IPART
New South Wales

Independent Pricing and Regulatory Tribunal

NSW water utilities performance, 2010/11

Water — Performance Report
April 2012

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1 Executive summary

The Independent Pricing and Regulatory Tribunal of NSW (IPART) monitors and reports annually on the performance of the NSW metropolitan retail and bulk water utilities. For 2010/11 we have compared:

- The performance of the 2 major metropolitan retail utilities – Sydney Water Corporation (Sydney Water) and Hunter Water Corporation (Hunter Water) – against the water quality requirements, service standards and other requirements set out in their operating licences.
- The performance of these utilities plus the 2 other metropolitan retail water utilities – Gosford City Council (Gosford Council) and Wyong Shire Council (Wyong Council) against the National Water Initiative (NWI) indicators.
- The actual expenditure, sales and revenue performance of these 4 retail water utilities and the 2 major bulk water suppliers – Sydney Catchment Authority and State Water Corporation (State Water) - against the forecasts we used in making our price determinations for each utility, and their progress in implementing the major capital projects we allowed for in these determinations.

The report does not cover the performance of Water Industry Competition Act licensees. The performance of these entities is reported annually to the Minister and tabled in Parliament.[1]

The purpose of this report is to make our findings available to all stakeholders, and to strengthen the utilities' accountability and incentives to maintain and improve their performance over time.

1.1 Summary of key findings for retail water utilities

Overall, the retail water utilities performed well during 2010/11, providing high-quality water and good levels of service to their customers. Sydney Water and Hunter Water's results were well within their licensing requirements, and Gosford and Wyong Councils maintained good results for their reported indicators.

1 The latest report is *Licence Compliance under the Water Industry Competition Act 2006 – Annual Report 2010-2011.*

In most areas, the retail water utilities' performance is stable or improving over time. In 2010/11, the general trend was towards improved service delivery to customers and the environment, although there were a few instances where performance fell compared to the previous year.

1.1.1 Drinking water quality

All retail water utilities provided a high standard of drinking water to customers in 2010/11. Each utility fully complied with requirements in the *Australian Drinking Water Quality Guidelines 2004*.[2]

The level of complaints the utilities received about the quality of water supplied was low, ranging from 0.6 complaints per 1,000 properties for Sydney Water to 17.1 complaints per 1,000 properties for Wyong Council. In 2010/11, Wyong Council reported a significant increase in complaints about discoloured water as naturally occurring pipe sediment in the water supply system was disturbed as a result of new headworks. The number of water quality complaints for Wyong Council in 2010/11 was more than twice its 5-year average.[3]

1.1.2 Water and sewerage service continuity and reliability

Continuous water supply

Both Sydney Water and Hunter Water met their operating licence requirements for water continuity in 2010/11.

- Sydney Water reported that 26,205 properties experienced an unplanned water interruption which exceeded 5 hours in 2010/11, an increase from 21,050 properties in 2009/10.[4]
- Hunter Water reported that 5,845 properties experienced an unplanned water interruption which exceeded 5 hours in 2010/11 (a comparison with 2009/10 data was not possible due to the change in the standard on 1 July 2010).[5]

These results are well within their respective licence requirements regarding water continuity.

In relation to the number of properties affected by multiple unplanned water interruptions (a new licence standard that commenced on 1 July 2010), Sydney Water and Hunter Water were well within their respective licence requirements.[6]

2 See Box 3.1 in chapter 3 for a description of these guidelines.
3 See chapter 3 and Table A.1 in Appendix A.
4 See section 4.2.
5 Ibid.
6 Ibid.

The 4 retail utilities reported between 88 to 258 unplanned water interruptions per 1000 properties in 2010/11. Wyong Council continued to achieve the lowest number of unplanned water interruptions per 1,000 properties and Hunter Water the highest.[7]

In relation to the average duration of unplanned water interruptions, Sydney Water and Hunter Water reported 147 and 141 minutes respectively in 2010/11. In the same period, Wyong Council reported 195 minutes while Gosford Council reported the longest average duration of 222 minutes.[8]

Water pressure

Sydney Water and Hunter Water reported results well within their respective licence requirements regarding water pressure, specifically, the number of properties that experienced at least one water pressure failure in 2010/11.

- Sydney Water reported 832 properties had experienced water pressure failure in 2010/11. While this is a big increase on the previous year's result of 36 properties, it remains a good result and is well within its licence requirement of 6,000 properties.
- Hunter Water reported 2,334 properties experienced a water pressure failure in 2010/11. This is an improvement from the previous year of 3,062 properties experiencing a water pressure failure.[9]

Water main breaks and water losses due to leakage

The number of water main breaks reported by each of the 4 retail utilities has remained reasonably stable over the last 5 years. In 2010/11, Wyong Council reported 10 breaks per 100km of water main while the other 3 utilities reported between 28 to 31 main breaks per 100km of main.[10]

In terms of real water losses due to leakage from the water supply system, the 4 utilities' reported losses per service connection ranging from 31 litres to 84 litres per day. Sydney Water and Hunter Water's losses are at the higher end of the range; the councils' losses are at the lower end although Gosford Council's losses are trending upwards.[11]

7 See section 4.3 and Table A.2 in Appendix A.
8 See section 4.3 and Table A.3 in Appendix A.
9 See section 4.4.
10 See section 4.5 and Table A.4 in Appendix A.
11 See section 4.6 and Table A.5 in Appendix A.

Sewerage service continuity and reliability

In 2010/11 Sydney Water and Hunter Water were both required to meet more stringent licence requirements in relation to the number of private properties experiencing an uncontrolled sewerage overflow and multiple overflows. Both utilities met the new requirements.

- Sydney Water reported that 9,518 private properties had experienced a dry weather uncontrolled sewerage overflow, and 30 properties experienced 3 or more overflows.
- Hunter Water reported that 3,723 private properties had experienced a dry weather uncontrolled sewerage overflow, and 26 properties experienced 3 or more overflows.[12]

In relation to sewer main breaks and chokes, all 4 retail water utilities performed similar to last year, reporting from 42 to 60 incidents per 100km of sewer main in 2010/11. Gosford Council reported the lowest number of breaks and chokes per 100km of sewer main whilst the performance of the other 3 utilities was clustered at the upper end of the range.[13]

In terms of the average duration of these sewerage service interruptions, their performance was more varied, ranging from 142 minutes (for Hunter Water) to 240 minutes (for Sydney Water) in 2010/11.[14]

1.1.3 Environmental impact

Water supplied

All the retail water utilities supplied less water in 2010/11 than they did in the previous year, largely because higher rainfall levels resulted in lower customer demand.

For Sydney Water, most of the water supplied was sourced as bulk water purchased from the Sydney Catchment Authority. However, 15% was sourced from the Sydney Desalination Plant, compared to 4% in the previous year. For the other 3 retail utilities, most of the water supplied was surface water (ranging from 80% to 94%).[15]

12 See section 4.7.
13 See section 4.8 and Table A.6 in Appendix A.
14 See section 4.9 and Table A.7 in Appendix A.
15 See section 5.2 and Table A.8 in Appendix A.

Recycled water

In 2010/11, recycled water as a percentage of treated sewage discharged ranged from 4% for Gosford Council to 10% for Sydney Water. Compared to the previous year, there was an 8 fold increase (to 16,000 ML)[16] in the amount Sydney Water supplied for environmental uses, following the commissioning of the St Mary's recycled water plant. This result is driven largely by targets in the Metropolitan Water Plan.

In relation to recycled water as a percentage of treated sewage discharged, the percentages for both Hunter Water and Wyong Council fell in 2010/11 as increased rainfall reduced the demand for outdoor uses of recycled water such as irrigation. In addition, Hunter Water had 2 major industrial customers off-line during part of 2010/11.[17]

Treated sewage discharged

In 2010/11, each of the 4 retail utilities reported that 100% of the sewage it treated was compliant with its environment protection licences. This is an improvement for Sydney Water and Hunter Water while Gosford and Wyong Councils have reported 100% compliance for a number of years.[18]

Reuse of biosolids

Each of the 4 retail utilities either reused 100% of its biosolids, or was able to store unused amounts on site for later use. The utilities have consistently achieved a high level of performance for this indicator.[19]

Electricity consumed

In relation to electricity consumption, Sydney Water used 4.2% less electricity per megalitre (ML) of water supplied (272 kilowatt hour (kWh)) and 5.2% less per ML of sewage treated (460 kWh) compared to the previous year. Sydney Water's overall result for electricity consumed by their water and sewerage assets is below its 5-year average.

Compared to the previous year, Hunter Water used a similar level of electricity per ML water supplied (498 kWh) and 9.5% less per ML of sewerage treated (613 kWh). While there was a considerable reduction in the electricity used for treating sewerage, this reverses a recent upward trend. The difference in performance between Sydney Water and Hunter Water is largely attributable to differences in the utilities' services and operating environments.[20]

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16 Compared to 1,980 ML in 2009/10. *Source:* Australian Government National Water Commission, *National Performance Report 2009-10.*

17 See sections 5.3 and 5.4 (including Table 5.1), and A.9 in Appendix A.

18 See section 5.5 and Table A.10 in Appendix A.

19 See section 5.6 and Table A.11 in Appendix A.

20 See section 5.8 and Table A.13 in Appendix A.

In 2010/11, Sydney Water's electricity from renewable sources was 14.6%, continuing a significant upward trend for this indicator. In contrast, Hunter Water used no renewable energy in the electricity it consumed in 2010/11. Gosford Council maintained a stable level of about 6% of electricity from renewable sources.[21]

Net greenhouse gas emissions

Sydney Water has reduced its net greenhouse gas emissions by more than 40% over the past 4 years. This has been achieved through a combination of energy efficiency improvements and the generation and surrender of NSW Greenhouse Gas Abatement Certificates. In 2010/11, it produced 143 net tonnes of carbon dioxide (CO_2) equivalents per 1,000 properties, a 13% reduction compared to the previous year.

In comparison, Hunter Water produced 455 net tonnes of CO_2 equivalents per 1,000 properties and Gosford Council produced 536 net tonnes, continuing a significant upward trend in emissions over the last 4 years. Wyong Council reported on its greenhouse gas emissions for the first time in 2010/11 and produced 449 net tonnes of CO_2 equivalents per 1,000 properties.[22]

1.1.4 Complaints handling

Sydney Water and Hunter Water received slightly fewer complaints this year than last year, although Hunter Water had more complaints referred to the Energy and Water Ombudsman, NSW (EWON). Less than 5% of all complaints to EWON are about water issues; the majority of complaints are about the energy utilities.[23]

Both of these utilities however, had longer complaint resolution times compared to historic results.

Wyong Council had a large increase in complaints in 2010/11, reporting 34 complaints per 1,000 properties (up from 21 complaints per 1,000 properties in 2009/10). This increase was largely due to water quality complaints arising from discoloured water. Gosford Council didn't report on this indicator.[24]

21 See section 5.10 and Table A.15 in Appendix A.
22 See section 5.9 and Table A.14 in Appendix A.
23 Energy and Water Ombudsman NSW, *EWON Annual Report 2009-2010*, p 21 and *EWON Annual Report 2010-2011*, p 21 viewed on www.ewon.com.au See also section 6.1 and Table A.19 in Appendix A.
24 See section 6.1 and Tables A.16 and A.17 in appendix A.

1.1.5 Expenditures, revenue and sales

Expenditures on operating and capital costs

We monitor expenditure for each of the retail water utilities over the pricing determination period. In any one year expenditure may below or above that projected, provided that over the 4-year period it balances out or appropriate explanation of variations are provided to the next price review.[25]

Except for Sydney Water, operating expenditures[26] for the water utilities in 2010/11 was above that allowed for in their determinations.[27]

For Sydney Water, operating expenditure in 2010/11 smooths out the variation from the previous year, while for Hunter Water the variance between allowed and actual is small. Gosford Council and Wyong Council reported similar results to previous years, with operating expenditure exceeding the allowed amounts in 2010/11 by 11.4% and 7.9% respectively.[28]

In relation to capital expenditure, Sydney Water and Hunter Water's expenditures for 2010/11 were just under the allowed amounts. Whilst both Gosford Council's and Wyong Council's capital expenditures were significantly higher than allowed this year, this balances out their under expenditure in the previous year. Over the whole determination period to date, the councils' actual capital expenditure is close to that allowed for in their determinations.[29]

We will review whether there are implications arising from these results when prices are next reviewed in 2012 and 2013.

Water sales and revenue

All 4 retail water utilities reported lower water sales than forecast in making their price determinations. In 2010/11, the largest variances were for Sydney Water (9.2%) and Gosford Council (8.1%). Similarly, Hunter Water's water sales were 6.2% below our forecast in 2010/11 and for Wyong Council sales were 3.3% below. Generally, water sales have remained relatively constant over the last 5 years for all the water utilities.[30]

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25 The projected amounts are referred to as allowed amounts and are the forecasts that we used in making the price determinations for the water utilities.

26 Operating expenditure excludes the impact of the Climate Change Fund and former Water Savings Fund.

27 See section 7.2.1 and Table B.5 in Appendix B.

28 See section 7.2.1 and Table B.1 in Appendix B.

29 See section 7.2.2 and Table B.2 in Appendix B.

30 See section 7.2.3 and Table B.3 in Appendix B.

The utilities generate much of their revenue from fixed usage charges for water and sewerage services in addition to the more variable water sales revenue. All utilities generated less revenue[31] than allowed for in 2010/11, with variances ranging from 3.4% for Gosford Council to 6.6% for Wyong Council. Over the past 5 years, however, revenues (in real terms) have trended steadily upwards for each water utility.[32]

1.1.6 Progress in major projects

During our price reviews, we consider a utilities' performance against output measures set for them in the previous determination, informing us of the prudency and efficiency of expenditure. However, it is important to remember that timing and other issues can arise with large projects, and where targets are not met, it is often for valid reasons.

Sydney Water is in the final year of its pricing determination. We have found that targets have generally been met satisfactorily. Output targets that have not been met are related to slower than expected growth, and are not a reflection on Sydney Water's performance.[33]

Hunter Water is 2 years into its 4-year determination and progress on projects is varied, with some ahead of schedule while others have been delayed for a number of reasons including slower than expected growth.[34]

Gosford Council and Wyong Council operate within a joint Water Supply Authority which includes a number of jointly funded capital projects. Of 11 projects, 5 are completed or in their final stages and have been delivered at lower cost than forecast.

For their individual capital expenditure plans, Gosford Council reports that it is on track to meeting all its targets by the end of its determination period (another 2 years). Wyong Council have several projects completed or on track, but have deferred the completion dates of almost one third of its projects mainly due to slower growth of residential development.[35]

1.1.7 Customer bills and their disposable income

For each of the 4 retail water utilities, we found that their water and sewerage bills for residential customers, consuming 200 kL of water per year, have increased (in real terms) over the 5-year period.[36]

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31 Revenue excludes the impact of the Climate Change Fund and the former Water Savings Fund.
32 See section 7.2.4 and Table B.4 in Appendix B.
33 See section 7.3 and Table D.1 in Appendix D and Table E.1 in Appendix E.
34 See section 7.3 and Table D.2 in Appendix D and E.2 in Appendix E.
35 See section 7.3 and Tables D.3 and D.4 in Appendix D, and Tables E.3 to E.5 in Appendix E.
36 See section 8.1 and Table B.8 in Appendix B.

