threshold for the introduction of Trade Waste Volume Charges and marginally increasing sewerage service charges for all Warrnambool zone customers.

(iii) Service Charges for Unconnected Land

Definition: Unconnected Land is land declared to be a serviced property under the *Water Act 1989* (water and or sewerage services are available for connection)

a) Business Rule – Water and Sewerage Service Charges for Unconnected Land:

"Service charges shall be levied on declared serviced properties that are not connected to a water and or sewerage system. The unconnected water tariffs will be set at the lowest fixed service fee (20mm) applicable to each community. The unconnected sewerage tariffs will be set at 30% of the fixed service fee applicable to each community."

The metropolitan retail water companies and some regional water authorities including the former South West Water discontinued the practice of levying service charges on unconnected serviced land even though such charges may be levied under the Water Act 1989. The rationale for not charging service charges on unconnected land is that a monopoly service provider should not impose service charges where a customer does not require a service to be rendered.

However, the rational for charging unconnected land which fronts a water or sewerage main is that the property owner is deriving benefit through increased value to his or her property.

Wannon Water is of the view that where services are available to service a property the property owner should be levied a service charge to contribute to the cost of making the provision of water and sewerage services available to service the property. In this way the greater community receives a return on its investment in the infrastructure provided to service the land.

Current Status:

Warrnambool zone - The levying of water and sewerage service charges for vacant unconnected land is not presently undertaken.

Hamilton zone - Reduced water and sewerage service charges are levied on vacant unconnected serviced land. The actual price of the water and sewerage service charges has remained fixed since 1996-97.

The total revenue from the service charge on vacant unconnected serviced land in the Hamilton zone is estimated to be $29,640.

Portland Zone - Reduced water and sewerage service charges are levied on vacant unconnected serviced land however the total revenue raised from these charges is significant at $254,043 per annum.

It is estimated that there are some 1300 vacant unconnected land parcels within water and sewerage service area in the former South West Water. All would attract a water service charge and approximately 96.5% attract a sewerage service charge. The water charge on the 2008-09 benchmark year modelling would be $93.88 and the sewerage charge would be $127.10 for the Warrnambool region.

9.10.3 Volumetric Charges

(i) Weighting of Revenue Derived From Volume and Service Charges

Water revenue across the three zones is derived from fixed service charges and water volume charges. The current balance between the two components for residential customers is:

Table 9-3: Balance between Fixed and Volumetric Charges by Percentage of Revenue

Zone	Volume	Fixed
Warrnambool zone	46.6%	53.4%
Hamilton zone	53.4%	46.6%
Portland zone	39.6%	60.4%

The average annual levels of residential water consumption for the 2005-06 year are:

- Hamilton zone 236.91 kL
- Portland zone 220.06 kL
- Warrnambool zone 201.56 kL

(ii) Long Run Marginal Cost (LRMC)

Modelling was undertaken to identify the long run marginal cost of capacity augmentation across the region. This helps determine the relative size of the volumetric component of a two part tariff as it sends powerful signals as to the proximity of the next capacity augmentation. However, it was difficult to apply this to Wannon Water's tariff structures given the highly varying circumstances faced by different communities across the region:

- For the Otway water system, current modelling suggests no requirement for capacity augmentation for 40 years, i.e. until 2047;
- Most other systems are secure through until 2055; while
- Hamilton and Glenthompson require urgent and immediate investment in additional capacity.

Under these circumstances, the region would face several difficulties in tariff design:

- Charges for Hamilton and Glenthompson would be highly differentiated from all other towns. That would be difficult to explain and implement;
- From 2010 the new Hamilton supply will provide for the foreseeable future. In these circumstances the LRMC would fall from a very high value to a very low value, following completion of the augmentation. That would lead to a see-saw in tariff structure over a two year period. That would not meet good practice in utility pricing which places a high value on stability;
- In the remainder of the region, the relative security of supply would mean that LRMC was low and that the majority of the charge would be collected through the fixed charge. That would give our customers little ability to control the size of their bills, and would run counter to government policy and the clearly expressed preferences of our Customer Engagement Committee.

It is proposed that the weighting of revenue derived from water volume charges be significantly increased. This Water Plan therefore proposes to set the water pricing for residential customers at 70% water volume charge and 30% fixed service charge for the average annual residential water consumption based on the 2005-06 consumption statistics where appropriate.

This approach implements the Government's policy that all regional water corporations should introduce pricing structures that provide incentives for water conservation (Victorian Government White paper – *Securing Our Water Future Together,* p 128 and clause 14(a) (vi) of the Water Industry Regulatory Order). It is also consistent with the demand management targets set out in our *Water Supply Demand Strategy*, and in accordance with customer preferences expressed by our Customer Engagement Committee.

However there are a small number of communities which traditionally either utilised rainwater tanks, or have few permanent inhabitants and are primarily made up of holiday homes which are occupied for a very small period of the year. Wannon Water has endeavoured to ensure that the price charged to customers is cost reflective. Therefore it is proper that the provision of the service (fixed service charge) should have a greater weighting in these communities, so that

costs are more equitably borne. This concept was strongly supported by Wannon Water's Customer Engagement Committee.

The communities where an equal weighting for service and volume charges has been applied are as follows:

- Casterton
- Coleraine
- Macarthur
- Merino
- Peterborough
- Port Campbell
- Sandford
- Timboon

(iii) Inclining Block Tariffs

Wannon Water (and the Customer Engagement Committee) considers that the introduction of a three tiered water volume tariff for all residential customers in its service area will encourage more efficient use of water.

Two decisions need to be taken in implementing an inclining block tariff:
- the size of the steps or tiers (in kL/year); and
- the relative charge at each level (in $/kL).

With this in mind the following tiers and charges have been adopted. The 160kL trigger was set at the average winter consumption:

Table 9-4: Inclining Block Tariffs

Tier	Volume Annual Basis	Volume Daily Basis	% of 2nd Tier price
1st Tier	0-160 kL	0-0.4384 kL	83.3%
2nd Tier	161-300 kL	0.4385-0.8219 kL	100%
3rd Tier	301 kL plus	0.8220 kL plus	150%

This approach delivers a reasonable amount of water to residential customers to meet daily needs at a reasonable price. Higher consuming residential customers will pay a premium for significantly above average water use which will send a stronger pricing signal to conserve water.

The actual price quanta have been determined on the basis of the outcomes being revenue neutral for each of the water and sewerage system within Wannon Water's service area – utilising 2005-06 water consumption quantities per household and 2006-07 prices.

Given that the average consumption range is from 201kL to 236kL based on the 2005-06 year, it means that on average 54% of residential customers will receive a reduced charge compared to tariff charges in the first regulatory price period, 29% will receive their water at a price which is a combination of the discount and the standard price, and 17% (high consumption) will pay more for water.

(iv) Water Volume Charge

Definition: Water Volume Charge – is the price per kilolitre of water delivered to the customer's property as measured by the water meter.

a) Business Rule – Water Volume Charge for Residential Customers:

"The occupier of a residential property shall be levied a water volume charge based on stepped volume pricing consisting of three blocks of metered water volume, namely tier one 0-160kLs, 83.3% of the price of tier 2, tier two 161-300kL , tier three 301kLs plus at 150% of the price of tier two".

Current Status:

Portland - A similar business rule applies in the Portland zone.

Warrnambool zone - A similar business rule applies in the Warrnambool zone with the exception that only two tiers of metered water volume applies.

Hamilton zone - A fixed kilolitre charge for metered water volume is levied on residential customers.

It is proposed to introduce stepped volume charges for all residential customers from 1 July 2008. Implementing this business pricing rule will send a stronger pricing signal to residential customers to use water efficiently and reward customers who take action to reduce their water consumption. This is consistent with the proposed water savings target set out in the *Water Supply Demand Strategy* and the actions in the State Government White Paper – *Our Water Our Future*.

b) Business Rule – Water Volume Charge for Urban Business and Other Urban Non-Residential Customers:

"The owner or occupier of an urban business/non-residential property shall be levied a flat charge per kilolitre of metered water volume".

Current status:

Hamilton, Portland and Warrnambool zones - All urban business/non-residential customers are levied a flat kilolitre charge for water. This is consistent with the Essential Services Commission guidelines that business customers be levied a flat per kilolitre charge for water.

c) Business Rule – Water Volume Charge for Rural Customers:

"The occupier of a rural property shall be levied a flat price per kilolitre for metered water volume up to the volume cap placed on the water consumption at the property. A higher price per kilolitre (infrastructure leasing surcharge) shall be levied for any metered water consumption recorded above the volume cap. The water volume cap shall be determined having regard to historical water consumption.

Current status:

Hamilton and Portland zones - All rural customers are levied a flat per kilolitre charge for water but without a volume cap.

Warrnambool zone – Rural customers are levied a water volume charge based on stepped volume pricing consisting of two tiers of metered water volume. Further an Infrastructure Leasing Charge is also levied for any water consumption above the volume cap.

It is proposed to adopt a modified version of the current Warrnambool zone rural customer pricing approach for all rural customers. This change is consistent with the Essential Services Commission guidelines. It is proposed to replace the two tiers of volume charges with a single volume charge up to the volume cap. The Infrastructure Leasing Surcharge will be levied for any water volume consumption above the volume cap.

This approach is consistent with the objective of capping water consumption for rural customers while also adopting a flat water volume charge for rural customers similar to other non-residential customers. This change is designed to be revenue neutral.

(v) Sewerage Disposal Charge

Definition: The sewerage disposal charge is the price charged per kilolitre of sewage discharged to the sewerage system from a property which is billed to the owner of the property. It is proposed to replace this with a fixed charge.

a) Business Rule – Sewerage Disposal Charge:

"A fixed service charge for sewerage disposal is levied on the owner of a property connected to a sewerage system".

The proposal is that a fixed service charge be applied to all properties connected to a particular sewerage system. The charge is based on the concept that all households and other properties which discharge sewage (equivalent in both volume and quality to domestic strength sewage) should pay a fixed amount related to the provision of the service.

Current Status:

Portland zone – A volume based Sewerage Disposal Charge is levied on property owners which is calculated on the basis of water use at the property or installation. A discharge factor based on 80 per cent of metered water delivered to the customer's property is applied together with a monthly garden watering adjustment factor to calculate the sewerage disposal charge. The monthly gardening water factor is as follows:

Monthly garden watering adjustment factors

Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*
0.686	0.790	0.891	1.011	1.116	1.258	1.254	1.217	1.210	1.163	1.024	0.841

Sewerage Disposal Charge = Discharge factor x metered water volume x seasonal factor

Hamilton and Warrnambool zones – The sewerage disposal charge is not levied in the Hamilton and Warrnambool zones.

The current Sewerage Disposal Charge is an estimated charge only and cannot be accurately determined as the actual volume of sewage discharged to the sewerage system is not able to be measured by a meter. Further the discharge factor and seasonal factors are based on averages and do not represent the variations in water use that apply to individual customers.

There are ever increasing complexities in estimating fairly the volume of water discharged to sewer by residential and small business customers.

As a result of promotion of water conservation by water corporations and the State Government, customers across Victoria have responded by implementing permanent and temporary plumbing arrangements to divert large volumes of grey water for reuse within their properties rather than discharging the grey water to the sewerage system. For example the volume of sewerage received at the Hamilton Water Reclamation Plant has reduced by more than 20 per cent during the current period of water restrictions. The formula for estimating a customer's discharge to the sewerage system takes no account of on-site grey water re-use by the customer.

Further the State Government provides rebates to customers who install rain water tanks connected to toilet cisterns. In addition, the installation of a rainwater tank or solar hot water system is now mandatory in Victoria for all new dwellings erected. Consequently increased volumes of un-metered stormwater will increasingly be used to flush toilets. The formula for estimating a customer's volume discharge to the sewerage system presently takes no account of this.

It is no longer considered equitable to charge domestic users of the sewerage service for the quantity disposed because of the difficulties in estimating the amount.

9.11 Trade Waste Pricing

Wannon Water will implement a new policy from 1 July, 2008, for the management of trade waste across our service area. The implementation of this policy will strongly support the water recycling target established in Wannon Water's *Water Supply Demand Strategy*.

The trade waste policy also builds on the principles established in the draft *Future Directions Statement* issued by the Department of Sustainability and Environment following a recent state-wide review of trade waste.

The pricing principles include objectives to:

- Allocate costs to trade waste customers that are generated by their use of the sewerage system (i.e. to ensure that residential customers do not cross subsidise their costs);
- Allocate costs between trade waste customers by reference to the main cost drivers of collection, treatment and disposal (i.e. Volume, BOD Suspended Solids, Ammonia);
- Send appropriate price signals to trade waste customers to encourage pre-treatment , reduced discharge and increased opportunities for recycling in line with Environment Protection Authority guidance and DSE Trade Waste Future Directions Strategy; and
- Establish a pricing structure that is easy to understand.

9.11.1 Customer Classification

a) Business Rule – Trade Waste Customer Classification:

"*Non-residential customers discharging non-domestic sewage are considered Trade Waste customers and will be classified based on load and risk characteristics".*

All industrial and commercial customers discharging non-domestic sewage to the sewerage system are classified as Trade Waste customers. Using a risk based methodology the customers are characterised into four categories dependent on their load and risk to the sewerage system. These categories have created a framework for the pricing structure.

Category	Description
1	Low volume (less than 750kL/annum discharged to the sewerage system*) and strength of waste generally commensurate with domestic waste. Commensurate with residential water use.
2	Higher volume (greater than 750kL/annum discharged to the sewerage system*) but strength still commensurate with domestic strength waste.
3	Strength of standard constituents greater than domestic strength but other characteristics still comply. Flow may be more or less than 750kL.
4	Unique flow/load. Standard characteristics may be outside system capacity. Other characteristics may be outside normal limits but may be acceptable due to low annual load. May involve additional infrastructure/treatment. Only by special agreement

* the volume discharged to the sewerage system is calculated by multiplying the water volume by the applicable industry discharge factor shown in Annex E.

