

ANNUAL EFFICIENCY REPORT

November 2009

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EXECUTIVE SUMMARY

The *Annual Efficiency Report* is a key component of the Government's annual determination of SA Water's water and wastewater prices. The Report aims to demonstrate that the Corporation's activities are undertaken efficiently and effectively within the requirements of the legislative and operating environment of the Corporation.

The principal legislative instrument bearing on the Corporation's efficiency is the Public Corporations Act 1993 under which the SA Water Board is charged with the responsibility to 'secure continuing improvements of performance' (section 14). The Corporation's operations are also specifically bound by the Waterworks Act 1932 and the Sewerage Act 1929 and their extensive sub-ordinate legislation.

As a public corporation, SA Water through its Board, is directly responsible to its Minister, the Minister for Water, for its operations and, as part of the wider public sector, must comply with the suite of governance and accountability processes established to assure the community that public services are provided appropriately and efficiently. Some of these include the annual Parliamentary estimates and review process, the Parliamentary Committees (e.g. the Economic and Finance Committee, Public Works Committee, the Environment, Resources and Development Committee) and the independent investigative and audit processes of the South Australian Auditor-General.

In addition to this legislative framework the Corporation is also bound by an array of operational legislative instruments, Federal, State and local, that directly impact on the manner in which the Corporation provides its services. These include the Federal Environment Protection and Biodiversity Conservation Act 1999, and Trade Practices Act 1974, and the South Australian Environment Protection Act 1991.

In addition to this overlay of public accountability and scrutiny, in response to the reforms arising from the National Competition Policy of 1993, the urban water industry in Australia had since 1995, published a comprehensive annual performance report, *WSAAfacts*. This publication, the most detailed performance report of any industry sector in the nation, presented information about each participating water utility's performance in a range of customer service, system, water quality, environmental and financial indicators. Since 2004 - 05 this document has been subsumed by a larger performance report required as part of the National Water Initiative. The National Performance Report (NPR) now includes a greater range of performance criteria and also encompasses the non-urban water sector. SA Water has actively participated in this industry performance reporting.

Recognising the need to drive the Corporation's operations in an holistic and sustainable manner, in 2006 SA Water developed a set of strategic objectives and targets that guide the decisions and planning processes of the business: these are incorporated into a Strategic Map (SM).

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The SM is built on five core pillars:

- Customer Service and Water Quality;
- System Performance;
- Sustainable Future;
- People and Culture; and
- Commercial Success.

The SM is an active part of the business's activities and achievement of the performance targets is reviewed on a monthly basis and reported to the Board. Each year a review is conducted regarding performance against each Strategic Key Performance Indicator (KPI) for the preceding year. These reviews are then consolidated into an Annual SM KPI Review. The review provides analysis concerning actual performance, the accuracy of forecasting during the year and what actions were taken or are planned.

The *Annual Efficiency Report* includes for the second year results of this internal performance reporting. This performance review is complemented by comparison benchmarking of performance with a range of other water utilities in both urban and non-urban areas.

Due to the level of detail contained in the report, this Executive Summary is necessarily confined to a high level summation of the performance within the subheadings of the SM structure.

Customer Service and Water Quality

SA Water delivered a high level of service to both its metropolitan and regional customers in 2008-09, in relation to customer service indicators. Regional service levels achieved in 2008-09 improved significantly when compared with the levels achieved in 2007-08.

Water restrictions and a new rebates program led to unprecedented levels of customer contact in 2008-09. During this period, the Customer Contact Centre relocated to Victoria Square and this, combined with the increase of customer contacts, impacted on the Corporation meeting some of its internal customer targets.

Annual customer survey results reveal that, overall, customers are very satisfied with the levels of services provided by the Corporation. SA Water is aiming to further improve its customer service targets by 2013-14.

SA Water is also delivering a very high level of service to metropolitan and regional customers in water quality as reflected in compliance with the Australian Drinking Water Guidelines. This is despite the water quality challenges of generally poor source water quality and the current dry climatic conditions.

The Corporation's performance in the metropolitan area relative to other water utilities has been strong in both microbiological compliance and limiting water quality complaints.

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The regional performance in microbiological compliance was strong relative to other water utilities. Whyalla reported a strong performance in limiting water quality complaints, while Mt Gambier reported a poor result relative to previous years due to a change in source water for a couple of months.

SA Water is aiming to improve or maintain these already high levels of service. Due to current climatic conditions, SA Water will increase its focus on source water monitoring which may increase costs in the short-term.

System Performance

When benchmarked against other water utilities for system performance SA Water is achieving a high level of service in the provision of water services in the metropolitan area. In the regional area, the Corporation reported a high level of service in Mt Gambier and moderate level of service in Whyalla.

Reporting in several areas is still being fine-tuned, but as data quality improves the Corporation has strategies in place to improve system performance.

SA Water continues to monitor its performance in sewer overflows and is seeking to further reduce overflows in the metropolitan area by 2013-14 while maintaining its regional targets.

The Corporation reported a decrease in the number of sewer main breakes and chokes in 2007-08 compared with 2006-07, in the metropolitan as well as regional areas. The metropolitan level of performance was at the higher end of sewer main breaks and chokes, when compared with other metropolitan utilities. Both regions had excellent performance levels and were the top two performing regional utilities for 2007-08.

While SA Water's sewer assets are experiencing an increasing trend in chokes due to dry conditions, abatement programs as well as targeted preventative maintenance have been put in place to manage the impact of these incidents on customers.

SA Water is seeking to reduce the impact of sewerage asset failures on customers by 2013-14. To meet these objectives, the Corporation is increasing its sewer cleaning and preventative maintenance programs in an attempt to further improve these service levels.

Sustainable Future

The implementation of water restrictions has had a positive impact on reducing average water consumption, with the 2007-08 result showing a continued decrease in average consumption. The Corporation is undertaking several initiatives to continue this trend.

The Corporation has maintained compliance with its water licences despite the significant challenges presented by the current drought conditions. Maintaining compliance imposes cost pressures on SA Water in the form of investments in water security initiatives.

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SA Water has generally performed at a high level in sewerage services. In particular, it has continued as a national leader in recycling water, and maintained a strong performance in re-using bio-solids as well as sewerage treated to the tertiary level. Furthermore, the Corporation has complied with all Environment Protection Agency (EPA) licence conditions and has reduced the number of serious wastewater notifications to the EPA.

The Corporation will continue to closely monitor the risks associated with overflows to the environment where its performance is at the average of compared utilities in the metropolitan area.

Going forward SA Water is aiming to improve wastewater service levels by increasing the percentage of wastewater recycled and reducing the number of Type 1 and Type 2 wastewater notifications to the EPA. Where performance is already high, SA Water will aim to maintain service levels into the future.

For its metropolitan sector, SA Water's net greenhouse gas emissions in recent drought years are high compared to other utilities due to its electricity use caused by the need to pump water from the River Murray. Up to 90% of Adelaide's water is supplied from the River Murray in drought years.

SA Water is seeking to reduce its greenhouse gas emissions going forward to comply with the Kyoto Protocol (108% of 1990 levels by 2012) and several initiatives are being implemented to enhance electricity efficiency as well as reduce the Corporation's environmental impact.

Commercial Success

Water security continues to be the primary driver for significant increases in operating costs for the Corporation. Due to drought conditions SA Water has been pumping around 90% of its annual metropolitan water supply from the River Murray since 2006-07, as well as enforcing continued water restrictions. In the future water security will be provided by the Adelaide Desalination Plant (ADP), although this level of security will come at a significant cost, in particular the increased electricity costs associated with the energy intensive nature of the desalination process.

The Corporation continued its high performance in regards to operating costs in comparison to other entities with all four business segments (metropolitan water supply, metropolitan sewerage services, regional water supply and regional sewerage services) reporting well below the weighted average for 2007-08. The Corporation's operating costs per property were low compared to the other major metropolitan and regional water utilities in Australia. Since 2003-04 costs have increased marginally, due mainly to the Environmental Improvement Program that has delivered significant improvements in environmental compliance and performance.

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The Corporation's operating cost per property for water supply for 2007-08 decreased marginally following a substantial increase in 2006-07. The majority of the metropolitan entities reported an increase in real operating cost per property for water supply in 2007-08, as utilities worked to secure additional water supplies and manage customer demand in the current drought conditions. Despite these challenges, the Corporation's metropolitan operating cost per property was in the lower bounds of industry performance, having the fourth lowest operating cost per property for metropolitan water services. The Corporation has reduced its electricity costs per kilolitre for major pumping and is undertaking focused work to actively improve electricity efficiency going forward.

Other cost pressures relating to the climatic conditions have been incurred in maintaining service levels and responsiveness to customers, ensuring water licences are not exceeded and planning for future water security measures, including the H₂Ome Rebate Scheme and enforcement of water restrictions.

The Corporation continued its high performance with respect to metropolitan sewerage services, when compared to other entities, and had the lowest operating cost per property in 2007-08, a trend since 2002-03.

SA Water's regional operating cost per property for water services is second lowest of the six companies compared for both 2006-07 and 2007-08. SA Water's operating costs per property for regional water supply display a marginal increasing trend since 2003-04 largely associated with several key regional water initiatives which increased the amount of treated water delivered to customers. An increase in operating costs in 2007-08 is largely due to the Country Water Quality Improvement Program – Stage 3, where a further 17 regional communities now receive treated and filtered water from the River Murray.

SA Water's regional operating cost per property for sewerage is in the midrange of the six companies compared for both 2006-07 and 2007-08 and well below the regional weighted average. The Corporation's real operating costs for regional sewerage services have increased marginally in 2007-08 due to increased operating costs associated with upgrades to several regional wastewater treatment plants and a general increase in workload as a result of expanding hills and regional development. These upgrades have had a positive impact on service standards, increasing the percentage of water recycled and helping SA Water ensure the Corporation continues to be EPA compliant.

Going forward the Corporation's real operating cost per property in the water business is expected to increase. The increases are driven by water security initiatives, the Adelaide Desalination Plant (ADP) being the most significant, as well as continuing the water efficiency rebates and water restrictions. Sewerage costs are expected to increase slightly from 2009-10, reflecting an increase in environmental compliance requirements as well as the need to meet demand growth.

Historically, the Corporation's level of capital expenditure for metropolitan water supply has been low, compared with other utilities. In 2007-08, the Corporation increased its level of capital expenditure and this trend is set to continue as enhanced levels of water security are delivered, with the ADP being a significant component of capital expenditure for 2008-09 through to 2011-12.

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SA Water has delivered a number of significant water supply projects in regional South Australia from 2001-02 to 2007-08. These projects have significantly improved the level of service to several areas.

The Corporation's capital expenditure in relation the wastewater has remained below the industry's weighted average for both metropolitan and regional segments from 2002-03 to 2007-08. The capital spend has been focused predominantly on meeting enhanced environmental standards and reducing the impact of the Corporation's wastewater treatment plants on the environment. Delivery of these projects has increased the levels of water recycled as well as reduced the environmental impacts of the Corporation's wastewater treatment plants.

Forecast capital expenditure is set to peak in 2009-10 primarily driven by the ADP, demonstrating the focus on improving the State's water security. In the sewerage services segments the emphasis will remain on reducing the Corporation's environmental impact and ensuring capacity to meet demand growth.

Value for Money

The Customer Satisfaction Survey conducted by the Corporation in June 2009 indicates customers are generally very satisfied with the range and quality of services provided by the Corporation. Eighty-four per cent (84%) of responses to the survey consider that the price of water represents good value.

The standard of service offered by the Corporation to its customers is predominately at the mid-to-high range in the metropolitan area and in the mid range in the regional areas when compared with the service levels offered to customers by the other water bodies.

While SA Water's operating costs for water supply and wastewater services are comparatively low in Adelaide when compared with other Australian cities, average water and wastewater bills are comparatively mid range, but above the weighted average. To some extent this level of contribution may reflect the relative quality of assets which provided a generally high level of service.

In addition to the quality service provided to customers, the Corporation provides the Customer Assist Program, aimed at identifying customers who are having difficulties paying their bills and providing assistance as early as possible to help prevent customers falling into a utility debt spiral.

Executive Summary

1. Introduction

1.1 *AIM*

The primary purpose of this report is to review the efficiency of the operations of the South Australian Water Corporation (“SA Water” or the “Corporation”). The review is undertaken as a key input into processes for:

- The annual pricing submission – to assist Cabinet in its deliberations about pricing by demonstrating that water and wastewater prices are based on “efficient resource pricing and business costs for a given or improving level of service” (COAG Water Reform Agreement 2003) and accordingly are compliant with CoAG pricing principles;
- Business planning – to identify key trends, strengths, weaknesses, opportunities and threats. These are factored into strategy setting processes as a part of the environmental scan process; and
- Budgeting – to demonstrate to the Government (as owner) that the Corporation’s budgets and financial targets are reflective of an efficient business.

1.2 *SCOPE AND STRUCTURE*

The report firstly focuses on the Corporation’s performance to date. It assesses service levels provided by the Corporation and how much it has cost the Corporation to deliver these services to customers. The Corporation’s past performance for both metropolitan and regional areas is also benchmarked against comparable Australian utilities for service levels and cost of delivery.

The report then builds a bridge from past performance to future performance to show how the Corporation is aiming to maintain or improve its service levels to customers. The report assesses whether the cost pressures affecting the Corporation allow these increased levels of service to be delivered and whether the remaining cost base is efficient.

Finally, the report provides an analysis of the value for money that customers obtain from using the Corporation’s services. This is also benchmarked against the value for money of other utilities based upon publicly available information.

For presentation purposes, the report is structured on four of the five Strategic Objectives of the Corporation, namely:

- Customer Service & Water Quality (Chapter 2);
- System Performance (Chapter 3);
- Sustainable Future (Chapter 4); and
- Commercial Success (Chapter 5).

Chapter 6 details the Value for Money analysis.

1.3 SOURCE DATA

The data contained in this report has been sourced from several key performance measurement tools including:

- SA Water's internal Strategic Map (SM);
- National Performance Report (NPR), published by the Water Services Association of Australia (WSAA) and the National Water Commission (NWC); and
- SA Water's financial accounts.

Note that financial data presented is consistent with the Corporation's approved 2009-10 Budget (and forward estimates). The financial data does not include recent updates, such as the 2009-10 Mid Year Budget Review or the 2010-11 Pricing decision.

All figures presented in Chapter 5 are in real 2007-08 dollars, consistent with the 2007-08 NPR. Capital expenditure has also been stated on a net of Federal funding basis, consistent with the regulatory approach used to set water and sewer prices.

For the purpose of this Report, comparisons for metropolitan operations are made with twelve similar metropolitan water and wastewater utilities.

For regional operations, comparisons of performance are made with seven other regional water and wastewater utilities.

For the benchmarking analysis, where a utility has not reported data the utility's name is not shown in the Table.

Further details on the source data used in this Report are provided in Attachment 3.

1.4 COMMERCIAL IN CONFIDENCE

This Report is based on an earlier draft that was prepared for Cabinet as part of the 2010-11 pricing decision.

The Corporation has made editorial changes and excluded, where necessary, information that is commercial in confidence in preparing this version of Report.

2. Customer Service and Water Quality

2.1 CUSTOMER SERVICES

While SA Water continued to deliver a high level of service, it was unable to meet all of its internal targets with regard to customer services.

Water restrictions and a new rebates program led to unprecedented levels of customer contact in 2008-09. During this period, the Customer Contact Centre relocated to Victoria Square and this, combined with the increase of customer contacts, impacted on the Corporation meeting its internal customer targets.

Annual customer survey results reveal that, overall, customers are very satisfied with the levels of service provided by the Corporation. SA Water is aiming to further improve its customer services targets by 2013-14.

This section provides an overview of the Corporation's performance in customer service in terms of the following indicators featured in either the SM or NPR.

Section	Indicator	SM	NPR
2.1.1	Compliance with Draft Customer Charter – Metropolitan Water & Sewer Service	✓	
2.1.2	Compliance with Draft Customer Charter – Regional Water & Sewer Service	✓	
2.1.3	Compliance with Draft Customer Charter – Customer Contact	✓	
2.1.4	Per cent of calls answered by an operator within 30 seconds		✓
2.1.5	Compliance with Draft Customer Charter – New Connections	✓	
2.1.6	Customer Satisfaction Index	✓	

Four of these indicators (see 2.1.1, 2.1.2, 2.1.3 and 2.1.5), each involving internal measures included in the Corporation's SM, address compliance with the Draft Customer Charter and

hence compliance with a range of criteria (service standards). For example, in relation to Metropolitan Water & Sewer Service there are currently 32 criteria against which service is assessed including measures in relation to restoration of unplanned water supply interruptions; restoration of unplanned sewer interruptions; and attendance and clean up times of sewer overflows. The measure in relation to Regional Water & Sewer Service is similar involving assessment of performance against 20 criteria. The measures in 2.1.3 and 2.1.5 similarly reflect compliance against multiple criteria although the number of criteria (i.e. as specified in the Draft Customer Charter) is less.

2.1.1 Compliance with Draft Customer Charter – Metropolitan Water & Sewer Service (SM)

This KPI measures compliance against the following service standards in the Draft Customer Charter for the metropolitan area: restoration of unplanned water supply interruptions; restoration of unplanned sewer interruptions; and attendance and clean up times of sewer overflows.

Strategic Map Targets		2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Achieve Compliance with Draft Customer Charter					
Water & Sewer Services	Metro	19/20 (19/20)	31/32 (30/32)	31/32 (30/32)	95%

Note: Targets for each year are shown in brackets below the annual result. The number of criteria reported increased from 20 in 2006-07 to 32 in 2007-08 and is subject to change due to the draft nature of the Customer Charter.

Performance

Of the 32 criteria reported in 2008-09, 31 (97%) met their associated target thus achieving the overarching target in respect of compliance with the Draft Customer Charter target - meeting the targets for 30 of the 32 criteria. The one criterion not achieved in 2008-09, was 'Attendance at 100% of Water Supply Complaints within 2 Business Days'. Performance of 99.3% was achieved against a target of 100%, with five of the 726 events missed. Four of these five missed events occurred in the month of March 2009, and were a result of available resources being diverted to attend to an unusually high number of reported bursts. While the target was not achieved the level of service provided was still of a very high standard.

Going Forward

Performance going forward is expected to remain at a high level through to 2013-14.

2.1.2 Compliance with Draft Customer Charter – Regional Water & Sewer Service (SM)

This KPI measures compliance against the following service standards in the Draft Customer Charter in regional areas: restoration of unplanned water supply interruptions; restoration of unplanned sewer interruptions; and attendance and clean up times of sewer overflows.

Strategic Map Targets		2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Achieve Compliance with Draft Customer Charter					
Water & Sewer Services	Regional	20/31 (29/31)	22/33 (31/33)	31/33 (31/33)	95%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

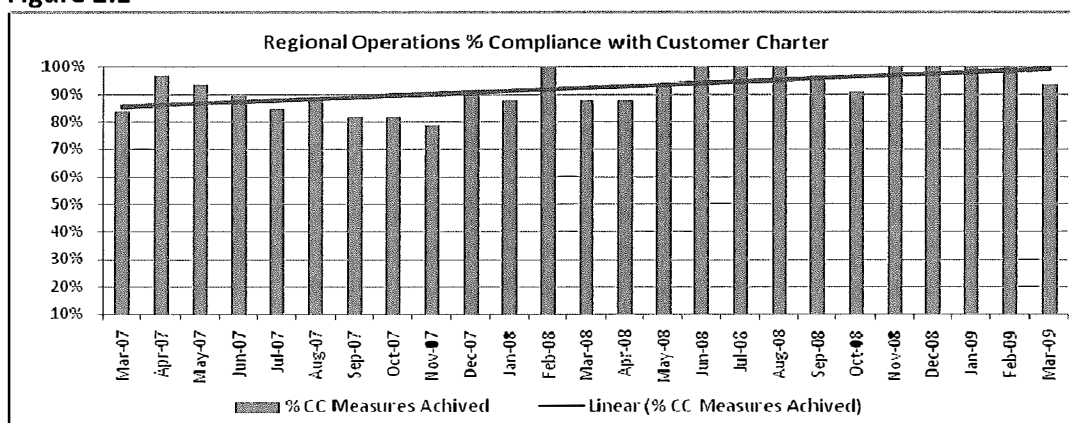
Performance

Of the 33 criteria reported in 2008-09, 31 (94%) met their associated target thus achieving the overarching target in respect of compliance with the Draft Customer Charter target. Reasons for missing events were either:

- conflicting priorities when other events occurred at the same time;
- knowingly missing events for occupational health and safety reasons (such as dangerous conditions at night); and
- scheduling process failures, whereby the priority event was not called through to the field within the prescribed timeframe.

In 2009-10, the basis of calculation for this indicator will be changed to reflect the actual number of events achieved as opposed to the number of Draft Customer Charter criteria met. The 2008-09 results are consistent with the future basis for determining compliance. Of the 3,432 Customer Charter related jobs logged for the year, 3,411 were completed on target. This reflects a 99% compliance as compared to the 2009-10 compliance target of 95%.

Figure 2.1



* CC – Customer Charter

Going Forward

The Corporation is well on track to achieve the performance target for 2013-14. As indicated by Figure 2.1 above, actions taken by the Corporation have had a positive impact on performance, with performance expected to continue to trend upwards.

2.1.3 Compliance with Draft Customer Charter – Customer Contact (SM)

This KPI measures compliance against the following customer contact standards in the Draft Customer Charter: average time to answer a telephone call to the Corporation's Customer Contact Centre; percentage of all routine written enquiries responded to within 10 working days; percentage of complaints responded to within 5 working days; percentage of all investigative correspondence resolved within 20 working days; percentage of enquiries resolved at first point of contact face to face or via the telephone; and percentage of applications to discharge trade waste into the sewer system processed within 10 working days.

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Achieve Compliance with Draft Customer Charter				
Customer Contact	3/4 (4/4)	3/6 (6/6)	2/6 (6/6)	100%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result. The number of criteria reported increased from 2006-07 to 2007-08 and is subject to change due to the draft nature of the Customer Charter.

Performance

A record 800,000 enquiries and requests were managed by the Customer Contact Centre over 2008-09 with responses to customers, either in person, in writing or by phone. Water restrictions and a new rebates program were the key issues that led to the unprecedented levels of customer contact.

In 2008-09, 2 of the 6 Customer Contact criteria were met. These were:

- percentage of applications to discharge trade waste into the sewer system processed within 10 working days; and
- percentage of complaints responded to within 5 working days.

Reasons for not meeting remaining criteria are as follows:

- telephone customers waited on average 28 seconds for their call to the Customer Contact Centre to be answered (compared to the target of 20 seconds) for four months of the year. This result was predominately due to physical relocation of the Customer Contact Centre to the new building in Victoria Square. Delays arose primarily due to new communications technology, training of new staff and resourcing the new front counter. By February, call waiting times were back down to around 20 seconds;

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- the target for percentage of all routine written enquiries responded to within 10 working days was missed marginally due to resources being diverted to respond to the increased call volumes and other issues associated with the relocation to Victoria Square; and
- percentage of enquiries resolved at first point of contact, face to face or via the telephone, decreased slightly due to the co-location of functions to the one Victoria Square facility – resulting in redirection to specific areas of the business after first contact.

These non-conforming criteria were all heavily impacted by the relocation to Victoria Square and increased call volumes as these customer contact indicators are inter-related. As call answer time increases, resources are diverted away from other customer contact areas to reduce the call waiting time. Customer contact indicators have now returned to pre-relocation levels.

Going Forward

Customer Contact performance is expected to improve going forward, as reflected by the SM target of 100% in 2013-14. The percentage of enquiries resolved at first point of contact was removed from the Customer Contact criteria in the 2008-09 year as it no longer reflected the intent of the Customer Charter.

2.1.4 Per cent of calls answered by an operator within 30 seconds (%) (NPR)

This KPI measures the proportion of calls that, where the customer has selected a relevant operator option, are answered by an operator within 30 seconds.

As part of the ongoing review of the NPR performance measures, this indicator has replaced 'Connect time to an operator (in seconds)' as reported in previous years. SA Water was unable to report against this new indicator due to the manner in which SA Water stored data (prior to moving to Victoria Square). Due to the magnitude of information accumulated in the SA Water call centre, only the previous 3 months worth of data is stored at any one time.

Going Forward

SA Water's approach to storing data from the Corporation's call centre changed with the move to Victoria Square in November 2008. The required data has been collected for 8 out of 12 months in 2008-09, precluding reporting for 2008-09. SA Water should be able to report on this indicator from 2009-10 onwards.

2.1.5 Compliance with Draft Customer Charter – New Connections (SM)

This KPI measures compliance against the following connection services in the Draft Customer Charter; percentage of standard water connections installed within 15 working days of processing the application and receiving the fees; and percentage of properties with a standard connection to sewer within 20 working days of processing the application and receiving the fees.

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Achieve Compliance with Draft Customer Charter				
New Connections	0/4 (4/4)	0/2 (2/2)	0/2 (2/2)	100%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result. The number of criteria reported decreased from 2006-07 to 2007-08 and is subject to change due to the draft nature of the Customer Charter.

Performance

During the year, the business process for delivery of new water connections was reviewed with parts of the process revised. Improvements are already evident in improved performance in the post implementation months. In the business unit which completes new connections, internal performance targets are being met. Specifically, the business unit completes the new connection within 14 days of logging of the request. The main challenge to the achievement of the target is the time lag between when Customer Services receive the request and when it is scheduled for completion.

Going Forward

SA Water is aiming for improved service levels for new connections going forward to 2013-14.

Improvement in this area remains a focal point for the Corporation. It is expected that projects underway will assist in improving future performance.

2.1.6 Customer Satisfaction Index (SM)

This index is the mean response from the Random Household, Customer Contact Sample and Business Customer satisfaction scores in the annual SA Water Customer Satisfaction Survey.