Similarly, pensioner bills have been steadily increasing (in real terms) over the last 5 years for each of the water utilities. Pensioners in Sydney Water's service area have the lowest bills as they receive much higher rebates than pensioners living in the Hunter and the Central Coast. In 2010/11, a pensioner using 150 kL of water per year received $560 in rebates in Sydney Water's area, compared to $221 in Hunter Water and $175 for Gosford and Wyong Councils.[37] In this example, pensioners in Sydney receive over 3 times the level of rebates than those living in the Central Coast.[38]

Our household surveys in the Sydney, Blue Mountains, Illawarra, Hunter and Central Coast areas provide a good profile of residential customers' annual water consumption, water and sewerage bills, and disposable incomes in these areas. We found that the majority of households spend up to 2% of their disposable incomes on their water and sewerage bills.[39] However, home owners who receive concessions tend to spend a higher proportion than other households. Across all the areas serviced by the utilities, we found that the size of household bills (measured after concessions have been applied) increases with disposable household income.[40]

Using the household survey data, we found the median residential water and sewerage bill was the lowest in Hunter Water's service area at $674 and the highest in Sydney Water's area at $875. Gosford Council's median bill was $720 and Wyong Council's was $773.[41] There is a wide variation in bills across households due to differences in their characteristics, dwelling type, and the ways that they use water (for example, where they use sprinklers, or maintain a swimming pool). There is also significant variation across the utilities due to differences in demographics, housing stock, and average land size of the areas they serve.

Our household survey analysis shows that households that receive income concessions generally have significantly lower bills (after the concessions) than other households. The lowest median bill for households with concessions was $334 in Sydney Water's service area, reflecting the higher level of pensioner rebates. Gosford Council had the highest median bills of $590 for those households that receive concessions.[42]

37 See section 8.1 and Table B.9 in Appendix B.

38 Section 575 of the *Local Government Act 1993* prescribes that pensioner rebates are capped at $87.50 per annum for each of their water and sewerage charges (ie, a maximum total rebate of $175).

39 See section 8.2 and Appendix C.

40 Ibid.

41 See section 8.2.2 and Appendix C.

42 See section 8.2.5 and appendix C.

1.1.8 Summary of key findings for the bulk water utilities

The bulk water utilities considered in this report have very different operating environments. The Sydney Catchment Authority supplies bulk water to Sydney Water and surrounding Councils whereas State Water provides bulk water to rural NSW.

Operating expenditure and capital expenditures

Sydney Catchment Authority's operating expenditure was $85.5m in 2010/11 which was slightly above the amount allowed for in its price determination. Its capital expenditure was at its lowest level in the last 5 years, and was lower than allowed for.[43]

State Water's operating expenditure of $37.9m was below the amount allowed in 2010/11. Its capital expenditure of $79.5m was much lower than allowed in 2010/11, following an over expenditure in 2009/10.[44]

Water sales and revenue

In 2010/11, the Sydney Catchment Authority's water sales were at the lowest level in the last 5 years. The fall in its water sales was due to the increased proportion of water that Sydney Water sourced from the Sydney Desalination Plant (in line with the operating rules in the Metropolitan Water Plan which governs how much water Sydney Water takes from the desalination plant), as well as reduced demand due to higher rainfall levels. As a result, its revenue was lower (4%) than projected in the determination.[45]

State Water's sales were the highest in the last 5 years, but were still lower than we forecast in its price determination. State Water's sales and therefore its revenue have been significantly lower than forecast over the past 5 years, due to the impact of drought.[46]

Output measures

Sydney Catchment Authority reported on progress against its output targets for 6 major projects. Of these, 3 projects have either been completed or are on track. The other 3 projects have been delayed to allow scoping and external review of design parameters.[47]

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43 See section 9.2.1 and Table B.6 in Appendix B.
44 See section 9.3.1 and Table B.7 in Appendix B.
45 See section 9.2.4 and Table B.6 in Appendix B.
46 See section 9.3.3 and Table B.7 in Appendix B.
47 See section 9.2.5 and Table D.5 in Appendix D and section E.6 in Appendix E.

State Water is largely on track or ahead of schedule with the targets for its 7 major projects. It has experienced delays with the telemetry project, due to resourcing issues but expects to be back on target by the end of 2011/12.[48]

1.2 IPART reviews and projects for 2010/11

We are in the process of finalising a number of reviews in the water licensing area including reviews of:

- The operating licences of Hunter Water Corporation and Sydney Catchment Authority. New licences are due to commence on 1 July 2012.
- The performance indicators in the operating licences of Sydney Water, Hunter Water and the Sydney Catchment Authority with the aim to rationalise and improve the consistency of these indicators and thus facilitate comparison between the utilities.
- Our processes for auditing the operating licences of the public water utilities with the aim to make the 2011/12 audit period process more efficient.

These reviews are in addition to our regular compliance audits of the operating licences for Sydney Water, Hunter Water, Sydney Catchment Authority and State Water.

On the pricing side, we have commenced the pricing reviews for Sydney Water and the Sydney Catchment Authority. New prices will commence from 1 July 2012.

At the NSW Government's request, we also determined the prices that the Sydney Desalination Plant can charge for providing desalinated water services to its customers. The determination is for 5 years starting from 1 July 2012.

[48] See section 9.3.5 and Table D.6 in Appendix D and section E.7 in Appendix E.

1.3 Structure of this report

The next section of this report outlines the context for this 2010/11 performance review, and the approach we used to conduct the review. Sections 3 to 8 discuss our findings on the performance of the 4 retail water utilities in detail:

- Sections 3 to 6 focus on their performance in relation to drinking water quality; continuity and reliability of water supply and sewerage services; environmental outcomes; water recycling; and complaints handling.
- Section 7 compares their forecast and actual expenditure, sales and revenue, and their progress in implementing projects.
- Section 8 reviews results from our household survey, comparing average bills with disposable income, with a focus on households with low incomes and those receiving concessions.

Section 9 discusses our finding on the performance of the 2 bulk water utilities in relation to their forecast and actual expenditure, sales and revenue, and their progress in implementing projects.

2 Approach and context for this report

This review examines the performance of the 4 metropolitan retail water utilities in NSW – Sydney Water, Hunter Water, Gosford Council and Wyong Council – and (to a limited extent) the bulk water utilities, the Sydney Catchment Authority and State Water. The sections below explain the approach we used to conduct this review, including the data we relied on, and provide some important contextual information on the utilities we reviewed.

2.1 Our approach and data sources

IPART is responsible for administering the operating licences of Sydney Water and Hunter Water. As part of this role, we conduct regular audits of their performance against the range of water quality, service standards, demand management and environmental performance requirements set out in their licences. We also collect data on their performance against the National Water Initiative (NWI) indicators, and have used this data and the results of our audits to review their performance.

We do not currently audit the operating performance of Gosford Council and Wyong Council.[49] However, these councils are in the process of establishing the Central Coast Water Corporation, which will eventually hold a licence that will be regulated by IPART. In the interim, we have used data on their performance against the NWI indicators.

We are also responsible for regulating the prices that these 4 retail water utilities and 2 bulk water utilities can charge their customers. To make our price determinations, we forecast their expenditures, revenues and sales over the determination period. We also establish the output measures they are expected to meet over the determination period, given the amount of capital expenditure we allowed for in setting prices. We have compared each utility's actual performance against these forecasts and output measures.

[49] These water utilities are currently regulated by the NSW Office of Water (NOW).

We also administer the bulk water utilities' operating licences, audit their performance against the conditions in these licences, and collect data on their performance. We have not used this data to compare their performance with that of the retail water utilities because the nature of their business operations is too different from that of the retail utilities for such comparisons to be valid. Instead, we have compared their performance over a 5-year period.

2.2 The utilities we reviewed

While we consider our findings in this report provide useful insights into the performance of a utility, there are significant differences in their operating environments, services and size.

As noted above, the bulk water utilities' differences are so significant it is not possible to compare their performance to that of the retail water utilities. Also, while we are confident that we can compare the 4 retail utilities' performance to each other, it is important to understand that:

- We have not adjusted the findings to take account of differences in their operating environments.[50]
- While considerable progress has been made in standardising the definitions of the performance measures, there are still some differences in measurement systems and interpretations used.
- In looking at an individual utility's performance, it is more important to focus on the trends over time than its performance in any year, as these trends provide the best indicator of whether or not the utility needs to take remedial action.

The following sections provide a brief overview of each utility and its operating environment, and Tables 2.1 & 2.2 highlight some of the key differences in the services the 6 utilities provide, and in the size of the 4 retail utilities' operations and customer bases.

2.2.1 Sydney Water and Hunter Water

Sydney Water is a State Owned Corporation, wholly owned by the NSW Government. Its primary role is to provide drinking water and sewage treatment to protect public health and the environment for the benefit of residents in Sydney and surrounding urban areas. These roles and responsibilities are derived from the *Sydney Water Act 1994* and the operating licence issued to Sydney Water pursuant to Part 5 of the Act.

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50 For example, when comparing the energy used by Sydney Water and Hunter Water, we have not excluded the energy used by Hunter Water's bulk water operations, even though Sydney Water does not use energy for this purpose as it purchases most of its bulk water from the Sydney Catchment Authority.

Sydney Water is the largest water utility in NSW and it provides services to a population of more than 4 million people in Sydney, the Illawarra and the Blue Mountains.[51]

Sydney Water purchases the majority of its bulk water from the Sydney Catchment Authority while around 15% in 2010/11 came from the Sydney Desalination Plant.[52,53] As a consequence, Sydney Water did not have the operating costs, capital expenditure, energy use and environmental obligations related to bulk water supply sources as the other 3 retail utilities. This factor needs to be taken into consideration when comparing the operating costs, capital expenditures, energy consumptions and greenhouse gas emissions data presented in this report.

Hunter Water is a State Owned Corporation, wholly owned by the NSW Government. Its roles and responsibilities include providing water and sewerage services to the Newcastle, Lake Macquarie, Maitland, Cessnock, Dungog and Port Stephens areas, and bulk water services to parts of the Singleton and Great Lakes areas and the Central Coast. These roles are derived from the *Hunter Water Act 1991* and the operating licence issued to Hunter Water pursuant to Section 12 of the Act.

Unlike Sydney Water, Hunter Water is a fully vertically integrated utility operating the entire system from catchment to end use. Hunter Water's bulk water supply activities need to be considered when comparing some indicators in this report. For example, its energy use and greenhouse gas emissions are higher due to the amount of energy used to pump river water into off-river storage and to extract groundwater.

2.2.2 Gosford Council and Wyong Council

Currently, both Gosford Council and Wyong Council are designated as Water Supply Authorities under the *Water Management Act 2000*. Both councils operate separate water retail and waste water services and have a long-standing agreement to construct, operate, maintain and share the cost of the head works system components[54] serving each council's water distribution system.

The Central Coast Water Corporation has been established under an agreement between the councils and the NSW Government where councils are the shareholders of the Corporation. In accordance with the agreement, the councils are currently investigating the scope of services to be performed by the Corporation. After the councils transfer their water utility functions to the new the Corporation[55], IPART will then regulate this combined utility via a new operating licence.

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51 See http://www.sydneywater.com.au/WhoWeAre/

52 Sydney Water's Desalination plant (which can supply up to 15% of Sydney Water's bulk water supplies) commenced operation in January 2010.

53 See Figure 5.1 and Table A.8 in Appendix A.

54 Dams, weirs and water treatment plants.

55 Currently anticipated to commence from 1 July 2013.

2.2.3 The Sydney Catchment Authority and State Water Corporation

The Sydney Catchment Authority's primary role is to manage and protect the catchment areas and infrastructure and to supply bulk water services. These roles and responsibilities are defined under the *Sydney Water Catchment Management Act 1998* and the utility's operating licence.

The Sydney Catchment Authority primarily provides water to Sydney and surrounding areas, with Sydney Water purchasing 99% of the water that the Sydney Catchment Authority supplies.[56] Sydney Catchment Authority also supplies 3 local councils and a small number of retail customers.

State Water is a statutory corporation wholly owned by the NSW Government. It operates in rural NSW under the *State Water Corporation Act 2004* and its operating licence. It provides bulk water services to around 6,300 customers including irrigation corporations, country town water supply authorities, farms, mines and electricity generators.[57] State Water meets community needs by providing water for stock and domestic users. It is also responsible for delivering environmental flows on regulated rivers.

State Water operates around 20 dams and over 280 weirs and associated assets on regulated rivers. Its area of operations includes 11 river valleys, the Fish River Water Supply Scheme, and some of the area managed by the Murray Darling Basin Authority and Border Rivers Commission.[58]

56 IPART, *Review of the operating licence and review of prices for the Sydney Catchment Authority from 1 July 2012*, June 2011, p 18.

57 http://www.statewater.com.au/.

58 IPART, *Fact Sheet – Review of bulk water charges for State Water Corporation – June 2010*, June 2010, p 1.

Table 2.1 Services provided by each utility included in this review

	Retail Water Utilities				Bulk Water Suppliers	
Services	**Sydney Water**	**Hunter Water**	**Gosford Council**	**Wyong Council**	**Sydney Catchment Authority**	**State Water**
Bulk water storage and supply	X	√	Via joint water supply arrangements with Wyong	Via joint water supply arrangements with Gosford	√	√
Water treatment	√	√	√	√	X	X
Water distribution	√	√	√	√	X	X
Water retail	√	√	√	√	X	X
Sewerage retail	√	√	√	√	X	X
Sewerage distribution	√	√	√	√	X	X
Sewerage Treatment and disposal	√	√	√	√	X	X
Recycling	√	√	√	√	X	X
Stormwater services	Defined areas only	Defined areas only	√	√	X	X

Table 2.2 Size of each retail utility's operations and customer base as at 30 June 2011

	Sydney Water	**Hunter Water**	**Gosford Council**	**Wyong Council**
Total connected properties – water supply	1,793,000	228,000	70,500	60,300
Length of water mains, km	21,069	4,896	979	1,214
Total urban water supplied, ML	544,216	72,368	13,882	13,984
Total connected properties – sewerage	1,745,000	216,000	68,657	59,500
Length of sewerage mains and channels, km	24,193	4,729	1,312	1,243
Total sewage collected, ML	509,435	67,869	14,800	15,937

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, (2012), indicators C4;A2; W11; C8; A5; and W18.

3 Drinking water quality

All 4 metropolitan retail water utilities are required to ensure that the drinking water they supply meets the quality standards set out in the *Australian Drinking Water Guidelines* 2004, including specific chemical and microbial requirements (see Box 3.1). We assessed their performance in this area by examining their compliance with these Guidelines (as a percentage of properties supplied) and the number of customer complaints they received in relation to water quality.

3.1 Level of compliance with Australian Drinking Water Guidelines

Sydney Water, Hunter Water, Gosford and Wyong Councils achieved microbial compliance for 100% of the population, and chemical compliance in all of their zones, in 2010/11. These are the same very positive results as in the preceding years.[59]

Box 3.1 ***Australian Drinking Water Guidelines 2011***

The Australian Drinking Water Guidelines provide a comprehensive framework for good management of drinking water supplies that, if implemented, will assure safety at point of use. The framework includes 12 elements considered good practice for system management of drinking water supplies. The guidelines (among other things) also include 2 different types of water characteristics values:

- a health-related guideline value, which is the concentration of a water quality characteristic that, based on present knowledge, does not result in any significant risk to the health of the consumer over a lifetime of consumption
- an aesthetic guideline value, which is the concentration of a water quality characteristic that is associated with acceptability of water to the consumer, eg, appearance, taste and odour.

The microbial and chemical requirements referred to in this chapter are health-related guideline values.

Source: Australian Government, *Australian Drinking Water Guidelines* 6, 2011, only available online at http://www.nhmrc.gov.au/guidelines/publications/eh52

[59] Australian Government National Water Commission, *National Performance Report 2010-11*, (2012), indicators H3 and H4.