9.11.2 Charges

The pricing model to be applied to Trade Waste customers includes three key components:

1. Administration Fees
2. Volume and Load Charges
3. Compliance Costs

9.11.3 Administration Charges

The overall cost of administering the Trade Waste System has been analysed. It is this cost that determines the pricing of the application fee and annual fees for all four categories of Trade Waste customers.

a) Application Fees

"New non residential customers discharging non-domestic sewage will be required to apply for the right to discharge Trade Waste to the sewerage system."

To cover the costs incurred in establishing the arrangements, when a business is identified a trade waste customer application form is to be completed. The application fee includes a component for a site inspection and the administration cost of receiving and processing the application.

Category	Description	Charge
1, 2, 3 & 4	Application Fee	$170

Following assessment of the application, customers will be categorised into one of the four categories.

For Category 1 & 2 customers a standard Trade Waste Agreement (as developed by Wannon Water) will apply.

For Category 3 customers a Major Trade Waste Agreement will apply, however, additional negotiations are required to assess and meet Wannon Water's needs at the specific location. All legal fees required to draft changes to the standard Major Trade Waste Agreement will be funded by the customer.

Category	Description	Charge
3 & 4	Development of Trade Waste Agreement	$2,100 + legal fees

b) Annual Fees

"All Trade Waste Customers will be required to pay charges that cover the annual administration of their trade waste service".

For the Category 1 & 2 customers this includes the management and monitoring of grease-trap clean-out compliance and audit inspections.

For Category 3 & 4 this includes monitoring of the waste stream, meter reads and regular meetings to meet the changing needs of the customer. These charges will be specific to the nature of the trade waste, and therefore variable between customers. Negotiated charging will be included in all Category 3 and 4 Trade Waste Agreements.

Category	Description	Charge
1	Annual Fee	$250.00
2	Annual Fee	$250.00
3	Monitoring, meter reading, meetings to address customer needs	negotiated
4	Monitoring, meter reading, meetings to address customer needs	negotiated

9.11.4 Volume and Load Charges

a) Category 1 Customers

"Trade Waste customers classified as Category 1 will pay a fixed service charge equivalent to domestic customers."

This group of customers discharges trade waste of a volume and load within the same range as domestic customers. Their access to the sewerage system will be charged on the same basis as domestic customers, as an annual fixed sewer service charge.

b) Category 2 Customers

"Trade Waste customers classified as Category 2 will be levied a trade waste volume charge calculated from their water use multiplied by a discharge factor for their industry sector, unless they fund the installation of sewer metering."

The pricing formula is:

Water Consumption x Industry Discharge Factor x Trade Waste Volume Charge

The Industry Discharge Factors are shown in Annex E, and are based on established standards used in the Australian Water Industry. Where a customer wishes to have an individual meter installed so that they may be charged based on the actual volume of trade waste discharged, then the cost of installing that meter will be funded by the customer.

c) Category 3 and 4 Customers

"Trade Waste customers classified as Category 3 or 4 will be levied trade waste volume and load charges."

These costs will be allocated to each customer pro-rata to the demand that their load places on the individual sewerage system to which they input. There are three stages in the waste stream handling process relevant to trade waste volume and load pricing:

- Sewers to transport the waste from the premises to the water reclamation plant;
- The water reclamation plant itself; and
- The disposal process when the end product is deemed a waste material. This currently includes biosolids.

A fourth stage involving the further treatment, sale and re-use of products including recycled water and biosolids is not included within the scope of the trade waste tariffs.

1. Sewer Charges are based solely on the volume of trade waste discharged, as this is the primary cost driver. A proportional share of the full reticulation costs has been allocated to Trade Waste customers based on their volumetric load. This ensures that customers with similar waste streams experience the same pricing regardless of location within a particular sewerage system, consistent with the pricing principles for residential customers.

2. Water Reclamation Plants & Discharge: Tariffs have been developed at a regional level to provide signals about the real costs of treatment and discharge.

- Large reclamation plants at Warrnambool, Hamilton, Portland and Port Fairy each has a separate trade waste tariff schedule.
- While the costs and charges for smaller systems that share similar characteristics have been averaged.

Trade waste charges for Category 3 and 4 customers have no fixed element and are based solely on a variable charge, as this creates strong incentives to pre-treat and reduce waste-streams, in line with EPA guidelines, the *Statement of Obligations* and the Department of Sustainability and Environment's *Future Directions Statement*.

Charges for Category 3 & 4 customers are set by reference to four major cost drivers:

- Volume: as this drives the scale of the plant;
- Biological Oxygen Demand (BoD);
- Suspended solids; and
- Ammonia.

The volume charge applies to all category 3 & 4 trade waste customers. The other charges currently only apply in the two largest plants, ie at Warrnambool and Hamilton. Here, the capital and operating costs of each plant have been allocated to the four drivers to reflect their influence on each part of the treatment and disposal process. This ensures that customers pay only those costs attributable to the characteristics of their waste stream.

Whilst Wannon Water currently only applies load charges at Hamilton and Warrnambool, it is expected that if a new potential category 3 or 4 customer applies to discharge trade waste elsewhere, then there will be a need to revisit the appropriate charging for the relevant treatment system impacted by their entry as a new customer.

Annex E records the trade waste volume and load charges applicable at different locations, following the principles above.

9.11.5 Salt Reduction Charges

High salt loads in the trade waste stream reduce opportunities for water recycling. Trade Waste charges include incentive pricing for salt reduction, where increased beneficial use of recycled water is a priority.

Wannon Water has established trade waste charges for salt for the Hamilton and Warrnambool treatment systems, as both these systems have been highlighted as priorities for increased reuse in our Recycled Water Strategy. These charges are based on the costs that would be incurred in treating the combined effluent streams to a standard that renders them suitable for reuse. The charges are intended to provide an incentive for cleaner production, in line with the expectations of the EPA and DSE. The detail of the charges is provided at Annex E.

Charges will apply to that part of the trade waste salt load above 500 mg/l TDS, and will be levied from year 1 of the Water Plan. Given the nature of the trade waste streams in each town, a very small number of customers are responsible for the majority of salt received at the reclamation plants, and dialogue with each of them continues to establish alternative options for treatment or removal at their sites.

There will be ongoing dialogue with the major customers likely to be impacted by these charges to ensure that the proposed salt reduction charges will lead to the intended beneficial regional

outcomes. For the Warrnambool System it is expected that an expression of interest process to be conducted in 2008 will generate private sector interest in the development of a major inland recycling project as an alternative to current surface or groundwater extraction, and so deliver sustainable regional water management outcomes.

Recycled water used on farm land that contains high amounts of salt may also increase the sodicity of the farm soils. The soils may need to be treated to off-set this impact, incurring a direct cost to the business related to the strength of the trade waste. Where recycled water containing high salt loads attributable to trade waste customers impacts on the soils but reuse is still sustainable, the additional land management costs attributable to the salt load (eg applying gypsum to the land) may form the basis of salt charges.

9.11.6 Compliance Charges

The third group of charges relates to the costs of compliance:

> **Business Rule - Trade Waste – Contravention Charges**
>
> *"Trade Waste customers not complying with their obligations may be subject to trade waste contravention charges."*

Wannon Water's Trade Waste Management Policy, Trade Waste Agreement and Trade Waste Permit are enforceable under the Wannon Water Trade Waste By-Law. The Trade Waste By-Law will come into force from 1 July, 2008. This By-Law will replace the existing trade Waste By-Laws inherited from the predecessor Authorities.

(i) Fee for Re-sampling and Analysis of Non-Compliant Trade Waste

This fee applies if a Trade Waste discharge is required to be re-sampled as a result of a previous non-compliant sample taken by Wannon Water. This charge will incorporate Wannon Water's costs to take the sample, the courier costs associated with the re-sample, the laboratory expense of analysing the sample, and a management overhead of 10%.

(ii) Asset Protection Charge

This is an annual fixed charge levied on customers who have a Trade Waste Permit and where it is either not practicable or the customer has yet to install a grease interceptor trap or maintain the pre-treatment device to the required standard. The Asset Protection charge is determined at a level that will, over time, allow Wannon Water to recover most of the additional inspection and cleaning costs for sewerage pipelines as a result of allowing the discharge of untreated Trade Waste.

(iii) Contravention Charges

Trade Water Contravention Charges may be passed on to the customer to recover costs incurred by Wannon Water in investigating and monitoring contraventions of a Standard or Major Trade Waste Agreement and facilitating the customer to achieve re-compliance. The Trade Waste Policy outlines the process for dealing with breaches of customer obligations, and the conditions for imposing Contravention Charges. Standard charges for minor or major contravention of Standard Trade Waste Agreements by Category 1 or 2 customers are provided

in Annex F : Miscellaneous Charges. Contravention Charges for Category 3 and 4 customers need to reflect the scale of the customer and specific nature of the trade waste issues that may arise, and as such will be included in individual Major Trade Waste Agreements.

9.12 Recycled Water Prices

One of the best ways to optimise the effective security of existing water supplies is through the substitution of existing potable water use with recycled water. Wannon Water operates 17 water reclamation plants, twelve of which already achieve 100% re-use, while one achieves 50% re-use. The remaining four plants discharge via ocean outfalls.

The *Water Supply Demand Strategy* proposes a significant increase in the beneficial application of recycled water by 2015 not just in terms of larger volumes being achieved but also in moving reuse to higher value outcomes such as substitution for potable water. The intent is to lift the volume of application of recycled water by approximately 45% (from 24% to 35% of anticipated wastewater volumes). This approach also implements requirements under the State Environment Protection Policy *Waters of Victoria* and *the Statement of Obligations* to implement a comprehensive program to maximize the reuse of water and so conserve potable supplies.

Wannon Water has prepared a comprehensive *Recycled Water Strategy* that includes a reuse hierarchy to help prioritise consideration of new reuse projects. This reuse strategy includes consideration of potable, river and groundwater substitution, enhancing environmental flows, and new irrigation using recycled water to provide regional sustainable water cycle benefits. Results from the recent Customer Survey indicate that over 90% of our domestic and business customers believe that promoting the increased use of recycled water is an important issue.

Investigations into new reuse projects are currently being completed at Cobden, Hamilton and Warrnambool.

Funding is included in the plan to deliver three new priority recycled water projects consistent with the recycled water target set out in the *Water Supply Demand Strategy.*

Charges for recycled water will be based on a suite of core principles. These are set out in Annex H. These will be negotiated with recycled water customers, on a case-by-case basis, depending on the characteristics of the water source and the end-user. Key elements of those principles include:

- The costs of treating wastewater to a standard suitable for discharge either to a waterway or by licensed irrigation to pasture should be borne by the relevant sewerage and trade-waste customers under the ‘polluter-pays’ principle;
- Where salt loading is present in the trade waste stream greater than 500 mg/l TDS then the discharger shall be responsible for incurring the costs of its removal to allow re-use, where there is a demand for that recycled water;
- Any additional costs required to treat that waste-stream to a higher standard or to deliver it to an alternative location should be recovered from the end-user under the ‘beneficiary-pays’ principle;
- It is recognised, however, that in certain circumstances, greater use of recycled water generates wider benefits for the community by substituting for potable supply or by contributing to environmental flows. Some of the costs of treatment and/or supply may be recovered from the wider customer base where there is clear public benefit and there is customer support for the initiative;

- Charges should take account of the costs and benefits to Wannon Water and the end user depending on the relative security of supply and the time of year.

9.13 Tariff Setting Rules

9.13.1 Setting a Benchmark

The process followed to set the tariff structures ensured that the overall revenue from the new tariff structure would be equivalent to the current Essential Services Commission approved tariffs in each of the former water Authority areas.

In order to ensure that the tariff raised was revenue neutral to the organisation, a benchmark model was created in the current billing system which applied 2006-07 prices and approved applicable pricing structures to residential customers. In Warrnambool this was based on 2005-06 water consumption figures, whereas in Portland and Hamilton zones estimates were based on the actual consumption for the first two quarters of 2006-07 year. (This approach was necessary as the prior year's consumption records for individual properties did not migrate to the new billing system employed from 1 July, 2006).

Wannon Water has considered carefully the current level of prices and quantum of revenue by community. The changes in tariff structures have been balanced in such a way that the average user would pay the same gross amount as per the existing tariff for that community. Where specific groups of customers incur significant increases due to changes in pricing methodology, those changes will be phased in over the term of the determination.

9.13.2 Local Prices, Cost Recovery and Price Shocks

The Minister for Water, Environment and Climate Change has indicated that water customers will be expected to cover the real costs of water supply and sewerage services, including the longer-term costs of protecting the environment.

Wannon Water has built its future tariff and price rises around this principle, so that the charges customers face reflect the real costs of supply at a local level. This approach means that customers in low cost areas will not be expected to contribute significantly to high cost areas. Where there has been an underspend in the past, the customers who have benefited from the previous savings should now face the real costs of upgrading their supply.

However, the pricing principles also seek to ensure that customers are not exposed to price shocks. Where residential customers would face an excessive price increase to pay for necessary works, then this Water Plan has capped the maximum annual price increase at CPI+20%. Costs above this level will be recovered from the wider customer base. While at the other end of the scale, the Plan has established a minimum annual base contribution of CPI+5%.

The prices for each town across the region have been modelled to assess the impact of implementing the proposed expenditure program. The resulting prices fell into five broad price bands. Those bands have been adopted to provide a simpler, more realistic policy to implement.