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Customer Satisfaction Index (residential customers)	8.2 (8.2)	8.0 (8.2)	8.0 (8.3)	8.4

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Chapter 2 – Customer Service & Water Quality

Performance

The annual customer satisfaction survey measures satisfaction with SA Water as a service provider and the Corporation's attributes such as reliability, value for money, responsiveness and water quality.

The 2008-09 survey was conducted in June 2009 and, on a 0 to 10 scale, SA Water achieved overall satisfaction ratings of 8.0 (residential customers) and 7.8 (business customers). These excellent results demonstrate SA Water is continuing to meet the expectations of the overwhelming majority of customers, despite the impacts of drought, water restrictions, and increases in charges and changes in billing procedures (i.e. introduction of quarterly billing).

SA Water's customers rated the Corporation highly in terms of customer service, both over the phone and on-site and the Corporation was regarded as efficient, knowledgeable, professional and responsive. SA Water also scored well in the areas of high importance for consumers, namely, in the reliable supply of safe drinking water and good response times to problems.

While the overall satisfaction rating of 8.0 (residential customers) and 7.8 (business customers) are excellent, the results were short of the overall SM target of 8.3. Value for money has been identified as a key driver of overall customer satisfaction. Given the significant price increases for water in 2009-10, it is not expected that higher satisfaction scores will be achieved in the short term. The five year target of overall customer satisfaction of 8.3 or above will be difficult to achieve in the face of announced and future anticipated price increases for water.

Going Forward

The SM has a long term target of 8.4 by 2013-14.

SA Water is implementing a new customer satisfaction measurement system using the Common Measurement Tool (CMT). This will enable the Corporation's customer satisfaction levels to be compared with all State government departments and agencies. Based on results currently being achieved by other parts of Government, it is expected that the Corporation's results will compare favourably.

In 2008-09, SA Water commissioned a corporate reputation monitor, which will involve qualitative customer research and provide an opportunity for the Corporation to better understand customer and community requirements.

2.2 WATER QUALITY

SA Water is delivering a very high level of service to metropolitan and regional customers in water quality as reflected by compliance with the Australian Drinking Water Guidelines. This is despite the water quality challenges of generally poor source water quality and the current dry climatic conditions.

The Corporation's performance in the metropolitan area relative to other water utilities has been strong in both microbiological compliance and limiting water quality complaints.

The regional performance in microbiological compliance was strong relative to other water utilities. Whyalla reported a strong performance in limiting water quality complaints, while Mt Gambier reported a poor result relative to previous years due to a change in source water for a couple of months.

SA Water is aiming to improve or maintain these already high levels of service. Due to current climatic conditions, SA Water will provide an increased focus on source water monitoring which may increase costs in the short-term.

This section provides an overview of the Corporation's performance in water quality in terms of the following indicators.

Section	Indicator	SM	NPR
2.2.1	Compliance with Australian Drinking Water Guidelines	✓	
2.2.2	Type 1 Drinking Water Quality	✓	
2.2.3	Complaints – Water Quality (per 1,000 properties)		✓
2.2.4	Percentage of Population where Microbiological Compliance was Achieved		✓

2.2.1 Compliance with Australian Drinking Water Guidelines (SM)

This KPI measures compliance with the Australian Drinking Water Guidelines (ADWG) as measured by SA Water's Drinking Water Quality Index (Customer Taps) for metropolitan and regional supplies. The index assesses water quality at customer taps using the health-related criteria of the ADWG, in the following parameters: coliforms, E.Coli, disinfection by-products, free and total chlorine, heavy metals and other health related chemicals.

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Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Achieve Australian Drinking Water Guidelines Compliance	99.8% (99.5%)	99.7% (99.5%)	99.8 (99.8)	99.8%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

ADWG compliance in 2008-09 has been consistent at about 99.8%. This is despite deterioration in source water.

Going Forward

The Corporation's high level of performance is forecast to continue to 2013-14, meeting a target of 99.8% compliance.

Maintaining this high level of end-point compliance will be only part of the challenge. In line with the principles of the ADWG Framework, the Corporation will strive to continue to be proactive to improve key systems and to improve aesthetic (in addition to the 'health-related' criteria) water quality for customers.

New initiatives for 2009-10 currently being explored are (1) improved reporting to Operations (moving to a monthly reporting basis); and (2) ongoing investigations into the treatment of disinfection by-products.

2.2.2 Type 1 Drinking Water Quality (SM)

This KPI relates to the number of Type 1 drinking water quality notifications to the Department of Health. Type 1 incidents are defined as incidents that could cause serious risk to human health. (Note that SA Water does not necessarily have control of type 1 incidents. As such this indicator provides information on SA Water's operating environment rather than SA Water's performance).

The Incident Response Index (IRI) is a ratio of the number of Department of Health reportable incidents with a response within the required target time as a percentage of the total number of incidents. This is a composite index of response effort within predetermined targets against the following parameters: incident entered into Incident Management System; report incident to Department of Health by telephone; written report to Minister for SA Water; initial corrective actions taken; Root Cause Analysis performed; and preventative actions implemented.

Chapter 2 – Customer Service & Water Quality

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Type 1 Drinking Water Quality				
Reduce Type 1 Drinking Water Quality Notifications to Department of Health	50 (60)	80 (54)	91 (49)	90
Improve Water Quality Management Index (WQMI) to 81%	n/a	n/a	n/a	81%
Improve Incident Response Index (IRI)	57% (50%)	67% (60%)	71% (70%)	84%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

During 2007-08, the number of Type 1 drinking water quality incidents reported to the Department of Health increased as a result of improvements made to the way drinking water quality incidents are defined, captured and reported.

While our Type 1 “count” in 2008-09 is high; water quality management of targeted individual water supply systems and management of risks improved. It is worth noting that in August 2009, the Board approved a revised indicator (the Water Quality Management Index) which measures water quality performance through a series of indicators associated with the management of water quality (as well as key quality criteria) rather than according to notifications. The new WQMI Reporting against the new index will commence in 2009-10 reflects the National Drinking Water Quality Guidelines framework.

2008-09 saw increased monitoring in locations considered to be of potential risk due to increases in the number of notifications, as in the case of disinfection by-products. We have an intensified focus on addressing the causes of "preventable" Type 1 notifications such as disinfection failures or inadequate treatment facilities of ground water.

The main causes for the current notifications were:

- Disinfection failures;
- Disinfection by-products (DBPs – mostly in outer reaches of long distribution systems requiring secondary dosing influenced by precursors in the source water);
- Chemical exceedances (mainly due to naturally occurring chemicals in the source water);
- Protozoa detections (following contamination of source water); and
- Blue green algae.

The strategies for reducing Type 1 incidents include capital improvements and improving robustness of the system operation. During this reporting period, as part of the Country Water Quality Improvement program, Cooltong and Woolpunda commenced receiving filtered water from United Utilities Australia (UUA) and United Group Infrastructure (UGI) plants.

Unlike the cause of occurrence of certain Type 1 incidents, the Corporation does have control over incidents measured by the IRI. The IRI result has been better than target for 2007-08 and 2008-09 and has improved since 2006-07. These results are particularly positive given the recent increases in the occurrence of Type 1 events.

Going Forward

While the Corporation will continue to monitor the number of Type 1 notifications, moving forward there will be an intensified focus on pro-active water quality management, to ensure that incidents are responded to appropriately and that corrective actions are implemented which prevent future controllable incidents from occurring. The Corporation's performance of the IRI is expected to continue to improve to 2013-14.

2.2.3 Complaints – Water Quality (per 1,000 properties) (NPR)

This KPI measures the total number of complaints received by the water business that relate to water quality, including water quality complaints resulting from operational practices. With respect to water quality, this is any complaint regarding: discolouration; taste; odour; stained washing; illness; or cloudy water (e.g. caused by oxygenation), etc. Any contact that results in a water quality issue is counted as a complaint. The measure does not include complaints relating to: service interruption; adequacy of service; restrictions, or pressure.

Figure 2.5 and Figure 2.6 show metropolitan and regional water quality complaints per 1,000 properties for 2005-06, 2006-07 and 2007-08.

Figure
2.5

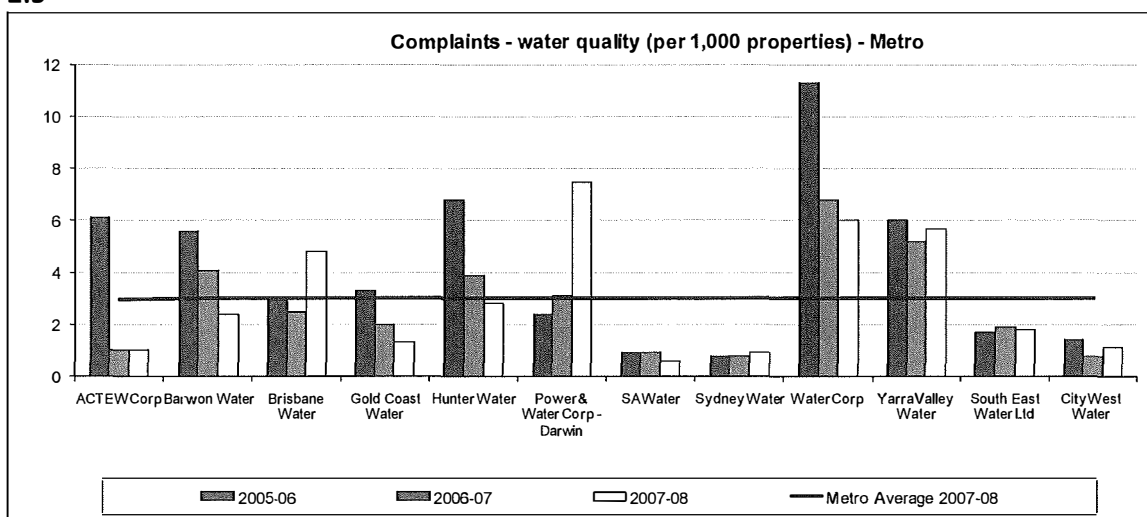
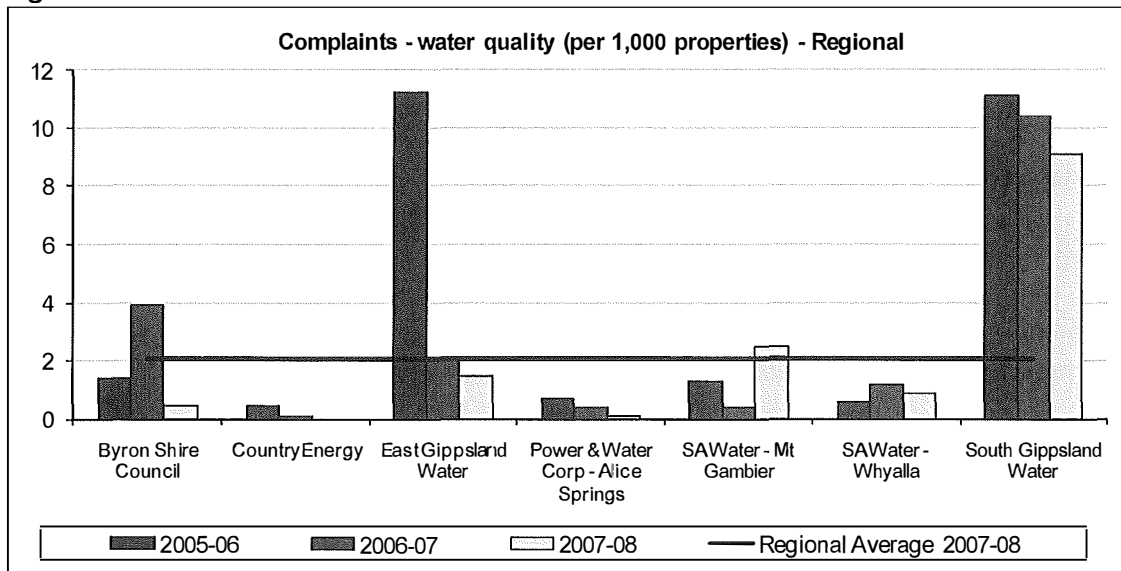


Figure 2.6



Performance

SA Water has consistently reported relatively low water complaint numbers in metropolitan operations, which have been below the average of all major utilities since 2005-06. This performance continued in 2007-08, where SA Water reported the lowest water quality complaint out of all the major utilities.

SA Water's reported regional performance showed an increase in water quality complaints for Mt Gambier and a decrease in Whyalla.

Mt Gambier reported an increase in water quality complaints per 1,000 properties from 0.4 in 2006-07 to 2.5 in 2007-08, which exceeded the regional average. The increase is attributed to changing Mount Gambier's water supply in August and September of 2007 from the Blue Lake to its confined aquifer bores. This was done to test the reliability of this alternative supply in readiness for some major pumping station modifications at the Blue Lake the following winter. The subsequent change in flow direction and greater hardness of the confined aquifer water resulted in the majority of the water quality complaints received in 2007-08.

Whyalla recorded a marginal decrease, from 1.2 in 2006-07 to 0.9 in 2007-08, but remained well below the regional average.

SA Water is in its third year of reporting data for water quality complaints. The trend for Adelaide is decreasing. Mt Gambier and Whyalla, on the other hand, experienced an erratic trend through the three years, more so in Mt Gambier.

Although not measured for NPR purposes, SA Water has also recently installed 10 water treatment plants along the River Murray to improve water quality to more than 90 rural communities and to ensure continued supply of water, even if the drought causes increased water quality issues.

Going Forward

SA Water's intentions to focus on pro-active water quality management, including extensive monitoring and water quality risk mitigation strategies for River Murray offtakes, will potentially reduce customer complaints around water quality. These include an enhancement of the routine monitoring program for all water supply offtakes. Due to current climatic conditions, SA Water will increase its focus on source water monitoring which may increase costs in the short-term but will enable SA Water to better mitigate the impact on customers.

In Mt Gambier, due to the pumping modifications in 2008-09, complaints may remain high, but in the longer term levels of complaints are expected to return to pre 2007-08 levels.

2.2.4 Percentage of Population where Microbiological Compliance was Achieved (NPR)

This KPI measures (as a percentage of the customer base) compliance of the microbiological quality of water supplied with the ADWG.

Percentage of population where microbiological compliance was achieved				
	State / Territory	2005-06	2006-07	2007-08
Metro				
ACTEW Corporation	ACT	100%	100%	100%
Barwon Water	Vic	99.8%	100%	100%
Brisbane Water	Qld	100%	100%	100%
Hunter Water	NSW	99.6%	99.8%	100%
Power & Water Corp - Darwin	NT	100%	100%	100%
SA Water	SA	100%	100%	100%
Sydney Water	NSW	100%	100%	100%
Water Corporation	WA	100%	100%	100%
Yarra Valley Water	Vic	100%	99.7%	100%
South East Water Ltd	Vic	100%	100%	100%
City West Water	Vic	100%	100%	100%
Gold Coast Water	Qld	100%	100%	100%
Metro Average		100.0%	100.0%	100.0%
Byron Shire Council	NSW	100%	100%	100%
Country Energy	NSW	100%	100%	100%
East Gippsland	Vic	100%	95%	100%
Power and Water Corp. – Alice Springs	NT	100%	100%	100%
SA Water– Mt Gambier	SA	100%	100%	100%
SA Water- Whyalla	SA	100%	100%	100%
South Gippsland	Vic	100%	100%	100%
Regional Average		100.%	99.3%	100%

Chapter 2 – Customer Service & Water Quality

Performance

All metropolitan and regional utilities reported a 100% microbiological compliance in 2007-08. All metropolitan and regional utilities (except Barwon and Hunter Water in 2005-06 and Yarra Valley and Hunter Water in 2006-07) have consistently reported 100% microbiological compliance for the past three years.

Going Forward

The Corporation aims to maintain microbiological compliance at 100%.

3. System Performance

3.1 WATER SERVICES

SA Water is achieving a high level of service in the provision of water services in the metropolitan area. In the regional area, the Corporation reported a high level of service in Mt Gambier and reported a moderate level of service in Whyalla.

Internal and external reporting in several areas is still in its infancy, but as data quality improves the Corporation has strategies in place to improve system performance.

This section provides an overview of the Corporation's performance in the provision of water services in terms of the following indicators.

Section	Indicator	SM	NPR
3.1.1	Number of Properties with ≥ 3 Unplanned Water Interruptions per year	√	
3.1.2	Water Main Breaks per 100 km of Water Main		√
3.1.3	Infrastructure Leakage Index (ILI)		√

3.1.1 Number of Properties with ≥ 3 Unplanned Water Interruptions per year (SM)

This KPI measures the number of customers (properties) that are subject to 3 or more unplanned water interruptions in a year. An unplanned water interruption is an interruption to a customer's water supply that is not planned or not a result of organised maintenance. This does not include a reduction in flow or pressure where normal activities (e.g. showering) are still possible.

Strategic Map Targets		2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Number of Properties with ≥ 3 Unplanned Water Interruptions per year	Metro	1,733 (3,100)	1,606 (2,000)	1,262 (2,000)	2,000
	Regional	830 (1,100)	599 (830)	586 (830)	830

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

The reported performance for both metropolitan and regional areas was better than target for the years 2006-07, 2007-08 and 2008-09. Over the last three years the Corporation has seen clear performance improvement in both metropolitan and regional areas. It is worth noting that SA Water has also improved data capture in relation to these performance indicators.

Going Forward

Reporting on this measure is continually improving as data quality improves and the Corporation has strategies in place to improve overall system performance. For example, SA Water has a strategy of preventing the failure rate of water mains from increasing. To achieve this, the Corporation has analysed historical performance to predict future performance under various renewal strategies. To maintain performance at present levels a program of steadily increasing the water main renewals program has been established. Pipes are selected for replacement by closely monitoring their performance. Renewal priority is assigned on the basis of value for money achieved in reducing the number of customer interruptions and repair costs.

In this context, while the Corporation is aiming to maintain targets until 2013-14, targets will continue to be reviewed as data improves.

3.1.2 Water Main Breaks per 100 km of Water Main (NPR)

This KPI measures the total number of water main breaks, bursts and leaks in all diameter mains for the reporting period. Breaks exclude those in the property service (i.e. mains to meter connection) and weeps or seepages associated with above ground mains that can be fixed without shutting down the main.

Table 3.1

Water main breaks per 100 km of water main							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Metro							
Water Corporation	WA	13	14	14	15	13	14
Gold Coast Water	Qld				17	14	18
South East Water Ltd	Vic				18	24	21
SA Water	SA				21	27	25
Barwon Water	Vic						29
Sydney Water	NSW	51	38	38	42	35	30
Hunter Water	NSW	46.7	46.3	42.4	44.7	37.4	30.3
Brisbane Water	Qld	36.7	34.5	40	36.9	49.7	31.1
ACTEW Corporation	ACT					48	38
Power & Water Corp - Darwin	NT				55	41	41
Yarra Valley Water	Vic				43	57	49
City West Water	Vic				28	86	68
Metro Average		36.9	33.2	33.6	32.1	39.3	32.9
Regional							
SA Water - Mt Gambier	SA				5	2	3
Byron Shire Council	NSW				38	9	8
East Gippsland Water	Vic				7	9	11
Country Energy	NSW				13	10	18
SA Water - Whyalla	SA				20	13	22
South Gippsland Water	Vic				38	93	22
Power & Water Corp - Alice Springs	NT					56	49
Regional Average					20.2	27.4	19.0

Performance

Over the three year period SA Water has reported on this indicator, the Corporation has been a strong performer in the metropolitan area. Only Water Corporation, South East Water and Gold Coast Water performances surpassed SA Water's in 2007-08.

The weighted average of all major utilities reduced by nearly 20% from 2006-07 to 2007-08. The Corporation's performance has been significantly better than the average for the past three years.

SA Water's regional performance showed mixed results compared to 2006-07. For the third year, Mt Gambier was the clear leader with the lowest number of water main breaks in 2007-08, but showed a slight increase from 2006-07. Whyalla, on the other hand, reported a performance outcome similar to SA Water's metropolitan outcome.

There is a strong relationship between the increased rate of water main breaks and the continued dry seasonal conditions experienced into 2007-08. Ground movement and soil types are the two major causes of burst water mains. In Adelaide and in Whyalla in particular, soil types are such that seasonal changes in soil moisture greatly affect ground movement, which places pressure on pipes causing them to fail.

The 2008-09 figures¹ for Adelaide show a slight reduction to 23.7 breaks per 100km of main. Whyalla reported 13 breaks in 2008-09 (a decrease from 22 breaks in 2007-08) and Mt Gambier reported 2.0 breaks (down from 3.0 breaks in 2007-08).

Going forward

As mentioned previously, SA Water has a strategy of preventing the failure rate of water mains from increasing. To achieve this, the Corporation has analysed historical performance to predict future performance under various renewal strategies. To maintain performance at present levels a program of steadily increasing the water main renewals program has been established. SA Water is reviewing the forward investment program in light of the ongoing drought conditions to enable improved performance in the future.

3.1.3 Infrastructure Leakage Index (ILI) (NPR)

The ILI measures how effectively real water losses from the system are being managed at current operating pressure while accounting for other influential factors like length of mains and customer meter location. The ILI is calculated as the ratio of Current Annual Real Loss (includes leaks, bursts & overflows) to Unavoidable Annual Real Loss.

Table 3.2

Infrastructure Leakage Index (ILI)							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Metro							
Barwon Water	Vic	0.6	0.5	0.7	0.5	0.4	0.5
Gold Coast Water	Qld	2.5	2.7	1.5	1.4	0.7	0.8
ACTEW Corporation	ACT	1.3	0.9	1.0		0.5	0.9
South East Water Ltd	Vic	1.4	1.3	1.0	1.0	0.9	0.9
SA Water	SA	1.2	1.2	1.2	1.1	1.0	1.0
City West Water	Vic	2.0	1.4	1.2	1.3	1.2	1.0
Yarra Valley Water	Vic	1.3	1.0	1.4	1.2	1.1	1.1
Brisbane Water	Qld	2.3	2.4	2.4	2.2	1.7	1.2
Hunter Water	NSW	1.9	1.7	1.7	1.2	1.3	1.2
Sydney Water	NSW	2.9	2.1	1.8	1.5	1.5	1.5
Water Corporation	WA	1.5		1.6	1.7	1.5	1.7
Power & Water Corp - Darwin	NT	5.5	4.9	5.8	1.7	4.0	3.2
Metro Average		2.0	1.8	1.8	1.3	1.3	1.3

¹ The NPR 2008-09 was not released at the time of compiling this report.

Performance

The ILI is used by utilities around the world to report leakage and takes into account factors such as accuracy of meters, water used for fire fighting, theft, length of mains, number of connections and system pressure. WSAA considers an ILI in the range of 1.0 to 1.5 to be “Excellent” and 1.5 to 3.5 to be “Good to Fair”.

In 2007-08 Metropolitan Adelaide was consistent with last year’s “Excellent” result of 1.0, again well below the national metropolitan average of 1.3.

Adelaide’s reactive soils are a major cause of leakage as soil movement pulls pipe joints apart and, in extreme cases, can crack the pipes. Over the six year period SA Water has reported on this indicator, the Corporation’s performance has been consistently better than the average. Of the entities compared, Barwon Water, Gold Coast Water, ACTEW and South East Water have achieved a better result in the past two years.

SA Water did not report any regional indicators associated with water loss for the 2007-08 NPR, (i.e. ILI or real losses) as the data is still being compiled at this stage.

Going Forward

SA Water aims to maintain performance levels in the metropolitan area.

3.2 SEWER SERVICES

SA Water is closely monitoring its performance in sewer overflows and is seeking to further reduce sewer overflows in the metropolitan area by 2013-14 while maintaining its regional service levels.

The Corporation reported a decrease in the number of sewer main breaks and chokes in 2007-08 compared with 2006-07, in the metropolitan as well as regional areas. The metropolitan level of performance was at the higher end of sewer main breaks and chokes, when compared with other metropolitan utilities. Both regions had excellent performance levels and were the top two performing regional utilities for 2007-08.

Until 2007-08 SA Water’s sewer assets had been experiencing an increasing trend in breaks and chokes due to dry conditions. Abatement programs as well as targeted preventative maintenance have been put in place to manage the impact of these incidents on customers.

SA Water is seeking to reduce the impact of sewerage asset failures on customers by 2013-14.

Chapter 4 –Sustainable Future

This section provides an overview of the Corporation's performance in the provision of sewer services in terms of the following indicators.

Section	Indicator	SM	NPR
3.2.1	Sewer Main Breaks and Chokes		√
3.2.2	Number of properties per year with a sewer overflow caused by a sewer mains choke	√	

3.2.1 Sewer Main Breaks and Chokes (NPR)

This measure records the number of sewer main breaks and chokes relative to the sewerage system. A break or leak is a failure of the sewer main which results in an interruption to the service. A choke is a confirmed partial or total blockage that may or may not result in a spill to the external environment from the sewer system.

Table 3.3

Sewer main breaks and chokes (per 100 km)							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Metro							
Gold Coast Water	Qld						17.6
South East Water Ltd	Vic	16.6	18.1	15.3	16.4	21.3	20.7
Water Corporation	WA	21.3	19.1	18.0	17.8	22.5	20.9
Brisbane Water	Qld	31.2	22.9	28.0	26.3	32.0	27.6
City West Water	Vic	35.1	31.8	28.0	27.0	27.2	28.6
Power & Water Corp - Darwin	NT				36.6	34.1	30.2
Barwon Water	Vic	44.8	43.8	38.3	41.0	50.7	40.3
Yarra Valley Water	Vic			41.2	40.1	49.3	46.3
Hunter Water	NSW	67.0	64.1	68.4	58.1	63.4	50.2
SA Water	SA	49.7	46.4	53.3	52.9	65.8	58.2
Sydney Water	NSW	83.0	73.0	82.0	87.0	90.0	64.0
ACTEW Corporation	ACT				157.4	166.4	166.9
Metro Average		43.6	39.9	41.4	51.0	56.6	47.6
Regional							
SA Water - Mt Gambier	SA				1.5	7.5	5.3
SA Water - Whyalla	SA				4.8	22.8	10.1
South Gippsland Water	Vic				14.0	13.7	14.2
Byron Shire Council	NSW				34.0	23.0	15.1
East Gippsland Water	Vic				12.7	16.1	15.4
Power & Water Corp - Alice Springs	NT				50.1	44.9	46.4
Country Energy	NSW				183.0	148.0	125.6
Regional Average					42.9	39.4	33.2

Performance

In the past five years SA Water's metropolitan performance has experienced a deteriorating trend. This trend is also evident for other major utilities.