3.2 Number of customer complaints about water quality

Sydney Water received just 0.6 complaints per 1,000 properties in 2010/11. This is marginally lower than last year's result, and indicates a continued high level of customer satisfaction with water quality. Sydney Water has recorded less than 1 per 1,000 water quality complaints in the last 5 years.[60]

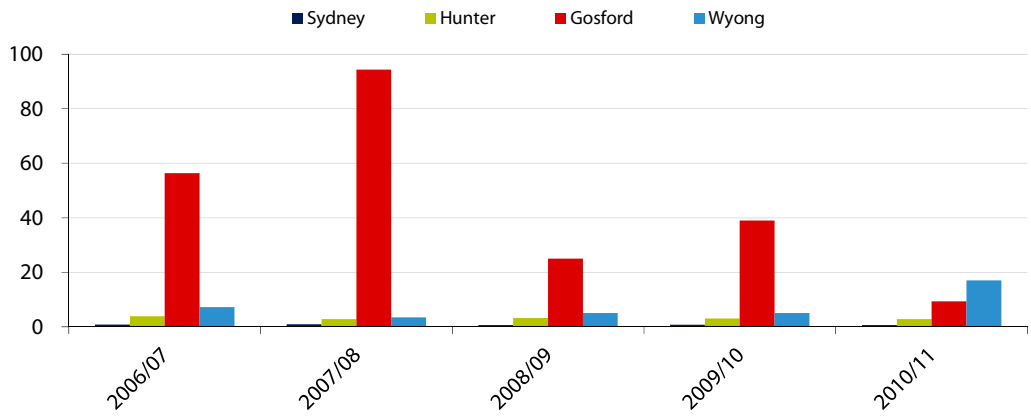
Hunter Water received 2.8 complaints regarding water quality per 1,000 properties, lower than the previous reporting period. This is also a very good result, and is lower than its 5-year average.[61]

Gosford Council received 9.3 complaints per 1,000 properties. This is a big improvement on previous results and its 5-year average of 44.8 per 1,000 properties.[62] In the past, Gosford Council has had issues with water quality (this is mainly an aesthetic issue involving the supply of discoloured water). This was due to reduced flow in its water system as a result of water restrictions and the reduction in mains flushing programs over a 5-year drought period, which led to higher concentrations of iron and manganese in the pipes, discolouring the water. Gosford Council is now well-advanced in addressing this problem and has implemented a program of flushing with the easing of water restrictions. It has also improved treatment processes to remove iron and manganese from the water before distribution.[63]

Wyong Council reported a large increase in customer complaints about water quality in the last year, with 17.1 complaints per 1,000 properties. In comparison, it received only 5 complaints per 1,000 properties in 2009/10 with a 5-year average of 7.6 complaints per 1,000 properties.[64] The increase in water quality complaints (mainly discoloured water) in 2010/11 arose from disturbance of naturally occurring pipe sediments in the water supply system as a result of new headworks. The council expects that complaint levels will decrease in the future.[65]

60 See Table A.1 in Appendix A.
61 Ibid.
62 Ibid.
63 Discussed in a meeting with Gosford Council, 14-15 November 2011.
64 See Table A.1 in Appendix A.
65 Email correspondence from Ian Johnson at Wyong Shire Council on 15 February 2012.

Figure 3.1 Water quality complaints per 1,000 properties



Data source: See Table A.1 in Appendix A.

4 Water and sewerage service continuity and reliability

Sydney Water and Hunter Water are required by their operating licences to meet standards related to the continuity and reliability of water and sewerage services. These include standards on water supply continuity, water pressure and sewerage overflows on private property. In July 2010 these standards and definitions were amended for both Sydney Water and Hunter Water and this is the first year of reporting against them. We have therefore not provided any historic data for some of these standards because direct comparison with previous years is not possible.

In addition, all 4 retail utilities are required to report against a range of NWI indicators related to the performance of the infrastructure they use to provide these services – including:

- the frequency and duration of unplanned water supply interruptions
- the number of water main breaks per 100km of water main
- real water losses due to leakages from the water supply system
- the number of sewer main breaks and chokes per 100km of sewer mains, and
- the duration of sewerage service interruptions.

The sections below summarise our findings on the utilities' performance against these standards and indicators, then discusses the findings in more detail.

4.1 Summary of findings on water and sewerage service continuity and reliability

Meeting licence requirements

Sydney Water and Hunter Water were well within their licence requirements for water and sewerage continuity and reliability in 2010/11.

- Sydney Water reported that 26,205 properties experienced an unplanned water interruption which exceeded 5 hours in 2010/11, an increase from 21,050 properties in 2009/10.[66]
- Hunter Water reported that 5,845 properties experienced an unplanned water interruption which exceeded 5 hours in 2010/11. A comparison with 2009/10 data was not possible due to a change in the standard on 1 July 2010.[67]

In relation to the number of properties affected by multiple water interruptions (a new licence standard which commenced on 1 July 2010), both utilities were well within their respective licence requirements.

Sydney Water and Hunter Water both met their water pressure targets in their operating licences in 2010/11.

- Sydney Water reported 832 properties had experienced water pressure failure in 2010/11, a substantial increase from last year's result of 36 properties.[68]
- Hunter Water reported 2,334 properties experienced a water pressure failure in 2010/11, an improvement from the previous year's result of 3,062 properties.[69]

Both utilities met their new licence requirements in relation to the number of private properties experiencing an uncontrolled sewerage overflow and multiple overflows.

- Sydney Water reported that 9,158 private properties had experienced a dry weather uncontrolled sewerage overflow, and 30 properties experienced 3 or more overflows.[70]
- Hunter Water reported that 3,723 private properties had experienced a dry weather uncontrolled sewerage overflow, and 26 properties experienced 3 or more overflows.[71]

66 See section 4.2.
67 See section 4.2.
68 See section 4.4.
69 Ibid.
70 See section 4.7.
71 Ibid.

General reporting results

- The 4 retail utilities reported between 88 to 258 unplanned water interruptions per 1,000 properties in 2010/11. Wyong Council continues to achieve the lowest number of these interruptions and Hunter Water the highest.[72]
- In relation to the average duration of unplanned water interruptions, Sydney Water and Hunter Water reported 147 and 141 minutes respectively in 2010/11. In the same period, Wyong Council reported 195 minutes while Gosford Council reported the longest average duration of 222 minutes.[73]
- The number of water main breaks reported by each of the 4 retail utilities has remained reasonably stable over the last 5 years. In 2010/11, Wyong Council reported 10 breaks per 100km of water main while the other 3 utilities reported between 28 to 31 main breaks per 100km of main.[74]
- The 4 utilities reported water losses per service connection ranging from 31 litres to 84 litres per day. Sydney Water and Hunter Water's losses are at the higher end of the range; the councils' losses are at the lower end although Gosford Council's losses are trending upwards.[75]
- In relation to sewer main breaks and chokes, all 4 retail water utilities performed similar to last year, reporting from 42 to 60 incidents per 100km of sewers in 2010/11. Gosford Council reported the lowest number of breaks and chokes whilst the performance for the other 3 utilities was clustered at the upper end of the range.[76]
- In terms of the average duration of these sewerage service interruptions, their performance was more varied, ranging from 142 minutes (for Hunter Water) to 240 minutes (for Sydney Water) in 2010/11.[77]

These results are explained below in detail.

4.2 Licence requirements for water continuity

Sydney Water and Hunter Water's operating licences require them to respond to and stop the loss of water from any faults. This requirement has the potential to put pressure on its water continuity performance and costs. These licences also require them to report on the number of properties affected by multiple unplanned interruptions to their water service.

72 See section 4.3.
73 Ibid.
74 See section 4.5.
75 See section 4.6.
76 See section 4.8.
77 See section 4.9.

Sydney Water's operating licence requires that:

- No more than 40,000 properties experience an unplanned water interruption exceeding 5 hours in a financial year.
- No more than 14,000 properties experience 3 or more unplanned water interruptions of more than one hour duration in a financial year.[78]

In 2010/11 Sydney Water reported that 26,205 properties have experienced an unplanned water interruption greater than 5 hours, or 15 in 1,000 properties. This is well within the licence requirement, however the number has increased from 21,050 properties in 2009/10.[79]

Sydney Water also reported 5,305 properties, or 3 in every 1,000, had experienced 3 or more unplanned interruptions of greater than 1 hour.[80]

Hunter Water's operating licence requires that:

- No more than 10,000 properties in a financial year experience an unplanned water interruption which exceeds 5 hours.
- No more than 5,000 properties served will experience 3 or more unplanned water interruption exceeding 1 hour duration in the licence year.[81]

In 2010/11, Hunter Water reported that 5,845 properties, or 25.6 per 1,000, experienced an unplanned water interruption longer than 5 hours. This result was well within the licence requirement of 10,000 properties. The majority of the continuity incidents were due to 5 large events, the largest being a water main burst on Kooragang Island which affected 2,120 customers in Stockton and Fern Bay.[82]

Hunter Water also reported that 2,200 properties, or 9.6 per 1,000 properties, had experienced 3 or more interruptions exceeding 1 hour. This result is well within the licence requirement of 5,000 properties.[83]

78 *Sydney Water Corporation Operating Licence 2010-2015*, See section 3.3.2, p17.

79 In 2010/11 there has been a change in the description of this standard so comparisons to previous years can not be made. Previously it was 'number of properties which experienced 3 or more unplanned water interruptions in a financial year, per 1,000 water supply connections'. Source: Sydney Water, *Operating Licence 2010-2015 System Performance Standards Report,* 2010-11 pp 6-8, and *Operating Licence Compliance Report 2009-2010,* p 9.

80 Ibid.

81 *Hunter Water Corporation Operating Licence*, Amendments to system performance standards, published in NSW Government Gazette No.92, 16 July 2010

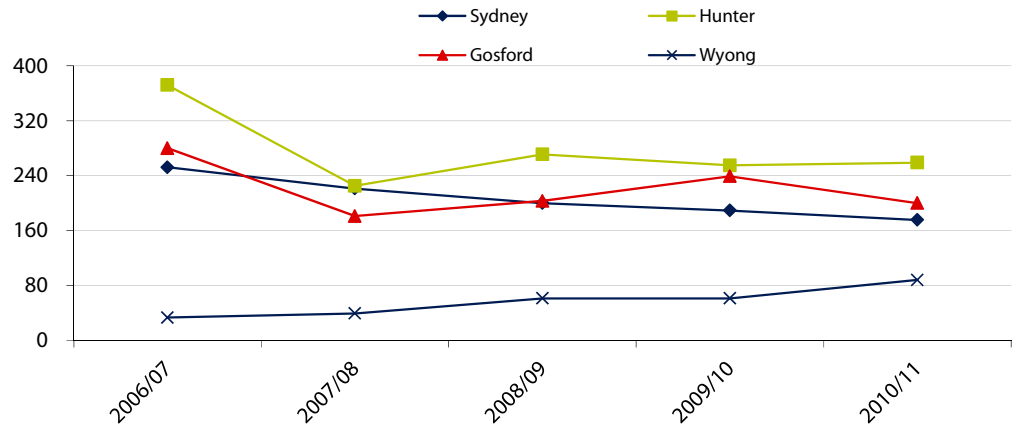
82 Hunter Water, *Service Quality and System Performance Report 2010-11,* pp 2-3.

83 Ibid. p 4.

4.3 Frequency and average duration of unplanned interruptions to water supply services

The 4 metropolitan utilities reported between 88 to 258 unplanned water interruptions had been experienced per 1,000 properties. Wyong Council continues to achieve the lowest number of unplanned water interruptions and Hunter Water the highest (see Figure 4.1).[84]

Figure 4.1 Frequency of unplanned water interruptions (expressed in number per 1,000 properties)

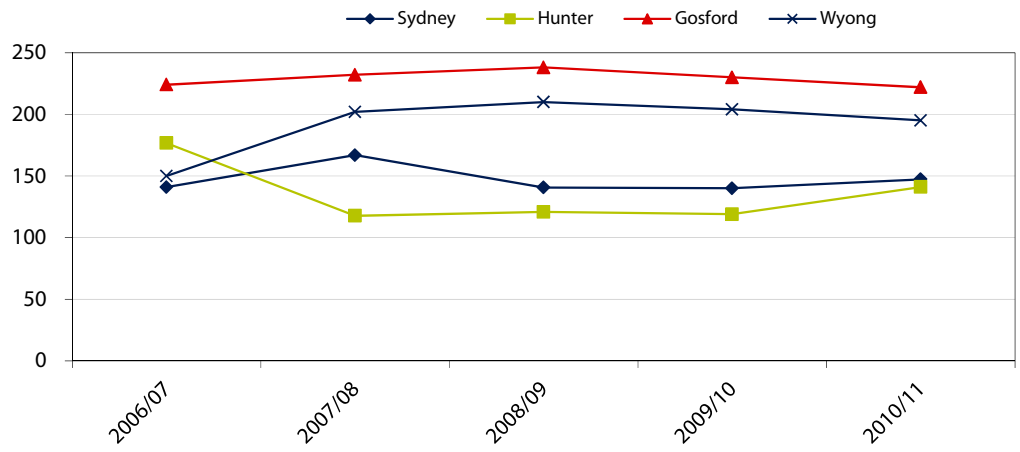


Data source: See Table A.2 in Appendix A.

Sydney Water and Hunter Water reported an average duration of unplanned water interruptions of 147 and 141 minutes respectively. For Sydney Water, this result is consistent with its 5-year average. For Hunter Water, it is longer than reported in the previous 3 years, but remains better than the other 3 utilities. Gosford Council and Wyong Council both marginally improved their performances this year, with average service interruption durations of 222 and 195 minutes respectively (see Figure 4.2).[85]

84 See Table A.2 in Appendix A.
85 See Table A.3 in Appendix A.

Figure 4.2 Average duration of an unplanned water interruption (minutes)



Data source: See Table A.3 in Appendix A.

4.4 Licence requirements for water pressure

Sydney Water's operating licence requires that no more than 6,000 properties experience a water pressure failure in a financial year in its water supply system.[86]

In 2010/11, Sydney Water reported 832 properties had experienced water pressure failure. While this is a big increase on last year's result, (a very low result of just 36 such incidents) it remains a good result for Sydney Water and is well within its licence requirement. Additionally, 27 properties were reported as receiving permanent low pressure.[87]

Hunter Water's licence requires that no more than 4,800 properties will experience a pressure failure.[88] In 2010/11, Hunter Water reported 2,334 properties experienced a water pressure failure, and this includes 1,035 properties receiving permanent low pressure.[89] Using a new demand based model, Hunter Water have estimated that in the previous year 3,062 properties experienced a water pressure failure.[90]

86 A water pressure failure is considered a pressure of less than 15 metres for a continuous period of 15 minutes or more.

87 Sydney Water, *Operating Licence 2010-2015 System Performance Standards Report*, 2010-11 p 4 and *Performance Indicators Report*, p 7.

88 Which is less than 20 metres head for a continuous period of 30 minutes or more, measured at the point of connection to Hunter Water's main. Properties that experience low pressure on days when peak demand reaches 370 ML/day are excluded from this count.

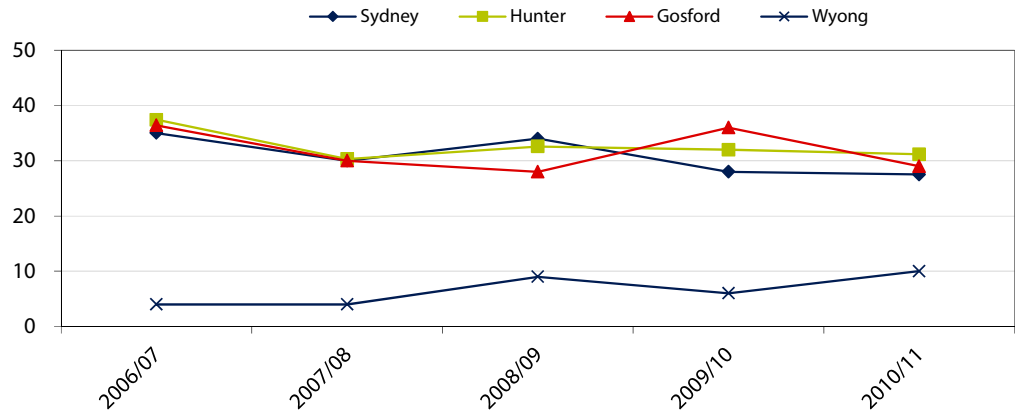
89 Hunter Water, *Service Quality and System Performance Report 2010-11*, pp 1-2.