9.13.3 Impacts on Families in Hardship

A further important consideration is to protect families who currently experience hardship and who may face increased difficulty in paying for their water charges in future. Wannon Water has implemented a structured program to minimise these potential impacts which are linked to our Hardship Policy:

- Wannon Water will directly correspond with all customers who are tenants holding concession cards, to outline the changes to the volumetric charges and advise of the avenues of assistance available if needed;
- Wannon Water is developing a water audit program in line with the Department of Sustainability and Environment's *Water Smart Gardens and Homes Rebate Scheme*. Under this program Wannon Water will pay for an audit of high residential water users in financial hardship and contribute to the costs of retrofitting water saving measures such as low flow shower-heads;
- The tiered water pricing scheme provides the base water demand at a lower unit cost;
- Where a customer is recognised as being in financial hardship and holds a concession card holder, Wannon Water will not apply the third tier price for consumption above 75 kilolitres per quarter. Any usage above 75 kilolitres in the quarter will be charged at the second tier volume price. This rebate will only apply for twelve months after which the customer may re-apply;
- Where families can demonstrate that they have a genuine financial hardship difficulty in paying their water bills Wannon Water will implement a bonus credit scheme to share the costs of that bill. Provided that a customer makes three payments in line with an agreed instalment payment schedule, then Wannon Water will make the fourth payment on their behalf.

Through this series of measures Wannon Water will soften the impact of the forecast price rises. Financial assistance is also available through a range of approaches regarding staged payments and Wannon Water will promote the opportunities to apply for Utility Relief Grants from the Department of Human Services.

9.14 Revenue Requirements and Price Rises

9.14.1 Setting the Revenue Requirement

The economic regulatory framework administered by the Essential Services Commission determines the revenue requirement of the organisation using the 'building block' method. This defines the level of funding required in each year of the pricing period by reference to three revenue categories:

- **Operating expenditure:** which is recovered at cost, provided it is justified and efficient;
- **Return on capital:** that is the return that a shareholder could expect to receive for investment in the company. This drives efficiency in capital investment; and
- **Depreciation:** this reflects the consumption of an asset in providing service capability.

The sections below outline the revenue requirement for the business as a whole broken out between water and sewerage services respectively.

9.14.2 Revenue Requirement – Water Supply

By far the single largest item of capital expenditure for the Water Plan will be the investment in water supply augmentation for Hamilton. This involves a $29.5M expenditure program. There is also a $3.5M program to supply Coleraine through a pipeline from Casterton.

However, the table below demonstrates that prices are driven largely by continuing operating expenditure rather than by capital costs.

Table 9-5: Revenue Requirement – Water ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure	$13.99	$37.20	$6.43	$8.29	$4.69
Operating expenditure	$19.38	$18.71	$19.34	$19.26	$19.06
Return on Assets	$4.24	$5.13	$5.61	$5.70	$5.84
Depreciation	$2.63	$2.45	$2.70	$2.65	$2.70
Total	**$26.25**	**$26.29**	**$27.65**	**$27.61**	**$27.60**

9.14.3 Revenue Requirement – Sewerage Services

There is significant investment over the life of the price period in water reclamation plant up-grades and in sewerage schemes. Once again, though, the major driver of revenue is the ongoing annual operating costs of the business.

Table 9-6: Revenue Requirement – Sewer ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure	$11.17	$6.60	$6.39	$8.48	$6.85
Operating expenditure	$14.47	$14.49	$15.16	$14.69	$14.45
Return on Assets	$3.00	$3.26	$3.64	$3.93	$4.18
Depreciation	$1.9	$1.92	$2.02	$2.13	$2.23
Total	**$19.37**	**$19.67**	**$20.82**	**$20.75**	**$20.86**

9.14.4 Overall Revenue Requirement

Taking these two component elements together generates the following aggregate revenue requirement for the business as a whole. An allowance for corporate overheads is included in the two elements.

Table 9-7: Revenue Requirement – Water & Sewerage ($M)

	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure	$25.16	$43.80	$12.82	$16.77	$11.54
Operating expenditure	$33.85	$33.20	$34.50	$33.95	$33.51
Return on Assets	$7.24	$8.39	$9.25	$9.63	$10.02
Depreciation	$4.53	$4.37	$4.72	$4.78	$4.93
Total	**$45.62**	**$45.96**	**$48.47**	**$48.36**	**$48.46**

9.14.5 Shaping the Price Path

Wannon Water inherited a variety of differing water tariff structures from the predecessor merged Authorities. As a result, Wannon Water is implementing major tariff reform at the same time as implementing proposed price increases to fund the outcomes in the Water Plan.

So it has been necessary to limit increases in prices for water in the first year to enable the transition to the proposed new common tariff structure. The new water tariff structure is less reliant on fixed service fees and places greater emphasis on the water volume component. The proposed price for each water system has ensured that a typical 200 kilolitre residential customer experiences little change in their water bills from the 2007-8 to the 2008-9 year. Having established the new tariff, it is then possible to apply the necessary increases equitably. Equal percentage increases in prices are proposed for each of the remaining four years of the price period however the actual percentage price increases vary across water systems having regard to the cost of operating the individual systems. .

In respect to sewerage tariffs, the same philosophy has been applied, but as only the former Portland Coast Region Water Authority customers had a volumetric component (which was quite small and represented something in the order of 26% of the average bill) there has not been the same need to protect customers due to the change in tariff structures. The initial sewerage price increases in 2008/09 also reflect the removal of the cross subsidy from the water customers.
Table 9-8 reflects the price changes necessary to ensure that these outcomes are achieved for water and sewerage customers.

Adopting a steady price increase in each year involves under-recovery in the first three years of the price period, balanced by over-recovery in the last two years, to ensure an overall matching of costs and revenues over the five year period. That means that prices at the start of the third price period may be higher than required going forward.

This outcome reflects the increase in overall revenue requirement at the start of the second Water Plan and the fact that there was under-recovery of costs during the first price period.

Table 9-8: Water and Sewerage Tariffs for Water Plan Period

WANNON WATER

	Increase (1 July 2008)	*Year 2*	*Year 3*	*Year 4*	Year 5
1. WATER TARIFFS					
Group 1 Portland, Heywood and Port Fairy	17.8%	8.91%	8.91%	8.91%	8.91%
Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool	5.14%	9.50%	9.50%	9.50%	9.50%
Group 3 Balmoral, Caramut, Cavendish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington	9.04%	12.66%	12.66%	12.66%	12.66%

Group 4 Peterborough, Port Campbell and Timboon	10.00%	5.00%	5.00%	5.00%	5.00%
Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford	20.00%	10.49%	10.49%	10.49%	10.49%

2. SEWERAGE TARIFFS

Group 1 Allansford, Koroit, Mortlake, Peterborough and Timboon	9.13%	5.00%	5.00%	5.00%	5.00%
Group 2 Camperdown, Cobden, Noorat/Glenormiston, Simpson, Terang and Warrnambool	9.13%	5.00%	5.00%	5.00%	5.00%
Group 3 Casterton, Coleraine and Hamilton	15.35%	19.00%	19.00%	19.00%	19.00%
Group 4 Heywood and Portland	20.00%	20.00%	20.00%	20.00%	20.00%
Group 5 Dunkeld, Port Campbell and Port Fairy	20.00%	13.89%	13.89%	13.89%	13.89%

9.15 Miscellaneous Charges

Miscellaneous charges represent fees levied by Wannon Water for the provision of a range of services. Collectively these charges amount to about $1.64M per annum – or something less than 2% of total revenue. Nearly half the revenue is raised from the provision of Information Statements, and a similar amount is raised from water and sewer connections. Hence almost all the revenue is derived from customers as part of the purchase of a new property or in changes of ownership. These fees are very small in comparison to the overall cost of the wider transaction being undertaken by the customer.

Introduction of Common Charges

Wannon Water intends to consolidate the three sets of existing miscellaneous charges from the prior authorities into one set of charges for inclusion in the 2008-2013 Water Plan. As part of the process of determining an equitable price, reference has been made to the miscellaneous charges levied by other water corporations to ensure the proposed prices are comparable. Secondly, the price set per charge will raise a similar amount of combined income as charges set under the 2005 Water Plan determination.

In some instances a charge was only levied in one or two of the merged authority districts. As a basic premise, it has been assumed that the maximum revenue commensurate with the cost of providing the service (plus a small margin) should be applied to each miscellaneous service. In this way, specific users of specialised miscellaneous services provided by Wannon Water will pay for that service rather than being subsidised from the general tariff base.

For all miscellaneous services, documentation will be available to customers to provide:

- A description of the proposed new miscellaneous service;
- The reasons for introducing the miscellaneous service;

- The terms and conditions that will apply to the provision of the new service including relevant application principles;
- The direct efficient costs of providing the new miscellaneous service;
- An estimate of annual sales; and
- The proposed price or the pricing principles that will be used to determine the price for the remainder of the regulatory period.

Wannon Water welcomes the proposal from the Essential Services Commission to establish a common listing of standard miscellaneous services and charges to establish consistency between water corporations.

Financial Impact

Annex F provides a full listing of the proposed miscellaneous charges. The following table provides a high level summary of the key charges.

It is expected that total miscellaneous charges will raise $1.64M in the first year. The major components are:

Table 9-9: Miscellaneous Charges ($M)

	No.	Amount
New Customer Contributions – Water	394	$0.39
New Customer Contributions – Sewerage	387	$0.38
Information Statements	4120	$0.29
Water Tappings	385	$0.07
Trade Waste Services		$0.20
Other		$0.31
Total		$1.64

9.16 Form of Price Control and Adjusting Prices

9.16.1 Tariff Basket Design

It is proposed that charges should be controlled through a set of price caps set within a tariff basket.

A price cap creates incentives on the business to seek efficiency gains in delivering its services while by contrast a revenue cap encourages expenditure up to a pre-agreed limit. A Price Cap also has the advantage that it does not lead to annual adjustments of prices in response to levels of demand.

However individual price caps on specific components of the service package would be a very inflexible form of price control.

Wannon Water inherited three highly differentiated tariff structures, each of which was based on different principles, and which allocated costs and prices according to different rules. A major

exercise has been undertaken to simplify these different rules and establish consistent tariff principles across the region. However, those new arrangements are still in their infancy, i.e. the tariff structure is still immature. It is inevitable that there will prove to be anomalies that have been created for small groups of customers who have been affected in unforeseen ways as a result of the tariff reform.

Wannon Water needs to retain the flexibility to amend the relative tariffs of different customer groups to rebalance the recovery of revenue to meet its tariffing principles within an overall price cap.

It is proposed that adjustments between the price caps would be made each year as part of the submission to the Essential Services Commission seeking approval for tariff levels for the coming year. All changes would be controlled by an overall price cap on the weighted average increase for the group of products and services. Within that, any differential adjustment in the year would be limited to 2% above the CPI+X% price cap with a maximum adjustment in aggregate of 10% above the price cap over the five year period.

With declining residential consumption, there is also a possibility that the tiers for the inclining block tariff will become inappropriate during the life of the price determination. So, in addition to being able to alter the weighting between the service fee and the volumetric price components, the volume assigned to each tier will also be included in the factors that can be varied under the tariff basket. It is proposed that a maximum alteration of 10% per annum be permitted for each tier volume.

9.16.2 Variations to the Price Determination

This Water Plan sets out Wannon Water's best professional judgment as to the work programs required to meet the projected demand for services and ensure compliance with external and customer based standards over the period to 2012-13. The plan includes projections as to the costs that are likely to be incurred and the customer charges needed to ensure continued financial viability.

However, there is some considerable uncertainty in projecting forecasts out for a period of six years from the current planning horizon. Wannon Water will seek to avoid the necessity of adjusting a price determination due to unforeseen events. If costs turn out to be more significant than projected then Wannon Water will attempt to manage this variation within its discretion and managerial capacity by adjusting programs and priorities and seeking efficiencies elsewhere. However, there is a limit to the extent of that flexibility.

The Corporation will only pursue an adjustment to the determination (other than specified events listed below) if the unforeseen events are of a magnitude that the solvency of the Corporation is threatened.

Wannon Water will seek a cost pass through for any changes in specified fees and charges such as licence fees from regulators. Wannon Water will determine a full listing of such charges in agreement with the Essential Services Commission.

Wannon Water will seek a variation to the price determination in a number of clearly defined circumstances:

a) Government Policy Change – Industry wide

In the face of new government policies that create significant impacts on our costs or revenues. The clear example that is currently being proposed relates to requirements for greenhouse gas

emission targets and carbon credit trading. A further case is the proposal to require all customers that consume more than 10ML/year to develop and implement a water conservation plan.

If Wannon Water is required to meet targets beyond current proposals this could raise our costs significantly, beyond the point where Wannon Water could make counter balancing adjustments elsewhere. Any such policy initiatives change is likely to impact equally across the sector and trigger an industry-wide review and response.

b) Changes in external Costs

There is one potential major increase in our costs which has been included in the Water Plan, but is outside our managerial control. Wannon Water's main power supply contract comes up for renewal at the end of June 2008. Wannon Water's electricity consultant has advised that it is likely that electricity prices will rise between 70% and 120%. As a result, Wannon Water has modelled its revenue requirements in this Water Plan on the basis of a 100% increase in electricity prices from 1 July 2008.

Given the size of the impact and the uncertainty, it is Wannon Water's intention to endeavour to lock in electricity costs prior to the Essential Services Commission final decision. However, if final power costs are more than 10% above those assumed in this Water Plan, Wannon Water will seek an adjustment to reflect the new costs, as a pass-through item.

c) Security of Supply Issues for Hamilton

The largest capital expenditure project in this Water Plan is the construction of the Hamilton Grampians Inter-Connector Pipeline to augment water supplies for the Hamilton system. This project involves both significant capital costs (in the construction of the pipeline and the purchase of additional entitlement to supplement supply) and on-going operating costs (from pumping and annual water charges).