In 2007-08 however, the Corporation improved its performance by 13%. This performance improvement was also evident in the majority of the other utilities as shown above.

SA Water's 2007-08 reported number of sewer main failures exceeded the metropolitan average. The key factor directly affecting this performance indicator is Adelaide's reactive clay soils which are prone to movement as climatic conditions change. This creates problems for the metropolitan sewerage network, in particular where clay based pipes are

in use. In addition, over 80% of sewer main chokes can be attributed to tree root intrusion. This is more prevalent in times of drought when underground roots search for water sources. Vapour rooting is the most efficient method to prevent roots from invading sewer pipes (mainly through the connections). SA Water has an ongoing strategy that involves vapour rooting which clears approximately 700-800km of pipes a year.

SA Water's regional centres have reported against this indicator for the last three years. While both Mt Gambier and Whyalla experienced significant decreases in reported cases in 2007-08 when compared to the previous year, the 2007-08 performance was still higher than reported in 2005-06. Both regional centres outperformed the other regional utilities of similar size.

As the sewerage networks for the regional areas are smaller and generally younger than the water networks, they do not have an asset replacement program as yet. However, through preventative maintenance, such as cleaning programs and increased SCADA monitoring, increases in the rate of breaks and chokes have been constrained.

The Corporation continually evaluates and identifies sewer overflow risks and implements measures such as system upgrades as a part of the Overflow Abatement Program and targeted preventative sewer maintenance programs. Incidences of chokes are given the highest priority as they are more frequent than breaks.

The Corporation has invested \$15m over 5 years to establish an Overflow Abatement Program (established in late 2005). The program targets overflows from pump stations, the replacement of high risk pumping mains and extending SCADA networks to all wastewater treatment plants. The aim of this program is to target high profile flows from pumping stations as they have the highest impact. Through this abatement program there has been a reduction in the number of chokes in pumping stations, however, the impact on the overall figure reported is low.

In the 2007-08 NPR, the definition of 'Sewer main breaks and chokes' changed to include breaks and chokes in the property connection, if owned and maintained by the utility. This change in the definition means that the comparison across utilities will be difficult to some degree, as not all utilities own and/or maintain the property connection. For example, SA Water and ACTEW own the property connection, but Sydney Water and Water Corporation do not. Hunter Valley does not own the property connections but does maintain them.

The current and historical SA Water figures in the table 3.3 above report the breaks and chokes in the sewer mains only (excluding property connection breaks and chokes). As the definition changed for 2007-08 NPR, these figures were reported in error. However it is more comparable across utilities. The 2007-08 figure for metropolitan Adelaide would have been 305 per 100 km of main according to the new definition. The figures for 2008-09², for Adelaide is 287.1, Mt Gambier 64.4 and Whyalla 144.7 breaks per 100 km of main.

² The NPR 2008-09 was not released at the time of compiling this report.

In 2008-09 the title of the indicator has changed to ‘Sewerage breaks and chokes per 100 km of main’ to better reflect the definition change.

Going Forward

For the upcoming 2009-10 reporting period, the definition has been revised. It now requires utilities to report ‘sewerage mains breaks and chokes (per 100 km main)’ and ‘sewerage property connections breaks and chokes (per 1000 properties)’ as two separate indicators. This is a material change from the previous 2 years and will improve comparability between utilities.

The Corporation is seeking to reduce the number of sewer main breaks and chokes by continuing the Overflow Abatement Program and additional sewer cleaning and preventative maintenance. In the 2008-09 budget, additional funding was provided for the sewer mains cleaning program. These initiatives should see the number of mains breaks and chokes reduce over time.

3.2.2. Number of properties per year with a sewer overflow caused by a sewer mains choke (SM)

This measure records the number of sewer overflow incidents on a customer’s property caused by a sewer mains choke. A sewer overflow is an untreated wastewater spill or discharge from the wastewater system into a customer’s property.

Strategic Map Targets		2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Number of Properties per year with a Sewer Overflow caused by a Sewer Mains Choke					
Inside building	Metro	67 (85)	52 (80)	99 (80)	75
	Regional	1 (6)	1 (3)	2 (3)	3
Outside building	Metro	675 (617)	558 (650)	568 (650)	598
	Regional	14 (52)	22 (26)	13 (26)	26

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

The number of overflows occurring inside buildings in metropolitan areas has been increasing steadily since July 2008 and resulted in 2008-09 significantly (24%) above target. The result for 2008-09 is almost double the number of properties affected by internal overflows in 2007-08. This is a reversal of the positive performance of previous years, with annual reductions in this KPI achieved over the last two years.

There is normally a correlation between the number of mains chokes and internal overflows caused by mains chokes, however this has not been the case in 2008-09. Investigations are currently underway to determine the cause of the increase in internal overflows. The

preliminary analysis received from United Water indicates that the majority of sewer main chokes are caused by a combination of tree root intrusion and rainfall events. The amount of tree root debris removed through sewer main cleaning has increased by 74% between 2004-05 and 2008-09, indicating that the dry conditions since 2006-07 may have led to an increase in tree root intrusion into the sewer system.

In regional areas, there are relatively fewer choke incidences that result in an overflow inside the customers' property, as indicated by the results for the last two years.

Going Forward

For sewer overflows, where possible, SA Water is aiming to improve its metropolitan performance as well as targets by 2013-14. The Corporation is seeking to maintain its regional targets to 2013-14 and continue to perform on target or better.

To meet these objectives, the Corporation is increasing its sewer cleaning and preventative maintenance programs in an attempt to further improve these service levels.

4. Sustainable Future

4.1 WATER

The implementation of water restrictions has had a positive impact on reducing average water consumption, with the 2007-08 result showing a continued decrease in consumption. The Corporation is undertaking several initiatives to continue this trend.

The Corporation has maintained compliance with its water licences despite the significant challenges presented by the current drought conditions. Maintaining compliance imposes cost pressures on SA Water in the form of investments in water security initiatives.

This section provides an overview of how the Corporation is contributing to a sustainable future in terms of water and using the following indicators.

Section	Indicator	SM	NPR
4.1.1	10 Year Average Consumption	√	
4.1.2	Compliance with Water Licences	√	

4.1.1 10 year Average Consumption (SM)

This KPI records the annual volume of metropolitan and regional water supplies delivered to the distribution network. This is measured using master meter flows. This KPI is calculated from a base 10 year average which is adjusted for growth and savings from demand management initiatives and water restrictions initiatives. A focus on encouraging conservation is considered important particularly in the current climatic conditions where the availability of additional supplies is limited or where additional supplies would be costly and/or timely to source. It is also an important part of managing the Corporation's impact on the environment.

Strategic Map Targets		2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
10 year Average Consumption (Master Meter flows)	Metro	173.7GL (175.6GL)	169.5GL (175.2GL)	164.3GL (169.6GL)	166.8GL
	Regional	83.9GL (87.5GL)	84.5GL (88.3GL)	84.4GL (86.3GL)	87.1GL

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

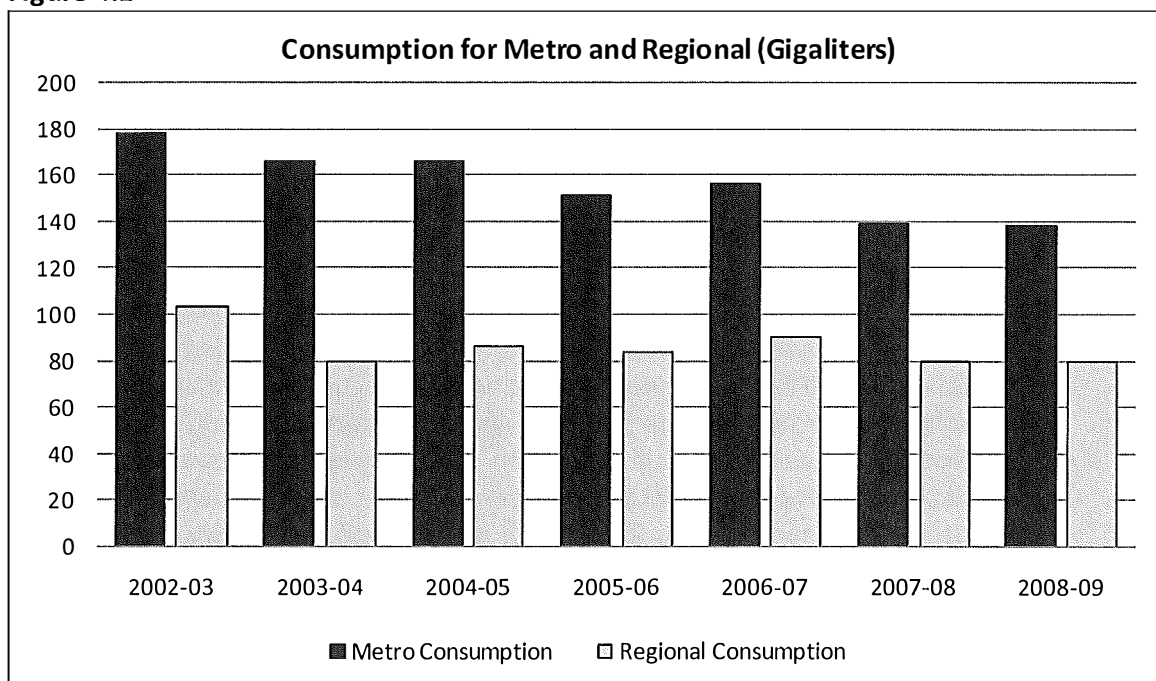
Performance

Water consumption is calculated from a base 10 year average which is adjusted for growth, demand management savings initiatives and water restrictions. On this basis, the reported actual consumption has been reducing steadily largely due to the impact of water restrictions which have been in place since 2006/07.

Ten year average water consumption in the metropolitan area fell from 173.7GL in 2007-08 to 164.3GL in 2008-09, but in the regional areas the levels increased from 83.9GL to 84.4GL in the same timeframe. The 2008-09 reported result for both the Metropolitan and Regional areas is within SA Water's targets.

Figure 4.1 demonstrates a real reduction in annual water consumption with a particularly strong response in metropolitan Adelaide. Metropolitan Adelaide's consumption per property has reduced from a high average of 252kL per property in 2001-02 to an average of 190kL per property in 2008-09³. Historically, SA Water has reported relatively high figures compared to some interstate counterparts such as Queensland and New South Wales where restrictions have been in place for longer and were more severe. SA Water's reduction is a result of customer commitment to water conservation measures over the drought period.

Figure 4.1



³ The NPR 2008-09 was not released at the time of compiling this report.

Going Forward

The Corporation is targeting further reductions in the 10 year average consumption. Where performance has exceeded targets to date, the Corporation will aim to maintain these performance levels where possible. However, it should be noted that there is likely to be some bounce back in consumption when temporary water restrictions are removed. Notwithstanding this, consumption is not expected to return to pre-drought levels.

SA Water and the Government is undertaking a number of initiatives to continue the reduction in per capita consumption on a more permanent basis. This includes undertaking significant recycled water schemes, stormwater and aquifer recharge schemes, commercial and industrial water audits, and providing rebates for items such as rain water tanks, AAA shower heads, water wise garden products, new smart bills and the introduction of quarterly billing.

While the 10 year rolling average smoothes the performance, a demand prediction model (excluding water conservation measures) has been developed based on population, annual evaporation rate and the number of days where the temperature exceeds 30⁰ C. A revised indicator is currently under investigation. A Climate Adjusted Demand Model, currently being examined by the Murray-Darling Basin Commission, aims to present climate adjusted demand for the Adelaide/River Murray licence in a transparent manner. This would help to determine the effectiveness of water savings activity independent of water restriction savings, providing a clearer indication of real consumption activity in the absence of water restrictions.

4.1.2 Compliance with Water Licences (SM)

The KPI measures SA Water's compliance (as a %) with its water licences issued by the Department of Water, Land and Biodiversity Conservation. These licences are issued for specified volumes of water extraction. The licences cover allocations for metropolitan Adelaide, River Murray regional areas, the Eyre Peninsula and the South East.

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Compliance with Water Licences				
Water Extraction Within Allocation	100% (100%)	100% (100%)	100% (100%)	100%
Compliance with Licence Conditions	100% (100%)	100% (100%)	100% (100%)	100%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

Of SA Water's 62 water sources, 28 are licensed and for 2008-09 compliance was achieved for all licences including the most substantial of these licences, the two River Murray licences for supply to Adelaide (under normal operating conditions 650GL in any five year period) and for supply to country towns (50GL per year). SA Water holds an additional two River Murray Licences that are not tied to water supply of any particular area. For the three years from 2006-07 to 2008-09, SA Water achieved 100% compliance of water extractions

against licensed allocations, including where allocations were reduced as a result of the drought.

River Murray Metropolitan Licence – conditions of this licence were achieved by a demand reduction strategy. In 2008-09 pumping was in accordance with the drought pumping strategy which limited extraction to 150 GL, while also increasing the minimum water holding at the end of June if the Mt Lofty Ranges inflows were better than the required minimum.

River Murray Country Licence – conditions of this licence were achieved by transferring all of SA Water's previously purchased water (unassigned Licences mentioned above) and securing further water by temporary lease arrangements with other government agencies at a cost of \$0.5M. Additional allocation secured increased this area's licence from 31 GL to 37.5GL.

Eyre Peninsula – no licences were exceeded, however, the Poldia Basin was placed on a Notice of Prohibition meaning that SA Water was not allowed to take its full allocation. SA Water received advice from DWLBC that in future years our allocations would be reduced by up to 20%. For the more critical supplies this is being implemented at a reduction of 5% per annum subject to annual review.

South East – growth in this region exceeded long term trends and resulted in a need for action to secure additional supplies. Additional allocation was secured for Penola to ensure that the licence is not exceeded.

Shortfalls on other licences and water supplies were also avoided by taking action as follows:

- Parilla – by re-allocation from Lameroo, under a previously unused provision of the Mallee Water Allocation Plan, thus avoiding the need to try to source water in a very limited and virtually inactive market; and
- Uley South – by gaining approval for a temporary additional 5% allocation on the basis that once the Iron Knob – Kimba pipeline was operational, SA Water's extractions from the Uley South groundwater basin would be reduced until they matched the sum total of the original annual base allocation.

Going Forward

SA Water will continue to target 100% compliance with its water licences despite the challenging climatic conditions.

To meet this challenging target and ensure an enhanced level of water security for its customers, SA Water is investing in both short term water security measures including additional pumping and temporary water purchases and longer term water security measures such as climate-independent water sources and increased storage capacity. Whilst these initiatives will increase the Corporation's operating costs, enhanced levels of water security will be provided for customers and the impact on the existing sources of supply should be eased.

4.2 SEWERAGE

SA Water has generally performed at a high level in sewerage services. In particular, it has continued as a national leader in recycling water, maintained a strong performance in re-using bio-solids and treating sewage to tertiary level. The Corporation has complied with all EPA licence conditions and has reduced the number of serious wastewater notifications to the EPA.

The Corporation will continue to closely monitor the risks associated with overflows to the environment. The Corporation's performance for 2007-08 in this area is slightly down when compared to 2006-07 and has some scope for improvement when compared to other utilities.

Going forward SA Water is aiming to improve wastewater service levels by increasing the percentage of wastewater recycled and reducing the number of Type 1 and Type 2 wastewater notifications to the EPA. Where performance is already high, SA Water will be seeking to maintain service levels into the future.

This section provides an overview of how the Corporation is contributing to a sustainable future in terms of sewerage services, using the following indicators.

Section	Indicator	SM	NPR
4.2.1	Percentage of Water Recycled	√	√
4.2.2	Sewerage Treated to a Tertiary Level		√
4.2.3	Bio-solids reused		√
4.2.4	Sewer overflows to the environment		√
4.2.5	EPA licence compliance	√	
4.2.6	Number of Type 1 & 2 wastewater notifications	√	

4.2.1 Percentage of Water Recycled (SM & NPR)

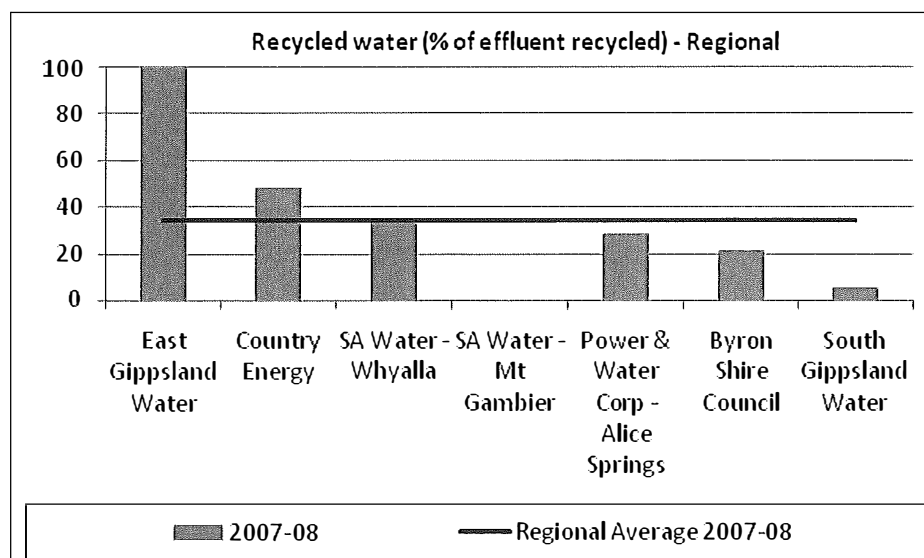
This KPI measures (as a %) the quantity of all metropolitan/regional wastewater that is collected, treated and reused by either the water business itself or a customer supplied by the water business.

Strategic Map Targets		2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Percentage of Water Recycled	Metro	30% (24%)	31% (25%)	31% (28%)	34.8%
	Regional	19% (18%)	24% (20%)	24% (23%)	29.3%

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Table 4.1

Recycled water (% of effluent recycled) – Metro							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
SA Water	SA	19.2%	21.4%	20.0%	18.0%	30.0%	31.0%
Gold Coast Water	Qld	12.0%	12.0%	14.0%	10.0%	15.0%	14.0%
Barwon Water	Vic				12.0%	18.0%	13.0%
ACTEW Corporation	ACT	7.3%	8.1%	7.9%	6.7%	6.8%	12.3%
Brisbane Water	Qld	3.5%	3.2%	5.0%	4.8%	6.6%	6.3%
Hunter Water	NSW	7.0%	8.0%	6.0%	7.0%	5.0%	6.0%
Water Corporation	WA				5.0%	6.0%	6.0%
Sydney Water	NSW				4.0%	4.0%	4.0%
Power & Water Corp - Darwin	NT				3.0%	3.0%	3.0%
South East Water Ltd	Vic				2.0%	3.0%	2.0%
Yarra Valley Water	Vic				0.0%	1.0%	0.0%
City West Water	Vic		0.0%	0.0%	0.0%	0.0%	0.0%
Metro Average		9.8%	8.8%	8.8%	6.0%	8.2%	8.1%



Performance

During 2007-08, SA Water recycled approximately 25,562 ML (31%) of metropolitan treated wastewater and 2,255 ML (24%) of regional treated wastewater.

The improving trend in performance over time for SA Water is related to significant upgrades to wastewater treatment plants (refer to Chapter 5.3 regarding Capital Expenditure for further details). For metropolitan operations, over the last seven years SA Water has been a strong performer and is consistently better than the average.

In 2007-08 SA Water reported against this indicator for Mt Gambier and Whyalla. Mt Gambier does not recycle any of the effluent produced as all treated wastewater is discharged to the sea. Whyalla recycled 35% of the effluent in 2007-08 year, which equates to the average when compared to other regional wastewater utilities. All effluent recycled in Whyalla is supplied to the golf course and council uses, such as park maintenance.

Adelaide's high performance continued into 2008-09⁴ with 31% for the second year. Whyalla improved on 2007-08 figures with 44.8% recycled in 2008-09 and Mt Gambier remains at 0%.

Drought conditions, water restrictions and a clear public focus on water management has meant lower sewage inflows over the past 5 years. Performance over 2006-07 to 2008-09 indicates that the percentage of recycled effluent has remained steady (rising only 1%) despite changing climatic conditions. Although sewerage inflows have started to pick up most recently (2008-09), the available effluent has an impact on the percent recycled. There is significant effluent available at Glenelg WWTP, and with commissioning of the Glenelg-to-Adelaide Parklands (GAP) project, Glenelg reuse will increase to 43%. Assuming no other major changes to sewage volumes or reuse at other plants, this will raise the overall metropolitan re-use to approximately 40%. Bolivar WWTP will remain the most significant provider of effluent.

Going Forward

Through the *Water for Good Plan*, the South Australian Government has made a commitment to achieve a target of 45% water recycling in the long term. In line with this commitment, SA Water will review the Corporation's internal recycled water target and seek to improve its performance in this area accordingly.

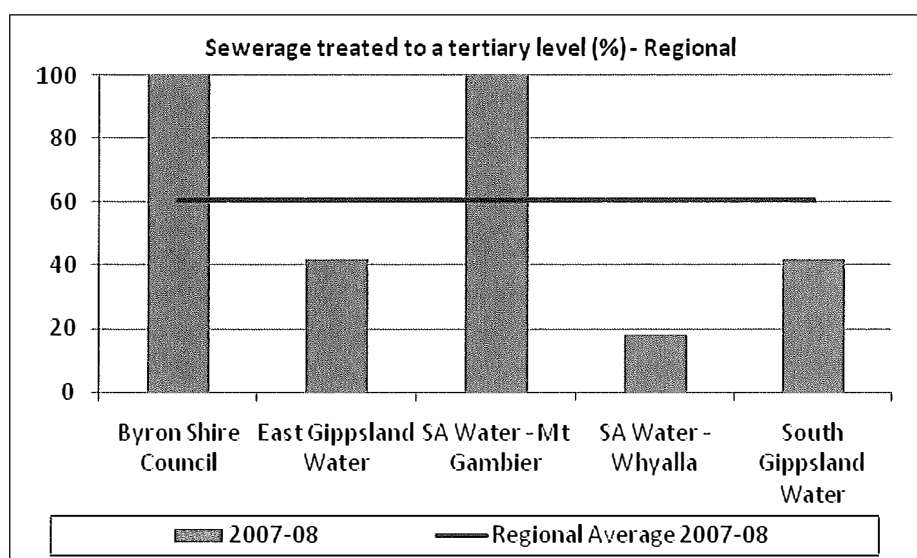
4.2.2 Sewerage Treated to a Tertiary Level (NPR)

There are typically three levels of sewage treatment, primary, secondary and tertiary. Tertiary treatment is the most complex and sophisticated process. It is principally designed to remove nutrients, such as phosphorus (typically <2 mg/L) and/or nitrogen (typically <15 mg/L). A high percentage of effluent suspended solids (typically >95 per cent) are also removed. Tertiary treatment may additionally target other contaminants of concern, (e.g. toxicants and salt) for discharges into sensitive waterways or reuse applications where high quality recycled water is required.

⁴ The NPR 2008-09 was not released at the time of compiling this report.

Table 4.2

Sewage treated to a tertiary level (%) - Metro							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
ACTEW Corporation	ACT	100%	100%	100%	100%	100%	100%
Gold Coast Water	Qld	100%	100%	100%	100%	100%	100%
SA Water	SA	82%	91%	97%	100%	100%	100%
City West Water	Vic	0%	0%	0%	0%	50%	100%
Brisbane Water	Qld	76%	67%	66%	68%	68%	98.9%
Yarra Valley Water	Vic						95%
Water Corporation	WA	41%	40%	39%	95%	94%	94%
Hunter Water	NSW	46%	48%	45%	46%	44%	44%
Sydney Water	NSW				22%	22%	22%
South East Water Ltd	Vic				21%	23%	18%
Barwon Water	Vic	0%	0%	0%	7%	7%	7%
Power & Water Corp - Darwin	NT				2%	3%	3%
Metro Average		55.6%	55.7%	55.9%	51.0%	55.5%	65.2%



Performance

SA Water aims to treat 100% of sewage to the tertiary level. This target has been achieved every year since 2005-06 for metropolitan Adelaide and is well above the national Metro average on 65.2% in 2007-08. ACTEW Corporation Gold Coast Water and City West have all achieved 100% over the same time period.

The trend for SA Water has shown a significant improvement over the reporting period primarily due to major upgrades of wastewater treatment plants in Adelaide over the last 5-10 years to reduce environmental impacts.

In 2007-08 SA Water reported the percentage of sewage that is treated to a tertiary level in the regional areas of Mt Gambier, with 100%, and Whyalla, with only 18.3%. The low level sewage treated to a tertiary level in Whyalla is attributed to there being two plants in the Whyalla system with differing levels of capacity for sewage treatment. Whyalla's Wastewater Treatment Plant (WWTP) is only able to treat to the secondary level of sewage treatment; the second plant, Water Reclamation Plant (WRP), is more advanced and can treat to the tertiary level.

Going Forward

SA Water is aiming to continue to achieve the 100% sewage treatment to the tertiary level in its metropolitan area and Mt Gambier, and will manage operating and capital investments with this objective in mind. In line with SA Water's target of increasing recycling of wastewater in regional areas, SA Water will also seek to treat a greater percentage of its sewage in Whyalla to tertiary level in the future

4.2.3 Bio-solids reused (NPR)

This KPI measures (as a %) the quantum of bio-solids that are reused. Reuse involves managing biosolids safely and sustainably to beneficially utilise their nutrient, energy, or other values. This may include biosolids used for agriculture (e.g. fertiliser), soil conditioning, mine rehabilitation, and other applications recognised as reuse. The percentage of biosolids reused may be greater than 100 percent of biosolids produced if the business is also reusing existing stockpiles.