90 Email correspondence from N. Holmes, Hunter Water, on 16 February 2012.

4.5 Number of water main breaks per 100 km of water main

Over the past 5 years, the utilities have reported fairly stable results for the number of water main breaks. Sydney Water, Hunter Water and Gosford Council reported between 28 and 31 water main breaks per 100km of water mains in 2010/11 which is similar to their historic performance. Wyong Council reported 10 breaks per 100km of water main, and has consistently reported a comparatively low number of water main breaks which may reflect their newer distribution system (see Figure 4.3).[91]

Figure 4.3 Number of water main breaks per 100km of water main



Data source: See Table A.4 in Appendix A.

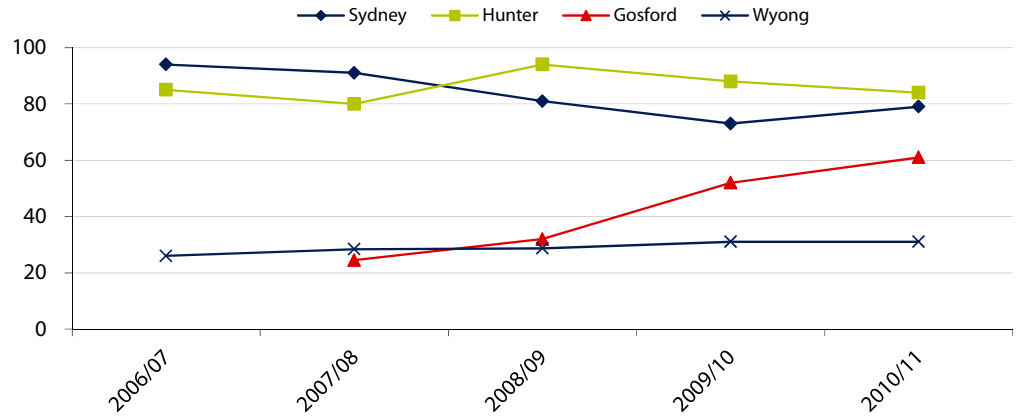
4.6 Real water losses due to leakages from the water supply system

Real water losses, expressed in litres of water per service connection per day, refer to losses due to leakage and overflows from water mains, service reservoir and service connections before the customer meter. A utility's performance against this indicator can be influenced by the age and configuration of its water mains, water pressure and water consumption.

The utilities reported mixed results when compared to last year's results, 3 utilities performing better than or equal to their 5-year averages, while Gosford Council reported an increase in real water losses. In 2010/11 the level of real water losses ranged from 31 litres to 84 litres per day across the water utilities (see Figure 4.4).[92]

91 See Table A.4 in Appendix A.
92 See Table A.5 in Appendix A.

Figure 4.4 Real water losses due to leakage (litres/service connection/day)



Data source: See Table A.5 in Appendix A.

4.7 Licence requirements for sewage overflows on private properties

Sydney Water's operating licence requires it to ensure that no more than 14,000 private properties (revised down from 25,000 last year)[93] experience an uncontrolled sewage overflow[94] in dry weather in a financial year.[95] This indicator is linked to the number of sewer chokes and is influenced by multiple occupancy properties.

In 2010/11 Sydney Water reported 9,158 private properties had experienced a dry weather uncontrolled sewage overflow, meeting the licence requirement. In addition, Sydney Water must ensure that no more than 175 private properties experience 3 or more uncontrolled sewage overflows in dry weather in a financial year. Sydney Water reported that 30 private properties were affected in the past year.[96]

Hunter Water's operating licence requires it to ensure that no more than 5,000 private properties experience an uncontrolled sewage overflow in dry weather in a financial year. Hunter Water reported that 3,723 properties were affected in 2010/11, which is similar to last year's performance of 3,555 properties.[97]

93 IPART, *Performance of NSW metropolitan water utilities, 2009-10*, May 2011, p 29.

94 Uncontrolled sewage overflow means a spill-over of sewage flow from any part of the reticulation system.

95 There has been a change in the definition so where connected properties are in multiple occupancy only one property will be counted as being affected.

96 Sydney Water, *Operating Licence 2010-2015 System Performance Standards Report,* 2010-11 p 4 and *Performance Indicators report*, p 10.

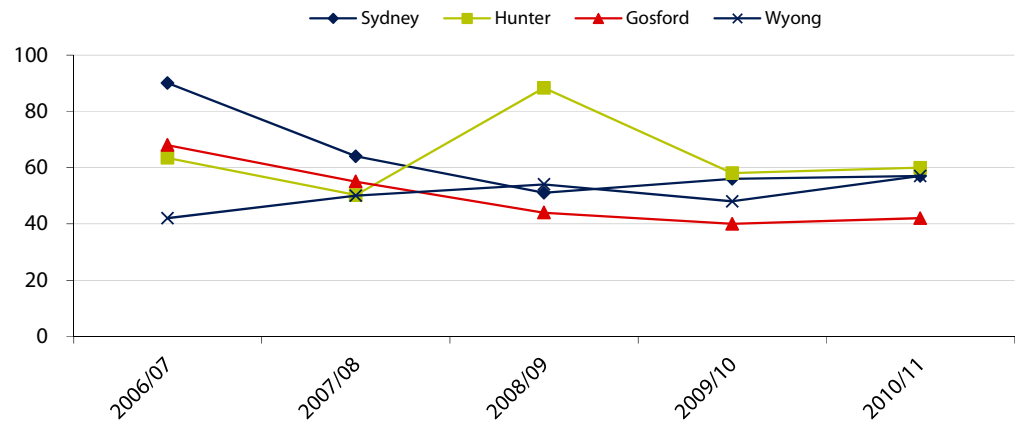
97 Hunter Water, *Service Quality and System Performance Report 2010-11,* p 4.

Hunter Water must also ensure that no more than 45 private properties experience 3 or more uncontrolled sewage overflows in dry weather in a financial year. Hunter Water reported that 26 private properties were affected in the past year.[98]

4.8 Sewer main breaks and chokes

There were no major fluctuations in the number of sewer main breaks and chokes from 2009/10 to 2010/11, with results ranging from 42 to 60 per 100km of sewer main (see Figure 4.5).[99]

Figure 4.5 Number of sewer main breaks and chokes per 100km of sewer mains



Data source: See Table A.6 in Appendix A.

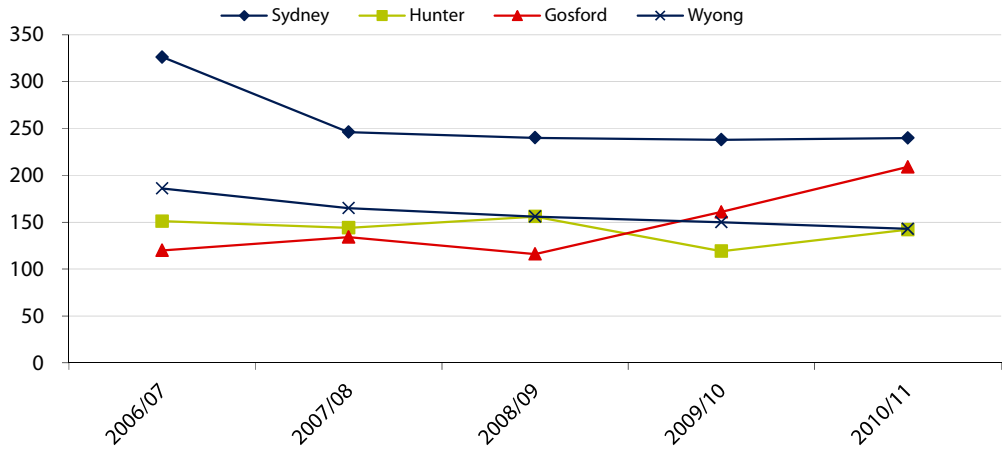
4.9 Average duration of sewerage service interruptions

In 2010/11 the average duration of sewerage service interruptions ranged between 142 minutes (for Hunter Water) and 240 minutes (for Sydney Water) across the utilities. The utilities have reported mixed results over the last 5 years, with Sydney Water showing a downwards to stable trend, Gosford's results trending upwards, and Wyong Council's showing gradual downward trend (see Figure 4.6).[100]

In our previous performance report, Hunter Water had reported a result of 0 in 2008/09 and 2009/10. Using a new methodology to estimate their performance for sewer repair times Hunter Water have now provided estimates for these years.[101]

98 Hunter Water, *Service Quality and System Performance Report 2010-11*, p 5.
99 See Table A.6 in Appendix A.
100 See Table A.7 in Appendix A.
101 Email correspondence from Nicole Holmes at Hunter Water on 16 February 2012.

Figure 4.6 Average duration of sewerage service interruptions (2008/09 onwards) and average sewerage break/choke repair time (prior to 2008/09)



Data source: See Table A.7 in Appendix A.

5 Environmental impact

The 4 major metropolitan water utilities are required to report annually on a range of National Water Initiative indicators related to the environmental impact of their operations. These include:

- the total quantity of water they supplied from all sources
- recycled water as a percentage of the treated sewage discharged and the purposes for which the recycled water was used
- the percentage of the treated sewage they discharged that met the requirements of their environmental licence
- percentage of biosolids they reused, and
- their total net greenhouse gas emissions.

Sydney Water and Hunter Water are also required to report on some additional indicators as a condition of their operating licences. These include:

- the number of sewage odour complaints they received
- the kilowatt hours (kWh) of electricity consumed by their water and sewerage assets per megalitre (ML) of water supplied or sewage treated, and
- the percentage of electricity consumed that was from renewable sources.

We compared each utility's performance against these indicators in 2010/11 with its performance in previous years. Generally, the utilities have either improved their performance against these indicators compared to last year, or remained fairly stable.

5.1 Summary of results

All retail water utilities supplied less water in 2010/11 than in the previous year, and these results were all lower than their 5-year averages.[102] This was largely a result of higher rainfall levels leading to lower customer demand.[103]

For Sydney Water, most of the water supplied was sourced as bulk water purchased from the Sydney Catchment Authority. However, 15% was sourced from the Sydney Desalination Plant, compared to 4% in the previous year.[104] For the other 3 retail utilities, most of the water supplied was surface water (ranging from 80% to 94%).[105]

In 2010/11, recycled water as a percentage of treated sewage discharged ranged from 4% for Gosford Council to 10% for Sydney Water. Compared to the previous year, Sydney Water's percentage increased considerably from 7%. This increase is largely driven by targets in the Metropolitan Water Plan, which estimates that 70 billion litres (or 11% to 12% of water supplied) will be recycled annually by 2015.[106]

In relation to the uses of recycled water, the most notable change since last year was an 8 fold increase (to 16,000 ML) in the amount Sydney Water supplied for environmental uses, following the commissioning of the St Mary's recycled water plant.[107]

In 2010/11, each of the 4 retail utilities reported that 100% of the sewage it treated was compliant with its environment protection licences.[108]

Each of the 4 retail utilities either reused 100% of its biosolids, or was able to store unused amounts on site for later use. The utilities have consistently achieved a high level of performance for this indicator.[109]

In relation to electricity consumption, Sydney Water used 4.2% less electricity per megalitre (ML) of water supplied and 5.2% less per ML of sewerage treated compared with the previous year. Sydney Water's overall result for electricity consumed by their water and sewerage assets was below its 5-year average.

Compared to the previous year, Hunter Water used a similar level of electricity per ML water supplied and 9.5% less per ML of sewerage treated. While there was a considerable reduction in the electricity used for treating sewerage, this reverses a recent upward trend.[110]

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102 See section 5.2.
103 Australian Government National water Commission, *National Performance Report 2010-11*, p 2.
104 IPART, P*erformance of NSW metropolitan water utilities, 2009-10*, May 2011, p 35.
105 See section 5.2 and Table A.8 in Appendix A.
106 See section 5.3 and Table A.9 in Appendix A.
107 See section 5.4 and Table 5.1.
108 See section 5.5 and Table A.10 in Appendix A.
109 See section 5.6 and Table A.11 in Appendix A.
110 See section 5.8 and Table A.13 in Appendix A.

In 2010/11, Sydney Water's electricity from renewable sources was 14.6%, continuing a significant upward trend for this indicator. In contrast, Hunter Water used no renewable energy in the electricity it consumed in 2010/11. Gosford Council maintained a stable trend of about 6% of electricity from renewable sources.[111]

Sydney Water reduced its net greenhouse gas emissions by more than 40% over the past 4 years. In 2010/11, it produced 143 net tonnes of carbon dioxide (CO_2) per 1,000 properties, a 13% reduction compared to the previous year. In comparison, Hunter Water produced 455 net tonnes of CO_2 and Gosford Council produced 536 net tonnes, continuing a significant upward trend in emissions over the last 4 years. Wyong Council reported on its greenhouse gas emissions for the first time in 2010/11 and produced 449 net tonnes of CO_2 per 1,000 properties.[112]

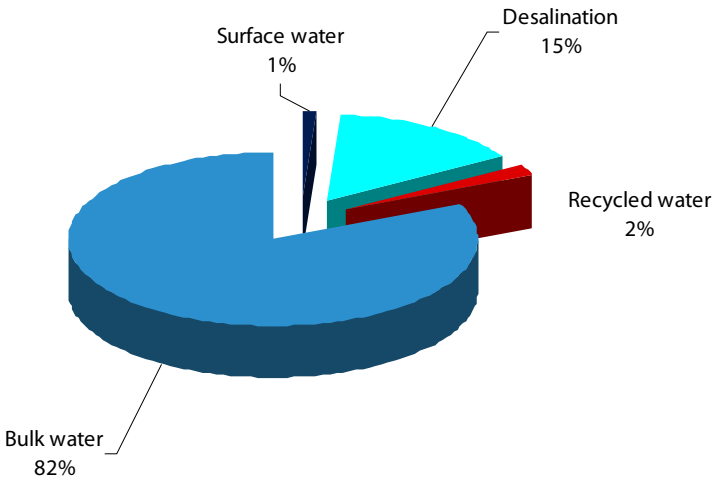
5.2 Total quantity of water supplied

All retail utilities supplied less water in 2010/11 than the previous year[113], and these results were also lower than their 5-year averages.[114] This is consistent with higher levels of rainfall, with rainfall being a significant factor in household water demand.

For Sydney Water a significant change was an increase in the volume of water taken from the desalination plant from 4% in 2009/10 to 15% in 2010/11. There was a corresponding reduction in the proportion of water sourced from bulk water. Figure 5.1 shows that Sydney Water purchased about 82% of its bulk water from the Sydney Catchment Authority.[115]

111 See section 5.10 and Table A.15 in Appendix A.
112 See section 5.9 and Table A.14 in Appendix A.
113 For previous year's results, see IPART, P*erformance of NSW metropolitan water utilities, 2009-10*, May 2011, p 34.
114 Australian Government National Water Commission, *National Performance Report 2010-11*, (2012), indicator W11. Also see Table 2.2.
115 See Table A.8 in Appendix A.

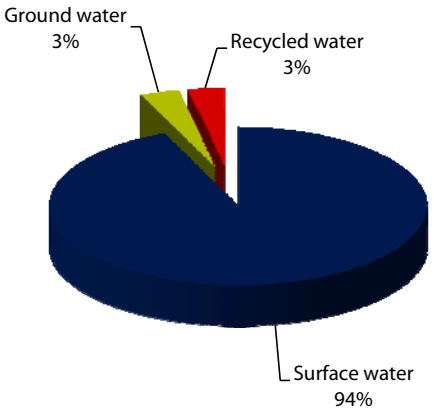
Figure 5.1 Sydney Water – water sourced in 2010/11 by source



Note: Surface water is the river extractions for the North Richmond water filtration plant.
Data source: See Table A.8 in Appendix A.