There is still uncertainty as to the choice of the final project and cost. This uncertainty is due to the significant role that other agencies have in the decision, including the Department of Sustainability and Environment's Major Projects Committee, the Department of Treasury and Finance and GWMWater. Apart from the engineering and environmental considerations, several major economic issues are also unresolved, including the cost of the bulk entitlement water right, the megalitre cost of water, and the power costs required to deliver the water.

This Water Plan is based on the best available information to hand on the capital costs and on-going operating costs for the pipeline, as at the end of September 2007. However, the final costs will not be confirmed until after the formal project approval process involving the Department of Sustainability and Environment's Major Projects Committee and the Department of Treasury and Finance, a decision is due in June 2008.

As a result, Wannon Water reserves the right to reopen this price determination with regard to the cost of the Hamilton supply augmentation should there be a significant variation in the costs incurred. It is proposed that this outcome would be triggered if the final costs are greater than those assumed in this Water Plan by more than:

- $1M in capital costs; or
- $200,000 in annual operating costs.

d) Department of Treasury and Finance Policy Change

Presently regional Water Corporations have been designated “not for profit” entities. A policy change by Government, (involving a declaration of the business as “For Profit” under accounting standards) could have a material effect on the finances of the Corporation – by reducing asset values, and hence depreciation expense, and therefore reducing available cash through dividends.

This change would need to trigger an industry-wide review.

ANNEX A: Statement of Obligations

This annex expands on the outline provided in Section 6.2 and provides a detailed analysis of the implications of the Clauses of the Statement of Obligation for Wannon Water.

Section 6 Guiding Principles

In performing its functions and providing its services the Authority must:
a) manage water resources in a sustainable manner; and
b) effectively integrate economic, environmental and social objectives into its business operations; and
c) minimise the impacts of its activities on the environment, and
d) manage risk to protect public safety, quality and security of supply; and
e) operate as efficiently as possible consistent with sound commercial practice; and
f) manage its business operations to maintain the long-term financial viability of the Authority; and
g) undertake continuous review, innovation and improvement; and
h) collaborate with other public authorities and government agencies to take account of regional needs

Wannon Water has developed a mission and vision that encapsulates the guiding principles. The mission and vision are as follows:

Vision:

Wannon Water will be a sustainable business meeting the expectations of its communities through focus on economic, environmental and social responsibility, innovation and best use of water resources.

Mission:

Wannon Water provides water and sewerage services that contribute to the sustainable growth, health and well being of the community and environment in the southwest of Victoria.

These formal statements guide the water plan preparation as well as annual corporate plans.

Section 9 Board Performance

The Authority must annually review and report to the Minister and the Treasurer on the performance of the Board of the Authority.

An annual Board appraisal will be prepared in June each year in accordance with guidelines issued by the Minister.

Section 10 Customer and Community Engagement

10.1 The Authority must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure, among other matters, that the services it provides reflect the needs and expectations of customers.

Section 5 of this Water Plan describes the processes in which customers and the community are consulted.

10.2 The Authority must:

a) make available to the public, information about the water supply, sewerage and recycled water services it provides; and
b) make available to the public, information about water conservation and the efficient and responsible use of water; and
c) make available to schools in its area, educational material about water conservation and the efficient and responsible use of water, at no charge or, for educational material that involves a significant cost to the Authority, at a charge that covers the fair and reasonable costs of making the material available.

Wannon Water has developed a significant website and suite of information brochures, along with publishing both a Customer and Rural Customer Charter and Charter summaries. Every customer has received a copy of the appropriate Charter summary directly mailed to them with their account.

Wannon Water has implemented a significant and ongoing communications and media program associated with the Permanent Water Savings Measures. It has also worked with municipal councils in developing their Sustainable Water Use Plans and will continue to work with these organisations during the implementation phase of the plans.

Wannon Water actively promotes SaveWater! Initiatives within its accounts, website and via the local media.

Wannon Water has developed and implements a school and community education program and provides materials and tours of facilities free of charge.

Section 11 Managing Risks

The Authority must develop and implement plans, systems and processes, having regard to the Australian/New Zealand Standard AS/NZS 4360 - Risk Management to ensure that risks to the Authority's assets or services are identified, assessed, prioritised and managed.

Wannon Water has a Risk Management Policy and strategy that complies with the requirement. The risk management process has been used to prioritise the capital works and operational expenditure programs within this Water Plan.

The Risk Management process was subject to Internal Audit in December 2006 and was found to be robust.

Section 12 Responding to Incidents and Emergencies

The Authority must include in any plan, system or process to manage its risks, measures to deal with emergencies and incidents, including measures to deal with:
a) the disruption of services; and
b) incidents resulting in waste discharges to the environment; and
c) a dam failure; and
d) potential security risks, including but not limited to terrorist attacks.

Wannon Water has developed an emergency management plan. The plan has been developed to identify key risks areas, response and recovery from emergencies. Contingency plans have been developed for:

- Blue-Green Algae Response
- Drought response
- Henty Park Bore Emergency Response
- IT Disaster Recovery
- Otway Wildfire Response
- Power Failure response
- Spills response

A Business Continuity Plan has been developed for the key technology platforms. Capital expenditure has been included in the Water Plan to upgrade the Disaster Recovery facility from a 'cold site' to a site that is capable of restoring technology services within 2 hours.

The following key programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Provision of Generator facilities to power various Plant/Facilities	Ensure continuity of services	Generator sets for various Locations including, Fairy St Office, Digby Rd PS, Percy St PS, North & South Otway PS, Pt Campbell, Casterton WTP and Tullich Bores.	$0.40M
Disaster recovery and business continuity of technology services	Resumption of IT services	Implementation of backup IT hardware at the disaster recovery room located at the Warrnambool WTP, in event of losing the server room at the Fairy St office.	$0.252M
Mandatory requirements under the Terrorism Act	Compliance	Allow for auditing, running exercises, and certification	$0.14M
		Total	**$0.792M**

Section 13 Managing Assets

13.1 The Authority must develop and implement plans, systems and processes to manage its assets in ways which:

a) allow the Authority to supply its services sustainably; and

b) maintain the levels and standards of service: (i) specified by the Commission in a Code issued under section 4F of the Water Industry Act; or (ii) included in a Water Plan approved by the Commission; and

c) minimise the overall whole of life costs of assets; and

d) minimise detrimental social, economic or environmental effects of managing its assets.

13.2 The Authority must develop and maintain a comprehensive database of aII relevant asset information, including the condition and performance of its assets.

Asset management decisions are made to be economically viable, environmentally sound, and socially just over the long term

Asset replacements are made to ensure the system is capable of meeting the required levels of service as stated in Wannon Water's Customer Charter.

A key objective of Wannon Water is to look at the lowest long-term cost when making asset management decisions. Overall whole of life cycle costs of assets are minimised by the following strategies:

- Development of service level options and costs
- Forecasting changes in demand for services
- Predicting asset failure timing from condition and performance monitoring
- Undertaking risk assessments
- Analysis of maintenance expenditure to identify optimal planned maintenance levels
- Consideration of the optimal timing of capital works (particularly renewals)

Wannon Water maintains a comprehensive database of relevant asset information, including the condition and performance of its assets.

Current asset replacements are based on failure history and condition assessment. Forward look replacement programs are developed by using expected life of assets and estimating future augmentation requirements.

Section 14 Dam Safety

14.1 The Authority must develop and implement processes to identify, assess, manage, prioritise improvements to, and periodically review the safety of, dams operated by the Authority.

14.2 ln developing processes under subclause 14.1 the Authority must have regard to the ANCOLD Guidelines and have particular regard to:

a) prioritising risks posed by the Authority's dams over aII dams, components of dams and the types of failure; and
b) giving priority to reducing risks to Iife above other risks; and
c) basing the urgency of reducing the risk posed by a dam on the relativity of risks to the tolerability Iimits as defined in the ANCOLD Guidelines; and
d) basing programs for reducing risk on the concept ''As Low As Reasonably Practicable'' as defined in the ANCOLD Guidelines; and
e) where feasible, progressively implementing risk reduction measures to achieve the best outcomes for the available resources.

14.3 The Authority must develop and implement a dam safety monitoring and surveillance program for each dam operated by the Authority, consistent with the ANCOLD Guidelines.

14.4 The Authority must develop and maintain a comprehensive database of aII relevant dam safety information.

14.5 The Authority must prepare and give to the Secretary by 30 June each year a report that contains:

a) a prioritised Iist of proposed dam safety works identified under clause 14.1 and the dates by which the Authority proposes to complete each of those works', and
b) a summary of the risk profile of; (i) each dam operated by the Authority, at the date of the report; and (ii) each dam on which the Authority proposes to undertake safety works, after those works are complete; and
c) a summary of the overall risk reduction profile of the Authority's dams.

14.6 If for any reason the Authority is unable to undertake any proposed dam safety works identified under subclause 14.1 within the time advised, it must promptly prepare and give to the

Minister a report which explains why the Authority is unable to undertake those works and includes any other information requested by the Secretary.

The above obligation to maintain & operate all dams in a responsible manner for the safety of the community is due to the large volume of water in storage and associated risks. Relevant programs have been established to ensure the compliance with the nationally recognised Australian National Committee on Large Dams (ANCOLD) Guidelines 2003.

The following activities have been included in this Water Plan period to maintain compliance with the ANCOLD guidelines:

1. Develop and update annually a risk based categorisation of all "referable" dams to be known as the "Hazard Category" and in accordance with the ANCOLD Guidelines 2003.
2. Annual Inspections of all "referable" dams in accordance with the ANCOLD Guidelines 2003.
3. Maintain all "referable" dams in accordance with the ANCOLD Guidelines 2003.
4. Daily/Weekly visual Inspections are to be carried out on all "referable" dams in accordance with the ANCOLD Guidelines 2003.
5. Update Operational & Maintenance Manuals on a regular basis.
6. Active representation on the Victorian Water Industry's Dams Working Group.

The key projects that have been identified within the Dam Safety Emergency Management Improvement Plan for the Water Plan period are:

Description	Purpose	Works Involved	Water Plan Total
Coleraine - Regrade perimeter drain and line	For surface runoff at the toe of the dam	Upgrading/clearing the existing drain	$0.02M
Cruckoor - Refurbish two lower valves	To make jammed valves operational	Replace Valves	$0.20M
Donald's Hill Reservoir - Safety handrails	To improve safety	Install handrails on short bridge	$0.01M
Donald's Hill Reservoir - Surface drain	To drain runoff and seepage away from toe of the dam	Grading a new surface drain at the gabion wall	$0.005M
Glenthompson - Install water level gauge post	To monitor reservoir level.	Replace gauge	$0.002M
Hamilton No1 - Investigation of condition of outlet pipe	To ensure serviceability	Asses the condition of existing old infrastructure by Closed Circuit TV.	$0.01M
Hamilton No1 - Sleeve outlet pipe	To ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe	$0.10M

Description	Purpose	Works Involved	Water Plan Total
Hartwichs - Remove extension to overflow pipe	To reduce the flood capacity	Remove the extended pipe as it is a risk to the dam	$0.01M
Hartwichs - Strengthen outlet tower bridge	To improve operational safety	Replace outlet tower bridge as it is in poor condition	$0.04M
Hartwichs - Investigation of condition of outlet pipe	To ensure dam stability	Assess the condition of existing old infrastructure via Closed Circuit TV	$0.01M
Hartwichs - Sleeve outlet pipe	To ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe	$0.10M
Konongwootong - Provide stabilizing berm and filters	To ensure the stability of the reservoir embankment	Embankment is in poor condition, cracks have appeared on the crest. Seepage has been identified on the toe of the dam. A major upgrade is required. Works will include decommissioning or major works to retain the storage to supply rural customers. Both options have a similar budget.	$0.50M
Konongwootong - Investigation of condition of outlet pipe	To ensure dam stability	Assess the condition of existing old infrastructure via Closed Circuit TV	$0.10M
Konongwootong - Sleeve outlet pipe	To ensure stability of dam wall	Provisional depending on the condition investigation of the outlet pipe. Slip lining the existing pipe with a new pipe	$0.10M
Plantation Road - Safety handrails	To ensure operator safety.	Replace existing handrails as the existing handrails are sub-standard.	$0.005M
Plantation Road - Pump out water in tower and seal tower	For improved dam operations	Leakage water needs to be removed and tower sealed to stop leakage	$0.005M
Plantation Road - Grating covers for pits	For improved dam operations	A mesh grid is required or handrails for operator protection	$0.005M
Plantation Road - Investigate safer operation of intake valves	For improved dam operations	Currently the operation of the valves would require confine space entry.	$0.10M

Description	Purpose	Works Involved	Water Plan Total
Tank Hill - Repair riprap near crest	To ensure dam embankment stability	Replace rip rap. Currently not enough to be effective	$0.10M
Tank Hill - Safety handrails	For improved dam operations	Replace existing handrails.	$0.005M
Tank Hill - Extend spillway chute to beyond embankment toe	To ensure dam embankment stability	Extend the concrete trench at the right abutment of the dam to prevent potential erosion of the embankment.	$0.10M
Dales Rd No1 - Safety handrails	For improved dam operations	Install handrails.	$0.003
		Total	$0.99M

Section 15 Conserving and Recycling Water and Section 16 Water Supply Demand Strategy

15.1 To implement sustainable water resource management the Authority must develop and implement programs for:

a) assessing and monitoring available water supplies;
b) assessing and monitoring future demands on water supplies;
c) the efficient and effective management of demand for water;
d) reducing leakage and minimising other losses of water from its works to an economically sustainable level;
e) identifying opportunities to substitute, and if appropriate substituting, potable supplies with water from alternative sources that are fit for purpose; and
f) the sustainable use of recycled water

15.2 Programs developed by the Authority under subclause 15.1 must specify objectives to be achieved and measures for monitoring performance in accordance with any written directions issued by the Minister for that purpose.