Table 4.3

Biosolids reused (%)							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Metro							
SA Water	SA	144%	168%	129%	95%	94.1%	324%
Barwon Water	Vic	0%	45.4%	259.6%	66.8%	216.7%	120.2%
South East Water Ltd	Vic	177.2%	121.7%	33.4%	321.5%	218%	100.1%
ACTEW Corporation	ACT	100%	100%	100%	100%	100%	100%
Brisbane Water	Qld		100%	100%	100%	100%	100%
Gold Coast Water	Qld	100%	100%	100%	100%	100%	100%
Hunter Water	NSW	83%	99%	89%	88%	104%	100%
Sydney Water	NSW	100%	100%	100%	100%	100%	100%
City West Water	Vic					60%	100%
Water Corporation	WA	97.7%	93.2%	96%	99.9%	100%	95.9%
Yarra Valley Water	Vic			0%	0%	0%	0%
Metro Average		100.2%	103.0%	100.7%	107.1%	108.4%	112.7%

Performance

SA Water has been a high performer in biosolids reuse for the last 6 years. In 2007-08 SA Water peaked at 324% for Adelaide.

Neither of the regional areas of Mt Gambier and Whyalla reused biosolids in the 2007-08 year.

The figure for Adelaide in 2008-09⁵ is 273%. Mt Gambier reported biosolids reuse of 8% and Whyalla continued to remain at 0%. At Whyalla WRP, the solids from the activated sludge process are discharged to sewer and transported to the WWTP (primarily lagoons). Every few years, when the lagoons fill with solids they are taken offline and allowed to dry out. Once the lagoon is dry the dried sludge will be disposed for reuse. This process takes a few years and therefore Whyalla only sporadically reports biosolids reuse. In Mt Gambier the sludge is transported into sludge lagoons which, depending on the holding capacity, would fill up and be dried out sporadically as well.

Going Forward

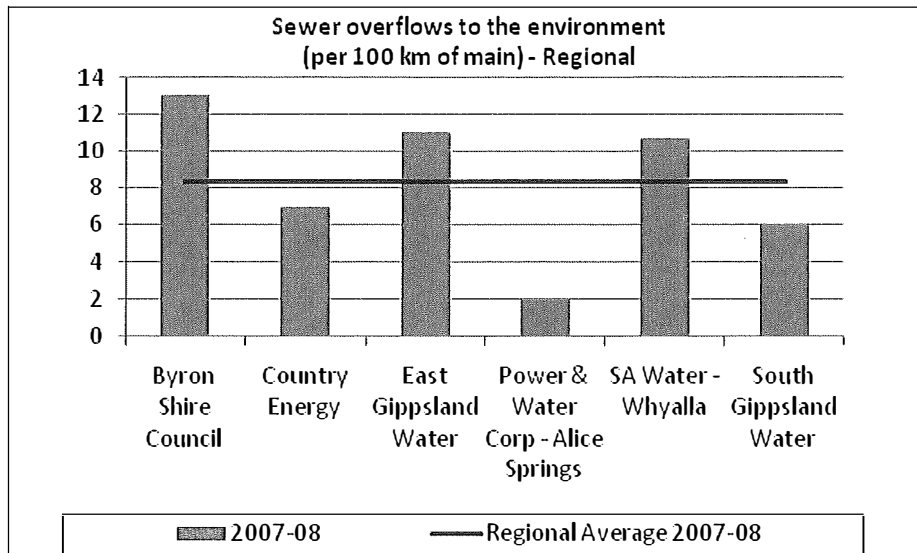
If fertiliser costs continue to be high it is expected that high demand for the bio-solids will continue in agriculture. SA Water will continue to provide biosolids for reuse in line with capacity and demand limitations.

4.2.4 Sewer overflows to the environment (NPR)

This KPI reports the number of sewer overflows to the environment relative to the length of sewer main (100km). Overflows are those caused by system faults originating in the system under the water utility's responsibility.

Table 4.4 Sewer overflows to the environment (per 100 km of main)							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Metro							
City West Water	Vic				6	5	4
Power & Water Corp - Darwin	NT	9	7	7	6	6	6
South East Water Ltd	Vic			4	5	7	6
Gold Coast Water	Qld	20	8	21	11	6	10
Water Corporation	WA	10	9	9	9	11	10
Brisbane Water	Qld	19.5	20.3	12.3	8.7	7.8	11
Barwon Water	Vic	26	23	18	19	22	18
SA Water	SA	14	14	15	13	19	23
Yarra Valley Water	Vic			31	28	34	30
Hunter Water	NSW	45	46	51	42	53	43
Sydney Water	NSW	83	73	82	87	90	64
ACTEW Corporation	ACT	103	97	107	77	82	80
Metro Average		36.7	32.9	32.5	25.9	28.6	25.4

⁵ The NPR 2008-09 was not released at the time of compiling this report.



Performance

The trend over the five years to 2005-06 was relatively stable, however overflow events increased in 2006-07 and again in 2007-08. This increase can be attributed to the increased incidences of breaks and chokes discussed at 3.2. This is primarily a result of the very dry conditions impacting on sewer mains. Despite the continued increase, SA Water remained below the metropolitan weighted average of all major utilities.

In 2007-08, Mt Gambier was not able to publish overflow data, as it did not pass audit due to source data issues. Whyalla in 2007-08 reported 10.7 overflows to the environment per 100km of main.

Though sewer overflows (to the environment) data will continue to be collected for internal reporting, how overflows are reported in the National Performance Report will change from 2008-09. The indicator has been changed to 'Overflows reported to the environmental regulator (per 100 km of main)'. The change is to reflect the true purpose of the indicator, which is to report the number of sewer overflows that were considered to be of a serious nature by the environmental regulator. As all overflow events to the environment were reflected in the published data previous to the indicator change, the reported result for 2008-09 and beyond will be considerably less than those reported to the environmental regulator (i.e. the EPA).

Going Forward

The Corporation will continue evaluating and identifying sewer overflow risks and implementing measures such as system upgrades, as identified in our overflow abatement program, and targeted preventative sewer maintenance programs.

4.2.5 EPA licence compliance (SM)

SA Water’s wastewater treatment plants are separately licensed by the EPA in order to manage discharges to the environment. The Corporation also has licenses for other processes such as abrasive blasting, transferring of treated water, dealing with specified (listed) waste, and discharging stormwater to aquifers. This KPI measures compliance (as a %) with these licences.

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
EPA Licence Compliance	100% (100%)	100% (100%)	97% (100%)	100%

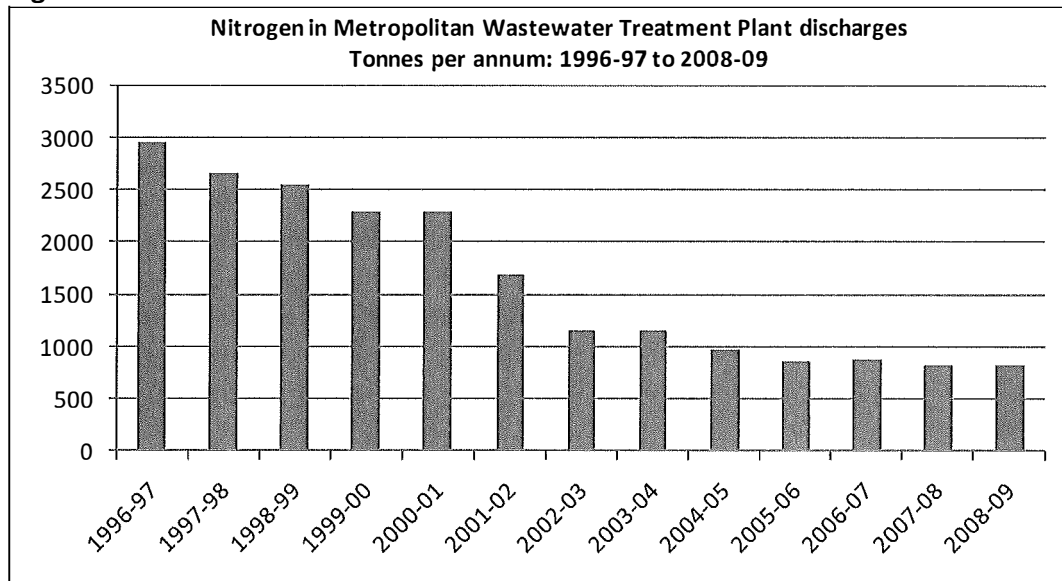
Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

EPA licence compliance was not met for the first time in 2008-09 due to a single minor incident associated with the discharge to Marine or Inland Water – Streaky Bay Aquifer Storage and Recovery Licence. Non-compliance with licence conditions occurred due to failure of de-chlorination equipment and serial communications at the site.

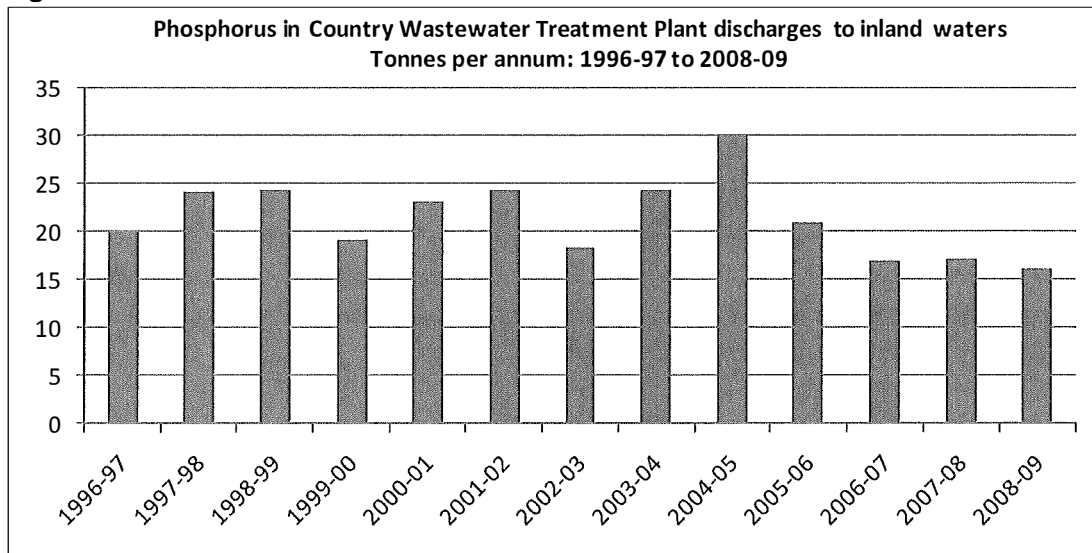
Overall, SA Water’s wastewater treatment plants, which are licensed by the EPA in order to manage discharges into the environment, show reduced levels of discharge of nitrogen and phosphorous over the last ten years. See Figures 4.2 and 4.3 below.

Figure 4.2



The focus of upgrade works at the metropolitan wastewater treatment plants has been to reduce the concentrations and loads of nitrogen discharged into the marine environment, as evident in the trend in Figure 4.2, as nitrogen impacts on the health of seagrass.

Figure 4.3



Discharge to inland waters from SA Water's regional wastewater treatment plants has focussed on phosphorous concentration and load reductions as phosphorous contributes to algal growth in fresh water systems.

Going Forward

SA Water is aiming to maintain 100% compliance with EPA licences going forward and continue to reduce nitrogen and phosphorous concentration in the discharge in the metropolitan and country areas respectively.

4.2.6 Number of Type 1 & 2 wastewater notifications (SM)

This KPI measures the number of Type 1 & 2 wastewater alert incidents (environment wastewater incidents) reported by SA Water to the EPA under a protocol agreed by each organisation. Type 1 incidents are those that are causing or threatening to cause serious or material environmental harm. Type 2 incidents are those that are causing or that could cause environmental harm but are not of a high impact or on a wide scale.

Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Type 1 & 2 Waste Water Notifications	98 (113)	73 (108)	62 (102)	92

Note: Targets for 2006-07, 2007-08 and 2008-09 are shown in brackets below the annual result.

Performance

SA Water seeks to prevent environmental incidents. However, the size and nature of the Corporation's operations and systems at times leads to failures and overflows.

There were 62 Type 1 and Type 2 environmental notifications in 2008-09, down from 73 in 2007-08 and 98 in 2006-07. This result is well below the 2008-09 target of 102. Causes of the incidents included:

- overflows due to high rainfall events overloading sewer networks;
- sewer chokes; and
- valve and level detection failures.

Several wastewater overflows involved discharges which entered water bodies (both inland and marine) and may have caused localised environmental impact. Some of these overflows were caused by external events beyond SA Water's control.

Most environmental incidents are related to wastewater overflows caused by sewer blockages from tree root intrusion, foreign bodies and fats and oils. Some overflows are caused through power failures. Programs are currently in place to upgrade infrastructure to prevent sewer overflows from occurring in problematic areas. Increased preventative maintenance is also in place to minimise the risk of chokes in sewers.

Investment in overflow abatement, combined with lower rainfall, contributed to SA Water staying within its target for wastewater environmental notifications for 2006-07, 2007-08 and 2008-09.

Going Forward

SA Water is aiming to lower the target going forward and will aim to maintain current high performance levels where possible.

As mentioned above, SA Water is continually evaluating and identifying sewer overflow risks and implementing measures such as system upgrades as identified in the Corporation's overflow abatement program and targeted preventative sewer maintenance programs.

Analysis of incident types will continue to be undertaken to identify incidents which are controllable and changes in work practice to enable further reductions in incident numbers. This will assist in directing investment of the abatement program.

4.3 CLIMATE

For its metropolitan sector, SA Water's net greenhouse gas emissions in recent drought years are very high compared to other utilities due to its electricity usage being directly related to the need to pump water from the River Murray. Up to 90% of Adelaide's water is supplied from the River Murray in drought years.

In the regional sector, the Corporation reported a relatively low net greenhouse gas emissions for Mt Gambier, while Whyalla reported a high figure due to electricity usage for pumping water from the Murray.

SA Water is seeking to reduce its greenhouse gas emissions to comply with the Kyoto Protocol (108% of 1990 levels by 2012). Several other initiatives are being implemented to enhance electricity efficiency and reduce the Corporation's environmental impact.

This section provides an overview of how the Corporation is contributing to a sustainable future in terms of climate, using the following indicator.

Section	Indicator	SM	NPR
4.3.1	Net tonnes of greenhouse gas emitted	√	√

4.3.1 Net tonnes of greenhouse gas emitted (SM & NPR)

This KPI measures the net tonnage of greenhouse gas emissions from the business. Reductions in emissions can be achieved by sequestration, renewable energy purchases and energy recovery projects (SM definition).

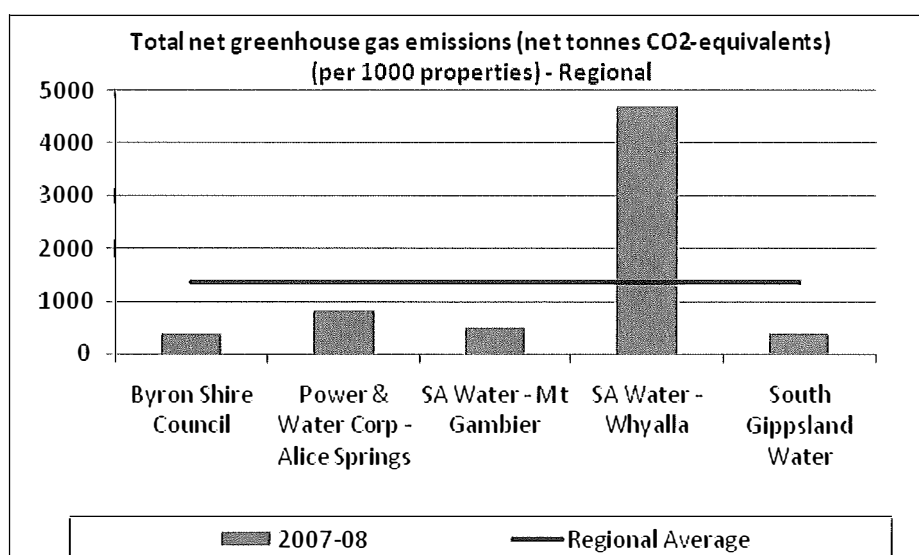
Strategic Map Targets	2006-07 Actual	2007-08 Actual	2008-09 Actual	2013-14 Target
Net Tonnes of Greenhouse Gas Emitted ¹	675,061	433,816	405,000 (405,000)	405,000 per calendar year

Note: The target for 2008-09 is shown in brackets below the annual result.

The Corporation's SM figures above are reported on a total Corporation basis and include regional operations.

Table 4.5 (NPR)

Net Greenhouse Gas Emissions (tonnes CO ₂ -Equivalent per 1,000 properties)							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Metro							
City West Water	Vic			24	26	21	10
Yarra Valley Water	Vic	38	39	40	23	22	38
South East Water Ltd	Vic	60	58	54	55	47	43
Sydney Water	NSW						240
Brisbane Water	Qld						333
Hunter Water	NSW	396	393	390	362	371	333
ACTEW Corporation	ACT	279	223	220	220	287	357
Gold Coast Water	Qld	406	459	425	328	369	380
Barwon Water	Vic			454	450	457	414
Power & Water Corp - Darwin	NT						509
Water Corporation	WA					433	584
SA Water	SA	925	581	573	533	845	994
Metro Average		351	292	273	250	317	353



Performance

SA Water has consistently been a high emitter of greenhouse gas. This continued into 2007-08 with 994 net tonnes per 1,000 properties for metropolitan operations, which is significantly higher than any other major metropolitan utility. This is primarily due to the Corporation's electricity usage being directly related to the need to pump water from the River Murray. Up to 90% of Adelaide's water is supplied from the River Murray in drought years.

The 2007-08 NPR was the first year that SA Water reported green house gas emissions for the regional centres. Mt Gambier reported 520 net tonnes per 1,000 properties and Whyalla reported 4,688 net tonnes per 1,000 properties, the highest for similar sized regional

utilities. Whyalla's figure is relatively high due to the high energy use associated with pumping water to Whyalla from the River Murray because there is a large industrial base within the boundary of Whyalla with high water demand. The emissions produced by delivering this water are spread over a much lower customer base, resulting in high emission level per property.

In 2006-07 SA Water's emissions on a total Corporation basis (SM) were at a historical maximum of 675,000 tonnes CO₂-e (net) due to pumping requirements. During 2007-08, SA Water's major pumping has been curtailed. SA Water's greenhouse gas mitigation activities helped curtail emissions from a gross value of over 700,000 tonnes CO₂-e. SA Water's actual figure of 405,000 net tonnes of greenhouse gas emissions in 2008-09, as reported in the table above, reflects purchasing of carbon credits to negate the corporations' high emissions.

SA Water has historically had high energy use and greenhouse gas emissions compared with other states. As desalination plants are established, other water utilities are increasingly becoming greenhouse intensive as well. SA Water's greenhouse management actions as outlined below are designed to constrain emissions.

Going Forward

SA Water is seeking a reduction in net greenhouse gas emissions to ensure compliance with the Kyoto Protocol. The annual target of 405 000 net tonnes of greenhouse gas emitted is equivalent to the Kyoto commitment, being 108% of 1990 emission levels. Based on current calculations this equates to 804 net tonnes per 1,000 properties, which is still greater than the average of all States.

The Corporation has undertaken extensive consultation on its Climate Change Sector Agreement. The agreement sets out targets including:

- achieving compliance with the Kyoto Protocol (period 2008-2012);
- achieving 20% renewable energy use; and
- reducing emissions by 60% compared with 1990 levels by 2050.

As of early 2008 SA Water has made significant efforts to- identify the potential environmental impacts from greenhouse gas emissions associated with the construction, operation and eventual decommissioning of any new capital work projects within SA Water at the development stage and throughout the design process. The efforts support the development of strategies to reduce energy use, while encompassing the integration of greenhouse gas footprint evaluation into SA Water's procurement, project management, planning and design stages.

The Greening of Government (GoGO) Framework, approved by Cabinet in 2006, provides an implementation framework for agencies to progress greening plans. SA Water has completed key strategic milestones for the framework and has adopted the principles of GoGO around sustainable workplace operations. The Corporation has also supported other government agencies in attempting to meet the GoGO milestones.

Underlying growth trends, the need for additional water security projects, higher quality wastewater requirements and wastewater recycling are also causing SA Water's emissions to grow. However, SA Water will manage its net greenhouse gas emissions performance in accordance with its Climate Change Sector Agreement with the Government of South Australia. This includes commitments to use more renewable energy, expand energy recovery and renewable energy projects, maintain revegetation programs and adhere to the government commitment that the Adelaide Desalination Plant will be carbon neutral.

5. Commercial Success

Overview

The service levels discussed in previous sections of this report are delivered at a cost to the Corporation's customers. Consistent with NWI requirements, the Corporation incorporates efficient operating costs and capital expenditure within the price charged to customers.

The purpose of this chapter is to illustrate that for a given level of services provided (as per earlier chapters) SA Water is providing them at an efficient cost level. Efficiency is generally defined as achieving a given outcome with minimum effort or waste.

In science based fields, such as physics, efficiency can be precisely measured however, there is no direct method to measure the efficiency of a utility. The two main methods used to estimate a utilities' efficiency are: (1) to benchmark performance against other like utilities; and/or (2) measure its performance over time.

The primary purpose for benchmarking operating cost performance is to ascertain whether the level of service provided by the Corporation is being delivered at a comparable cost. The basic hypothesis being, that if the Corporation is delivering similar or improved levels of service at lower cost, the Corporation is more efficient.

Notwithstanding that both benchmarking and performance analysis have significant short comings, the remainder of this chapter will outline SA Water's performance against other providers (using the 2007-08 National Performance Report (NPR)), and over time. It illustrates that SA Water is a low cost and, therefore, efficient operator.

As many of SA Water's costs cut across the entire Corporation, this chapter provides information on a whole-of-corporation basis and, where relevant information is available, it is broken down into the Corporation's four main business segments.

The Corporation's Strategic Map includes measures that relate to profit before tax, return on assets and capital expenditure. The key components of these measures, to be analysed from an efficiency perspective, are closely associated with operating costs and capital expenditure reported in the 2007-08 NPR. As such, no further analysis on the Strategic Map measures was considered necessary in this chapter.

All figures quoted in this chapter, unless stated otherwise, are shown in real 2007-08 dollars in line with the 2007-08 NPR.

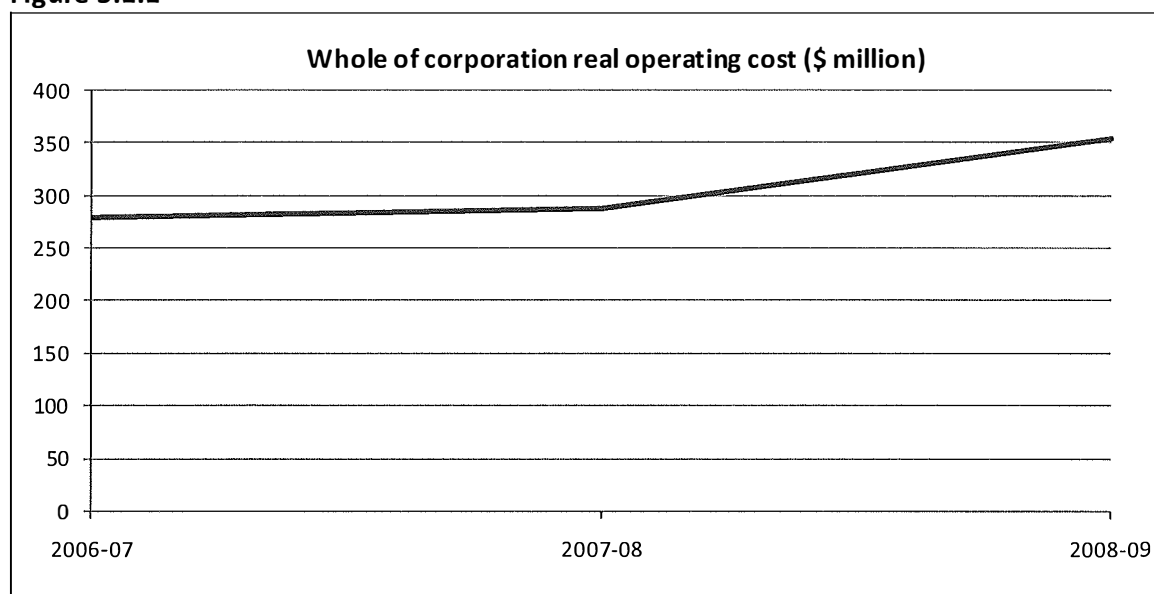
5.1 OPERATING COSTS

5.1.1 Whole of Corporation operating costs

Water Security continues to be the primary driver for significant increases in operating costs for the Corporation. From 2006-07 SA Water has been pumping around 90% of its annual metropolitan water supply from the River Murray, as well as enforcing continued water restrictions. In the future water security will be provided by the Adelaide Desalination Plant, although this level of security will come at a significant cost.

The following section focuses on the operating performance from a whole of Corporation perspective. Figure 5.1.1 below illustrates the real operating costs from 2006-07 to 2008-09.