The other 3 utilities were able to increase their shares of surface water[116], with corresponding reductions in the amount taken from bulk water (Gosford and Wyong) and ground and recycled water (Hunter Water).[117] The utilities were utilising the increased availability of surface water as a result of higher levels of rainfall (see Figures 5.2 to 5.4).

Figure 5.2 Hunter Water – water sourced in 2010/11 by source

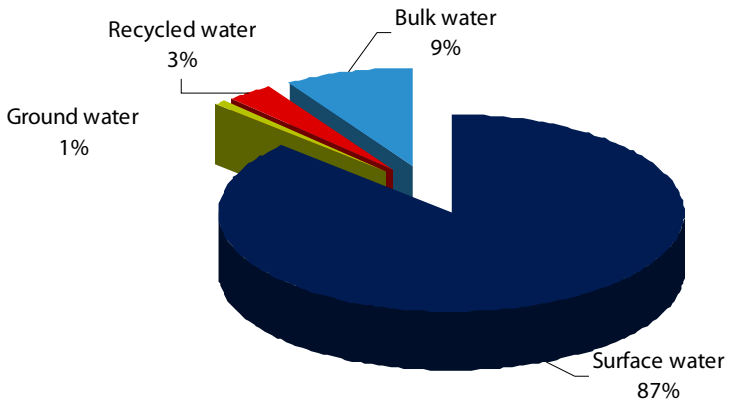


Data source: See Table A.8 in Appendix A.

116 *Surface water* is defined as water obtained from a utility owned catchment or dams, *bulk water* is defined as water obtained from another utility. For example, Sydney Water obtains bulk water from Sydney Catchment Authority; Gosford and Wyong Councils' obtain bulk water supplies from Hunter Water. Ground water is obtained from ground water bores.

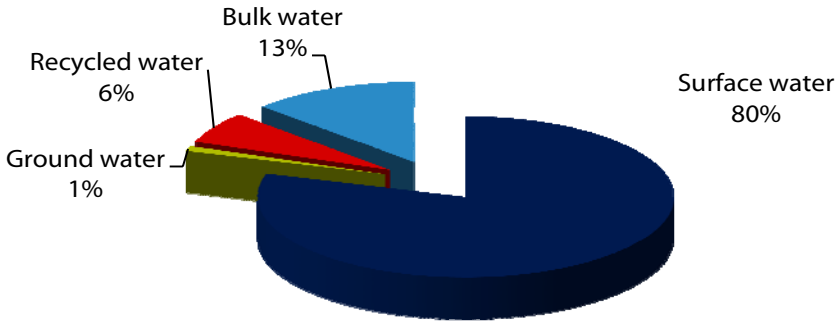
117 Australian Government National Water Commission, *National Performance Report 2010-11*, (2012), indicators W1-W7; and email from Gosford Council to IPART with corrections, 21 February 2012. Also see Table A.8 in Appendix A.

Figure 5.3 Gosford Council – water sourced in 2010/11 by source



Data source: See Table A.8 in Appendix A.

Figure 5.4 Wyong Council– water sourced in 2010/11 by source



Data source: See Table A.8 in Appendix A.

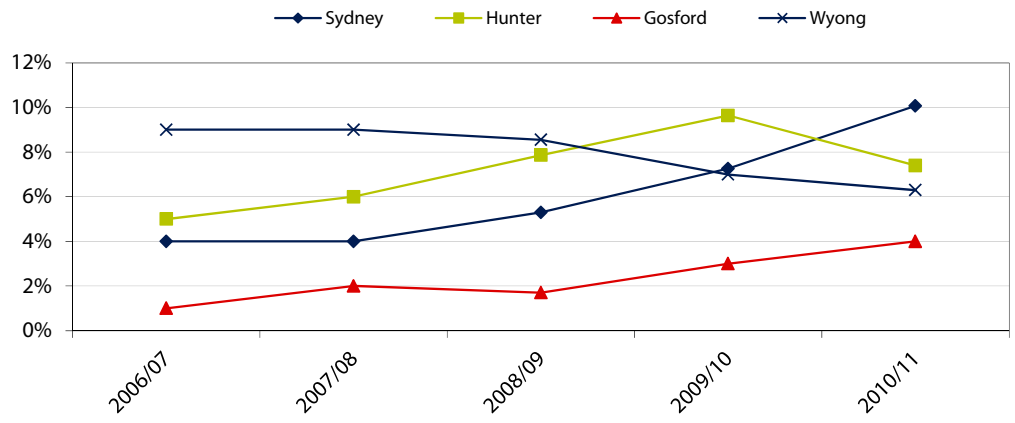
5.3 Recycled water as a percentage of treated sewage discharged

In 2010/11, recycled water as a percentage of treated sewage discharged ranged from 4% for Gosford Council to 10% for Sydney Water. Compared to the previous year, Sydney Water's percentage increased considerably from 7% (see Figure 5.5).[118] This increase is largely driven by targets in the Metropolitan Water Plan, which estimates that 70 billion litres (or 11% to 12% of water supplied) will be recycled annually by 2015.[119]

[118] See Table A.9 in Appendix A.
[119] NSW Office of Water, *2010 Metropolitan Water Plan,* August 2010, p 5.

For Hunter Water and Wyong Council, recycled water as a percentage of treated sewage discharged fell in 2010/11 as increased rainfall reduced the demand for outdoor uses such as irrigation. Also for Hunter Water 2 major industrial customers were off-line during part of 2010/11.[120] For Gosford Council this percentage has increased from the previous year, maintaining an upward trend.

Figure 5.5 Recycled water as a percentage of treated sewage discharged



Data source: See Table A.9 in Appendix A.

5.4 Purposes for which recycled water was used

The purposes for which the 4 utilities' recycled water was used fall into 5 categories: residential, commercial, municipal and industrial, agricultural, environmental and on-site uses. Each utility's contribution of their recycled water to these purposes varied significantly (see Table 5.1).

The most notable change since last year was an 8 fold increase (to 16,000 ML) in the amount that Sydney Water supplied to environmental uses following the commissioning of the St. Mary's recycled water plant. Of the 4 utilities, Sydney Water was the only one to supply recycled water for environmental uses.

[120] Email correspondence from Nicole Holmes at Hunter Water, on 16 February 2012, and from Ian Johnson at Wyong Council on 15 February 2012.

Table 5.1 Amount of recycled water by category of use (ML)

Category of use	Utility	2006/07	2007/08	2008/09	2009/10	2010/11
Residential	Sydney Water	1,652	1,402	1,704	2,209	2,250
	Wyong Council	0	0	0	84[a]	123
Commercial, municipal and Industrial	Sydney Water	5,995	7,212	5,155	7,537	7,687
	Hunter Water	1,875	1,984	2,289	2,648	2,006
	Gosford Council	0	0	68	14	37
	Wyong Council	0	832	865	940	570
Agricultural	Sydney Water	130	632	3,034	5,643	5,199
	Hunter Water	1,967	2,269	2,623	2,520	2,488
	Wyong Council	852	0	9	0	0
Environmental	Sydney Water	0	0	0	1,980	15,989
Onsite use	Sydney Water	13,352	14,917	15,549	16,314	16,396
	Hunter Water	218	218	180	180	180
	Gosford Council	212	277	216	348	0
	Wyong Council	381	391	422	0[a]	304

a Correspondence from Wyong Council to IPART received 4 May 2011.

Data source: Australian Government National Water Commission, *National Performance Report 2010/11*, (2012), indicators W20-W26.

5.5 Percentage of sewage volume treated that complied with licence requirements

Each of the 4 retail water utilities holds environment protection licences from the Office of Environment and Heritage. These licences entitle them to release a prescribed quantity of pollutants to the environment. In the case of a breach of the licence conditions, the licence holder may be given a penalty notice and/or be liable for penalties, depending on the nature and severity of the infringement.

The utilities discharge most of their treated sewage into the environment, except for the portion used for water recycling (see section 5.3). Treated sewage can be discharged from coastal sewage treatment plants into the ocean through deepwater outfalls, or from inland sewage treatment plants to rivers and creeks.

The environment protection licences specify the discharge limits for each discharge site, taking into account the sensitivity of the receiving environment. The utilities must apply the level of sewage treatment required to comply with these discharge limits (see Box 5.1).

Box 5.1 Primary, secondary and tertiary level of sewage treatment

Primary treatment removes large items such as paper, plastic and cotton tips using screens, and allows sand and grit to sink to the bottom of the tank while oil and grease are skimmed off.

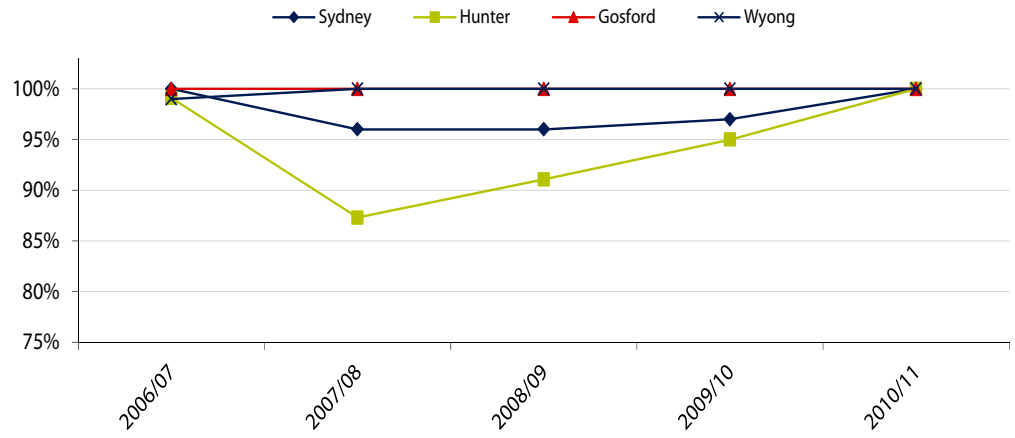
Secondary treatment includes biological and chemical processes to remove or break down smaller particles.

Tertiary treatment provides a final treatment state, which involves filtering and disinfecting to improve the quality of the treated sewage (known as effluent) before it is discharged into the environment.

The utilities are required to report on the percentage of the sewage volume they treated that complied with their environment protection licence requirements in a financial year.

All utilities reported 100% of sewage treated complied with their environment protection licences in 2010/11. Sydney Water and Hunter Water have both improved their performance since 2007/08 when they reported compliance levels of 96% and 87% respectively. Over the last 4 years both Gosford and Wyong Councils have reported 100% compliance for the sewage treated under their respective licences.[121] (See Figure 5.6)

Figure 5.6 Percentage of sewage volume treated that complied with environment protection licence conditions



Data source: See Table A.10 in Appendix A.

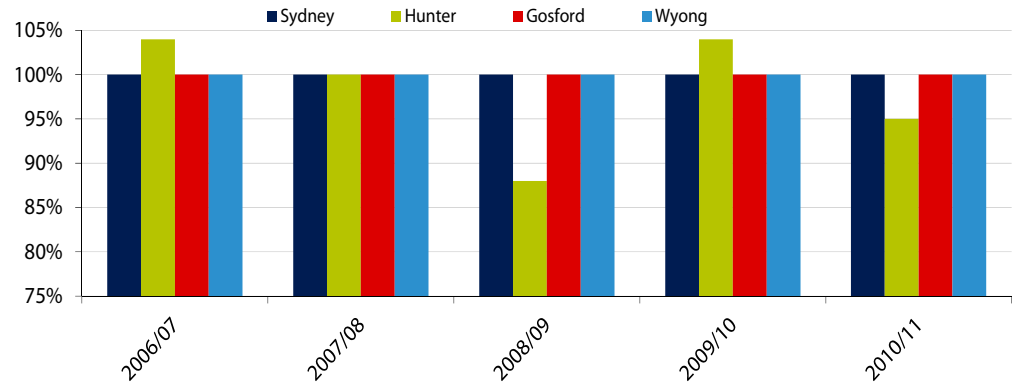
[121] See Table A.10 in Appendix A.

5.6 Percentage of biosolids reused

Biosolids are the stabilised organic solids derived from sewage treatment processes. If managed safely and sustainably, biosolids can be reused to take advantage of their nutrient, energy or other values. Biosolids can be reused for agricultural purposes (eg, as fertiliser), soil conditioning, and mine rehabilitation.

In 2010/11 Sydney Water, and Gosford and Wyong Councils reused 100% of the biosolids they produced, matching previous years. Hunter Water reused 95% of its biosolids, and stockpiled the remainder on-site for future use.[122] (See Figure 5.7)

Figure 5.7 Percentage of biosolids reused



Note: When Hunter Water has used more than 100% of biosolids, this is referring to using up stockpiled volumes from previous years in addition to the amount produced in the current year.

Data source: See Table A.11 in Appendix A.

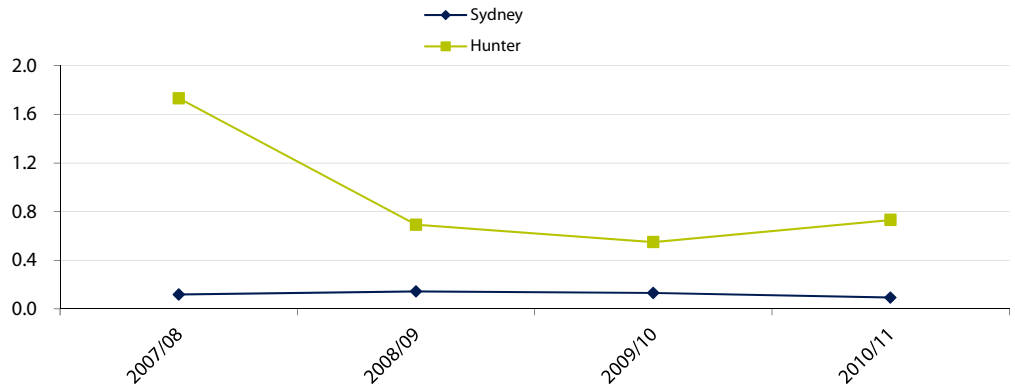
5.7 Number of complaints about sewage odour

Sydney Water and Hunter Water's operating licences also require them to report the number of complaints they receive about sewage odour. In 2010/11, Sydney Water reported 0.09 sewage odour complaints per 1,000 properties and Hunter Water reported 0.73 complaints per 1,000 properties (see Figure 5.8).[123]

The complaint numbers shown in Figure 5.8 are verified which means that they have been investigated by the utility to determine that the source of the odour relates to either the reticulation network, pumping station or treatment plant.

[122] See Table A.11 in Appendix A.
[123] See Table A.12 in Appendix A.

Figure 5.8 Sewage odour complaints per 1,000 properties



Data source: See Table A.12 in Appendix A.

5.8 Electricity consumed by water and sewerage assets

Sydney Water and Hunter Water are required to report under their operating licences on a number of additional indicators related to environmental performance, including the electricity consumed by their water and sewerage assets.

In comparing the performance of Sydney Water and Hunter Water it is important to recognise the different nature of their operations. Hunter Water operates its own bulk water supply sources whereas Sydney Water sources most of its bulk raw water from the Sydney Catchment Authority. This means that Hunter Water incurs higher levels of energy to pump river water into off-river storage and to extract groundwater. In addition, Hunter Water's sewerage system is more decentralised and it generally treats a larger percentage of its sewage to a higher standard than Sydney Water.

In 2010/11 Sydney Water used:[124]

- 272 kilo watt hours (kWh) of electricity per mega litre (ML) of water supplied
- 460 kWh/ML of sewage treated.