15.3 The Authority must participate with those of its urban customers, that have been identified by the Authority as being large non-residential water users, to improve water management outcomes, including water conservation, recycling and waste minimisation.

16.1 By 31 March 2007, and within each five years thereafter, the Authority must develop a Water Supply Demand Strategy to identify the best mix of demand measures and supply options for its urban supply systems.

16.2 The Water Supply Demand Strategy referred to in subclause 16.1 must:

a) include water conservation targets; and
b) be developed in accordance with any written guidelines issued by the Department, after consultation with the Department of Treasury and Finance, for that purpose.

The *Water Supply Demand Strategy* has been completed and has been developed in accordance with the Guideline. The following comments address each of the above elements.

Available surface water supplies have been assessed using Resource Allocation Model (REALM) models and their yield predicted under two different scenarios: 1. the medium climate change scenario established by the CSIRO and adopted by DSE and 2. the continuation of the weather conditions experienced over the last 10 years. The lowest yield from these two scenarios has been adopted for modelling purposes. Monitoring of the supplies will continue using the meters that are in place. Ground water supplies have been assessed against the Permissible Annual Volume (PAV) for each Groundwater Management Area (GMA) – further work is needed within the water planning period on the sustainability of these resources.

An end use model has been used to project future demand using: population and household projections (based on Victoria in Future (VIF) projections) and major industry projections. Current demand has been climate corrected (using the last 5 years of consumption history) to generate the starting point from which projections are made. Bulk meters are in place to monitor the demand for the various systems and consumption of the various customer classes will be monitored from the customer meter data.

A range of cost effective demand reduction measures are proposed to be implemented during the water plan and beyond to achieve the demand reduction targets (see later for targets). The measures include:

- Inclining Block Tariff for Residential Users
- Sustainable Water Use Plans for Municipalities
- Community Education Regarding Demand Deduction
- Major Customer Water Saving Initiatives
- Permanent Low Level Restrictions on Water Use
- Rural Customer Demand Management
- Leakage Detection and Reduction – Reticulation Networks
- General Indoor Retrofit of Homes
- Metering of all Properties
- Voluntary Installation of Water Efficient Shower Heads
- Water Harvesting From Roofs in New Subdivisions (Warrnambool)
- Reducing Evaporation From Open Water Storages

Substitution opportunities have been identified at Water Reclamation Plants for use on biosolids and screenings wash down, some industrial and nursery uses and watering of parks and gardens in Hamilton. The other significant substitution opportunity is the substitution of water from the Otways with roof water harvested from house roofs in one of the growth corridors of Warrnambool that is then treated at the treatment plant and reticulated to the city.

Sustainable use of recycled water is being pursued through substitution as detailed above at Hamilton and also through irrigation at many of the other Water Reclamation Plant sites. There is the potential for significant use of recycled water from the Warrnambool system that will be further investigated during the water plan.

The objectives of the various measures have been determined and are able to be monitored through the water planning period using customer surveys and data analysis.

Significant savings are projected through conservation measures of the major water customers. The major customers are supportive of the need to investigate opportunities to conserve, reuse, re-engineer processes and develop waste minimisation plans. Wannon Water has staff dedicated to working with major customers to achieve the desired outcomes.

Water conservation targets for residential, commercial and major customers have been developed for each of the organisations systems. These are detailed in the *Water Supply Demand Strategy*.

The following programs of expenditure are proposed within the Water Plan period. This program is a direct response to the Section 15 obligation in relation to conserving and recycling water. Other expenditure exists to meet growth in the region.

Description	Purpose	Works Involved	Water Plan Total
Establishment of expanded recycled water infrastructure at various sites throughout Wannon Water (allowance for Cobden, Camperdown, Warrnambool & Hamilton)	Statement of Obligations 15. Consistent with White Paper. To implement elements of the Reclaimed Water Strategy which enable further fit-for-purpose treatment and distribution to customers	Construction of new infrastructure to provide fit-for-purpose reclaimed water for expanded customer base	$1.53M

Section 17 Metering

The Authority must meter all new water use.

All new customers are required to have a water meter installed.

Section 18 Responding to Drought

18.1 The Authority must:
a) develop and implement an effective drought response plan for each water supply system operated by the Authority; and
b) make its drought response plans available to the public.

18.2 The Authority must review, and if necessary amend, its drought response plans:
a) at intervals of no more than five years; and
b) within twelve months of either: (i) the lifting of any period of restriction imposed under the Authority's drought response plan; or (ii) any major change occurring to works or arrangements for conserving water for, or supplying water to, any water supply system operated by the Authority.

18.3 In times of actual or anticipated shortage, the Authority must provide information requested by the Secretary regarding the implementation of drought response plans in the form and manner requested.

Wannon Water has up to date drought response plans for all its relevant water supply systems. The drought response plans associated with the Grampians, Glenthompson and Coleraine will be reviewed following lifting of current restrictions.

Section 19 Sewerage Services to Unsewered Urban Areas

19.1 The Authority must participate with municipal councils in the development of Domestic wastewater management plans.

19.2 If reticulated sewerage services:
a) have been identified in a Domestic wastewater management plan as the preferred option for improved domestic wastewater management; or
b) have been nominated by the Minister in any Government program,

the Authority must develop a sewerage management plan in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the local community that: (i) identifies the preferred types and levels of sewerage services to be provided together with costs and funding options; (ii) identifies priorities and possible timelines for the provision of services; (iii) identifies how the wastewater collected, including biosolids, will be sustainably managed; and (iv) provides for a regular review of the plan and priority areas for sewering.

19.3 Subject to the requirement for capital projects, the Authority must implement any program of works for the provision of sewerage services identified in the sewerage management plan prepared under subclause 19.2 that has been:
a) included in a Water Plan for which the Commission has approved or specified Prices; or
b) included in a corporate plan adopted by the Authority; or
c) approved by the Minister, after consultation with the Treasurer.

19.4 If a program approved by the Minister referred to in subclause 19.3 includes a contribution from the owner of a property for the provision of sewerage services, the Authority cannot recover more than the amount of that contribution from the owner.

Wannon Water is currently working with three sewerage service projects, being with:

1. Glenelg Shire Council for backlog sewerage services located in West Portland,
2. Glenelg Shire Council for new town sewerage services to the Dutton Way, and
3. Moyne Shire Council for new town sewerage services in Peterborough.

Both of the above new town sewerage schemes are subject to an $800 cap for customer contributions.

No further backlog or new town sewerage schemes have been identified for this Water Plan period. Wannon Water will continue to proactively work with the Environment Protection Authority and Municipal Councils over the Water Plan period to identify backlog or new town sewerage projects.

Section 20 Sewerage Connection to Properties

20.1 The Authority must not require a serviced property to be connected to the Authority's sewerage works unless the sewerage service has been:
a) included in a sewerage management plan developed in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the local community; or
b) provided in the interests of health or the environment after consultation with, and written advice from, the Environment Protection Authority, a municipal council or the Chief General Manager within the meaning of the Health Act 1958.

20 2 The Authority must take aII reasonable steps to ensure that a property provided with a sewerage service:

a) included in a sewerage management plan developed in conjunction with the Environment Protection Authority and relevant municipal council, and in consultation with the Iocal community; or

b) provided in the interests of health or the environment after consultation with the Environment Protection Authority, a municipal council or the Chief General Manager within the meaning of the Health Act 1958,

is connected to the Authority's sewerage works, unless the owner of a property can demonstrate that wastewater can be sustainably reused on site in accordance with guidelines issued by the Environment Protection Authority.

The following table sets out the number of properties yet to connect to significant sewerage schemes previously constructed in Wannon Water's service area.

Town/Scheme	Non Vacant Properties Served	Number of Properties Connected	Percentage of Properties Connected
Allansford	241	234	97.10%
Koroit	523	494	94.46%
Mortlake	532	472	88.72%
Timboon	489	463	94.68%
Dunkeld	263	259	98.48%
Coleraine Road, Hamilton	43	41	95.35%

Wannon Water will continue to work with Councils and customers to identify the reasons for non connection and will require owners to proceed with connection where appropriate or where environmental or health issues arise.

Property owners will be surveyed to ascertain the reasons for non-connection with issues then addressed by Wannon Water in consultation with the owner. Issues of financial hardship and the availability of plumbing contractors to undertake connections will continue to be identified and worked through with customers on a one to one basis.

Section 21 Trade Waste

21.1 The Authority must develop policies and practices to manage trade waste:

a) to protect its sewerage systems, including treatment works and processes, and the health and safety of the public and of people working in or operating those systems', and

b) to minimise environmental impacts consistent with any licence issued under the Environment Protection Act 1970., and

c) improve the quality of trade waste entering its sewerage systems in order to maximise opportunities for the reuse of wastewater and biosolids.

21.2 In developing trade waste management policies and practices, the Authority should be guided by the waste management hierarchy principle set out in section 1I of the Environment Protection Act1970.

21.3 The Authority must develop and implement systems for managing compliance with trade waste agreements between the Authority and customers.

Wannon Water has a trade waste policy that complies with the above requirements. The policy was approved by the Board in January 2007. Key elements of the policy include objectives to:

- protect the environment,
- protect the health and safety of employees and the public,
- maximise opportunities for re-use of reclaimed water and biosolids,
- recover costs associated with providing trade waste services,
- encourage waste minimisation, cleaner production and pre-treatment of higher strength wastes, and
- Promote compliance with agreements, permits and the Trade Waste By-Law.

Section 22 Regional and Local Government Planning

22.1 The Authority must participate in and support the development and implementation of any Regional Catchment Management Strategy or catchment sub-strategy or Regional River Health Strategy which may affect, or be affected by, the Authority's activities.

22 2 The Authority must participate in and support the development and implementation of any municipal planning scheme, Iocal planning policy framework or municipal strategic statement which may affect, or be affected by, the Authority's activities.

22.3 A principal objective of the Authority's participation will be to promote consistency of any strategy or any scheme with its planning and programs for sustainable water management.

Wannon Water has contributed to the municipal planning process and regional catchment strategy development in the past and will continue to do so. Effective relationships between planning organisations is mutually beneficial.

Section 23 Research and Knowledge

The Authority must:
a) identify the Authority's research needs;
b) prioritise the research needs identified', and
c) identify how the Authority proposes to meet its research needs.

Wannon Water has developed a comprehensive *Innovation Strategy* which includes research needs. This strategy provides for the organisational capacity to deliver improved business outcomes derived from this program.

The core Goals and Objectives identified in the *Innovation Strategy* are prioritised and include measurable timelines for delivery. Implementation of the *Innovation Strategy*, including the identified research needs, will be delivered through a collaborative, outward focussed program managed by dedicated Project Managers within an Innovation and Sustainability team.

Research projects are designed and developed in association with industry peers and relevant research providers to ensure cost effective delivery and maximum uptake of the outcomes.

In collaboration with regional partners such as the Catchment Management Authorities and the Department of Sustainability and Environment, Wannon Water participates in the South West Sustainability Partnership which provides a blueprint for research opportunities and projects.

Identified projects to be undertaken during the water plan include:

- "Reshaping rural and regional urban customer attitudes to water saving and recycling across southwest Victoria" in partnership with the Victorian Water Trust, Deakin University and the Alcoa Foundation,
- Completion of a collaborative project investigating the influence of hormones in sewer treatment plants with industry peers and Department of Primary Industries,
- New investigations into priority flora and fauna species occurring on our land base,
- A series of collaborative research projects identified in the *Innovation Strategy*, and including investigations into the sustainability of the Dilwyn Aquifer highlighted in the *Water Supply Demand Strategy*, and
- Membership in Water Quality Research Australia, a collaborative research centre of national application with a focus on drinking water quality, recycled water and relevant areas of wastewater management.

The annual review process for the *Innovation Strategy* includes processes to identify emerging research needs and to initiate projects to meet these needs during the Water Plan period.

The following programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Implement Research and Development program identified in Innovation Strategy	Statement of Obligations 23 - Authority must identify how it will meet its research needs	Funding for R&D projects targeted to business needs and identified in updates of Innovation Strategy, to be undertaken by relevant providers Universities, WQRA), maximise investment outcomes.	$0.50M

Section 24 Sustainable Management

24.1 The Authority must:
a) in performing its functions, exercising its powers and carrying out its duties, apply the Sustainable Management Principles', and
b) demonstrate in its Water Plan how the Authority proposed to apply those principles.

24.2 In applying the Sustainable Management Principles the Authority must develop and implement programs for assessing, monitoring and continuously improving the Authority's sustainability performance, including:
a) responding to climate change;
b) maintaining and restoring natural assets;
c) using resources more efficiently; and
d) managing everyday environmental impacts; and
must include those programs in its Water Plan.

Wannon Water's *Innovation Strategy* has identified a series of priority Goals and Objectives for continually improving our business performance.

The Strategy includes a focus on responding to climate change through minimising our impacts and implementing options for:

- adaptation and mitigation,
- embedding sustainability in our daily activities, and
- actively maintaining and restoring our natural assets.

The projects identified in these sections of the strategy are consistent with the Victorian Government's "Our Environment, Our Future" strategy, the *Statement of Obligations* Sustainability Principals, and the principals embedded in our preferred Sustainability monitoring and reporting systems.

Wannon Water will develop a Strategic Plan for reducing greenhouse gas emissions with guidance from the Greenhouse Emissions Reduction Framework. Actions will be developed and delivered through a three year rolling Greenhouse Action Plan. These actions will integrate with natural resource management activities that aim to sustain and enhance biodiversity in and above ground.