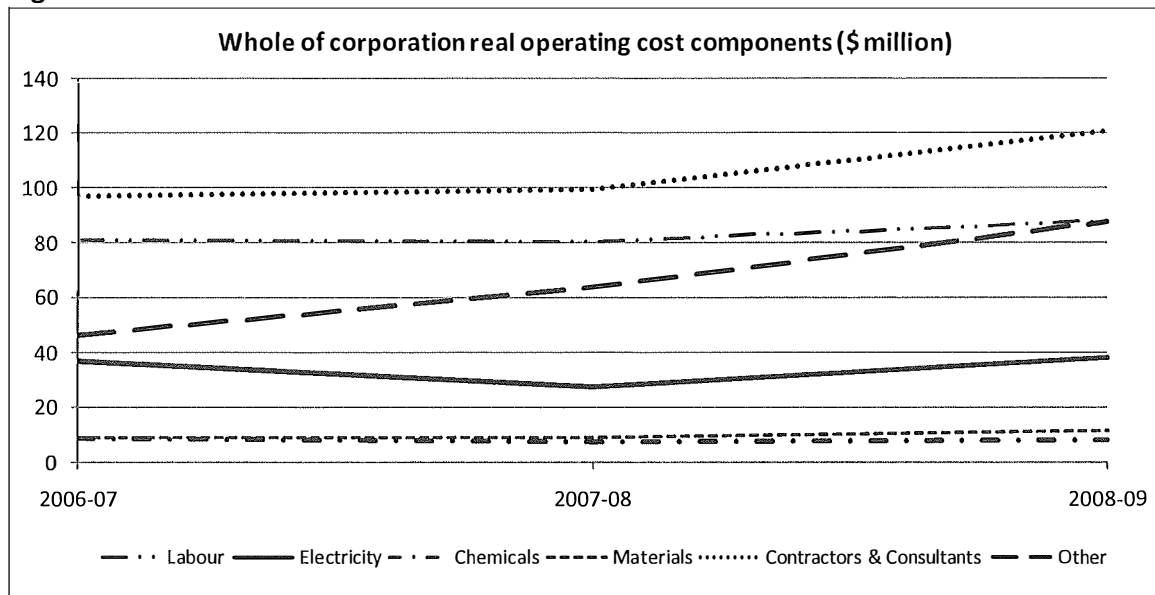
Figure 5.1.1



There is a significant increase in operating costs over this period, characterised by a step increase in costs in 2008-09.

The costs are further disaggregated in Figure 5.1.2 to illustrate the change in operating costs.

Figure 5.1.2



Over the period, materials and chemicals costs remain relatively stable and make up a small proportion of operating costs (5% of total operating costs in 2008-09). The costs that show significant variance over the period and are material in terms of total operating costs are outlined below.

Increase in other expenses

A significant increase in other expenditure from 2006-07 to 2008-09 is driven primarily by:

- a \$10 million increase in expenditure in 2008-09 associated with Ex Gratia payments made to SA Water customer's for the 2007-08 financial year, as a result of a change in the Corporation's billing policy;
- the commencement of the Corporation's H₂OME water efficiency rebates scheme in 2007-08. Expenditure on this program continues to increase annually and is anticipated to cost the Corporation in total around \$30 million over its life, on its completion at the end of 2010-11; and
- additional ad-hoc water purchases to maintain water licence compliance as well as provide water security in drought conditions (refer Section 4.1.2).

Increase in contractors and consultant expenditure

Note that this expenditure includes the Corporation's expenditure associated with the United Water contract.

Contractor and consultant expenditure increased significantly from 2006-07 to 2008-09, driven mainly by:

- preliminary works on a temporary weir;
- additional water level management at Lake Albert;

- increases in United Water contract costs as a result of the contracted contract escalation as well as increased activity related to biosolids management, sewer cleaning and the commencement of the leakage detection program;
- specialist service providers and contractor's engaged on the Adelaide Desalination Plant (ADP) project;
- increases in contract labour over the period to deliver the H2OME water efficiency rebates scheme;
- higher than anticipated housing development activity over the period, development was at its highest level for 14 years in 2007-08; and
- a general increase in costs associated with continued high workloads as a result of the ongoing drought conditions, particularly in the areas of water quality and water security projects.

Contractor and consultant expenditure is expected to continue to trend upwards. The increase is driven by payments to the AdelaideAqua consortium to operate and maintain the ADP. First water for the ADP is expected in December 2010, construction works on the plant will continue after first water to increase the capacity to 50 gegalitres per year by August 2011, while the expanded capacity of 100 gegalitres per year will be delivered by the end of 2012.

Labour

The Corporation's labour costs increase from 2006-07 to 2008-09, but then remain relatively stable over the period. The increase in labour cost from 2007-08 to 2008-09 relates to wage escalation of approximately \$8 million as well as an increase in the number of full time employees.

Additional full time employees have been required over the period 2006-07 to 2008-09 to manage the higher levels of capital expenditure, continued strong building activity and drought response. This includes labour costs for water conservation officers and additional call centre resources. Water conservation measures were introduced in 2003, with Level 2 water restrictions introduced in October 2006 and Level 3 restrictions introduced in January 2007.

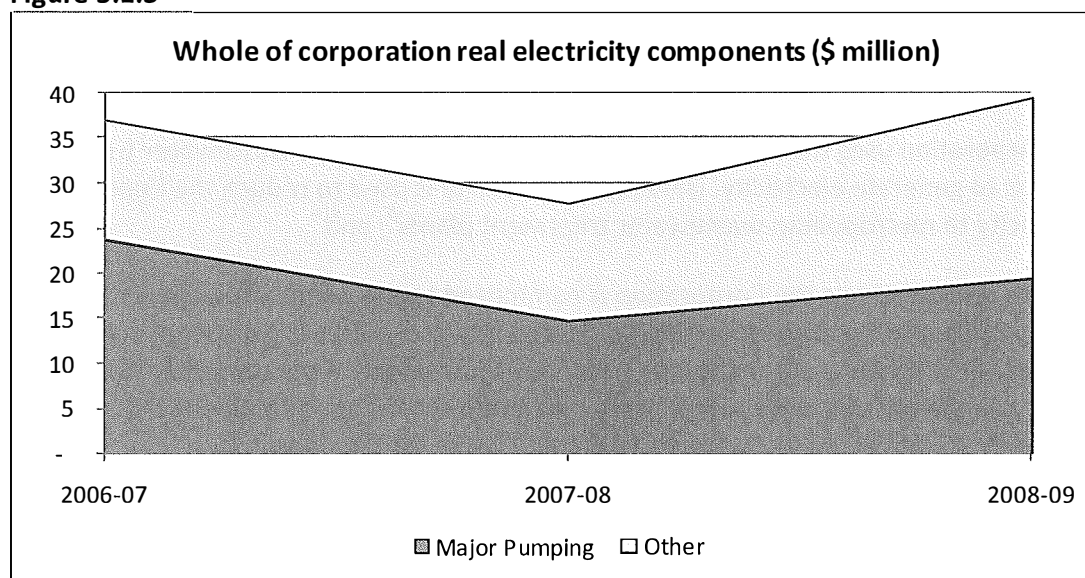
The increase associated with additional FTEs as well as higher wage escalation has been offset in part by lower liabilities for workers compensation and annual leave, as well as larger amounts of labour capitalised.

The Workforce Replenishment Strategy will increase labour costs across the Corporation from 2007-08 in order to minimise the impact of generational change in the core professional and technical workforce.

Electricity

In 2008-09 approximately 50% of the Corporation's electricity costs related to major pumping costs for the major water pipelines. Figure 5.1.3 below shows the Corporation's real electricity costs components from 2006-07 to 2008-09 and illustrates the fluctuations associated with additional major pumping costs from 2006-07.

Figure 5.1.3



SA Water drew approximately 91%, 85% and 86% of South Australia's drinking water supply from the River Murray in 2006-07, 2007-08 and 2008-09 respectively. This is much higher than previous years due to River Murray water being pumped into metropolitan Adelaide's reservoirs to supplement low water storage levels resulting from the low rainfall in the Mount Lofty Ranges. For example, in 2006-07, as a drought pumping strategy an additional 60 gegalitres from the 2007-08 River Murray metropolitan allocation was brought forward and pumped into the metropolitan reservoirs to provide water security for 2007-08.

The total expenditure on electricity for pumping water from the River Murray through the major transmission pipelines can vary significantly depending on the combination of customer demand, quantity of water available from natural catchments and requirements for water security. Over the period, the Corporation has achieved a decreasing trend in the variable energy cost per kilolitre associated with the Corporation's major pumping.

The Corporation's electricity costs going forward are set to increase, reflecting the energy intensive nature of the desalination process, coupled with the Government's commitment of procuring renewable energy for the ADP.

To minimise electricity costs the Corporation is undertaking, or has undertaken, the following initiatives:

- all electricity contracts, including those for the ADP, have been procured through a competitive tender process, consistent with the Corporation's overall procurement strategy which seeks to optimise efficiency and value for money;

- the Corporation strategically manages major pumping in terms of the times and volumes pumped to take advantage of off-peak energy tariffs;
- application of epoxy coating of pump impellers and casings and upgrade to mechanical seals on early pumping units to increase the efficiency of pumps⁶;
- the mini-hydro project recovers energy from within Adelaide’s water supply system that is created when water is pumped, lifted and transported from the River Murray and Millbrook Reservoir as it descends to supply the Adelaide Plains. The generated electricity is fed into the national electricity grid⁴;
- the Corporation uses the biogas produced as a bi-product of the wastewater treatment process to generate electricity. Generated electricity is used to reduce the imported electricity to metropolitan wastewater treatment plants⁴; and
- in more general terms the Corporation is committed to the Australian Government’s Energy Efficiency Opportunities (EEO) program, which requires large energy using businesses to assess their energy use to identify cost effective opportunities for improving energy efficiency. Through this program, SA Water is confident that energy efficiency initiatives will continue to be a major focus for the Corporation.

5.1.2 Encouraging operating efficiency initiatives

The Corporation has in place budgetary and procurement processes and frameworks to encourage operating efficiency.

Budget Process

As a part of the Corporation’s budgeting processes efficiency is encouraged through the identification of continuous improvement strategies and savings.

During the Mid Year Budget Review and Budget Processes, the Corporation identifies cost savings to assist in offsetting emerging cost pressures, and limit price increases.

Procurement Process

SA Water’s Procurement Policy sets out the principles that apply to procurement activity throughout the Corporation. One of the key objectives of this Policy is to ensure that SA Water’s procurement activities optimise its commercial focus.

Two Policy principles that support this objective are that SA Water adopts commercial practices to optimise the return for each dollar spent and potential suppliers are given equal opportunity to do business with SA Water to the maximum extent practicable.

Under-pinning this Policy is a requirement to, wherever possible, seek competitive offers for procurements greater than \$5,000. Indicative analysis suggests that approximately 60% of

⁶ PUB & Water Services Association of Australia (2009), *DRAFT Report for the Global Water Research Coalition (GWRC) – Energy Efficiency Compendium of Best Practice for Australia and Singapore*.

operating supplies or services in 2007-08 were procured outside of the Corporation. Going forward this percentage is set to increase to around 70% by 2012-13 as the ADP becomes fully operational.

5.1.3 Benchmarking Operating Cost Performance

SA Water continues its strong operating cost performance, with all four business segments in the low-to-mid range of the compared entities. In fact, all segments performed well below the weighted average in 2007-08. The Corporation's operating costs per property are low compared to the other major metropolitan and regional water utilities in Australia.

Overall trends have seen an increase in operating costs across the Corporation as well as across the country. In recent years water business costs have increased in order to improve water security. Wastewater costs have increased as a result of increasing environmental requirements and performance outcomes.

Real operating cost Per Property – (\$ per property)

Operating costs include operations, maintenance and administration costs, but exclude interest/finance charges, capital depreciation, asset write-downs and non-core business operating costs.

The 2006-07 NPR (p41) reports the following key factors affecting operating costs:

- *changes in water consumption over time;*
- *network characteristics, for example the extent of pumping or treatment required given the significant energy requirements of these functions;*
- *customer density, where higher numbers of customers within smaller supply areas tend to result in lower operating costs per property;*
- *the extent to which water is sourced from external bulk business or other services are outsourced. The separation of 'bulk' and 'retail' functions is important as, where a retail business receives supply from an external bulk water utility, the cost of this supply will include capital-related costs for the bulk supplier. A utility which owns and operates its own 'bulk' supply sources would report, for this indicator, only the operating costs relating to these functions, and not depreciation or a return on capital invested; and*
- *some utilities operate defined benefit superannuation schemes which, depending on the performance of the investment environment, may cause some fluctuation in operating costs year on year.*

As a consequence of differences in operating environments, cost comparisons of water utilities must be interpreted with caution.

Furthermore, in support of the existence of different operating environments in the provision of water services, the Commonwealth Grants Commission investigated the impacts of water availability and quality variations across regions on water supply costs and produced an index of water cost disadvantages arising from accessibility and water quality.

The index, which is presented in Table 5.1.2⁷, shows that SA Water has a 0.9 disadvantage index in water accessibility and quality. Only two other water companies (Actew AGL and Water Corporation) have a disadvantage index and in each case they are relatively small.

The data strongly supports the contention that transporting water long distances (from the River Murray to Adelaide) and the low quality of that source water, impose significant cost disadvantages for South Australia's metropolitan water supply arising from very poor availability and poor quality.

Table 5.1.2 -Index of Disadvantage in Water Accessibility and Quality by Drainage Division

	Availability	Quality	Combined Impact ¹
ActewAGL (Murray-Darling)	0	1	0.1
Brisbane Water (NE Coast)	0	0	0
City West Water (SE Coast)	0	0	0
Power & Water* (Timor Sea)	0	0	0
SA Water (SA Gulf)	2	1	0.9
South East Water (SE Coast)	0	0	0
Sydney Water (SE Coast)	0	0	0
Water Corporation (SW Coast)	0.2	1	0.18

Note: Calculated by the Grants Commission as $0.4 \times \text{Availability} + 0.1 \times \text{Quality}$.

Metropolitan Water Supply

United Water manages the operations and maintenance of metropolitan Adelaide's water systems, including the delivery of capital works for rehabilitation and augmentation. This contract commenced in 1996 and was procured via a competitive public tender process.

As discussed above, there are several factors that impact on operating costs which are important for the analysis herein. Table 5.1.3 below identifies some of the key factors affecting the Corporation's metropolitan water operating costs.

Table 5.1.3

Key statistics – water supply							
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Major Pumping							
Metro volume pumped from River Murray (GL)	154	73	65	68	193	90	150
Water Supplied							
Metro consumption (GL - master meter)	178	166	166	151	156	139	138
Customer Growth							
Metro total connected properties – (000s)	480	486	492	499	504	510	517

7

Commonwealth Grants Commission (2004), 'Concessions and other payments – water, sanitation and protection of the environment', *2004 Review Working Papers*. See especially pp 80-81.

Despite having a clear water quality and water availability disadvantage, when compared with other interstate water companies, the Corporation has operating costs for water in the metropolitan area that are comparable to the lowest cost operators.

Table 5.1.4 shows the real operating cost per property for metropolitan water supply from 2002-03 to 2007-08 as reported in the 2007-08 NPR.

Table 5.1.4

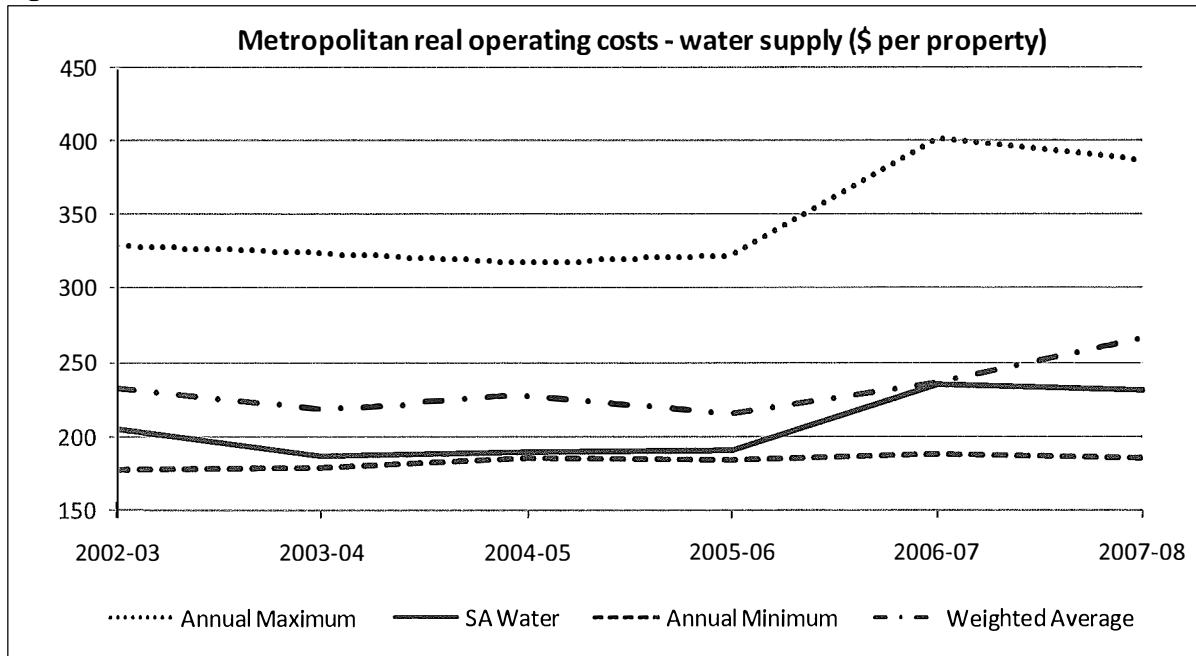
Real operating cost – water (\$/property) – 2007-08 Dollars							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Hunter Water	NSW	177	178	193	195	211	186
South East Water Ltd	Vic	197	183	189	186	188	190
Yarra Valley Water	Vic				196	196	200
SA Water	SA	204	186	188	190	209	205
Water Corporation	WA				184	211	222
Gold Coast Water	Qld	185	198	186	244	191	247
CityWest Water	Vic	329	305	317	294	297	288
ACTEW Corporation	ACT	310	324	247	250	291	303
Barwon Water	Vic	230	240	259	263	279	303
Brisbane Water	Qld	240	241	259	253	286	336
Sydney Water	NSW	239	216	230	218	260	336
Power & Water Corp – Darwin	NT			307	323	401	387
Metro Weighted Average		232	218	227	215	236	266

The industry weighted average operating cost per property has increased significantly from 2006-07. Continued drought conditions experienced in 2006-07 and 2007-08 are more than likely the primary driver for this increase across the country, as entities spend more to secure additional and more reliable water supplies.

Despite this challenge, the Corporation continued its strong performance in comparison to other entities, having the fourth lowest operating cost per property in 2007-08, well below the average of \$266 per property. SA Water's operating cost per property for metropolitan water supply has consistently outperformed the industry average, with the Corporation being the lowest cost provider in several years.

Figure 5.1.4 illustrates how the Corporation's performance has been below the weighted average over the period. The drought conditions in 2006-07 and 2007-08, in particular in South Eastern Australia, are illustrated below by the real upward trend in operating costs per property of the weighted average.

Figure 5.1.4



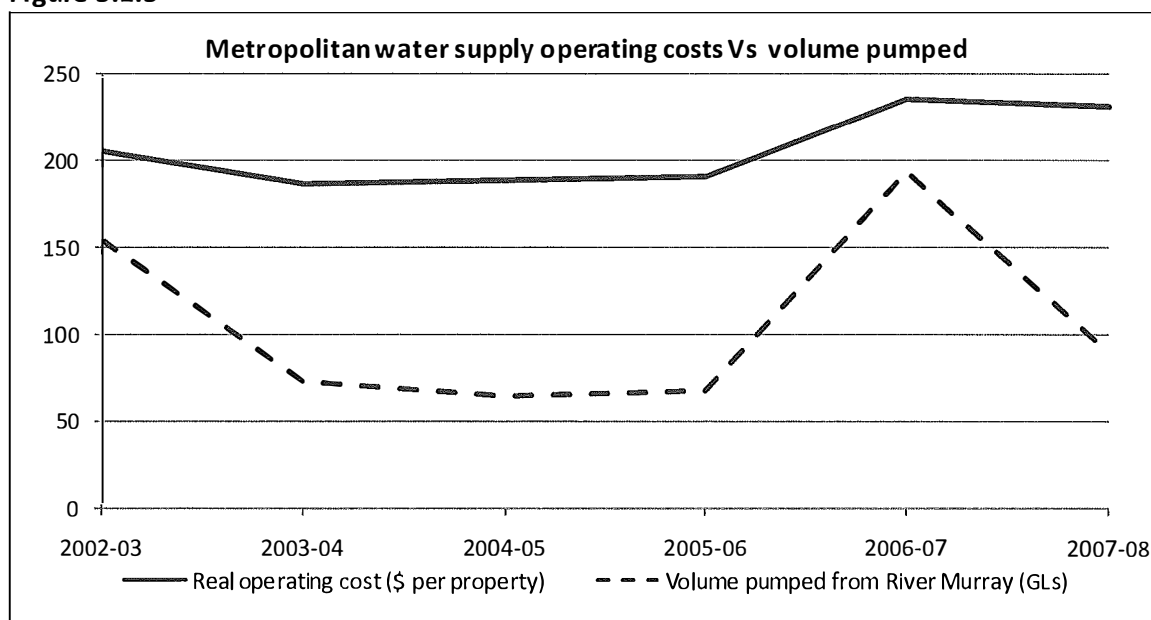
The Corporation's operating cost per property cost spikes in 2002-03 and 2006-07 are driven primarily by increases in electricity costs associated with additional major pumping from the River Murray in both of these years (refer Table 5.1.3).

The additional pumping from the River Murray (high cost water source) was required due to significantly lower than average inflows into Adelaide's main storages in these years (low cost water source). For example, in 2006-07, as a drought pumping strategy an additional 60 gigalitres from the 2007-08 River Murray metropolitan allocation was brought forward and pumped into the metropolitan reservoirs to provide water security for 2007-08.

Although drought conditions continued into 2007-08, major pumping costs were not the major driver for increases in operating costs in 2007-08. This is illustrated in Figure 5.1.5 below, which shows the relationship between operating cost per property and the volume of water pumped from the River Murray.

The increase in real operating cost per property in 2007-08 relate to the drought response measures mentioned previously in Section 5.1.1, in particular the commencement of the H2Ome Rebates Scheme and enforcement of water restrictions.

Figure 5.1.5



Metropolitan Sewerage Services

United Water manages the operations and maintenance of metropolitan Adelaide's wastewater systems, including the delivery of capital works for rehabilitation and augmentation. This contract commenced in 1996 and was procured via a competitive public tender process.

Table 5.1.5 identifies some of the key factors affecting the Corporation's metropolitan sewerage services which are important in the context of the analysis herein.

Table 5.1.5

Key statistics – sewer							
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Customer Growth							
Metro total connected properties – (000s)	451	458	464	470	475	480	487
Percentage of Sewage Treated to a Tertiary Level	81.6%	91.0%	97.0%	100.0%	99.9%	100.0%	100.0%

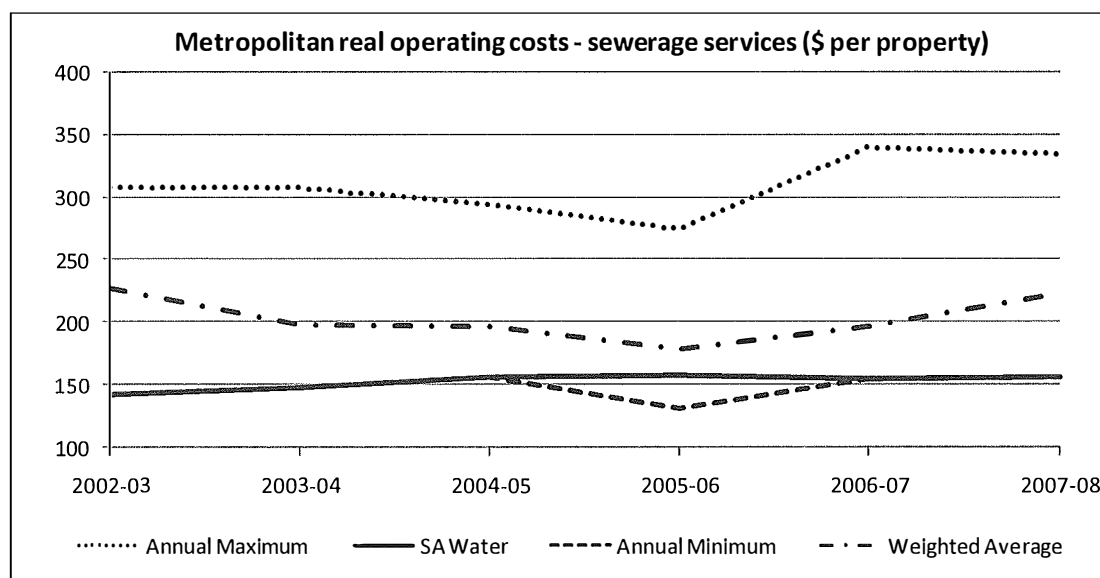
Table 5.1.6 below shows the real operating cost per property for metropolitan sewerage services from 2002-03 to 2007-08 as reported in the 2007-08 NPR.

Table 5.1.6

Real operating cost – sewerage (\$/property) – 2006-07 Dollars							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
SA Water	SA	142	148	155	157	154	156
Water Corporation	WA				192	192	188
Brisbane Water	Qld	222	197	189	184	180	193
South East Water Ltd	Vic	207	205	218	219	217	217
City West Water	Vic	236	227	250	234	232	229
Yarra Valley Water	Vic				220	229	239
Barwon Water	Vic	205	215	230	252	261	243
Hunter Water	NSW	184	180	190	217	228	259
Sydney Water	NSW	261	194	199	131	190	261
Gold Coast Water	Qld	199	216	247	267	225	282
ACTEW Corporation	ACT	308	309	295	272	301	307
Power & Water Corp – Darwin	NT			292	275	340	334
Metro Weighted Average		227	198	196	179	197	223

The Corporation continued its high performance in comparison to other entities and at \$156 per property had the lowest operating cost per property in 2007-08, well below the weighted average of \$223 per property. Over the period SA Water has consistently been the lowest cost provider as illustrated in Figure 5.1.6.

Figure 5.1.6



The Corporation's slight upward trend from 2002-03 to 2005-06 relates to increased costs largely attributable to the Corporation's Environment Improvement Program (EIP), which has been introduced to meet higher environmental standards required by the EPA. SA Water has, at a significant cost over the past several years, adjusted its operating practices to reduce negative environmental impacts.