Hunter Water's results are:[125]

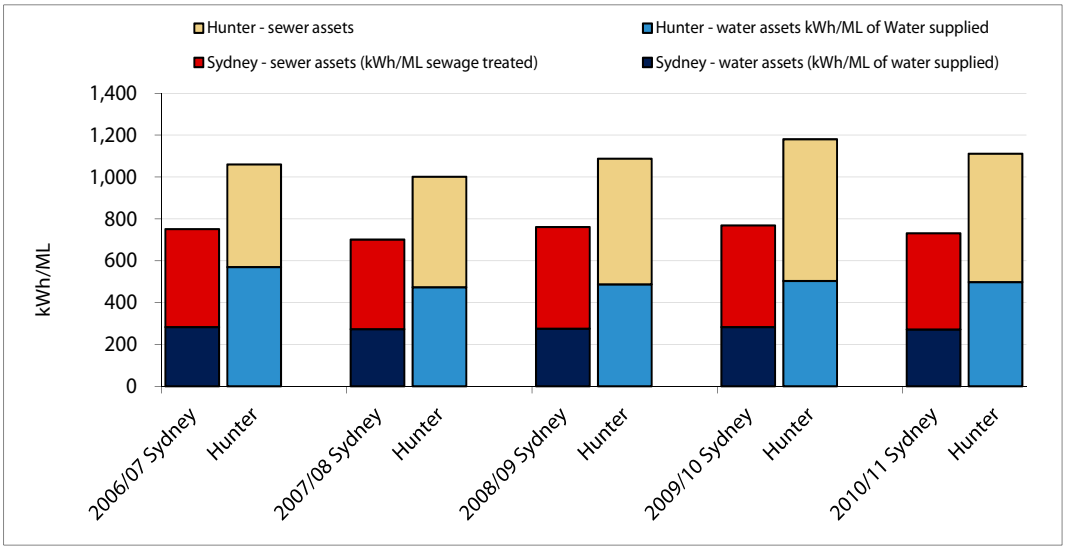
- 498 kWh/ML of water supplied
- 613 kWh/ML of sewage treated.

[124] See Table A.13 in Appendix A.
[125] Ibid.

In 2010/11, Sydney Water used 4.2% less electricity per ML of water supplied and 5.2% less per ML of sewage treated compared with the previous year. Sydney Water's overall result for electricity consumed by their water and sewerage assets was below its 5-year average.[126]

Compared to the previous year, Hunter Water used 1% less electricity per ML water supplied and 9.5% less per ML of sewage treated. While there was a considerable reduction in the electricity used for treating sewerage, this reverses a recent upward trend.[127] (See Figure 5.9)

Figure 5.9 Total electricity consumption for water and sewer assets (kWh/ML water supplied and kWh/ML sewage treated)



Data source: See Table A.13 in Appendix A.

5.9 Net greenhouse gas emissions

Each of the 4 utilities is required to report on the total net greenhouse gas emissions produced by its activities in net tonnes of CO_2-equivalents per 1,000 properties (see Figure 5.10).

Again, the differences between the businesses roles in relation to bulk water need to be considered if comparing the results of the water utilities. In particular, Sydney Water sources most of its water from the Sydney Catchment Authority whereas the other 3 utilities perform the bulk water supply functions and therefore incur the associated greenhouse gas emissions.

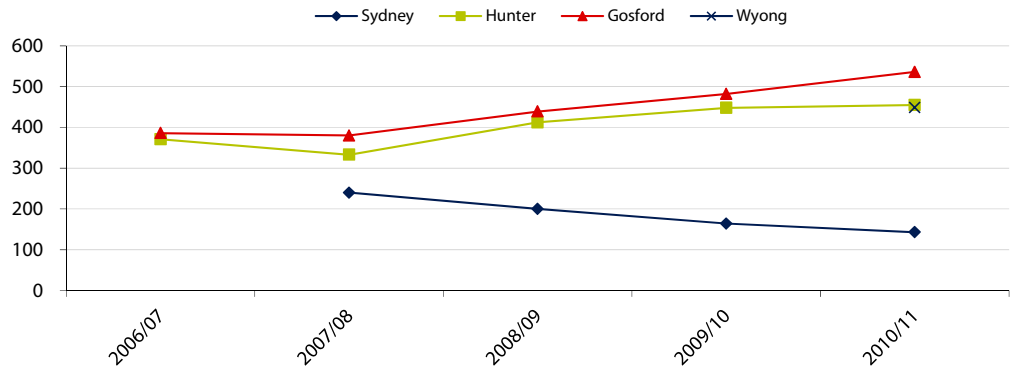
[126] See Table A.13 in Appendix A.
[127] Ibid.

Sydney Water has reduced its net greenhouse gas emissions by more than 40% over the past 4 years. This has been achieved through a combination of energy efficiency improvements and the generation and surrender of NSW Greenhouse Gas Abatement Certificates.[128]

In 2010/11, Sydney Water reported 143 tonnes of net greenhouse gas emissions per 1,000 properties which is a 13% reduction in emissions compared to the previous year. This is the 4th year that Sydney Water has taken part in the Emissions Reduction Scheme, and correspondingly, its net CO_2-equivalents output has been steadily declining.[129]

In contrast, Hunter Water and Gosford Council's net greenhouse gas emissions have been increasing over the last 4 years. In 2010/11 Wyong Council reported on this indicator for the first time.[130]

Figure 5.10 Total net greenhouse gas emissions per 1,000 properties



Note: Sydney Water did not report on this indicator in 2006/07 and Wyong reported for the first time in 2010/11.
Data source: See Table A.14 in Appendix A.

5.10 Percentage of electricity consumed that was from renewable sources

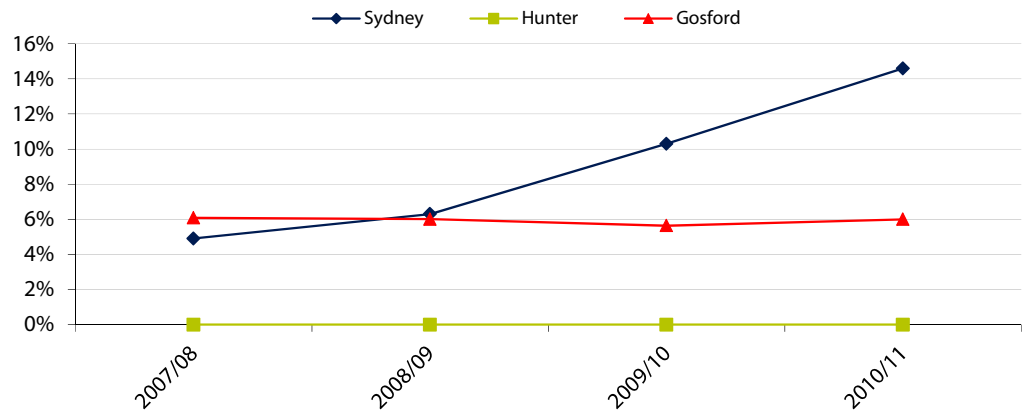
Additionally, Sydney Water's and Hunter Water's operating licences require them to report on the percentage of the electricity they consume that comes from renewable sources, including any renewable energy they purchase, and the electricity they generate for internal use or sale using their water and sewerage assets.

128 Email correspondence from Peter Nedelkovski from Sydney Water on 14 March 2012.
129 See Table A.14 in Appendix A.
130 Ibid.

In 2010/11, 14.6% of Sydney Water's electricity was from renewable sources, continuing an upward trend for this indicator.[131] Currently Sydney Water is implementing a Renewable Energy Generation program and in 2011 completed 5 cogeneration plants and 3 hydro generation projects. In contrast, Hunter Water's electricity consumed in 2010/11 used no renewable energy sources.[132]

In 2010/11, 6% of Gosford Council's electricity was from renewable sources, maintaining a stable level.[133] (See Figure 5.11)

Figure 5.11 Percentage of electricity consumed that was from renewable energy sources



Data source: See Table A.15 in Appendix A.

[131] This figure excludes the renewable energy used by the Sydney Desalination Plant.
[132] See Table A.15 in Appendix A.
[133] See Table A.15 in Appendix A.

6 Complaints handling

The 4 metropolitan retail utilities report on the water and sewerage service complaints they receive over each financial year, including the total number of complaints they receive per 1,000 properties, the time they took to resolve these complaints, and their call centre performance.

Sydney Water and Hunter Water are required under their operating licences to report on the number of customer complaints referred to the Energy and Water Ombudsman in NSW (EWON).

6.1 Total number of water and sewerage service complaints

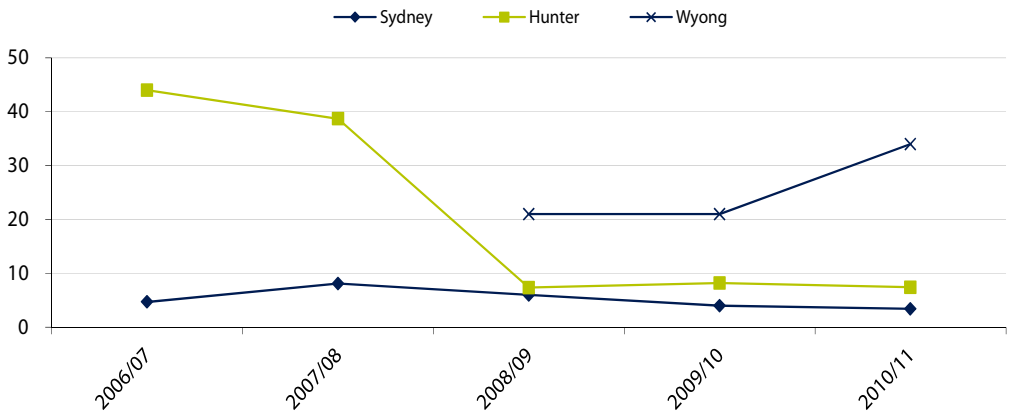
The total number of water and sewerage service complaints received by the utilities includes all complaints about bursts, leaks, service interruptions, the adequacy of services, water pressure, water quality or reliability, sewerage service, sewage odours, affordability, billings and behaviour of staff or agents. This indicator is expressed in number of complaints per 1,000 properties (see Figure 6.1).

The level of customer complaints in 2010/11 continues to be low particularly for Sydney Water and Hunter Water.[134]

- Sydney Water and Hunter Water both recorded a relatively low number of complaints both below their 5-year averages.[135]
- Wyong Council recorded an increase in the complaints received, from 21 per 1,000 properties in 2009/10 to 34 in 2010/11.[136] This increase was primarily due to water quality complaints about discoloured water as a result of new headworks.[137]
- Gosford Council did not report on this indicator.

[134] See Table A.16 in Appendix A.
[135] Ibid.
[136] Ibid.
[137] Email correspondence from Ian Johnson at Wyong Council on 15 February 2012.

Figure 6.1 Total number of water and sewerage complaints per 1,000 properties



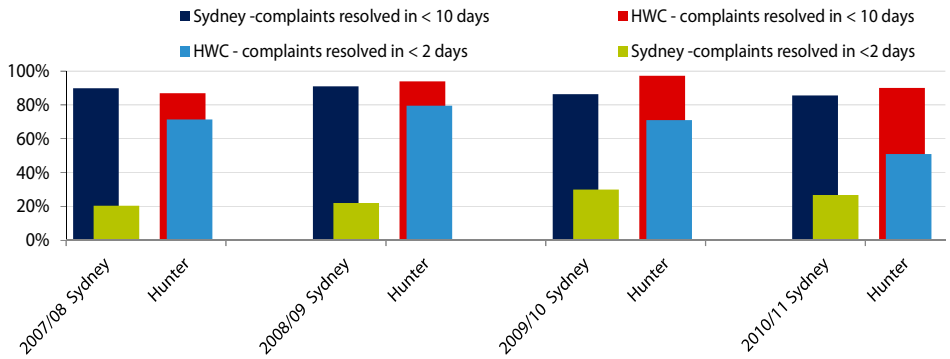
Note: Hunter Water's data prior to 2007/08 include the number of enquiries and complaints per 1,000 properties, while the data from 2007/08 are for the number of complaints only, in line with that of the other utilities and the NWI indicator.
Note: Gosford Council didn't report on this indicator.

Data source: See Table A.16 in Appendix A.

6.2 Time taken to resolve complaints

Customer complaints have taken longer to resolve compared to the previous year for both Sydney Water and Hunter Water. Most of the results, measured by the percentage of complaints resolved within certain time periods, fell below their 5-year averages.[138] (See Figure 6.2)

Figure 6.2 Percentage of complaints resolved in less than 2 days and less than 10 days



Data source: See Table A.17 in Appendix A.

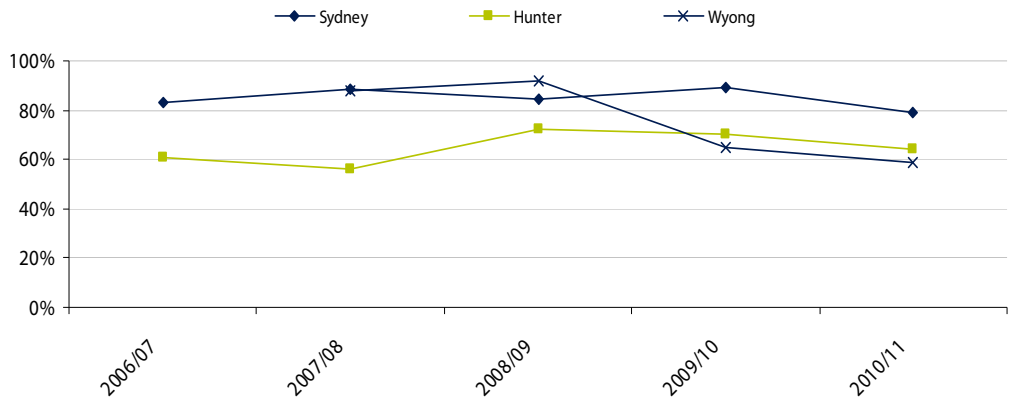
[138] See Table A.17 in Appendix A.

6.3 Call centre performance

Sydney Water's Contact Centre staff answered over 3,000 calls a day (in total, Sydney received 814,626 calls in 2010/11). The average time taken for a caller to be connected to an operator was 26 seconds.[139] Despite a slight decrease compared with the previous year in the share of calls answered within 30 seconds[140], Sydney Water's call centre is well regarded within the telecommunications industry. It won 3 major awards at the NSW Australian Teleservices Association 2011 Awards including Contact Centre of the Year (with between 50 to 120 staff).[141]

Regarding the percentage of calls answered within 30 seconds, Hunter Water also reported a slight fall in performance on the previous year's result, but was consistent with its 5-year average. Wyong Council's performance was below its 4-year average. Gosford Council doesn't report on this indicator.[142]

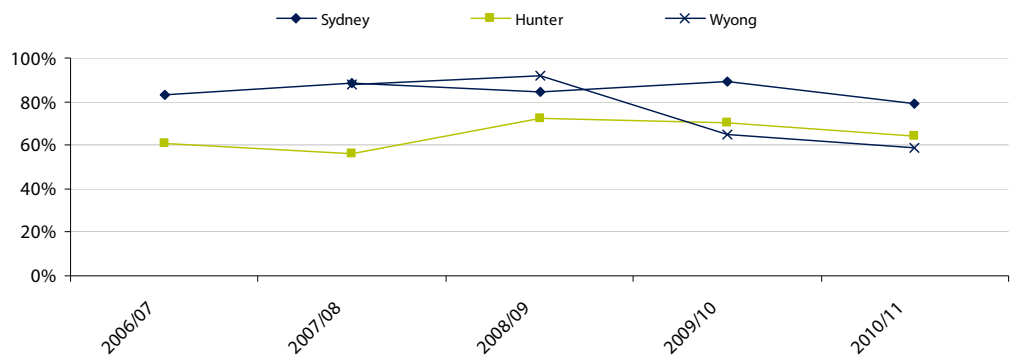
Figure 6.3 Percentage of telephone calls answered within 30 seconds



Data source: See Table A.18 in Appendix A.