All resource management will be integrated and guided by a Resource Management Framework that will include management of everyday waste, energy and chemical use.

Cost neutral projects during the Water Plan period include;

- the embedding of Life Cycle, Ecological Footprint and Greenhouse assessment methodologies in our design and asset replacement processes,
- integration of climate change impacts into development planning, and
- changing our purchasing policies, including the reuse of packaging, and chain of custody assessments of key suppliers.

Major expenditure will include;

- establishment and certification of sustainability monitoring and reporting systems (eg Global Reporting Initiative, Corporate Responsibility Index),
- establishment and maintenance of a series of on-ground projects to enhance our natural assets in partnership with our neighbours, DSE and local CMA's, and
- a dual approach to reducing the greenhouse impact of our base energy requirements through green energy purchase and establishment of offsets.

The following programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Maintaining and Restoring our Land	Statement of Obligations 24.2 - maintaining and restoring our natural assets. Anticipated Corporate Sustainability principals.	A program of on-ground land management works to maintain and restore priority sites (up to 25ha), including integration of CMA and DSE objectives. Includes Portland Heathland Management Plan. Requires ongoing monitoring of outcomes.	$0.22M
Establishment of Greenhouse offsets	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in Greenhouse Gas Emission Offset project to achieve a 5% reduction in Wannon Water greenhouse gas emissions	$0.56M
Utilisation of Renewable Energy	Statement of Obligations 24.2 - responding to climate change, managing our everyday environmental impacts	Investment in renewable energy to achieve up to 5% reduction in Wannon Water greenhouse gas emissions. 1% per annum increase for 5 years.	$0.30M

Description	Purpose	Works Involved	Water Plan Total
Implementation of Sustainability Assessment and Reporting Framework	Statement of Obligations 24, 25 (Sustainability Systems)	Implement new systems for monitoring and reporting of criteria in Sustainability Assessment and Reporting Framework. Potential for Certification of system, and routine reporting costs.	$0.17M
		Total	$1.25M

Section 25 Environmental Management System

The Authority must develop and implement an Environmental Management System which;
a) must be in accordance with the following standards from the Standards Australia AS/NZSISO 14000 Series of Environmental Management Systems Standards: (i) AS/NZS ISO 14001: Environmental Management Systems Requirements with Guidance for Use; and; (ii) AS/NZS ISO 14004: Environmental Management Systems General Guidelines on Principles, Systems and Support Techniques; but
b) need not be accredited under those standards.

During the Water Plan, Wannon Water will fully implement internationally recognised and industry relevant Sustainability monitoring and reporting frameworks, such as the Global Reporting Initiative and Corporate Responsibility Index.

Funding has been included to achieve certification of these systems to provide independent confirmation to Wannon Water's customer base and stakeholders of the ongoing sustainability performance of the organisation.

To facilitate an appropriate level of environmental performance under these Sustainability Frameworks, our management systems will be upgraded to include the elements of ISO14000 and ISO14004, and additional operations and maintenance procedures, monitoring and research will be implemented to ensure our systems deliver real on-ground outcomes.

Wannon Water maintains an integrated management systems approach, ensuring that our daily activities are constantly considering all relevant aspects and impacts across the whole of the triple bottom line.

Section 26 Blue Green Algal Blooms

26.1 The Authority must report any blue green algal blooms impacting on water supply services to:
a) the Department of Human Services', and
b) the relevant Convening Agency.

26 2 If the Authority is a Convening Agency, the Authority must:
a) develop and maintain on an annual basis a contingency plan for regional blue green algal blooms; and
b) undertake its duties as a Convening Agency in accordance with that contingency plan.

A blue-green algae response plan forms part of the Emergency Management Plan. Wannon Water is the regional convening agent for blue green algae outbreaks.

The response plan includes reporting protocols to the Department of Human Services.

Section 27 River and Aquifer Health and Section 28 Monitoring River Health

27.1 The Authority must manage the impact of its activities on any waterway, aquifer or wetland to minimise environmental impacts on and risks to the aquatic ecosystem.

27 2 When the Authority renews or carries out major works on a dam or existing structure on a waterway, or constructs a new structure on a waterway, the Authority must ensure that;

a) it is renewed or constructed so that; (i) the dam or structure does not pose a barrier to native fish movement; and (ii) water releases do not pose an environmental risk through variations of temperature, dissolved oxygen, sediment, nutrients or other substances; and (iii) adequate offtakes are provided for environmental flows; or

b) if it is not practical to comply with paragraph (a), it is renewed or constructed in accordance with a plan of works approved by the Secretary.

27.3 The Authority must Iiaise with Catchment Management Authorities to ensure that environmental flow regimes are managed to maximise ecological benefits.

28.1 The Authority must monitor the impact of its activities on waterways and wetlands, including the impact of dams on the thermal regime of waterways.

28.2 The Authority must make available to the public:

a) water quality and flow data compiled by the Authority relating to waterways; or

b) if the data is available from a central data agency, relevant contact details for that agency.

Wannon Water recognises its area of influence extends beyond the water source and discharge points and is actively involved with local partnership projects for waterway and terrestrial environments.

Wannon Water maintains an active monitoring and management program to ensure Wannon Water minimises the environmental risks and impacts of our activities on aquatic ecosystems, including aquifers, surface and coastal waters.

Ongoing funding of these programs during the Water Plan period includes;

- ocean monitoring programs associated with our three treated water discharge points at Warrnambool, Portland and Port Fairy, and
- the maintenance of our routine Environment Protection Authority compliance sampling programs.

The major upgrade of the Portland Water Reclamation Plant will help achieve full compliance with the Environment Protection Authority standards for receiving waters during the Water Plan.

Wannon Water's *Water Supply Demand Strategy* has highlighted the need to provide a major augmentation of the Hamilton Water Supply System, and consultation with the Glenelg Hopkins Catchment Management Authority (GHCMA) confirms that this project will deliver improved outcomes for environmental flow regimes in the Grampians surface water systems.

In addition, remedial works at the Konongwootong Reservoir (north of Coleraine) will be completed during the planning period, and the design of these works will include appropriate liaison with the GHCMA to mitigate any identified fish movement and downstream water quality and quantity risks.

Wannon Water's *Recycled Water Strategy* includes a hierarchy to prioritise reuse projects. This hierarchy targets potable, river and groundwater substitution and enhancing environmental flows, to provide regional sustainable water cycle benefits. Funding is included in this Water Plan to deliver three priority recycled water projects consistent with this objective.

The establishment of on-ground management and restoration works for our natural assets during the Water Plan period will include investigations in partnership with the Environmental Protection Agency (EPA) and GHCMA into the potential for recycled water use for reinstatement of wetlands at Bald Hill in Portland, and an appropriate allocation of funds for ongoing monitoring of our success in achieving our specific aquatic targets.

Future research likely under our *Innovation Strategy* includes the monitoring and evaluation of environmental conditions for priority sewerage schemes, such as assessing the beneficial impact on the Curdie's Inlet from implementation of the Peterborough Sewerage Scheme.

Routine reporting of relevant water quality and quantity data managed by Wannon Water will be made available through our website, and linkages provided to other agencies who manage related aquatic information sets.

The following programs of expenditure are proposed within the Water Plan period.

Description	Purpose	Works Involved	Water Plan Total
Maintaining and Restoring our Land	Statement of Obligations 24.2, 27, 28 - maintaining and restoring our natural assets. Anticipated Corporate Sustainability principals.	Ongoing monitoring programs to determine outcomes of program of on-ground land management works to maintain and restore priority sites.	$0.05M

ANNEX B: OH&S Obligations

The mandatory legislation at this time is:

Statutory Acts

- Accident Compensation Act 1985
- Accident Compensation (WorkCover Insurance) Act 1993
- Workers Compensation Act 1958
- Accident Compensation (Occupational Health and Safety) Act 1996
- Occupational Health and Safety Act 2004
- Dangerous Goods Act 1985
- Equipment (Public Safety) Act 1994
- Road Transport (Dangerous Goods) Act 1995
- Road Transport Reform (Dangerous Goods) Act 1995 (Commonwealth)
- Mines Act 1958
- Road Management Act 2004

Statutory Regulations

- Accident Compensation Regulations 2001
- Dangerous Goods (Storage and Handling) Regulations 2000
- Equipment (Public Safety) (Incident Notification) Regulations 1997
- Equipment (Public Safety) (General) Regulations 1995
- Occupational Health and Safety (Asbestos) Regulations 2003
- Occupational Health and Safety (Certification of Plant Users and Operators) Regulations 1994
- Occupational Health and Safety (Confined Spaces) Regulations 1996
- Occupational Health and Safety (Hazardous Substances) Regulations 1999
- Occupational Health and Safety (Issue Resolution) Regulations 1999
- Occupational Health and Safety (Major Hazard Facilities) Regulations 2000
- Occupational Health and Safety (Manual Handling) Regulations 1999
- Occupational Health and Safety (Noise) Regulations 2004
- Occupational Health and Safety (Plant) Regulations 1995
- Occupational Health and Safety (Prevention of Falls) Regulations 2003
- Road Transport Reform (Dangerous Goods) Regulations 1997

ANNEX C: Electrical Safety Obligations

Electrical System Obligations (AS/NZS 3000:2000)
Further to the above standard which is the principal standard for systems compliance are another nine standards, two codes of practice, formal rules and regulations and overarching legislation;

Publication	Full Title
Act No.25/1998 Version No. 036	Electricity Safety Act 1998
AS/NZS 3000:2000	Wiring rules (Including Amendment Nos. 1, 2 and 3)
AS/NZS 3001:2001	Electrical installations-Relocatable premises(including caravans and tents and their site locations)
AS/NZS 3004:2002	Electrical installations-Marinas and pleasure craft at low-voltage
AS/NZS 3008.1.1:1998	Electrical installations-Selection of cables. Part 1.1: Cables for alternating voltage up to and including 0.6/1 kV-Typical Australian installation conditions
AS/NZS 3010:2005	Electrical Installations-Generating sets
AS/NZS 3012:2003	Electrical installations-Construction and demolition sites
AS/NZS 3017:2001	Electrical installations-Testing guidelines
AS/NZS 3760:2003	In-service safety inspection and testing of electrical equipment
AS/NZS 4836:2001	Safe working on low voltage electrical installations
Code of Practice for Safe Electrical Work - 1997	Code of Practice for Safe Electrical Work 1997 Low Voltage Electrical Installations
Industry Standard	Industry Standard for Electrical Installations on Construction Sites - March 2002
S.R.No. 49/1999 Version No. 003	Electricity Safety (Installations) Regulations 1999
SIR – 2005	Victorian Service and Installation Rules
Victorian Electricity Supply Industry - Code of Practice	Low voltage (LV) service fuse removal & reinsertion by "Electrician" and "L" & "G" inspector licence holders.
Energy Safe Victoria	Standards for: Isolating and Making Equipment Safe 2004, Testing and Tagging of Equipment 2005

ANNEX D: Schedule of Water & Sewerage Charges

WANNON WATER
PRICES

Variable water, wastewater and trade waste charges are rounded down to 4 decimal places
All other charges are rounded down to 2 decimal places
* These increases do not include CPI but will be included at the appropriate time.

Tariff and Price Component	*Price (1 July 2008)*	*PPM Year 2*	*Year 3*	*Year 4*	Year 5
1. WATER TARIFFS					
1.1 Urban Residential, Non-Residential, Rural Water Service and Fire Service Charges (per annum)					
Service Charge Group 1 Portland, Heywood and Port Fairy					
0-20mm connection	95.9250	8.91%	8.91%	8.91%	8.91%
21-25mm connection	142.8112	8.91%	8.91%	8.91%	8.91%
26-32mm connection	383.6811	8.91%	8.91%	8.91%	8.91%
33-40mm connection	671.5128	8.91%	8.91%	8.91%	8.91%
41-50mm connection	1055.1467	8.91%	8.91%	8.91%	8.91%
51-80mm connection	1534.8094	8.91%	8.91%	8.91%	8.91%
81-100mm connection	2219.2214	8.91%	8.91%	8.91%	8.91%
101-150mm connection	3099.9086	8.91%	8.91%	8.91%	8.91%
151+mm connection	4094.8273	8.91%	8.91%	8.91%	8.91%
Service Charge Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool					
0-20mm connection	93.8809	9.50%	9.50%	9.50%	9.50%
21-25mm connection	139.7680	9.50%	9.50%	9.50%	9.50%
26-32mm connection	375.5051	9.50%	9.50%	9.50%	9.50%
33-40mm connection	657.2033	9.50%	9.50%	9.50%	9.50%
41-50mm connection	1032.6622	9.50%	9.50%	9.50%	9.50%
51-80mm connection	1502.1036	9.50%	9.50%	9.50%	9.50%
81-100mm connection	2171.9312	9.50%	9.50%	9.50%	9.50%
101-150mm connection	3033.8516	9.50%	9.50%	9.50%	9.50%
151+mm connection	4007.5692	9.50%	9.50%	9.50%	9.50%
Darlington Service Charge	31.2936	9.50%	9.50%	9.50%	9.50%
Service Charge Group 3 Balmoral, Caramut, Cavendish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington					
0-20mm connection	115.4747	12.66%	12.66%	12.66%	12.66%
21-25mm connection	171.9164	12.66%	12.66%	12.66%	12.66%
26-32mm connection	461.8761	12.66%	12.66%	12.66%	12.66%
33-40mm connection	808.3684	12.66%	12.66%	12.66%	12.66%
41-50mm connection	1270.1876	12.66%	12.66%	12.66%	12.66%
51-80mm connection	1847.6066	12.66%	12.66%	12.66%	12.66%
81-100mm connection	2671.5030	12.66%	12.66%	12.66%	12.66%
101-150mm connection	3731.6760	12.66%	12.66%	12.66%	12.66%
151+mm connection	4929.3610	12.66%	12.66%	12.66%	12.66%
Service Charge Group 4 Peterborough, Port Campbell and Timboon					
0-20mm connection	207.5566	5.00%	5.00%	5.00%	5.00%
21-25mm connection	309.0060	5.00%	5.00%	5.00%	5.00%
26-32mm connection	830.1855	5.00%	5.00%	5.00%	5.00%
33-40mm connection	1452.9779	5.00%	5.00%	5.00%	5.00%
41-50mm connection	2283.0613	5.00%	5.00%	5.00%	5.00%
51-80mm connection	3320.9260	5.00%	5.00%	5.00%	5.00%
81-100mm connection	4801.8143	5.00%	5.00%	5.00%	5.00%
101-150mm connection	6707.3911	5.00%	5.00%	5.00%	5.00%
151+mm connection	8860.1348	5.00%	5.00%	5.00%	5.00%