The EIP included the following metropolitan projects: Bolivar Dissolved Air Flotation Filtration plant and associated sludge dewatering process; the Queensbury Diversion; the Christies Beach EIP; and the Glenelg EIP.

As discussed in Chapter 4.2, and shown in Table 5.1.5 above, there has been a substantial increase in the proportion of wastewater treated to a tertiary level over the period. Interstate companies have seen some significant increases in the degree of tertiary treatment, but none as significant as SA Water's increase. Tertiary treatment is typically the most expensive treatment process to operate.

As well as improving discharges to the St Vincent's Gulf, the EIP has helped to increase the percentage of water recycled (refer Chapter 4.2.1) and ensured the Corporation continues to be EPA compliant (refer Chapter 4.2.5).

Due to higher environmental standards required by the EPA, it now appears that in many instances recycled water options are the most cost effective method of disposal. If EIP operating costs were to be removed costs would remain relatively stable over the period.

Regional Water Supply

As discussed earlier, there are several factors that impact on operating costs. Table 5.1.7 below identifies some of the key factors affecting the Corporation's regional water supply costs.

Table 5.1.7

Key statistics – regional water supply							
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Major Pumping							
Regional volume pumped from River Murray (GL)	56	41	41	42	50	37	37
Water Supplied							
Regional consumption (GL - master meter)	103	80	86	84	90	80	80
Customer Growth							
Regional total connected properties – water supply (000s)	174	177	180	183	186	190	194

Table 5.1.8 below show the real operating cost per property for regional water services from 2005-06 to 2007-08 as reported in the 2007-08 NPR.

Table 5.1.8

Real operating cost – water (\$/property) – 2006-07 Dollars				
	State / Territory	2005-06	2006-07	2007-08
Byron Shire Council	NSW	371	388	412
SA Water - Regional	SA	433 ⁽¹⁾	441	463
South Gippsland Water	Vic	390	507	508
East Gippsland Water	Vic	443	477	543
Power & Water Corp - Alice Springs	NT	651	719	795
Country Energy	NSW	1003	894	800
Regional Weighted Average		415	543	564

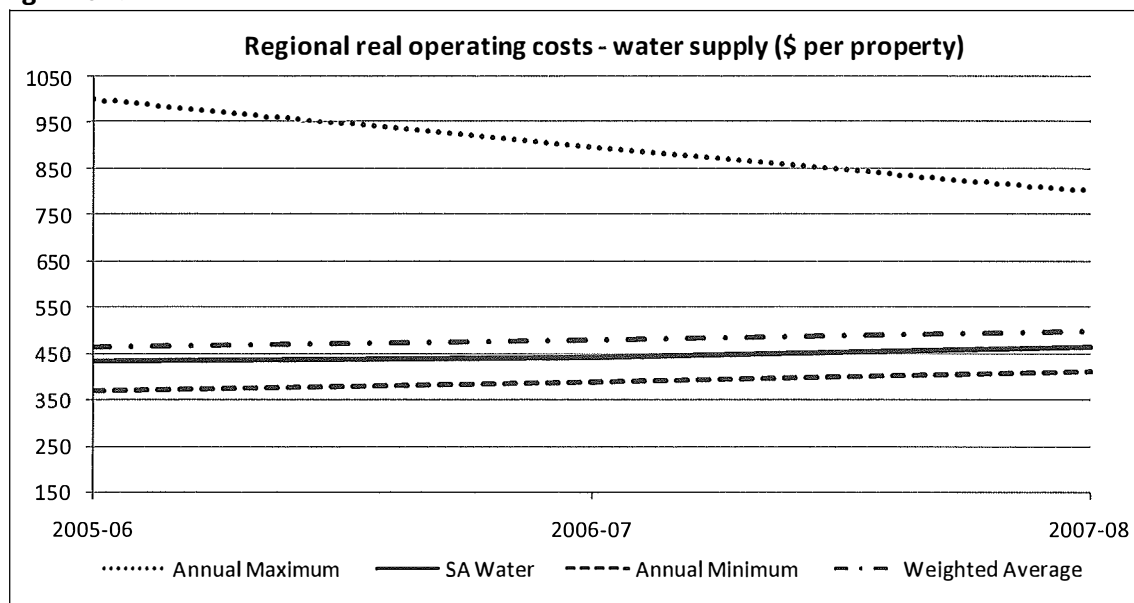
(1) The Corporation did not report this indicator in 2005-06 for benchmarking purposes. The figure included above is an internal estimate and is consistent with the Corporation's Annual Report Segment Report.

SA Water's regional operating cost per property for water is relatively low for 2006-07 and 2007-08 and well below the weighted average. The Corporation's regional water segment results should be interpreted with caution due to the following factors:

- the diversity of systems within the SA regional data. For example, Mount Gambier's water is sourced readily from the Blue Lake, whereas Whyalla's water must be treated and pumped 350km from the River Murray;
- whole-of-State regional averages which depend on the proportions of "low cost" and "high cost" regions that are present in the State; and
- South Australia's disadvantage in terms of water availability and quality variations (as detailed in Table 5.1.3 earlier in this chapter).

It is difficult to make longer term comparisons of operating cost per property trends in regional areas as regional centres have only been reporting in the NPR since 2005-06 and there is large variability between regional areas. Figure 5.1.7 displays this graphically, showing SA Water costs relatively stable and around the average of the compared companies.

Figure 5.1.7



The last 5 years has seen several key regional water initiatives come on line which increased the amount of filtered water delivered to customers as a part of the Corporation's Country Water Quality Improvement Program.

An increase in operating costs in 2007-08 is partly attributable to the Country Water Quality Improvement Program – Stage 3 (CWQIP3). CWQIP3 has meant a further 17 regional communities now receive filtered and treated water from the River Murray as opposed to their previous non-potable supply. As a result the provision of filtered water from this program has increased by around 10.55 ML per day in regional SA. The treatment plants are operated largely through third party contracts by which SA Water pays for the labour, chemical, materials and maintenance cost of operating the 9 new plants at Kanmantoo, Myponga, Cowirra-Neeta, Swan Reach, Palmer, Blanchetown, Cadell, Moorook and Glossop.

SA Water has increased the percentage of treated water to regional customers and has supplied water to new customers. SA Water has also responded to the challenge of drought conditions and events outside of its control to ensure water security for customers is maintained.

Regional Sewerage Services

As discussed earlier, there are several factors that impact on operating costs. Table 5.1.9 below identifies one of the key factors affecting the Corporation's regional sewerage service costs.

Table 5.1.9

Key statistics – sewer							
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Customer Growth Regional total connected properties – sewer (000s)	58	59	60	61	62	63	64

Table 5.1.10 below shows the real operating cost per property for regional sewerage services from 2005-06 to 2007-08 as reported in the 2007-08 NPR.

Table 5.1.10

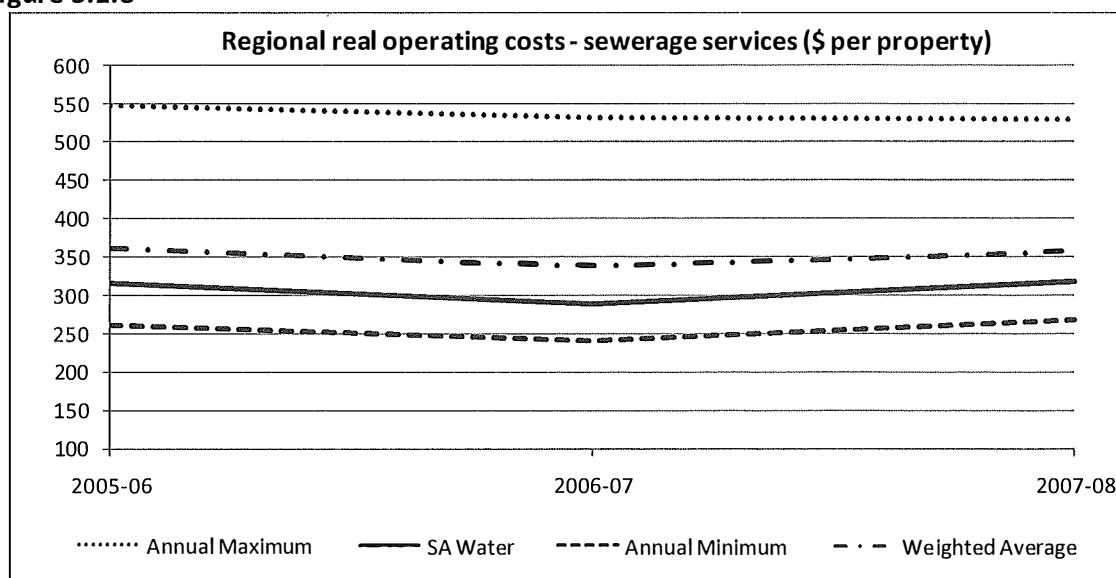
Real operating cost – water (\$/property) – 2006-07 Dollars				
	State / Territory	2005-06	2006-07	2007-08
Country Energy	NSW	260	241	268
Power & Water Corp - Alice Springs	NT	365	366	315
SA Water – Country	SA	314 ⁽¹⁾	289	317
South Gippsland Water	Vic	308	313	352
East Gippsland Water	Vic	548	465	504
Byron Shire Council	NSW	519	531	529
Regional Weighted Average		408	361	378

(1) The Corporation did not report this indicator in 2005-06 for benchmarking purposes. The figure included above is an internal estimate and is consistent with the Corporation's Annual Report Segment Report.

SA Water's regional operating cost per property for sewerage is in the midrange of the compared companies for both 2006-07 and 2007-08 and well below the regional average.

It is difficult to make longer term comparisons of operating cost per property trends in regional areas as regional centres have only been reporting in NPR since 2005-06; analysis of SA Water's regional cost trend is more useful as shown in Figure 5.1.8.

Figure 5.1.8



Consistent with the majority of other compared entities, the Corporation's real operating costs for regional sewerage services have increased from 2006-07 to 2007-08, as shown in Figure 5.1.8.

SA Water's operational costs have increased over the period due to several upgrades of the Corporation's regional wastewater treatments plants (WWTP) to meet environmental requirements and a general increase in workload across many outer metropolitan treatment plants such as Hahndorf, Myponga, Heathfield and others as a result of expanding hills and regional development.

As with the metropolitan sewerage business, the Corporation has upgraded several of its regional wastewater treatments plants (WWTP) to meet environmental requirements. These projects include the construction of WWTPs in Victor Harbour, Whyalla, Port Pirie and an upgrade at Heathfield WWTP.

Whilst cost pressures are evident for regional wastewater, the upgrade of several WWTPs has had a positive impact on service standards including increasing the percentage of sewerage treated to a tertiary level (refer Chapter 4.2), increasing the percentage of water recycled (refer Chapter 4.2.1) and helping SA Water ensure the Corporation continues to be EPA compliant (refer Chapter 4.2.5).

5.1.3 Operating Costs - Going Forward

Going forward the Corporation's real operating cost per property in the water business is expected to increase. The increases are driven by water security initiatives, the ADP being the most significant, as well as continuing the water efficiency rebates and water restrictions.

Sewerage costs increase slightly from 2009-10 reflecting an increase in environmental compliance requirements as well as the need to meet demand growth.

Metropolitan Water

The increases in this segment beyond 2009-10 are primarily attributable to the operation of the ADP. Removing the operating costs associated with the ADP from the forward estimates, real operating cost per property declines significantly, in particular beyond 2010-11 when restrictions are assumed to be lifted.

Costs remain high from 2008-09 to 2010-11 reflecting primarily the continuation of water restrictions and the H2Ome Rebates Scheme.

Regional Water

Operating costs remain high from 2008-09 to 2010-11 before costs reduce in 2011-12. The high costs from 2008-09 to 2010-11 relate primarily to drought response costs, including the cost of additional water purchases and continuation of water restrictions.

Metropolitan Sewer

Operating costs are forecast to remain relatively stable in real terms from 2009-10 for this segment, although still a slight increase compared with 2006-07 levels.

The increase over the period is driven partly by an increase in costs associated with the operation of the upgraded Christies Beach Wastewater Treatment Plant. This project aims to deliver a plant with a focus on sustainability and the ability to cater for a growing population.

Regional Sewer

Operating costs are forecast to increase in real terms for this segment, although still a step increase compared with 2006-07 levels. The increase is driven by increases in labour costs associated with the Corporation's Workforce Replenishment Strategy as well as additional operating requirements as a result of OH&S investigations and increases in water quality compliance requirements.

5.2 TOTAL COSTS

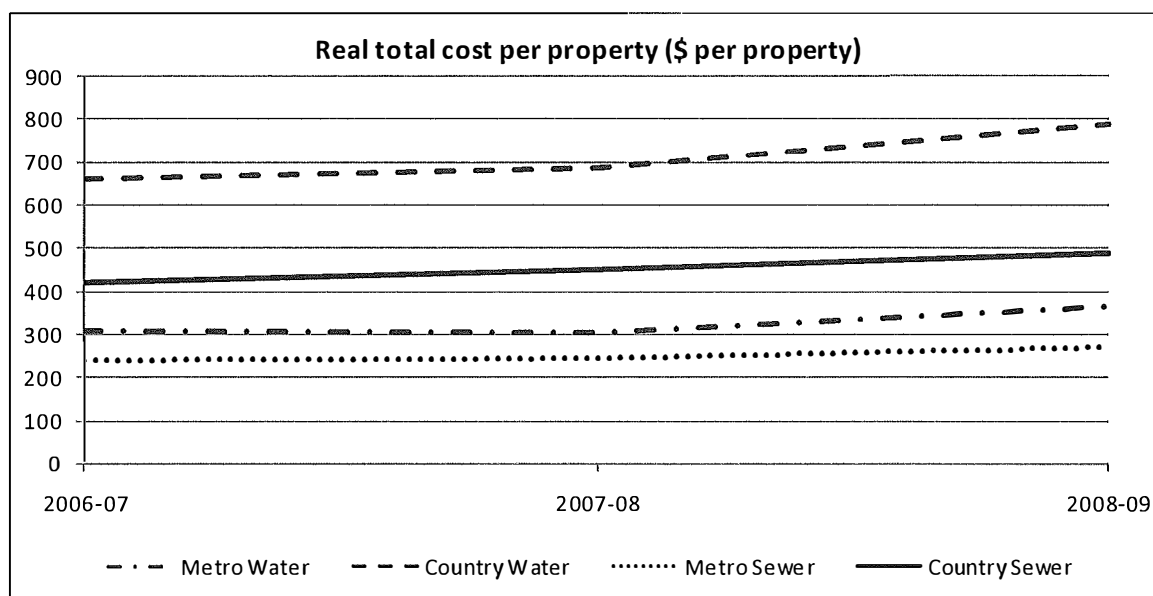
SA Water's total operating cost per property trend is consistent with the Corporation's operating cost per property.

Real total cost per property – (\$/property)

Total cost for water supply/sewerage services (\$/property) equal to operating cost for water supply/sewerage services plus current cost depreciation for water supply/sewerage assets divided by Total connected properties receiving water supply/sewerage services)

This indicator was deleted from the NPR and hence was not reported in the 2007-08 NPR. The Corporation understands that this indicator was deleted as total cost includes depreciation which is based on the Written-Down Replacement Costs (WDRC), and the calculation for this differs between utilities therefore is not a suitable comparison for benchmarking. In the attempt to reduce indicators, operating costs was seen as a sufficient indicator of the costs of the utility. Notwithstanding its limitations in terms of comparison, Figure 5.2.1 shows the total costs per property for the four business segments.

Figure 5.2.1



Real total cost per property for both water and sewer generally follows the same trend over the period as the real operating cost per property. This is to be expected as operating costs are a major component of total costs for the Corporation.

When this indicator was previously reported in the NPR, SA Water's real total cost per property was consistently well below the average of other Australian water utilities. Although as mentioned above, caution must be taken when comparing total cost per property as the depreciation component of this cost varies significantly with the asset valuation methodology used by the utility.

5.3 CAPITAL EXPENDITURE

As discussed in the Draft National Water Initiative Pricing guidelines, “Capital expenditure constitutes the major proportion of costs recovered through water charges. Capital expenditure includes expenditure: for replacement of existing assets; and to expand the stock of assets to meet increases in demand, meet required service standards, and any increases in regulatory obligations”.

In setting water and sewer prices the Corporation includes the capital expenditure in its regulatory asset base. Depreciation on these assets as well as a return on investment is recovered from customers. Furthermore, capital expenditure has a direct impact on operating costs.

5.3.1 Capital Planning Framework

The Corporation has in place formal Asset Management processes and policies. Consistent with operating expenditure, capital expenditure efficiencies and rationing are a part of the overall Asset Management Framework.

The Board of SA Water has endorsed a formal capital expenditure approvals policy, which is applied to all projects. A project must pass through formal approval “gates” prior to commencement of capital works. This process involves a rigorous business case, identification of project risks and the identification of business and customer outcomes.

The Corporation continues to benchmark its capital planning and asset management process and policies with other Australian water utilities.

In providing water and wastewater services to communities across South Australia, SA Water utilises a vast array of infrastructure assets, many of which are expected to have long operational lives. For example, there are more than 28,000 km of water pipes; 8,500 km of wastewater mains; 615,000 water connections and 485,000 wastewater connections. In total, the asset base has a gross replacement value of more than \$13.5 billion and a written down value of over \$8 billion. See Attachment 1 for a summary table of assets.

SA Water’s operating environment is challenging and includes factors such as broad geographical spread of operations, a wide variety of water sources, water security challenges, tightening customer service standards, increasing regulation (water quality, environment and economic), increased community expectations and a diverse array of assets.

Within this environment, management of infrastructure assets to produce efficient and effective outcomes throughout long operational lives is a critical activity for SA Water.

It is also a required activity. SA Water’s Charter, prepared in accordance with the Public Corporations Act 1993, states that “The Corporation must develop an Asset Management Plan for the short and long-term”.

This section details the Corporation’s approach to asset management. Key elements include an asset management framework, the Corporation’s asset management policy, an explanation of how asset management drives the capital works plan and an overview of asset management processes.

Asset Management Framework - Overview

SA Water’s approach to asset management is based on the principle that assets exist to deliver service to customers. Asset management is simply the process, or business discipline, through which the necessary infrastructure is created and managed to ensure the designated services to customers are provided reliably and efficiently over time.

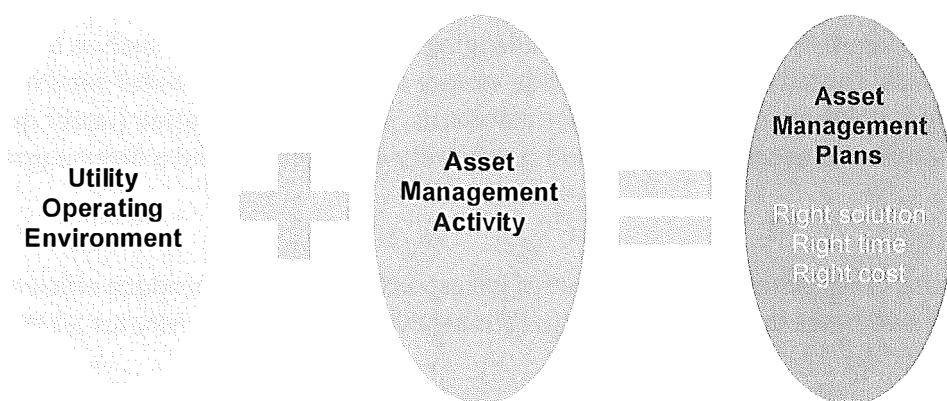
Given the complex operating environment of a water utility, asset management decisions will rely heavily on:

- clear definition of expected customer service standards;
- adequate description of regulatory and other imposed operating environment constraints;
- sound risk management analysis;
- proper analysis of sustainability issues;
- whole of life analysis of installed assets covering planning, creation, operations, maintenance, renewal/replacement and disposal; and
- well defined projections of growth in demand for services.

The output of the asset management process will be well scoped asset management plans which detail the infrastructure related actions and investments necessary to manage the operating environment risk profile.

Figure 5.3.1 below illustrates, at the broadest level, the asset management process.

Figure 5.3.1



Asset Management translates a utility's operating environment into the maintenance and capital investment plans to be applied to its infrastructure assets.

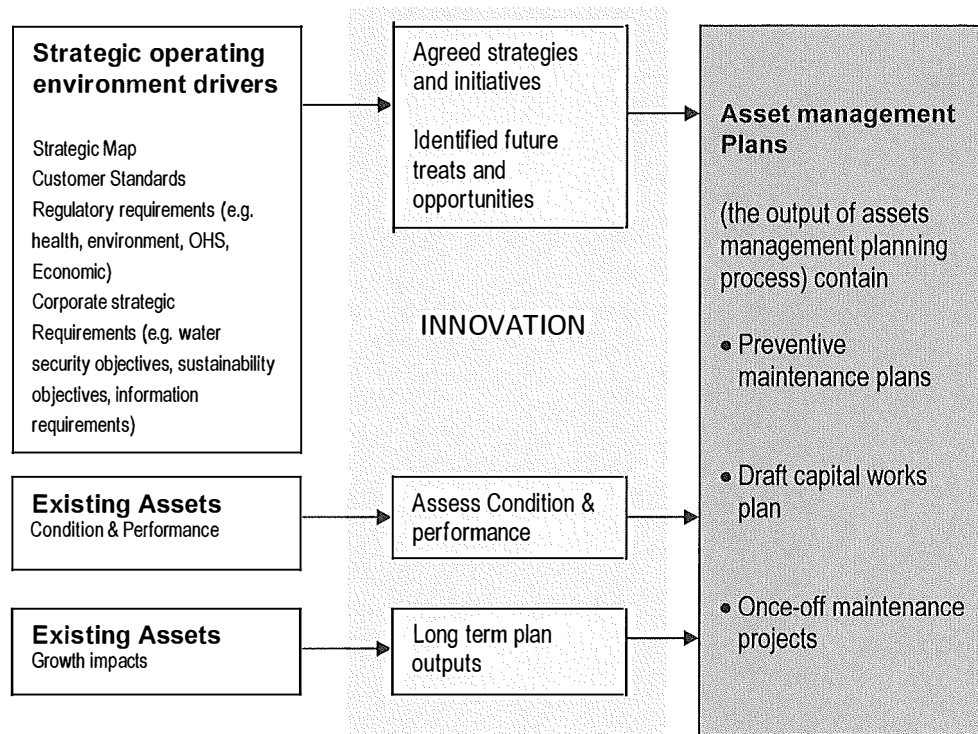
As alluded to above, the utility operating environment can be divided into a number of major themes. SA Water's asset management model uses the following categorisation:

- **strategic drivers** that include customer service standards, regulatory mandates (e.g. water quality, environment, OHS) and specific corporate/owner objectives (e.g. water security);
- **condition and performance** of the existing installed infrastructure; and
- impacts on the infrastructure of **demand growth**.

The asset management activity applied to each key category varies. For the strategic drivers, asset management activity is focussed on translating the required strategic outcomes into the specific actions needed to be applied to the relevant infrastructure. For condition and performance of the existing asset base, specific modelling, inspections and maintenance regimes all inform future planned interventions. For demand growth, population projections and development planning priorities are input to hydraulic modelling of the existing infrastructure to determine the scope and timing of planned capacity augmentations (for both treatment plants and networks). Undergirding all asset management activity is the principle of effective risk management.

Figure 5.3.2 diagrammatically presents the Corporation's Asset Management Model.

Figure 5.3.2 - Asset Management Model



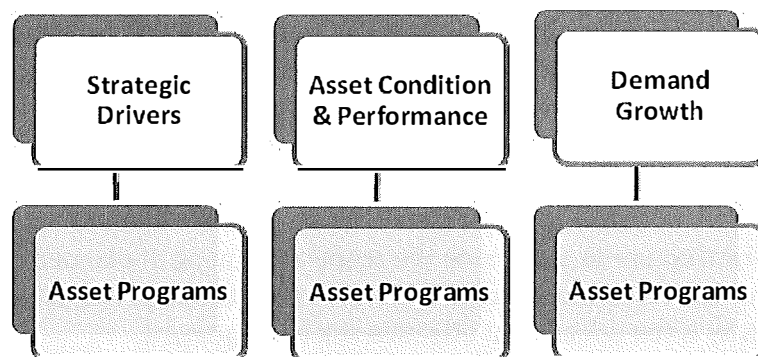
Asset Management Framework – Asset Programs

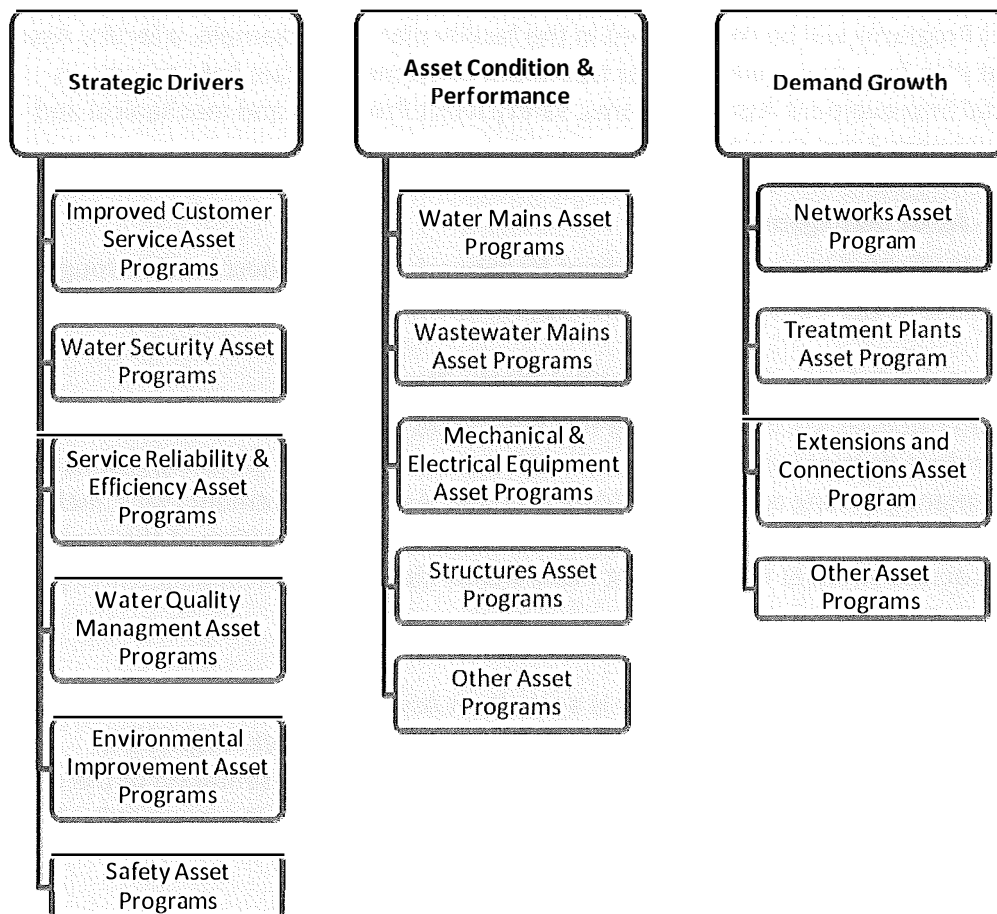
Within each of the three major operating environment themes, asset management activity can be further categorised into Asset Programs.