139 Sydney Water report to IPART (commercial in confidence), *Performance Indicators Report 2010-11*, 1 September 2011, p 10.
140 See Figure 6.3 and Table A.18 in Appendix A.
141 Sydney Water media release, Sydney Water wins 'Best Contact Centre' at National Awards, 28 September 2011.
142 See Table A.18 in Appendix A.

Figure 6.4 Percentage of telephone calls answered within 30 seconds



Data source: See Table A.18 in Appendix A.

6.4 Number of complaints referred to the Energy and Water Ombudsman of NSW

Analysis of the complaints referred to EWON can provide utilities with useful information to identify systemic issues and policies that may need improvement. Sydney Water and Hunter Water are required under their operating licences to be members of EWON, and must report on the number and details of customer complaints that were referred to EWON each year.

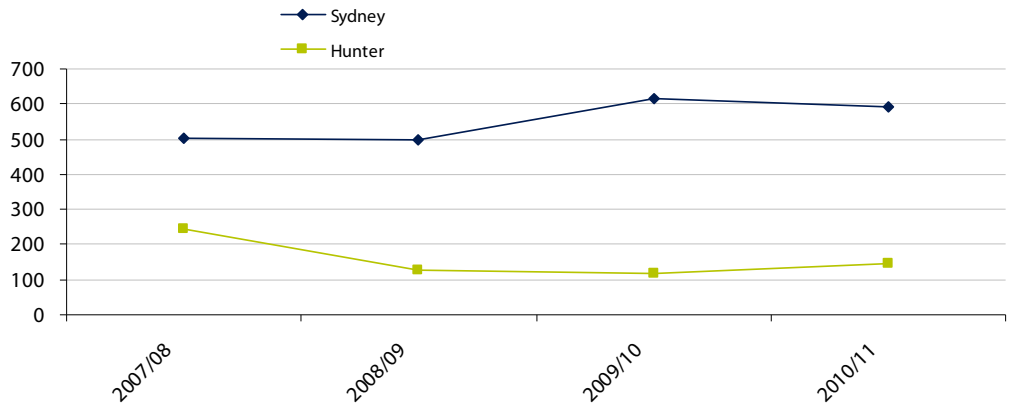
Sydney Water logged 593 calls to EWON, a small variation from previous results. Hunter Water reported 145 calls referred to EWON, an increase of 22% from last year.[143] This was due to an increase in calls regarding credit and customer service.[144]

Over the past 2 years EWON has reported on the number of customer complaints for Gosford and Wyong Councils. In 2010/11, EWON reported 14 customer complaints for Gosford Council and 13 complaints for Wyong Council.[145] (See Figure 6.4)

For all the retail water utilities, complaints about billing are the most important issue followed by customer service.

[143] See Table A.19 in Appendix A.
[144] Hunter Water, *Customer Service Report-2010-11*, September 2011, p 33.
[145] See Table A.19 in Appendix A.

Figure 6.5 Total number of complaints referred to EWON



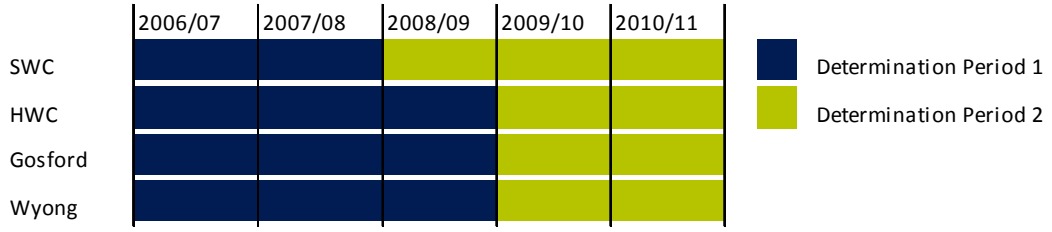
Data source: See Table A.19 in Appendix A.

7 Expenditure, sales and output measures for the retail water utilities

This chapter compares the actual operating expenditure, capital expenditure, water sales, revenue and output measures against the forecasts we used in setting prices for the 4 retail water utilities.[146] These forecasts are set out in our pricing determinations for each utility.[147]

We have reviewed each utility's performance over the 5 years to 30 June 2011. As Figure 7.1 shows, this period includes 2 pricing determinations for each utility.

Figure 7.1 Determination periods for regulated utilities



In assessing a utilities' performance we have considered the results over a 5-year period as well as the results for a particular year. We would expect to find variation in the actual results compared to the forecasts we used in making our price determinations as these were based on the best information available at the time. Where there is a significant variation, it is important to identify the reasons for this.

The forecasts in this report are referred to as the 'allowed' values in the following discussion and are expressed in $2010/11, which means that they have been adjusted to take account of the impact of inflation (ie, comparisons can be made across the 5 years).

We have not compared the bulk water utilities' performance with the 4 retail utilities' because of the different nature of the businesses. A separate analysis of the bulk water utilities' performance is presented in Chapter 9.

146 IPART requires regulated water agencies to complete Annual Information Returns (AIRs) and Progress on Output Reports that provide the data necessary to determine prices. The results reported in this chapter are based on that data.

147 Determinations can be found on IPART's website: www.ipart.nsw.gov.au.

The section below summarises our findings with a more detailed discussion of our findings in the subsequent sections.

7.1 Summary of findings

Generally we found that for all the water utilities there has been a reduction in the size of the variances in expenditures, sales and output measures in the current determination period compared to the previous determination period. With some exceptions, the actual expenditures, sales and outputs appear to be on track with that forecast (allowed) in the current determinations.

Operating expenditure

Except for Sydney Water, operating expenditures for the water utilities in 2010/11 were above the amounts allowed for in their determinations. Gosford and Wyong Councils had the largest variations in operating expenditure at 11.4% and 7.9% respectively. The 5-year averages presented mixed results - Sydney Water's was marginally lower than the average allowed amounts, whilst Hunter Water and Gosford Council were higher, and Wyong Council's was significantly higher.[148]

For each utility, operating cost per property was higher than allowed in our determinations by 2% to 12.1%.[149]

Capital expenditure

In 2010/11, capital expenditure was less than allowed amounts for Sydney and Hunter Water, and significantly higher for Gosford and Wyong Councils. For the councils, the additional capital expenditure smooths out the under-expenditure in the previous years.[150]

Water sales

In 2010/11, actual water sales (by volume) were below the forecast amount for each of the utilities; with the largest variances for Sydney Water and Gosford Council (at 9.2% at 8.1% respectively). In Sydney there has not been a significant return to previous levels of water demand after the easing of water restrictions in June 2009.[151] Sydney Water has recently developed a new model to estimate water demand from its customers. Our draft decision for Sydney Water's 2012 price review includes a

148 See section 7.2.1 and Tables B.1 and B.5 in Appendix B.
149 Ibid.
150 See section 7.2.2 and Table B.2 in Appendix B.
151 http://www.sydneywater.com.au/Water4Life/WaterWise/WhenWereWaterRestrictionsIntroduced.cfm

mechanism to adjust for significant variation between our forecast and actual water sales volumes.[152]

Hunter Water's water sales were 6.2% below the forecasts in 2010/11 and for Wyong Council it was 3.3%. Generally, the levels of water sales have remained relatively constant over the last 5 years.[153]

Revenues

Overall, actual revenues were below the amounts allowed in the determinations varying from 3.4% for Gosford Council to 6.6% for Wyong Council. For each utility, revenues have steadily trended upwards (in real terms) over the past 5 years, with 2010/11 results all exceeding the 5-yearly averages.[154]

Project delivery – output measures

Output measures are used as a means of monitoring the progress of the water utility in delivering its plans. The output measures are not in themselves targets to be achieved in the determination period, as there may be good reasons for variance.[155] Reporting variance from the targets enables the assessment of prudent expenditure. This information is used at our price reviews as part of our assessment of prudent and efficient expenditure by the water utilities.

As part of the 2012 price review our consultants have assessed Sydney Water's output measures and found that they have been delivered generally to target.[156]

The other retail water utilities have 2 years remaining until the end of their determination periods.

Hunter Water reported that most major projects are on track, (except for the Tillegra Dam which did not receive development approval) although some completion dates have been deferred for a number of reasons including lower than expected growth.[157]

Gosford and Wyong Councils have a number of joint projects, which are either completed or on track for completion, and under budget. Individually, Gosford has reported it is on track to meet its outputs, while Wyong has deferred completion dates on some projects as expected growth levels have not occurred.[158]

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[152] IPART, *Review of prices for Sydney Water Corporation's water, sewerage, drainage and other services: From 1 July 2012 to 30 June 2016 - Draft Report*, March 2012, p 83.

[153] See section 7.2.3 and Table B.3 in Appendix B.

[154] See section 7.2.4 and Table B.4 in Appendix B.

[155] For example, in some cases growth has been slower than anticipated, and project completion dates have been deferred. In other cases, further planning has shown issues that were not noticed in initial scoping plans or revealed a more efficient option.

[156] See section 7.3 and Table D.1 in Appendix D and Table E.1 in Appendix E.

[157] See section 7.3 and Table D.2 in Appendix D and E.2 in Appendix E.

[158] See section 7.3 and Tables D.3 and D.4 in Appendix D, and E.3 E.4, E.5 in Appendix E.

7.2 Findings on 4 retail utilities' expenditure, sales and revenue

To assess each utility's performance, we compared their actual operating expenditure, capital expenditure, water sales and revenue over the review period (2007 to 2011) to the forecasts we used in making its price determinations.

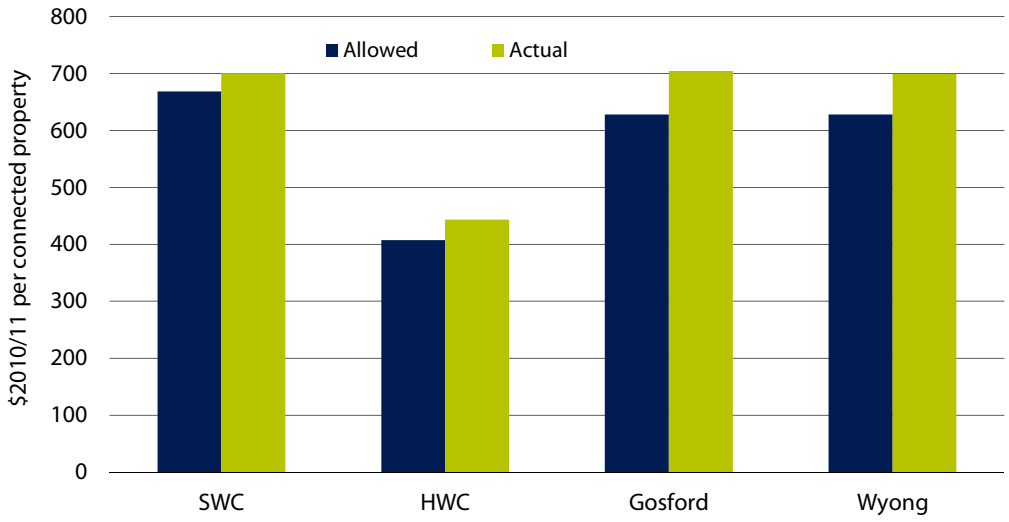
Our analysis of operating expenditure and revenue excludes the impact of the Climate Change Fund (and the former Water Savings Fund). Over the past 5 years Sydney Water and the councils' were required to contribute to these funds while Hunter Water was not. We have decided to remove it from the comparative analysis.

7.2.1 Retail utilities' operating expenditure

Over the 5-year period, the operating expenditures for Hunter Water, Gosford Council and Wyong Council were higher than the allowed expenditures in their price determinations. Sydney Water's actual operating expenditure was lower than allowed.[159]

On a per property basis, all the water utilities average operating expenditures exceeded their allowed expenditures. The greatest variations in operating expenditure per property were for Wyong Council at 11.4% and Gosford Council at 12.1% (see Figure 7.2).[160]

Figure 7.2 Average operating expenditure per property, 2010/11 ($2010/11)



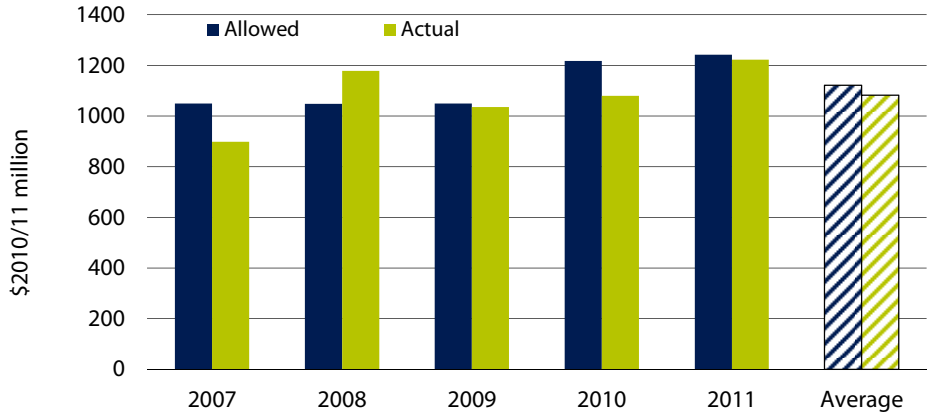
Data source: See Table B.5 in Appendix B

[159] See Table B.1 in Appendix B.
[160] See Table B.5 in Appendix B.

Sydney Water's average actual operating expenditure over the last 5 years was slightly (3.4%) lower than that allowed for in IPART's determinations (see Figure 7.3).[161] Operating expenditure per property over the 5 years was 1.1% below the allowed amount.[162]

As part of the current price review we have engaged consultants (Atkins Cardno) to review Sydney Water's historic capital expenditure. They found that there have been increasing cost pressures for energy and materials and significant increase in maintenance expenditure for wastewater assets. After reviewing the expenditure Atkins Cardno assessed that a portion of the maintenance expenditure was not prudent.[163]

Figure 7.3 Sydney Water – actual v allowed operating expenditure ($million, 2010/11)

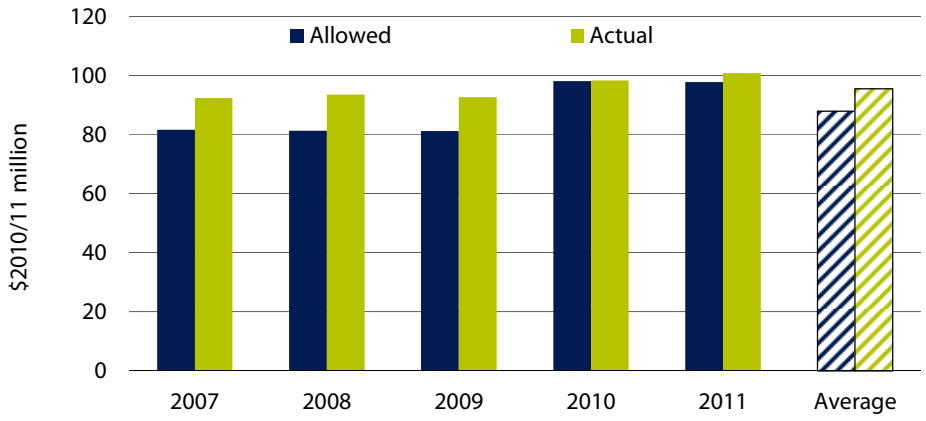


Data source: See Table B.1 in Appendix B.

Hunter Water's operating expenditure was higher than allowed over the last 5 years with an average variance of 8.6%. This variance has been reduced over the last 2 years as the allowed operating expenditure has increased in the latest determination. In 2010/11 Hunter Water's operating expenditure was $100.9m (3.2% above that allowed), and when calculated per property was $443.[164] (See Figure 7.2 and Figure 7.4)

[161] See Table B.1 in Appendix B.
[162] See Table B.5 in Appendix B.
[163] WS Atkins and Cardno, *Final Report Detailed Review of Sydney Water Corporation's Operating and Capital Expenditure*, November 2011, pp 15-16.
[164] See Tables B.1 and B.5 in Appendix B.