Tariff and Price Component	*Price (1 July 2008)*	*Year 2*	*PPM Year 3*	*Year 4*	Year 5
Service Charge Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford					
0-20mm connection	207.9763	10.49%	10.49%	10.49%	10.49%
21-25mm connection	309.6309	10.49%	10.49%	10.49%	10.49%
26-32mm connection	831.8643	10.49%	10.49%	10.49%	10.49%
33-40mm connection	1455.9160	10.49%	10.49%	10.49%	10.49%
41-50mm connection	2287.6779	10.49%	10.49%	10.49%	10.49%
51-80mm connection	3327.6413	10.49%	10.49%	10.49%	10.49%
81-100mm connection	4811.5241	10.49%	10.49%	10.49%	10.49%
101-150mm connection	6720.9542	10.49%	10.49%	10.49%	10.49%
151+mm connection	8878.0509	10.49%	10.49%	10.49%	10.49%
1.2 Urban Residential Water Usage Charges (per kL)					
Usage Charge Group 1 Portland, Heywood and Port Fairy					
Usage Charge Block 1 (0-438 litres/day)	1.0760	8.91%	8.91%	8.91%	8.91%
Usage Charge Block 2 (439-822 litres/day)	1.2917	8.91%	8.91%	8.91%	8.91%
Usage Charge Block 3 (822+ litres/day)	1.9375	8.91%	8.91%	8.91%	8.91%
Usage Charge Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool					
Usage Charge Block 1 (0-438 litres/day)	1.0531	9.50%	9.50%	9.50%	9.50%
Usage Charge Block 2 (439-822 litres/day)	1.2642	9.50%	9.50%	9.50%	9.50%
Usage Charge Block 3 (822+ litres/day)	1.8963	9.50%	9.50%	9.50%	9.50%
Darlington Usage all usage (per kL)	0.3462	9.50%	9.50%	9.50%	9.50%
Usage Charge Group 3 Balmoral, Caramut, Cavendish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington					
Usage Charge Block 1 (0-438 litres/day)	1.2952	12.66%	12.66%	12.66%	12.66%
Usage Charge Block 2 (439-822 litres/day)	1.5549	12.66%	12.66%	12.66%	12.66%
Usage Charge Block 3 (822+ litres/day)	2.3324	12.66%	12.66%	12.66%	12.66%
Usage Charge Group 4 Peterborough, Port Campbell and Timboon					
Usage Charge Block 1 (0-438 litres/day)	0.9978	5.00%	5.00%	5.00%	5.00%
Usage Charge Block 2 (439-822 litres/day)	1.1978	5.00%	5.00%	5.00%	5.00%
Usage Charge Block 3 (822+ litres/day)	1.7967	5.00%	5.00%	5.00%	5.00%
Usage Charge Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford					
Usage Charge Block 1 (0-438 litres/day)	0.9998	10.49%	10.49%	10.49%	10.49%
Usage Charge Block 2 (439-822 litres/day)	1.2002	10.49%	10.49%	10.49%	10.49%
Usage Charge Block 3 (822+ litres/day)	1.8003	10.49%	10.49%	10.49%	10.49%
1.3 Urban Non-Residential and Rural Water Usage Charges (per kL)					
Usage Charge Group 1 Portland, Heywood and Port Fairy					
Potable Water (per kL)	1.2917	8.91%	8.91%	8.91%	8.91%
Non-Potable Water (per kL)	1.0760	8.91%	8.91%	8.91%	8.91%
Usage Charge Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool					
Potable Water (per kL)	1.2642	9.50%	9.50%	9.50%	9.50%
Non-Potable Water (per kL)	1.0531	9.50%	9.50%	9.50%	9.50%

Tariff and Price Component	*Price (1 July 2008)*	*Year 2*	*PPM Year 3*	*Year 4*	Year 5
Usage Charge Group 3 Balmoral, Caramut, Cavendish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington					
Potable Water (per kL)	1.5549	12.66%	12.66%	12.66%	12.66%
Non-Potable Water (per kL)	1.2952	12.66%	12.66%	12.66%	12.66%
Usage Charge Group 4 Peterborough, Port Campbell and Timboon					
Potable Water (per kL)	1.1978	5.00%	5.00%	5.00%	5.00%
Non-Potable Water (per kL)	0.9978	5.00%	5.00%	5.00%	5.00%
Usage Charge Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford					
Potable Water (per kL)	1.2002	10.49%	10.49%	10.49%	10.49%
Non-Potable Water (per kL)	0.9998	10.49%	10.49%	10.49%	10.49%
1.4 Rural Water leasing surcharge					
Infrastructure Leasing Surcharge	1.4520	9.50%	9.50%	9.50%	9.50%
1.5 Un-Connected Service Charge (per annum)					
Service Charge Group 1 Portland, Heywood and Port Fairy	95.9250	8.91%	8.91%	8.91%	8.91%
Service Charge Group 2 Allansford, Noorat/Glenormiston, Camperdown, Cobden, Koroit, Lismore/Derrinallum, Mortlake, Simpson, Terang and Warrnambool	93.8809	9.50%	9.50%	9.50%	9.50%
Service Charge Group 3 Balmoral, Caramut, Cavendish, Dunkeld, Glenthompson, Hamilton, Penshurst and Tarrington	115.4747	12.66%	12.66%	12.66%	12.66%
Service Charge Group 4 Peterborough, Port Campbell and Timboon	207.5566	5.00%	5.00%	5.00%	5.00%
Service Charge Group 5 Dartmoor, Casterton, Coleraine, Macarthur, Merino and Sandford	207.9763	10.49%	10.49%	10.49%	10.49%
1.6 Un-Metered Service Charge (per annum)	800.0000	10.49%	10.49%	10.49%	10.49%

Tariff and Price Component	*Price (1 July 2008)*	*Year 2*	*PPM Year 3*	*Year 4*	Year 5
2. SEWERAGE TARIFFS					
2.1 Sewerage Tariffs Connected service (per annum)					
Service Charge Group 1 Allansford, Koroit, Mortlake, Peterborough and Timboon	536.7170	5.00%	5.00%	5.00%	5.00%
Service Charge Group 2 Camperdown, Cobden, Noorat/Glenormiston, Simpson, Terang and Warrnambool	423.6706	5.00%	5.00%	5.00%	5.00%
Service Charge Group 3 Casterton, Coleraine and Hamilton	305.9607	19.00%	19.00%	19.00%	19.00%
Service Charge Group 4 Heywood and Portland	299.5459	20.00%	20.00%	20.00%	20.00%
Service Charge Group 5 Dunkeld, Port Campbell and Port Fairy	388.2400	13.89%	13.89%	13.89%	13.89%
2.2 Sewerage Tariffs Un-Connected service (per annum)					
Service Charge Group 1 Allansford, Koroit, Mortlake, Peterborough and Timboon	161.0151	5.00%	5.00%	5.00%	5.00%
Service Charge Group 2 Camperdown, Cobden, Noorat/Glenormiston, Simpson, Terang and Warrnambool	127.1012	5.00%	5.00%	5.00%	5.00%
Service Charge Group 3 Casterton, Coleraine and Hamilton	91.7882	19.00%	19.00%	19.00%	19.00%
Service Charge Group 4 Heywood and Portland	89.8638	20.00%	20.00%	20.00%	20.00%
Service Charge Group 5 Dunkeld, Port Campbell and Port Fairy	116.4720	13.89%	13.89%	13.89%	13.89%

ANNEX E: Trade Waste Volume & Load Charges

All charges below are real charges and it is proposed that they will be subject to CPI adjustment.

a) Warrnambool sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.458	0.464	0.473	0.483	0.489
BOD	$/kg	1.012	1.094	1.262	1.280	1.349
Suspended Solids	$/kg	0.208	0.211	0.214	0.217	0.220
Ammonia	$/kg	0.829	0.939	1.177	1.194	1.285
TDS	$/kg	0.064	0.460	0.457	0.455	0.453

b) Hamilton sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.836	0.925	0.992	1.040	1.048
BOD	$/kg	0.945	1.323	1.363	1.388	1.404
Suspended Solids	$/kg	0.376	0.551	0.568	0.576	0.581
Ammonia	$/kg	n/a	n/a	n/a	n/a	n/a
TDS	$/kg	0.225	0.723	0.714	0.706	0.698

c) Portland sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	0.889	0.911	0.929	1.022	1.253

d) Port Fairy sewerage system:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	1.383	1.720	1.796	1.845	1.889

e) Other Systems: Camperdown, Casterton, Cobden, Coleraine, Dunkeld, Heywood, Mortlake, Port Campbell, Simpson, Terang, Timboon sewerage systems:

Characteristic	Charge Basis	2008-09	2009-10	2010-11	2011-12	2012-13
Volume	$/kL	1.395	1.445	1.510	1.546	1.563

Trade Waste Volume Discharge Factors

Code	Property Type Description	Bill Type	Discharge Factor
AB	Abattoir/Knackery	N	95%
CW	Car/Truck Wash	N	95%
DY	Depot/Yard	N	95%
HA	Halls	N	95%
HO	Hospital/Nursing Home	N	95%
HT	Hotel/Motel/Accommodation	N	95%
IC	Indoor Sports Centre	N	95%
LD	Laundries/Laundromats	N	95%
ME	Mechanical business	N	95%
MP	Milk processing	N	95%
OS	Office/Retail Outlet	N	95%
PC	Public Conveniences	N	95%
PH	Printers, photography processing	N	95%
RE	Restaurants/Cafes	N	95%
RFO	Retail/Wholesale food outlets/processing	N	95%
SA	Salons	N	95%
SGF	Sporting/recreation grounds with function	N	95%
SU	Surgery	N	95%
TS	Manufacturing & trade business	N	95%
BD	Business & Dwelling	N	80%
CH	Church	N	80%
ES	Emergency Services	N	80%
KG	Kindergarten/Child Care	N	80%
CP	Caravan Park/Camping Ground	N	50%
HO	Hobby farm	N	50%
SC	School	N	50%
SW	Swimming pool	N	50%
WS	Water Sports Facilities	N	50%
CE	Cemetery	N	25%
CG	Commercial Garden	N	25%
SG	Sporting/recreation grounds (without function rooms)	N	25%
BR	Boat Ramp	N	0%
MS	Median Strip	N	0%
PG	Parks, Gardens & Reserves	N	0%
RB	Roundabout	N	0%
SP	Stand Pipe	N	0%
VLN	Vacant Land	N	0%
WW	Wannon Water property	N	0%
BB	Bed & Breakfast	R	0%
DW	Dwelling	R	0%
UFA	Unit/Flat/Apartment	R	0%
VL	Vacant Land	R	0%
DA	Dairy Farm	RU	0%
FA	Farm (not dairy)	RU	0%
VLR	Vacant Land	RU	0%
HOR	Hobby Farm	RU	0%
DWR	Dwelling	RU	0%
OTR	Other - Rural	RU	0%

Notes:

- Where losses of water occur due to processes carried on in the property or water is not discharged to a public sewer, appropriate adjustments to the trade waste volumetric discharge factor may be made at Wannon Water's discretion.
- Where properties are sub-metered, discharge factors will be adjusted accordingly.

Trade Waste Categorisation

Wannon Water will categorise each trade waste customer into one of 4 different risk management categories according to the trade waste volume produced, the goods and chemicals stored/used on site, the customer's compliance records and the characteristics of the effluent.

Determining load using COD instead of BOD:

Various water corporations across the state use either Biological Oxygen Demand (BOD) or Chemical Oxygen Demand (COD) for organic load based charging. The EPA uses BOD as the measure of compliance of treated effluent and current operations of Wannon Water's water reclamation plants are based on BOD measurement. There is no generalised correlation between BOD and COD which leads to BOD to be chosen as the primary measure of waste strength.

Where a consistent waste stream is encountered, however, as in a controlled trade waste, both parameters can be measured to determine what if any correlation exists for that particular waste stream. If a correlation can be found then COD measurement could be used as a surrogate measurement for BOD. This correlation would need to be confirmed regularly to ensure the waste stream has not changed outcomes.