Each Asset Program has specific objectives, a clear underpinning assessment methodology and/or key drivers and gives a forward view of planned management activity that covers both operating and capital expenditure.

The Asset programs themselves are grouped into focus areas as shown in Figure 5.3.3.

Figure 5.3.3





A full list of Asset Programs is shown at Appendix 2.

As appropriate, the asset management activity undertaken within any Program will apply asset life cycle analysis covering planning, asset creation, operations, maintenance, rehabilitation, replacement/renewal and disposal.

Asset Management Framework – Asset Management Plans

As introduced above, Asset Management Plans, the output of asset management activity, give the forward projection of activity (e.g. preventive maintenance plans) and expenditure (both capital and operating) needed to manage the projected risks associated with the infrastructure base. They are aligned completely with Asset Programs. That is, the forward projection of capital and maintenance costs for each Asset Program is, in fact, the Asset Management Plan for that Program.

For any Program, the planned expenditure focus will be specific. For some Programs expenditure will be a mix between operating and capital – this will particularly be the case for Programs within the Asset Condition and Performance theme. For others, expenditure will be purely capital investment.

Asset Management Plans can also be produced for individual complex facilities, such as water and wastewater treatment plants and major pipelines. Under this option, sections of various Asset Programs will be represented in the facility plan. For example, a facility Asset Management Plan for a major wastewater treatment plant may contain links to various environmental improvement Asset Programs, safety Asset Programs and mechanical and electrical equipment Asset Programs.

Governance - Asset Management Policy

SA Water has formalised its asset management framework, at the highest level, through its corporate Asset Management Policy, which is approved periodically by the SA Water Board.

Asset Management Relationship to the Capital Works Plan

Integrated water utilities are infrastructure rich businesses. Their forward capital works plans are therefore dominated by works on the infrastructure assets. Since the results of asset management planning activity, individual thematic Asset Management Plans, include forward plans of required capital investment, it follows that the summation of the capital requirements across all Asset Management Plans will be close to a draft capital works plan for the utility.

In SA Water, for each Asset Program there is a resultant Asset Management Plan. The summation of the planned capital works for each of the sixty-odd Asset Programs is therefore the draft capital works plan for the organisation. This representation of the plan is in outcome terms rather than simply an aggregation of more than a thousand individual projects.

Additional aggregation of Programs to each of the major asset management themes, described previously, enables high level articulation of the level of capital investment required to manage risk associated with strategic drivers, asset performance and growth. The draft plan is therefore a valid representation of the level of capital investment SA Water should make in order to manage its risk effectively.

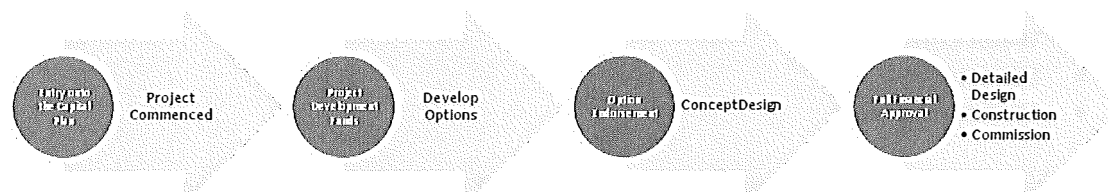
Since asset management planning activity is focussed on one, five and twenty five year horizons, the forward capital plan is automatically matched to the same planning periods.

Capital rationing is a reality that will be applied from time to time following completion of the draft plan. Cuts made to the draft plan will result in additional risk for the organisation but can sometimes be accommodated provided that the additional risk is clearly understood and accepted.

Capital Approval Process

Capital projects at SA Water are managed via the Corporate Project Management Methodology (*SA Water procedure CG171*). This methodology mandates the process steps that the project follows throughout its life. Incorporated within the methodology are the steps required to comply with the *SA Water Financial Approval Policy CP 023*. This Board endorsed policy mandates the criteria for the financial approval of capital projects including

“approval gates” which projects must clear prior to progressing. Greater guidance on the approval gates is provided within *SA Water procedure CG 037 Capital Expenditure Approval Process*. These approval gates include:



SA Water Capital Approval Process Gates

Entry onto the Capital Plan

Following on from the review of the business need as part of the asset management process, project proposals are considered as to whether they should be included within the capital plan. The criteria for the review include; project cost (including operational impact), risk if the project does not proceed and the business benefit. Additionally these criteria are used to assist in the prioritisation in the timing of investments.

Project Development Funds

Review of the updated business case and additional consideration as to the level of development funds required and the area of expenditure.

Option Endorsement

Review of the viable options for the project based upon achieving the project objectives with consideration of risk, financial impact, timing and the business benefits. All viable options are considered against a base case of the project not proceeding.

Full Financial Approval (Business Case)

Review of the full business case including, project deliverables, business benefits, scope, risk, timing and financial impact. Prior to seeking this approval the cost estimate for the project is independently reviewed by the SA Water estimating team or for projects of greater scale or complexity by external consultants. The project cannot proceed to the delivery (construction) phase until this approval is obtained.

Of the 2010-11 capital program approximately 75% of the project expenditure has already received Full Financial Approval, via internal SA Water approval or via Cabinet endorsement.

External Benchmarking

In addition to the capital process, projects are required to gain approval in accordance with *CP 034: Delegations of Financial & Procurement Authority*, for the procurement of services such as design or construction. This will generally be via market testing through a tender process to achieve the best value solution.

Process Benchmarking

As part of ongoing development of processes and practices, during 2009 SA Water benchmarked its capital processes against other Australian water utilities, including:

- Sydney Water
- Hunter Water
- Water Corp.
- SE Water
- Melbourne Water

This benchmarking exercise has been used as part of a continuous improvement process.

Alignment with Customer Requirements and Regulatory Obligations

Incorporated within the SA Water Capital Approval Process at each of the approval gates the “outcome” (benefit) of the project is considered as part of the project review to see if the project should proceed. The project outcome is defined in terms of quantified impact against the corporation’s strategic targets. These strategic targets recorded on the corporation’s SM and are grouped by objectives such as *System Performance*, *Customer Service* and *Water Quality*.

The Corporate Project Management Methodology requires that upon completion projects are assessed against the originally stated benefits to assess the project success as part of “benefits realisation”.

Delivering the within the Proposed Timeframe

To manage the delivery of the capital program to the proposed timeframes SA Water has established the Corporate Project Management Methodology. This methodology is supported by processes and systems for managing and reporting of project progress, including corporate wide reporting of mandatory project milestones.

Having put systems in place to improve performance, for the last three financial years, i.e. 2006-07 to 2008-09, SA Water has achieved its expenditure target for capital delivery.

5.3.2 Benchmarking Capital Expenditure

From 2002-03 to 2007-08 the Corporation has had low levels of capital expenditure for metropolitan water supply and sewerage services. From 2005-06 to 2007-08 capital expenditure per property for regional water supply has consistently and significantly increased as regional sewerage expenditure has declined.

Sewerage capital expenditure has been focused on Environmental Improvement Programs (EIPs), while there has been a significant focus on improving regional water quality through the Country Water Quality Improvement Program (CWQIP).

This section will compare the Corporation's real capital expenditure with the other major urban and non-urban water utilities within Australia as reported in the 2007-08 NPR. Note the data reported in the NPR has been converted to a per property basis as this provides a more relevant measure.

Real capital expenditure per property – (\$ / per property)

Water supply capital expenditure reflects the actual capital expenditure on water supply for the reporting year. This should include all capital expenditure for: new works; renewals or replacements; other expenditure that would otherwise be referred to as capital; and recycling water assets.

Sewerage capital expenditure is the actual capital expenditure on sewerage for the reporting year. This should include all capital expenditure for: new works; renewals or replacements; and other expenditure that would otherwise be referred to as capital.

Metropolitan Water Supply

Table 5.3.1 compares SA Water's real capital expenditure per property for metropolitan water supply.

Table 5.3.1

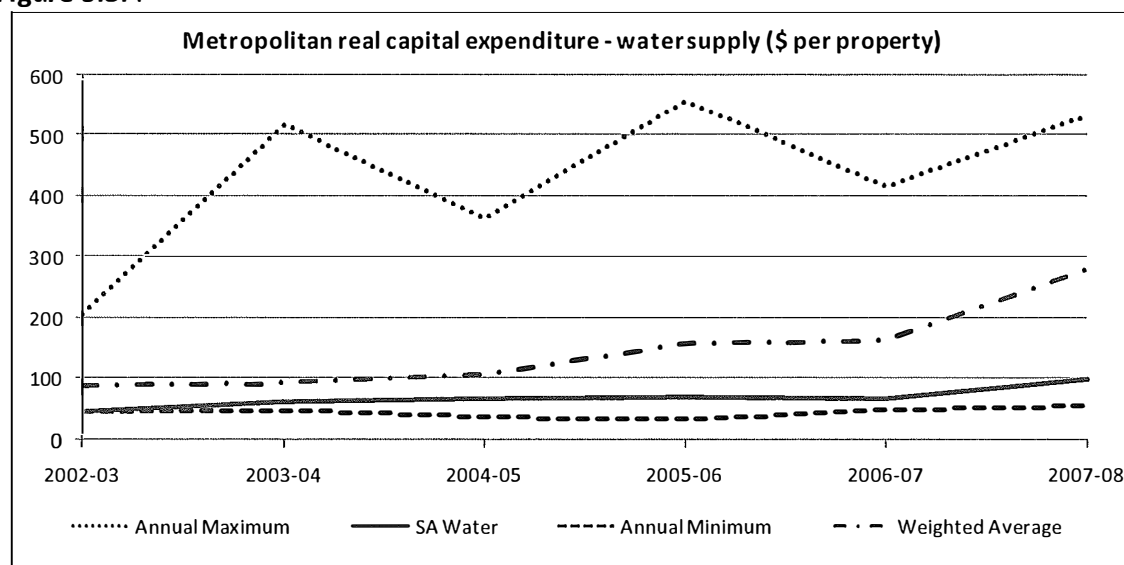
Real capital expenditure – water supply (\$ / property) – 2007-08 Dollars							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Gold Coast Water	Qld	58	100	238	218	417	535
Sydney Water	NSW	66	56	57	101	133	524
ACTEW Corporation	ACT	70	247	363	179	145	338
Brisbane Water	Qld	95	98	78	101	238	312
Barwon Water	Vic	155	153	187	198	246	304
Power & Water Corp - Darwin	NT	177	518	228	188	157	283
Water Corporation	WA	205	173	190	559	334	196
Hunter Water	NSW	114	153	218	96	284	170
City West Water	Vic	55	90	117	122	84	108
SA Water	SA	46	63	67	70	67	101
Yarra Valley Water	Vic				138	113	86
South East Water Ltd	Vic	65	49	40	34	48	56
Metro Weighted Average		89	95	107	160	165	282

The Corporation's metropolitan capital expenditure for water supply in 2007-08 is in the low range of the compared entities. Sydney Water and Gold Coast Water reported significantly higher levels of capital expenditure per property in 2007-08.

The Corporation's metropolitan capital expenditure for water supply has been fairly stable over the period, although it has displayed a slight increase over the period. Figure 5.3.5 below shows the Corporation below the weighted average in terms of capital expenditure across the period 2002-03 to 2007-08. Notably, the only utilities with lower levels of capital expenditure over the period are retailers and not vertically integrated water utilities such as SA Water.

Also evident from Figure 5.3.4 is the lumpiness of capital expenditure generally as well as an overall increasing trend across Australia since 2004-05. This increasing trend has been driven by water utilities seeking to improve water security and meet increases in demand.

Figure 5.3.4



Going forward the Corporation's capital expenditure levels are set to increase significantly. Further details are provided in Section 5.3.3.

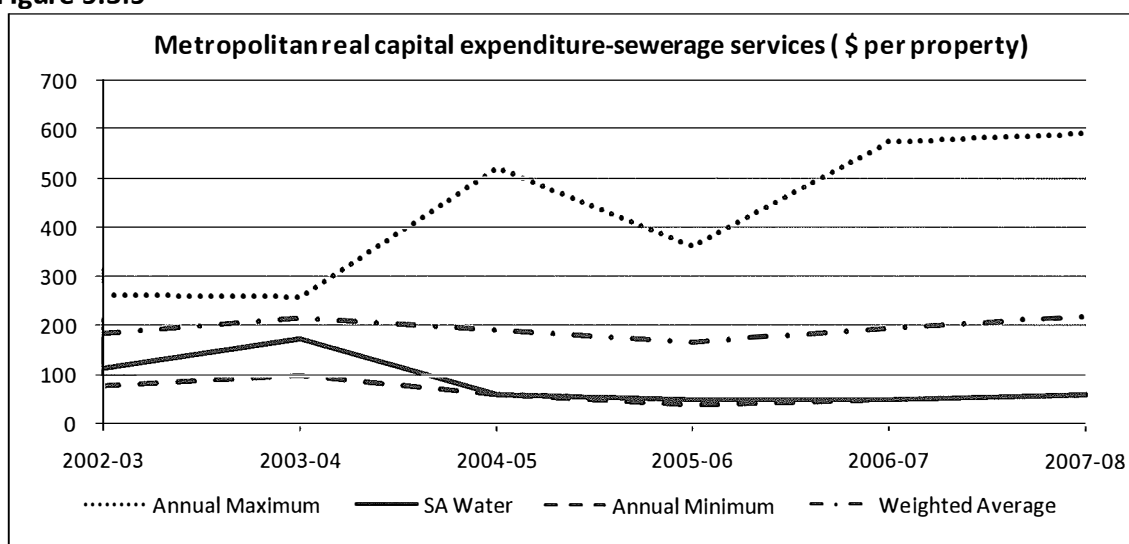
Metropolitan Sewerage

Table 5.3.2 compares SA Water's real capital expenditure per property for metropolitan sewerage services.

Table 5.3.2

Real capital expenditure – sewerage (\$ / property) – 2007-08 Dollars							
	State / Territory	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Gold Coast Water	Qld	80	209	521	360	574	592
Water Corporation	WA	188	229	138	149	240	406
Sydney Water	NSW	257	257	192	198	243	263
Power & Water Corp - Darwin	NT	243	222	175	180	184	214
Hunter Water	NSW	235	227	244	280	213	208
Yarra Valley Water	Vic				157	165	159
Barwon Water	Vic	261	227	195	184	195	151
Brisbane Water	Qld	146	251	400	241	196	150
ACTEW Corporation	ACT	110	100	96	40	80	144
South East Water Ltd	Vic	129	143	140	76	109	114
City West Water	Vic	79	129	120	155	78	65
SA Water	SA	112	174	61	49	50	59
Metro Weighted Average		185	214	193	168	196	219

The Corporation recorded the lowest metropolitan capital expenditure per property for sewerage services in 2007-08. Gold Coast Water once again reported significantly higher levels of capital expenditure.

Figure 5.3.5

The Corporation's sewerage capital expenditure has fluctuated more significantly, compared to the water business, over the period due to the completion of several EIPs as well as the relocation of the Port Adelaide Waste Water Treatment Plant (WWTP) to Bolivar. The decrease from 2003-04 reflects the winding back of capital expenditure following the completion of several of these EIPs.

The EIPs have included the Bolivar Dissolved Air Flotation Filtration plant and associated sludge dewatering process, the Queensbury Diversion, the Christies Beach EIP and the Glenelg EIP. The increased capital expenditure has delivered improved outcomes for the environment, which can be seen by the improvement in the percentage of sewage treated to a tertiary level (refer Table 4.3.1), increasing the percentage of water recycled (refer Chapter 4.1) and helped to ensure the Corporation continues to be EPA compliant (refer Chapter 4.3).

Regional Water Supply

Table 5.3.3 below compares the Corporation's real capital expenditure per property for regional water supply.

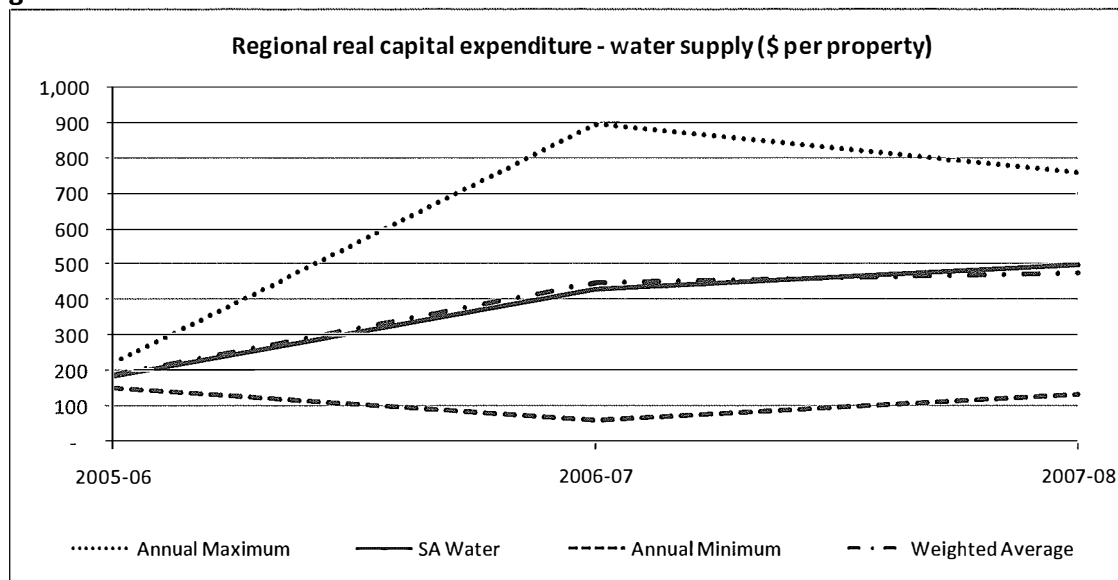
Table 5.3.3

Real capital expenditure – water (\$ / property) – 2007-08 Dollars				
	State / Territory	2005-06	2006-07	2007-08
Country Energy	NSW			756
SA Water	SA	185 ⁽¹⁾	433	500
South Gippsland Water	Vic	222	895	494
Power & Water Corp - Alice Springs	NT	150	60	133
Byron Shire Council	NSW			132
East Gippsland Water	Vic			
Regional Weighted Average		187	449	476

(1) Total capital expenditure for regional SA was not reported in 2005-06 for benchmarking purposes. This figure is derived utilising internal estimates consistent with the Corporation's Annual Report and NPR definitions.

Figure 5.3.6 below shows the Corporation’s capital expenditure per property has been consistently average when compared to other entities.

Figure 5.3.6



The increasing trend in regional water from 2005-06 to 2007-08 is due to several significant projects including:

- Stage 3 of the Country Water Quality Improvement Program (CWQIP). Underpinned by the Corporation’s vision of providing water for growth, development and quality of life to all South Australian, this project improved water quality to several regional communities by delivering filtered water through a series of water treatment plants and pipelines;
- the construction of a pipeline between Lock and Kimba on the Eyre Peninsula, with the aim to reduce pressure on groundwater sourcing on the Eyre Peninsula; and
- the completion of a 12km pipeline from Milang to connect to existing network in Clayton, replacing existing aquifer and lake extraction.

Regional Sewerage Services

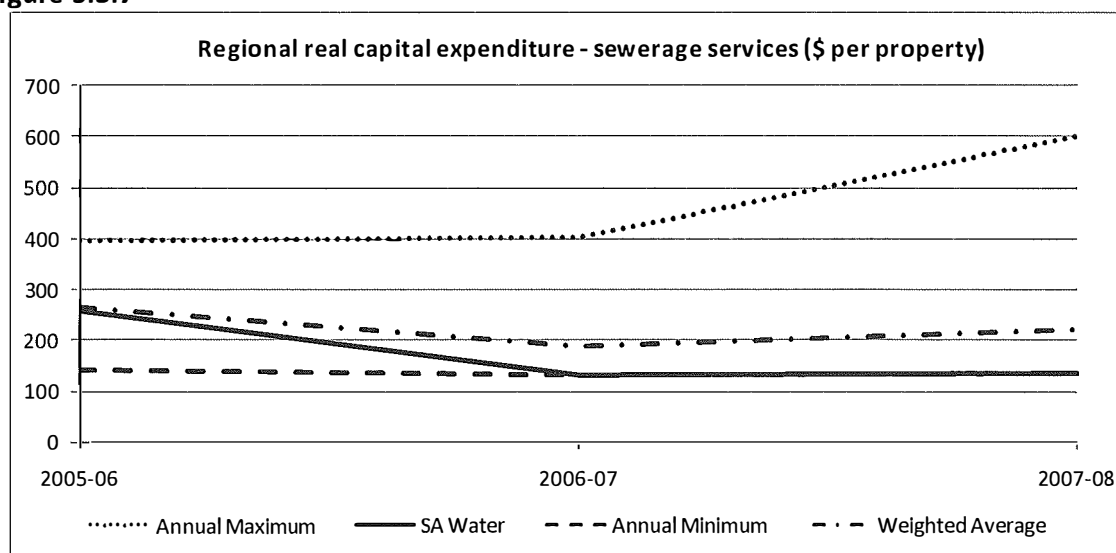
Table 5.3.4 below compares the Corporation’s real capital expenditure per property for regional sewerage services.

Table 5.3.4

Real capital expenditure – Sewer (\$ / property) – 2007-08 Dollars				
	State / Territory	2005-06	2006-07	2007-08
Byron Shire Council	NSW			601
South Gippsland Water	Vic	396	266	318
Power & Water Corp - Alice Springs	NT	144	401	301
Country Energy	NSW			152
SA Water - Country	SA	256 ⁽¹⁾	133	135
East Gippsland Water	Vic			
Regional Weighted Average		265	188	221

(1) Total capital expenditure for regional SA was not reported in 2005-06 for benchmarking purposes. This figure is derived utilising internal estimates consistent with the Corporation's Annual Report and NPR definitions.

Figure 5.3.7



Reducing the impact of the Corporation's wastewater treatment plants on the environment has been a major driver of capital expenditure in this segment. The Corporation's Environmental Improvement Program (EIP) has seen the completion of several wastewater treatment plant EIPs, several prior to 2005-06.

In 2006 the Whyalla Wastewater Treatment Plant EIP was completed and now provides reclaimed water to supply irrigation to the Whyalla Golf Club and the city's municipal parks and gardens. This replaced the River Murray water used for irrigation in these areas. Whyalla's wastewater is now captured before it becomes so saline that opportunities for reuse are limited. Wastewater is pumped to the plant via a new pipeline which reduces the discharge of treated water to the Spencer Gulf.

5.3.3 Capital Expenditure Going Forward

Forecast capital expenditure is set to peak in 2009-10 at around \$930 million (real dollars) driven by expenditure on the Adelaide Desalination Plant (ADP).

Over the next five years the focus of capital expenditure in the water business is on improving the State's water security. In the sewerage services business the emphasis will remain on reducing the Corporation's environmental impact, including increasing recycling projects as well as ensuring treatment plants have the capacity to meet demand growth.

The Corporation's capital expenditure program peaks in 2009-10 above \$930 million in real terms (net of Federal Government funding). The key driver for this significant increase in capital expenditure is spending on water security initiatives for metropolitan Adelaide, primarily the Adelaide Desalination Plant (ADP).

Metropolitan Water

The ADP will provide up to half of Adelaide's drinking water needs. The project received major development approval in 2009 after an exhaustive assessment using the State's major development process.

The development approval addressed more than 100 separate environmental, social and economic issues identified by the independent Development Assessment Commission, along with issues raised throughout the extensive public consultation process. SA Water continues to work hard with contractors to ensure the highest levels of environmental standards for the project.

Bulk earthworks were nearing completion toward the end of 2008-09 and the project has been fast-tracked to deliver first water from the plant in December 2010. In late 2012 the plant will reach capacity of 100 gegalitres, providing up to half of Adelaide's drinking water needs.

Although the ADP, by sheer size, dominates the Corporation's capital plan the level of capital expenditure in the other segments remains constant or increases also.

Capital expenditure for metropolitan non-water security expenditure declines out to 2011-12, but then begins to increase slightly out to 2013-14.

Metropolitan Sewer

Capital expenditure is set to increase significantly above 2008-09 levels in 2009-10 and 2010-11 as the Corporation upgrades several of its existing wastewater treatment plants as a part of its "Demand Growth" asset management focus (refer Section 5.3.1). Of particular note are the planned capacity upgrades to the Christies Beach and Aldinga Wastewater Treatment Plants.

In addition to the demand growth focus there is also the need to maintain asset condition and performance. Projects planned in this area include mechanical and electrical plant renewal at the Bolivar Wastewater Treatment Plant and several other smaller metropolitan treatment plants.