ANNEX F: Miscellaneous Charges

Item	Unit Rate
Sewer Cut-in	
Sewer connection - 150mm mains and below	$470.00
Sewer connection - 225mm mains and above	$600.00
Sewer Connection Applications	
Residential	$80.00
Non-residential	$120.00
Sewer Disconnection Applications	
Per application	$80.00
Water Tapping Fees (including fire service connections)	
20mm	$182.57
25mm	$205.07
32mm	$334.19
40mm	$345.13
50mm	$396.23
75mm	$1,929.41
100mm	$1,929.41
150mm & above	$2,479.41
Water Meter & Dirt Box	
20mm	$65.92
25mm	$219.71
32mm	$553.74
40mm	$689.98
50mm	$1,925.00
75mm	$1,951.40
100mm	$1,982.20
150mm & above	$2,244.00
Remote Read Water Meter	
20mm	$183.67
25mm	$255.11
32mm and above	At cost plus 10%
Water Disconnection Fee	
All sizes	$100.00
Metered Hydrants	
Metered hydrant - deposit	$1,000.00
Metered hydrant - minimum charge	$28.00
Metered hydrant - 25mm per day	$2.20
Metered hydrant - 65mm per day	$4.40
Metered hydrant - late fee (per day)	$22.00
Volumetric component - non residential price for Group 3	
Standpipe Access	
Key deposit	$200.00

Minimum charge	$28.00
Access charge per day	$2.20
Late fee (per day)	$22.00

Volumetric component - non residential price for the supply zone

Urban Water Service Charge - Standpipe (per annum)	
All sizes	$440.00
Information Statement	
per item including SMR and asset location plan	$70.00
Special Meter Reading	
per reading	$40.00
Tenant Meter Reading Fee	
per reading on occupation or vacation of property	$15.00
Testing Water Meters	
20mm & 25mm	$80.00
32mm & larger	$250.00
Flow Rate Testing	
per test (domestic)	$60.00
Water Quality Testing	
per test	$60.00
Replacement of Galvanised Property Service Pipe	
Replacement of galvanised property service pipe	At cost
Maximum charge	$550.00
Water Restriction Device (installation or removal)	
Business Hours (per connection)	$60.00
After Hours (per connection)	$120.00

New Customer Contributions - Water	
per lot	$500.00
per lot	$1,000.00
per lot	$2,000.00
New Customer contributions - Sewer	
per lot	$500.00
per lot	$1,000.00
per lot	$2,000.00
Existing Infrastructure Processing Fees	
per application	$150.00
New Infrastructure Processing Fees	
1-5 lots	$200.00
6-20 lots	$500.00
21-50 lots	$1,000.00

51+ lots	$2,500.00
New Infrastructure Construction Fees - Water (auditing, GIS & administration)	
1-5 lots (includes a maximum of one audit)	$200.00
6-20 lots (includes a maximum of two audits)	$500.00
21-50 lots (includes a maximum of three audits)	$1,000.00
51+ lots (includes a maximum of five audits)	$2,500.00
New Infrastructure Construction Fees - Sewer (auditing, GIS & administration)	
1-5 lots (includes a maximum of one audit)	$200.00
6-20 lots (includes a maximum of two audits)	$500.00
21-50 lots (includes a maximum of three audits)	$1,000.00
51+ lots (includes a maximum of five audits)	$2,500.00
New Infrastructure Construction Fees - additional auditing	
Water and/or sewer (per labour hour)	$100.00
Infrastructure Processing or Construction Fees - non standard items	
Per item	at cost plus 10%
Agreements - water, sewer, build-over & credit	
per item prepared	$60.00
Dishonoured Payment Charge	
per dishonoured payment	Bank charge
Copy of Drainage Plan	
per copy	at cost
On-site Locations	
Where required < 48 hours	$100.00
Pressure and Flow Rate Test	
per test including for fire service	$300.00
Receival of Effluent	
per application	$60.00
per kL	$15.00
Trade Waste Services	
Application fee - (all categories)	$170.00
Development of trade waste agreement - category 3	$2,100.00
Development of trade waste agreement - category 4	$2,100.00 plus legal fees
Annual fee - category 1	$250.00
Annual fee - category 2	$250.00
Annual fee - category 3	negotiated
Annual fee - category 4	negotiated

Re-sampling & analysis of non-compliant trade waste		at cost plus 10%
Asset protection fee		$900.00
Contravention Charges		
Minor violation - category 1 & 2		$315.00
Major violation - category 3 & 4		$630.00
Minor or Major violation category 3 & 4	negotiated	
Trade waste charge unit		$1.7164

Private Fire Service	
Application fee	$110.00
Sealing first fire hose tap	$37.00
Sealing additional fire hose tap	$4.00
Resealing fire hose tap	$220.00
Backflow Prevention	
Application fee	$110.00
Contravening charges - reporting violation	$150.00
Contravening charges - compliance	$300.00
Annual service fee - per device	$50.00

ANNEX G: Indicative Price Rises

This annex provides indicative examples of the impact of the proposed price rises on illustrative households. The three major urban centres are each modelled for four different levels of consumption namely 100/200/300/400kL/yr. This approach provides a rich mix of examples and covers all three tiers of the inclining block tariff.

Portland			**2007-8**	**2008-9**	**2009-10**	**2010-11**	**2011-12**	**2012-13**
Water	100	kL	$254.23	$203.52	$221.66	$241.42	$262.93	$286.36
Sewerage			$215.18	$299.55	$359.46	$431.35	$517.62	$621.15
Total			$469.41	$503.07	$581.12	$672.77	$780.55	$907.51
Water	200	kL	$319.75	$319.75	$348.25	$379.28	$413.09	$449.90
Sewerage			$246.39	$299.55	$359.46	$431.35	$517.62	$621.15
Total			$566.14	$619.30	$707.71	$810.64	$930.71	$1,071.05
Water	300	kL	$395.34	$448.92	$488.93	$532.50	$579.96	$631.65
Sewerage			$277.61	$299.55	$359.46	$431.35	$517.62	$621.15
Total			$672.95	$748.47	$848.39	$963.85	$1,097.58	$1,252.79
Water	400	kL	$478.50	$642.67	$699.95	$762.33	$830.27	$904.27
Sewerage			$308.82	$299.55	$359.46	$431.35	$517.62	$621.15
Total			$787.32	$942.22	$1,059.41	$1,193.68	$1,347.89	$1,525.41

Warrnambool			**2007-8**	**2008-9**	**2009-10**	**2010-11**	**2011-12**	**2012-13**
Water	100	kL	$265.28	$199.19	$218.11	$238.83	$261.52	$286.37
Sewerage			$388.24	$423.67	$444.85	$467.10	$490.45	$514.97
Total			$653.52	$622.86	$662.97	$705.93	$751.97	$801.34
Water	200	kL	$336.96	$312.94	$342.67	$375.22	$410.87	$449.90
Sewerage			$388.24	$423.67	$444.85	$467.10	$490.45	$514.97
Total			$725.20	$736.61	$787.52	$842.32	$901.32	$964.88
Water	300	kL	$408.64	$439.36	$481.10	$526.81	$576.85	$631.65
Sewerage			$388.24	$423.67	$444.85	$467.10	$490.45	$514.97
Total			$796.88	$863.03	$925.95	$993.90	$1,067.30	$1,146.63
Water	400	kL	$516.19	$628.99	$688.75	$754.18	$825.82	$904.28
Sewerage			$388.24	$423.67	$444.85	$467.10	$490.45	$514.97
Total			$904.43	$1,052.66	$1,133.60	$1,221.27	$1,316.27	$1,419.25

Hamilton			2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
Water	100	kL	$293.12	$245.00	$276.01	$310.94	$350.30	$394.64
Sewerage			$265.25	$305.96	$364.09	$433.27	$515.59	$613.55
Total			$558.37	$550.96	$640.10	$744.21	$865.89	$1,008.19
Water	200	kL	$399.86	$384.91	$433.63	$488.51	$550.34	$620.00
Sewerage			$265.25	$305.96	$364.09	$433.27	$515.59	$613.55
Total			$665.11	$690.87	$797.72	$921.78	$1,065.93	$1,233.55
Water	300	kL	$506.60	$540.40	$608.80	$685.85	$772.66	$870.46
Sewerage			$265.25	$305.96	$364.09	$433.27	$515.59	$613.55
Total			$771.85	$846.36	$972.89	$1,119.12	$1,288.25	$1,484.01
Water	400	kL	$516.19	$773.63	$871.55	$981.87	$1,106.14	$1,246.15
Sewerage			$265.25	$305.96	$364.09	$433.27	$515.59	$613.55
Total			$781.44	$1,079.59	$1,235.65	$1,415.14	$1,621.73	$1,859.70

ANNEX H: Recycled Water Pricing Principles

Recycled Water - Pricing Principles

The following pricing principles under-pin Wannon Water's recycled water pricing policy:

- Where an agriculture recycling scheme is in place, the 'polluter pays' principle applies and the cost of recycling will be met through sewerage service charges and trade waste charges.
- Where additional water treatment is required for potable substitution, the 'beneficiary pays' principle applies full cost recovery to the recycled water users where possible. As a minimum, charges for recycled water must cover operating costs (including administration and compliance costs).
- Where the benefits of recycling accrue to the wider community, and no contract exists for the sale of recycled water (such as for environmental flows) the cost of the project will be met from revenue from other services.
- Revenue will be maximised. Price will be selected to reflect the customer's willingness to pay, guided by the marginal benefits of recycled water use. This will assist in allocating a scarce resource to the highest value user.
- Pricing arrangements will have regard to the long-term sustainability of customers and their operations. Customers must remain viable to ensure ongoing demand.
- The price for recycled water will include a volumetric component to provide a signal to conserve resources.
- The price will provide an incentive for use of recycled water as an alternative to potable or raw water wherever suitable, to maximise the uptake of recycled water.
- The price will avoid perverse incentives, which may inadvertently encourage risk-taking in the use of water. If the price is too low, it may encourage customers to substitute recycled water for (more expensive) potable water when it is not appropriate (i.e. for drinking).
- Where full cost recovery is not possible, the project will be cross-subsidised by charges for other water and sewer services. The full costs and benefits of recycling (including environmental and social benefits) are to be identified and measured, and consultation will take place with the community to obtain their approval for expenditure on the project.

Willingness to Pay Principles

The upper price bound will be set by the customer's willingness to pay. The following elements should be considered when determining customer's willingness to pay;

- The availability and price of substitutes, particularly potable water and raw water (which may provide a price ceiling to recycled water);
- The value or benefit of recycled water for the proposed use;
- Any costs which will be incurred in using recycled water (capital and operating costs of delivery network, compliance costs);
- The value of additional benefits to the user of using recycled water as compared to alternative water sources (i.e. the benefit of dissolved nutrients, environmental benefits,

additional security of supply if recycled water use is not subject to restrictions during drought periods);

- The certainty of supply and length of tenure, particularly relative to any capital investments required to use recycled water; and
- Any other attitudes or perceptions held by the customer (particularly those relating to risk and quality).

Pricing Structure

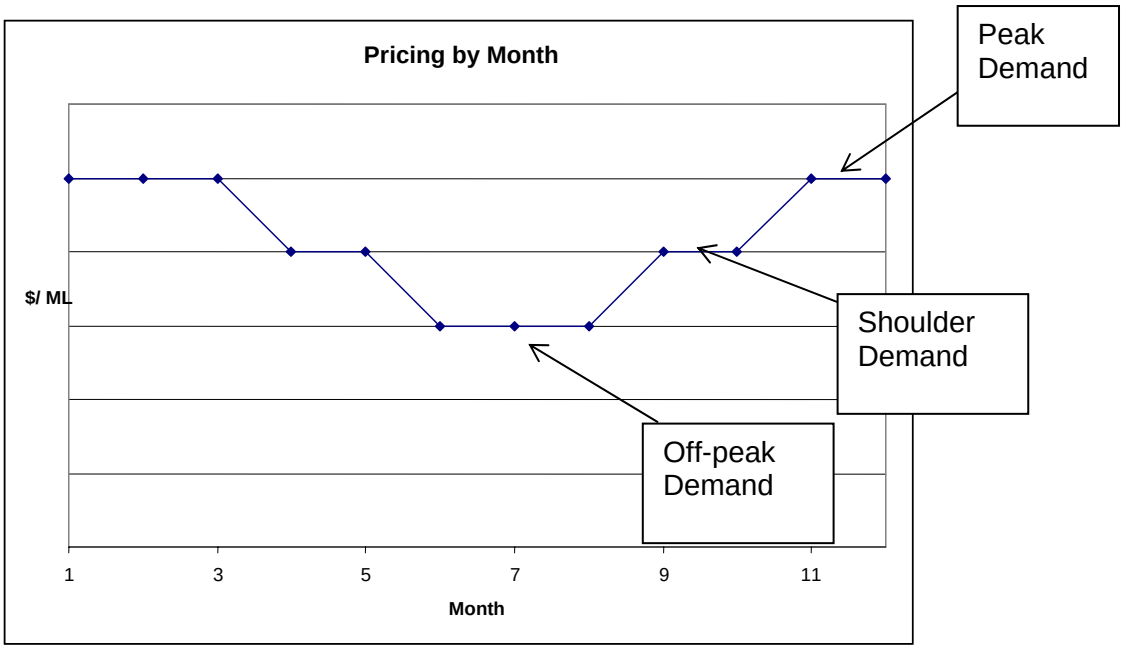
The pricing structure is required to send appropriate signals to the customer to ensure sustainable management of the recycled water while reducing Wannon Water's risk of having a Section 30A discharge.

a) Pricing by Time of Year

Peak Demand - this allows a higher tariff to be charged during summer when the recycled water is at peak demand. This will then allow Wannon Water to account for the significant cost of storing the water until the summer.

Shoulder Demand – Is during Spring and Autumn when the irrigation season is commencing.

Off-Peak Demand – charges are lower during Winter as recycled water taken at this stage allows Wannon Water to manage small storages and therefore reduce costs.



b) Pricing Structure by Volume

Pricing also applies differential charges to three different categories of recycled water:

Base Load – The base load is the anticipated sewerage volumes into the treatment plant. The pricing structure by month would apply to this volume.

At risk load – Is infiltration and carry over water from the previous year. This water is not guaranteed but can be purchased at a lower cost.

High Infiltration Load – Is above the "at risk" load and places significant pressure on Wannon Water's ability to store the recycled water. A lower price reflects the benefits to Wannon Water from its consumption.