To improve water security, through increased re-use, the Corporation is also investing in the Southern Urban Re-Use Project. The project is part of Water Proofing the South, a localised integrated water resource management strategy based entirely in the City of Onkaparinga. It will bring dual reticulation class water to residential areas south of the Onkaparinga River.

Regional Water

Capital expenditure declines from 2010-11 to 2012-13 before increasing once again in 2013-14. The increase in 2013-14 reflects the need to upgrade several of the Corporation's regional water treatment plants as a part of its "Demand Growth" asset management focus (refer Section 5.3.1).

Driving the levels of capital expenditure in 2008-09 and 2009-10 is the Corporation's continued focus of improving water quality, through the Country Water Quality Improvement Program (CQWIP) and other water quality initiatives.

Regional Sewer

Capital expenditure declines from 2011-12 to 2012-13 before increasing once again in 2013-14. The increase in 2013-14 partly reflects the need to upgrade several of the Corporation's regional water treatment plants as a part of its "Demand Growth" asset management focus (refer Section 5.3.1).

As well as upgrading and increasing capacity in several existing plants, there are several projects planned to improve the Corporation's environmental performance. These projects include reducing the nutrient load at the Bird In Hand and Angaston Wastewater Treatment Plants and EIPs at the Naracoorte, Mount Burr and Nangwarry Wastewater Treatment Plants.

6. Value for Money

The Customer Satisfaction Survey conducted by the Corporation in 2009 indicates customers are generally very satisfied with the range and quality of services provided by the Corporation.

The standard of service offered by the Corporation to its customers is predominately at the mid-to-high range in the metropolitan area and in the mid-range in the regional areas when compared with the service levels offered customers of the other water bodies.

While SA Water's operating costs for water supply and wastewater services are comparatively low in Adelaide when compared with other Australian cities, average water and wastewater bills are comparatively mid range, but above the weighted average. To some extent this level of contribution may reflect the relative quality of assets which, in turn, as earlier demonstrated, provides a generally high level of standards of service.

6.1 INTRODUCTION

Value for money for customers of a water company like SA Water that is highly asset-based and does not set the prices it charges, is problematic and difficult to assess. Demonstrating value for money is made even more challenging when comparable water providers interstate do not have the same operating conditions. For example, most do not pump source water long distances; most have access to source water that is of generally good quality; and most provide their services in geographical conditions with soils that are either sandy or more readily worked compared with the clay soils around Adelaide. To compound problems associated with the use of comparisons, as discussed earlier there is an inconsistent approach to the valuation of assets in the water industry in Australia which has a consequential impact on the calculation of total costs.

Notwithstanding these quite significant obstacles it is important to consider the services being provided in the context of the charges being levied, that is, the value for money for customers who purchase water and wastewater services. Value for money for customers is considered here in terms of:

- customer feedback – that is, what customers say about the quality of services and the price;
- an assessment of the relative quality of service compared to other water bodies; and
- an assessment of the costs of providing the services relative to the customer's bill.

A brief discussion is also provided about the Corporation's Customer Assist Program that has been developed to assist customers in financial hardship.

In aggregate this information provides some assessment of the value for money customers derive from the services provided by the Corporation.

6.2 CUSTOMER FEEDBACK

As indicated earlier in this report, in June 2009 the Corporation undertook its ninth annual customer satisfaction survey to measure satisfaction with its service delivery and performance across a broad range of areas. The state-wide study involved three telephone surveys for three target groups:

- General households – 600 interviews (400 metropolitan and 200 regional);
- Households who have contacted SA Water – 401 interviews (209 metropolitan and 192 regional); and
- Businesses – 304 interviews (200 metropolitan and 104 regional).

General household survey results

Table 6.1 shows the total results of the general household survey. Overall, these results show:

- very high levels of satisfaction with indicators such as reliability of supply, safety of drinking water and essential service provided;
- relatively high levels of satisfaction with SA Water being professional and competent, responsive when something goes wrong, active in educating the public about water issues, and being trusted to manage the State's water and wastewater systems well; and
- mixed levels of satisfaction with the amount charged for water as it represents good value and in reducing greenhouse gas emissions.

Overall, the survey confirmed SA Water is well regarded as a service provider with customer satisfaction at a high rate of 8.0 (out of 10).

Table 6.1

General Household Survey Results

Attribute	Result
Reliability of service	8.5
Safety of drinking water	8.2
Essential service	8.0
Performance and competence	7.6
Responsiveness to a problem	7.1
Advice in educating the public	7.0
Trusted manager of water and wastewater systems	7.0
Charges reflect value for money	6.5
Reducing greenhouse gas emissions	6.3

Households who have contacted SA Water

Table 6.2 shows the results of the survey of customers who had contacted SA Water recently. In particular, these are results of the survey that sought responses concerning the level of satisfaction with the service provided by SA Water. Overall, these results show:

- very high levels of satisfaction with SA Water’s reliability of supply, the safety of drinking water supplied, and the provision of an essential service;
- relatively high levels of satisfaction with SA Water’s services for being active in educating the public about water issues and how to conserve water, being trusted to manage the State’s water and wastewater systems well, being responsive when something goes wrong, and being professional and competent; and
- mixed levels of satisfaction with the amount charged for water as it represents good value and in reducing greenhouse gas emissions.

Overall, the survey confirmed SA Water is well regarded as a service provider with customer satisfaction at a high rate of 8.0.

Table 6.2

Household’s contacted SA Water Survey Results	
Attribute	Result
Reliability of service	8.5
Safety of drinking water	8.0
Essential service	8.0
Professional and competent	7.9
Responsiveness to a problem	7.8
Trusted manager of water and wastewater systems	7.3
Advice in educating the public	7.2
Charges reflect value for money	6.6
Reducing greenhouse gas emissions	6.2

Business survey results

Table 6.3 shows the results of the survey of business customers. In particular, these are results of the survey that sought responses concerning the level of satisfaction with the supply of mains water and sewerage services to their business. Overall, these results show:

- very high levels of satisfaction with reliability of supply and the effort to provide water at an acceptable pressure;
- relatively high levels of satisfaction for SA Water being professional and competent, being trusted to manage the State’s water and wastewater systems well, responsiveness when something goes wrong, the level of commitment to improving drinking water quality, the level of environmental responsibility; and
- mixed levels of satisfaction with the value for money that SA Water provides in return for what they charge and the extent future needs are being met, not just managing for today.

Overall, the survey confirmed SA Water is well regarded as a service provider with business customer satisfaction at a high rate of 7.8.

Table 6.3

Business Customer Survey Results

Attribute	Result
Reliability of service	8.6
Effort to provide water at acceptable pressure	8.3
Professional and competent	7.5
Responsiveness to a problem	7.3
Commitment to improving drinking water quality	7.1
Level of environmental responsibility	7.0
Trusted manager of water and wastewater systems	7.0
Charges reflect value for money	6.9
Focus on future needs	6.7

6.3 COMPARATIVE LEVELS OF SERVICE

Metropolitan operations

The Corporation's performance in a range of service measures compared to other interstate water utilities for its metropolitan operations is summarised in Table 6.4. The compared utilities are the same as those used in the benchmarking analysis of the NPR in the earlier chapters of this report. In comparing the relative performance, the performance of each water utility is ranked against the total number of compared utilities – the better performing being given a higher ranking. The number shown in brackets is the number of utilities compared. This varies due to the availability of data.

The Table also makes a qualitative assessment of the performance – they are assessed as either high, medium or low for a segment of the ranked scores as follows:

Ranking of 1-4	High
Ranking of 5-8	Medium
Ranking of 9-12	Low

For example, from the Table, SA Water's metropolitan operations performance for the number of water quality complaints per 1,000 properties was the highest from a total of 12 compared utilities. This was considered high performance. Where the Corporation has scored "Low" performance (number of sewer mains breaks and chokes and net greenhouse gas emissions), issues associated are discussed in Sections 4.2 and 4.3 above.

Table 6.4

SA Water metropolitan service performance - summary comparisons

Service Standard	Rank 07-08	Corporation Performance
<i>Customer Service and Water Quality</i>		
Percentage of population where microbiological compliance was achieved	Equal 1	High
Number of water quality complaints per 1,000 properties	1 (12)	High
<i>System Performance</i>		
No. of water main breaks per 100 km of main	4 (12)	High
Number of sewer main breaks and chokes (per 100 km)	10 (12)	Low
Infrastructure leakage index	5 (12)	Med
<i>Sustainable Future</i>		
Sewage treated to a tertiary level (%)	Equal 1	High
Recycled water (% of effluent recycled)	1 (12)	High
Net greenhouse gas emissions (tonnes CO ₂ –equivalent)	12 (12)	Low
Bio-solids reused (%)	1 (12)	High
Sewer overflows to the environment (per 100 km)	8 (12)	Med

Regional operations

The results of comparisons of performance of the Corporation's regional operations relative to interstate regions regional utilities are provided in Table 6.5 . A ranking is provided according to the number of utilities with data supplied in a similar manner to the metropolitan operations.

The Table also makes a qualitative assessment of the performance – either high, medium or low and relates this to a segment of the ranked scores⁸.

⁵

The assessments have been assigned on the basis of the following number of indicators:

No. of indicators	High	Medium	Low
7	1-2	3-4	5-7
8	1-3	4-6	7-8
9	1-3	4-6	7-9
12	1-4	5-8	9-12

Table 6.5

SA Water's relative performance – Regional operations – service standards

Performance measure	Mt Gambier		Whyalla	
	Ranking	Performance	Ranking	Performance
Customer Service and Water Quality				
Number of water quality complaints/1,000 properties	6 (7)	Low	4 (7)	Medium
System Performance				
Number of water main breaks/100 km	1 (7)	High	5 (7)	Low
Number of breaks and chokes/100km	1 (7)	High	2 (7)	High
Sustainable Future				
Net greenhouse gas emissions (tonnes CO ₂ – equivalent)	3 (5)	Medium	5 (5)	Low

Overall comparison of service level

When comparing the range of service measures with other water companies in Australia (12 in the metropolitan area and up to 7 in regional areas), the Corporation displays the following overall relative performance in standards of service:

Service Standards	Relative Performance		
	High	Medium	Low
Metropolitan	6	2	2
Mt Gambier	2	1	1
Whyalla	1	1	2
Total	9	4	5

That is, when aggregated approximately 70% of the Corporation's performance results are at the high and medium comparative level with the remaining 30% at the low comparative level. It can therefore be concluded that the standard of service offered by the Corporation to its customers is predominately at the mid-to-high level when compared with the service levels offered customers of compared water utilities.

6.4 COMPARATIVE LEVEL OF COSTS OF SERVICES AND CUSTOMER BILLS

A customer's assessment of value for money invariably will be the intersection of value or quality of service and the cost or charge. Customer feedback has been discussed in Chapter 6.2 and a comparison of levels of service has been made in Chapter 6.3. This chapter considers the relative costs of providing the service and the corresponding charges levied on customers.

The 'costs' are reflected by the operating cost per property for water supply and operating cost per property for wastewater services contained in *NPR 2007-08*. This metropolitan data has been provided already in this report but it is combined in Table 6.6 for broader comparison purposes. Also, for ease of comparison, data is presented for each Australian

mainland city (based on the relevant water utility in each State/Territory). A weighted average has been used to recognise the substantially different number of properties served in each city. For example, Darwin has substantially higher costs than the other cities but this has little impact on the weighted average given its size.

Table 6.6 shows the operating costs per property for combined water supply and wastewater services in Adelaide are the lowest in 2007-08 and consistently lowest of each city in the previous five years. Costs in Adelaide are consistently below the weighted average cost.

Table 6.6
Operating cost per property for metropolitan water supply & wastewater services
(2007-08 dollars)

	State / Territory	2003-04	2004-05	2005-06	2006-07	2007-08
Metro						
SA Water	SA	334.20	343.49	347.27	362.21	361.00
Water Corporation - Perth	WA			352.58	381.76	391.00
Melbourne*	Vic	454.57	481.93	447.91	449.93	449.58
Brisbane Water	Qld	437.80	447.84	436.48	466.14	529.00
Sydney Water	NSW	404.00	424.00	346.00	445.00	589.00
ACTEW Corporation	ACT	633.87	617.42	521.44	592.70	609.00
Power and Water - Darwin	NT		598.94	597.91	740.88	720.00
Weighted Average		418.45	439.02	398.47	437.17	492.44

* This is a consolidation of data for City West Water, South East Water and Yarra Valley Water.

Charges to customers are presented in Table 6.7 as a combined average water and wastewater bill based on a water consumption of 200kL per annum. A weighted average has been used. Data shows that Adelaide residents are charged at about the mean of their interstate counterparts but slightly more than the weighted average.

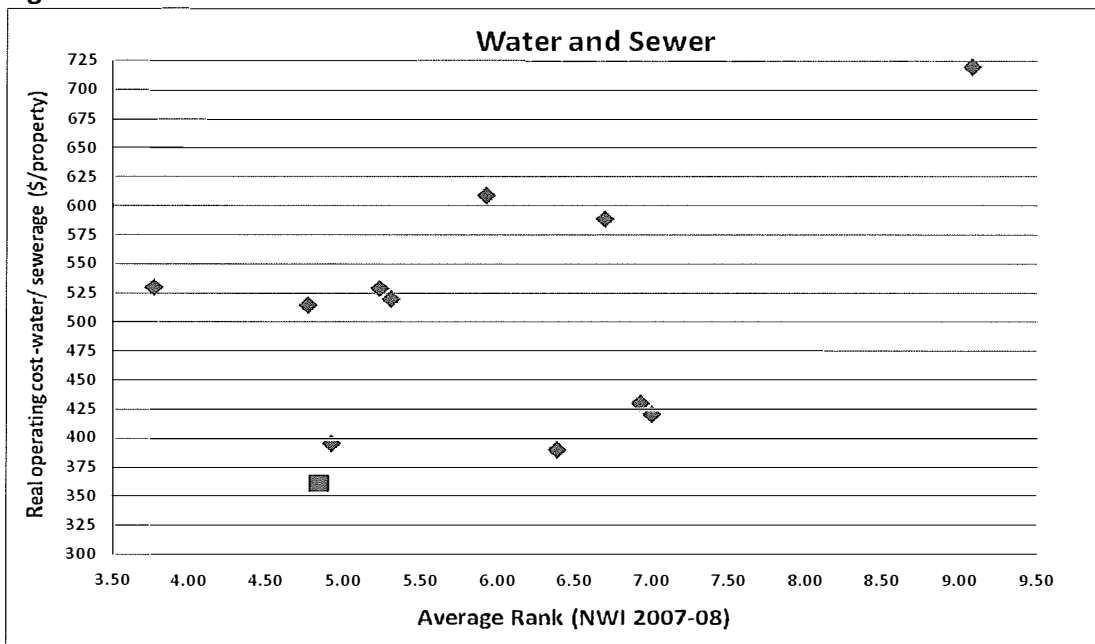
Table 6.7
Annual Bill (water and sewerage)

	State / Territory	2007-08
Metro		
Melbourne*	Vic	540.9
Power and Water - Darwin	NT	600.34
SA Water	SA	729.92
Sydney Water	NSW	732.32
Brisbane Water	Qld	754.4
Water Corporation	WA	796.26
ACTEW Corporation	ACT	879.26
Weighted Average		685.43

* This is a consolidation of data for City West Water, South East Water and Yarra Valley Water.

As an alternative graphical representation, Figure 6.1 shows the combined real operating costs for water and wastewater services of twelve metropolitan water providers overlaid with an average ranking of thirteen (13) key performance measures from the NPR 2007-08. The table shows that SA Water's operating costs (shown in red) are lowest of all the compared providers and ranked third in terms of the average of the 13 key performance measures.

Figure 6.1



6.5 CUSTOMER ASSIST PROGRAM

SA Water recognises that there are times where customers find it difficult to meet household expenses and other financial obligations due to economic hardship, temporary financial difficulty or tragic life events. In order to provide assistance, SA Water has introduced a Customer Assist Program aimed at identifying customers who are having difficulties and providing assistance as early as possible to help prevent customers falling into a utility debt spiral.

Potential causes of hardship can include:

- Unemployment
- Low / reduced income
- Ill health
- Domestic violence
- Addictions (drugs, alcohol, gambling)
- Unexpected large or multiple bills
- Relationship breakdown

Through the Customer Assist Program customers can access assistance through flexible payment arrangements, whilst being shielded from further fees and charges. As of September 2009, over 435 customers have entered the Customer Assist Program with many more receiving ongoing assistance.

An integral part of SA Waters Customer Assist Program is working closely with various organisations which make up South Australia's welfare sector. The Customer Assist Program Co-ordinator works directly with financial Counsellors to determine the appropriate type of assistance, ensuring customers are not negatively and unnecessarily impacted by further recovery action.

In order to promote the Customer Assist Program, SA Water co-presents at information forums with Origin Energy and AGL Energy. These forums are aimed at educating financial counsellors on the assistance which is available.

Additional schemes that form part of the Customer Assist Program include the implementation of Centrelink's *Centrepay* functionality which was introduced in December 2009. This will give customers who receive a Centrelink benefit the opportunity to have nominated payments deducted from their entitlement on an automated regular basis.

An initiative to provide identified hardship customers with assistance in the repairing of leaking internal pipe work is currently being evaluated. The basis of this initiative is that hardship customers who are on fixed low incomes may not have the financial ability to perform required maintenance on their internal pipe work, which may lead to abnormally high water use bills.

Appendix 1 – SA Water Infrastructure Assets

SA Water Infrastructure Assets

(at 30 June 2008)

Asset Category	Values		Assets		
	GRV (\$m)	WDV (\$m)	Total	Adelaide	Country
Water mains	3,524	1,904	25,893 km	8,889 km	17,004 km
Water Pipelines	1,932	1,185	2,352	237 km	2,115 km
Water Pump Station	324	113	303	64	239
Water Storage Tanks	610	335	530	139	391
Water Treatment Plant	721	479	38	6	32
Lagoons	917	460	18	11	7
Bore & Wells	10	6	180	0	180
Collection (inc. Meters)	663	464	615,942	434,282	181,660
Clear Water Assets	174	91	-	-	-
Wastewater Mains	2,398	1,518	8,501 km	7,099 km	1,402 km
WW Treatment Plant	766	51	25	5	20
WW Pump Stations	354	196	564	339	225
WW Connections	860	482	483,558	421,962	61,596
WW Treatment	264	232	-	-	-
Total	13,517	7,976	-	-	-

Appendix 2 – Asset Programs by Major Theme & Focus Area

FULL LIST OF ASSET PROGRAMS BY MAJOR THEME AND FOCUS AREA

Major Theme	Sub-theme Category (Focus Area)	Asset Program Title
Strategic Drivers	Improved Customer Service	Improved Customer Service
	Water Security	Water Security Drought Response Water Licence Purchases Recycled Water Expansion Water leakage Management
	Service Reliability & Efficiency	Service Capability Management Energy Management
	Water Quality Management	Cryptosporidium Management Source Water Quality Improvement Network Water Quality Management Treatment Plant Water Quality Management Country WQ – improve potable supplies Country WQ – minor system aesthetics
	Environmental Improvement	Adelaide Coastal Waters Management Adelaide Hills Backlog Sewerage Climate Change- Greenhouse Impacts Environmental Improvement Program (EIP) Environmental Flows EPA Water Quality Policy Implementation Improve Environmental Performance Noise Management Odour Management Overflow Abatement Program Sludge/Biosolids Management
	Safety	Dam Safety Improvement OHS Improvement Security Management
Asset Condition & Performance	Water Mains Management	Water Network – Major Pipelines Water Network – Trunk Mains Water Network – Reticulation Mains Water Network – Ancillaries
	Wastewater Mains Management	W/water Network – Trunk Mains W/water Network – Reticulation Mains W/water Network – Pumping Mains W/water Network – Ancillaries
	Mechanical & Electrical Equipment Management	M & E – Major Pipelines M & E – Treatment Plants M & E - Networks
	Structures Management	Structures – Major Pipelines Structures – Treatment Plants Structures – Networks

Appendix 2 – Asset Programs by Major Theme & Focus Area

		Dams & Weirs Management
	Other (smaller asset class) programs	SCADA Management Cathodic Protection Management Customer Meter Fleet Management Master Meter Management Recycled Water Mains Recycled Water Treatment Land Management Regional Accommodation
Demand Growth	Networks	Growth – Networks
	Treatment	Growth – Treatment Plants
	Extensions and Connections	Extensions and Connections (as mandated by policy)
	Other	Systems Planning Tools

Appendix 3 – Source Data

Strategic Map

The Corporation's Strategic Map (from this point forward referred to as SM) provides the overarching direction of the Corporation, including its vision, core business and values. The Strategic Map provides an overview of the Corporation's strategy via the Strategic Objectives which are supported by key performance indicators (KPI's) and the associated targets that SA Water is aiming to achieve by 2013-14. The Corporation has been using the Strategic Map to monitor its performance in key areas since 2006-07 and to also guide its planning into the future.

In assessing performance, the Efficiency Report discusses 2006-07, 2007-08 and 2008-09 Strategic Map results and any prevailing trends. The report also refers to the Strategic Map targets in 2013-14 to assess where the Corporation is aiming to improve service levels.

National Performance Report

Since 2005-06, the National Water Commission (NWC) in association with the Water Services Association of Australia (WSAA) has published a National Performance Report (NPR).

The NPR seeks to improve performance reporting of the Australian urban water utilities by ensuring definitions are consistent and data is accurate. The NPR highlights trends in the performance of each utility and enables comparisons between utilities. The NPR is based on the principles of comparability, accuracy and consistency and covers all the critical performance areas in the provision of water services including health, customer service, asset management, environment, finance and pricing. The accuracy of information is ensured by a rolling 3 year auditing regime and, to ensure consistency, the NPR is based on a nationally consistent framework of definitions developed and agreed by NWC, the NWI parties and WSAA. Despite the efforts of the NWC and WSAA to ensure comparability between the performances of utilities, several factors need to be considered when analysing trends. For example, the performance of utilities is affected by structural and geographical factors such as "functional responsibility, water/sewerage network characteristics, customer base composition, physical operating environment"⁹, demand management initiatives, age of infrastructure etc. Financial factors such as the asset valuation methodology adopted may also affect comparability.

The first section of the NPR, Part A, provides a set of 30 separate performance indicators which have been used in the Efficiency Report to analyse longer term trends in performance and to benchmark performance against comparable Australian water utilities.

Data used in this Efficiency Report is primarily sourced from the NPR 2007-08. The NPR 2008-09 was not released at the time of compiling this report. The release date is due to be in late April.

For metropolitan operations, the NPR 2007-08 includes data for the period 2002-03 to 2007-08.

Appendix 3 – Source Data

For regional operations, the 2007-08 NPR includes data from 2005-06 to 2007-08. For South Australia, the NPR only includes regional data for Mt Gambier and Whyalla. This is consistent with the reporting requirements of the NWC that utilities reporting in the NPR must have more than 10,000 connections. Data published in the NPR is required to be audited by an independent party.

For the 2006-07 NPR SA Water focussed on data for the metropolitan area. In 2007-08 focus was placed on the regional Centres of Mt Gambier and Whyalla. Consequently, historical data for Mt Gambier and Whyalla prior to 2007-08 is minimal. Furthermore, due to the costs of auditing and demands on the resources of data providers, SA Water separates the auditing required for metropolitan area and regional centres. Another addition to the 2007-08 NPR for the regional operations of SA Water is the publishing of 'Country as a whole' data in the financial section. Financial data for both Mt Gambier and Whyalla is not able to be provided in the NPR at this stage.

Financial Data

The financial analysis of past performance presented in the Commercial Success chapter (Chapter 5) is, as far as possible, based on data reported in the NPR 2007-08 which has been sourced from the Corporation's financial accounts. Where NPR data was not available, internal estimates have been included in Chapter 5, consistent with the Corporation's Annual Report segment reporting. Note there are limitations generally in terms of analysing segmented data due to the allocation of indirect costs.

All figures presented in Chapter 5 are in real 2007-08 dollars, consistent with the 2007-08 NPR. Capital expenditure has also been stated on a net of Federal funding basis, consistent with the regulatory approach used to set water and sewer prices.

Appendix 3 – Source Data

1.5 SELECTION OF COMPARATOR WATER UTILITIES

The 82 water utilities that reported in the NPR 2007-08 have been arranged into the following classifications for analytical and presentation purposes:

- Major utilities (large), greater than 100,000 connected properties;
- Major utilities (other), those between 50,000 and 100,000 connected properties;
- Non-Major utilities (large), those between 20,000 and 50,000 connected properties;
- Non-major utilities (other), those between 10,000 and 20,000 connected properties; and
- Bulk utilities.

SA Water is represented as a major urban utility (large) for metropolitan operations and a non-major utility (other) for its Mt Gambier and Whyalla operations.

For the purpose of this Report, comparisons for metropolitan operations are made with twelve similar metropolitan water and wastewater utilities as follows:-

<i>ACTEW Corporation (ACT)</i>	<i>Sydney Water (NSW)</i>
<i>SA Water (SA)</i>	<i>Hunter Water (NSW)</i>
<i>Barwon Water (Vic)</i>	<i>Water Corporation (WA)</i>
<i>City West Water (Vic)</i>	<i>Gold Coast Water (Qld)</i>
<i>South East Water Ltd (Vic)</i>	<i>Brisbane Water (Qld)</i>
<i>Yarra Valley (Vic)</i>	<i>Power and Water Corporation – Darwin (NT)</i>

For regional operations, comparisons of performance are made with seven other regional water and wastewater utilities as follows:-

<i>Power and Water Corporation – Alice Springs (NT)</i>	<i>SA Water – Mt Gambier (SA)</i>
<i>SA Water – Whyalla (SA)</i>	<i>Byron Shire Council (NSW)</i>
<i>South Gippsland Water (Vic)</i>	<i>Country Energy (NSW)</i>
<i>East Gippsland Water (Vic)</i>	

For the benchmarking analysis, where a utility has not reported data the utility's name is not shown in the Table.