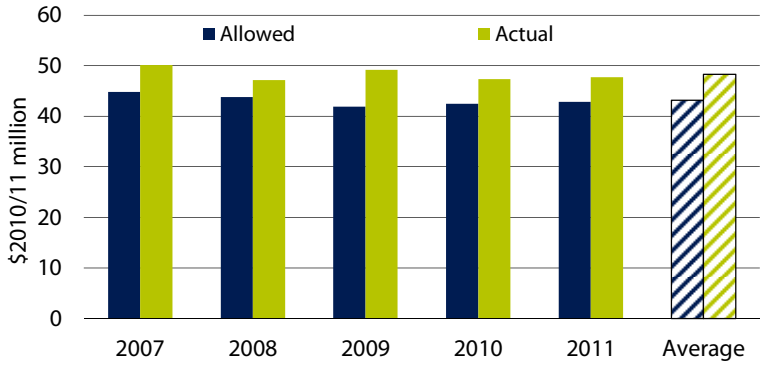
Figure 7.4 Hunter Water – actual v allowed operating expenditure ($million, 2010/11)



Data source: See Table B.1 in Appendix B.

In 2010/11 Gosford Council's operating expenditure was $47.7m which was 11.4% higher than that allowed. This continues a similar trend over the previous 4 years. The 5-year average operating expenditure was 11.9% over that allowed in our determinations.[165] (See Figure 7.5)

Figure 7.5 Gosford Council – actual v allowed operating expenditure ($million, 2010/11)

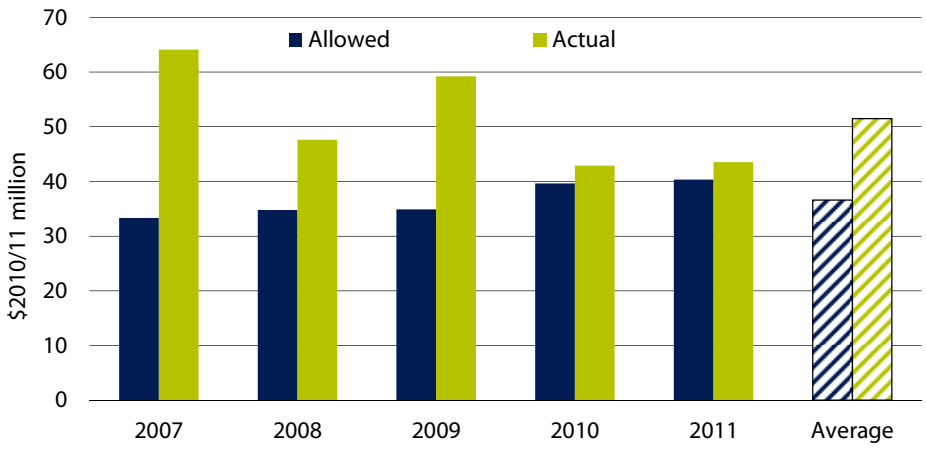


Data source: See Table B.1 in Appendix B.

[165] See Table B.1 in Appendix B.

In 2010/11, Wyong Council reported an operating expenditure of $43.5m which exceeded our determination amount by 7.9%. Wyong's operating expenditure has consistently been higher than we have allowed for, however over the last 2 years this variation has been significantly reduced. Over 5 years, its average operating expenditure has been 40.6% higher than we have allowed for.[166] (See Figure 7.6) Wyong Council has explained that the higher level of operating expenditure is related to the methodology of allocating corporate overheads across council activities.[167]

Figure 7.6 Wyong Council – actual v allowed operating expenditure ($million, 2010/11)



Data source: See Table B.1 in Appendix B.

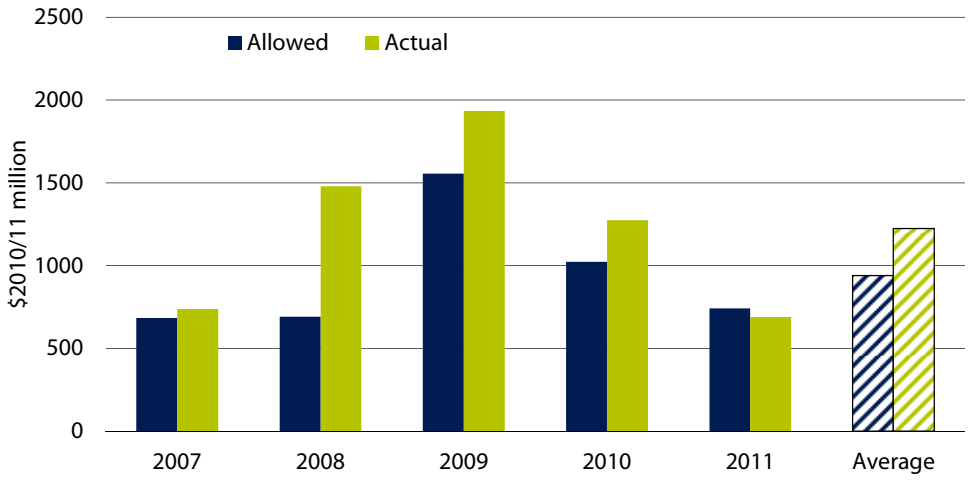
7.2.2 Retail utilities' capital expenditure

Levels of capital expenditure can vary considerably on a year to year basis. This reflects the fact that the construction of a large project can take place in certain years which will cause a once-off increase in capital expenditure in those years compared to the 'normal' level. Where such variation occurs within a determination period, it does not usually have a significant effect on the revenue and prices that otherwise would have been determined.

[166] See Table B.1 in Appendix B.
[167] Email correspondence from Ian Johnson at Wyong Council on 15 February 2012.

Sydney Water's capital expenditure was $689m in 2010/11. In previous years, the variance between its actual and allowed capital expenditure was largely due to expenditure on the Sydney Desalination Plant. The construction of the Desalination Plant increased Sydney Water's capital expenditure significantly in 2007/08 and 2008/09. The allowed capital expenditure for 2007/08 was set in the 2005 determination, before the decision to construct a desalination plant had been made. The desalination plant commenced supplying water in January 2010. Sydney Water's capital expenditure has now returned to levels prior to the desalination plant.[168] (See Figure 7.7)

Figure 7.7 Sydney Water – actual v allowed capital expenditure ($million, 2010/11)



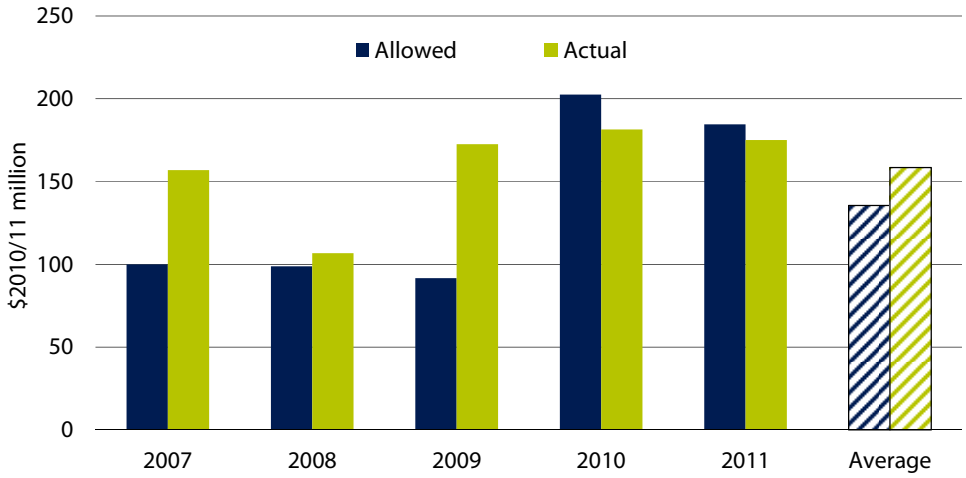
Data source: See Table B.2 in Appendix B.

As part of the current price review, our consultant's Atkins Cardno reviewed Sydney Water's capital expenditure from 1 July 2008 and found that expenditure to maintain existing standards was prudent as it was based on well prepared asset plans and processes and procurement was appropriate. The consultant concluded that a small portion of expenditure ($40.5m) was not prudent in the areas of corporate property, priority sewerage program projects, corporate IT and some meter expenditure.[169]

Hunter Water's capital expenditure in 2010/11 was $175.1m, which was $9.5m (5.1%) less than allowed for. Over 5 years, actual capital expenditure has exceeded the allowed amounts by 17% on average, or $23m each year. This is largely due to over expenditure in the years 2006/07 and 2008/09. In the current determination period capital expenditure has been lower than allowed which is partly due to the NSW Government's decision in December 2010 not to proceed with Tillegra Dam.[170] (See Figure 7.8)

168 See Table B.2 in Appendix B.
169 WS Atkins and Cardno, *Final Report Detailed Review of Sydney Water Corporation's Operating and Capital Expenditure*, November 2011, pp 19-21.
170 See Table B.2 in Appendix B.

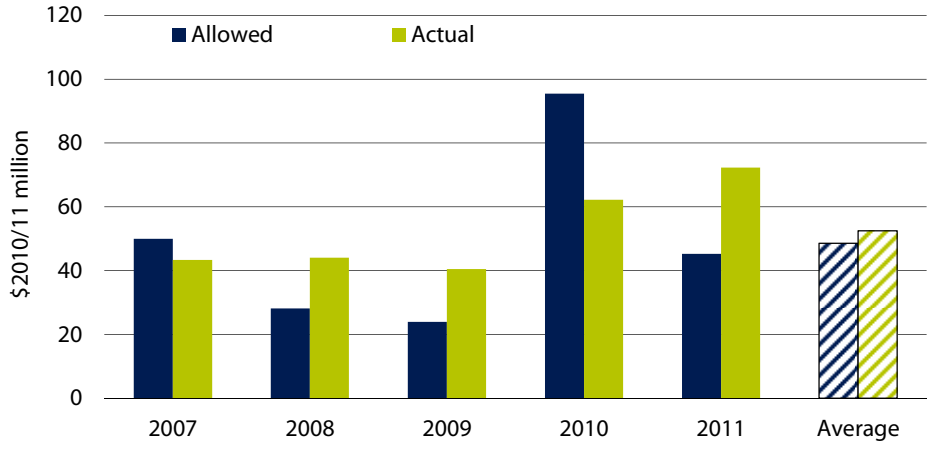
Figure 7.8 Hunter Water – actual v allowed capital expenditure ($million, 2010/11)



Data source: See Table B.2 in Appendix B.

Gosford Council's capital expenditure of $72.3m in 2010/11 was substantially higher ($27m or 59.6%) than we had allowed for. This expenditure offsets a large under expenditure in 2009/10, the first year of the current determination. Over 5 years, Gosford Council has spent 8.0% more than we have allowed for in our determinations.[171] (See Figure 7.9)

Figure 7.9 Gosford Council – actual v allowed capital expenditure ($million, 2010/11)

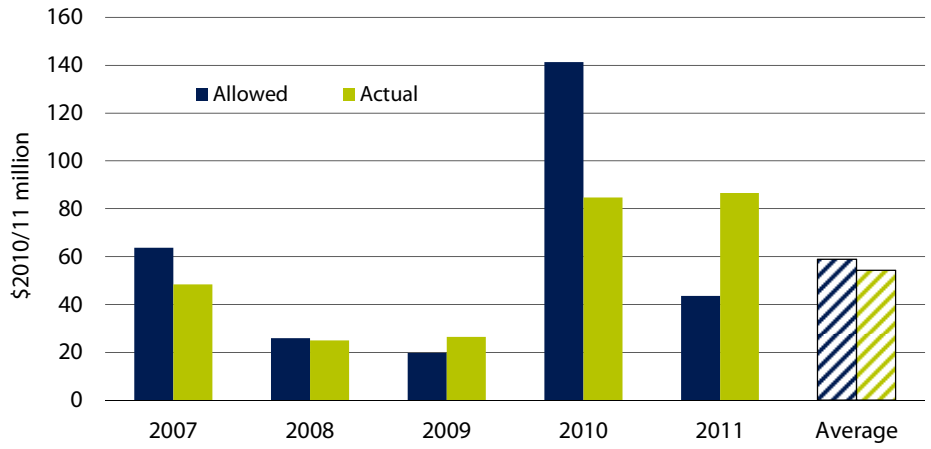


Data source: See Table B.2 in Appendix B.

[171] See Table B.2 in Appendix B.

Wyong Council also reported a much larger capital expenditure of $86.5m in 2010/11 than allowed for in the determination, but again, this smooths out the under expenditure from the previous year. In the current determination (over the last 2 years), Wyong Council has spent $13.7m less capital expenditure than allowed for.[172] (See Figure 7.10)

Figure 7.10 Wyong Council – actual v allowed capital expenditure ($million, 2010/11)



Data source: See Table B.2 in Appendix B.

7.2.3 Retail utilities' water sales

The volume of water sold to customers is both an input to prices and a major determinant of the revenue the utility generates. That is, if water sales are more (or less) than forecast at the time we made the price determination, the utility will generally generate more (or less) than the required revenue we set prices to recover. However, some variance between forecast and actual sales is to be expected, as predicting the sales of water is difficult because it depends strongly on weather conditions.

In 2010/11 all utilities' water sales were lower than forecast, with the largest variances being for Sydney Water (9.2%) and Gosford Council (8.1%). This result is also reflected in the 5-yearly averages for the water utilities.[173] The main reason behind the over estimation of sales is the water restrictions that were in place. Firstly, the water restrictions were in place longer than anyone expected, and secondly, 'water wise' efficiency devices and water conscience customers meant that demand didn't return to the pre-restrictions level.

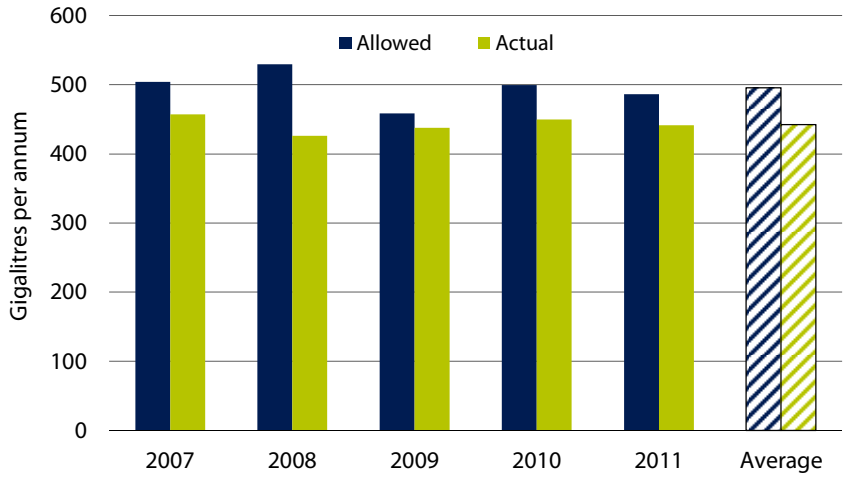
[172] See Table B.2 in Appendix B.
[173] See Figures 7.11-7.14 and Table B.3 in Appendix B.

Sydney Water's actual water sales were considerably lower than we had forecast in our determinations, in each of the last 5 years. Actual water sales for Sydney Water have been 10.7% below our forecasts over the 5-year period.[174] (See Figure 7.11) Sydney Water's research[175] has found that the overall reduction in water use is attributed to:

- The extensive water efficiency programs implemented since early 2000.
- The increase in water usage prices implemented since October 2005.
- Residents' choices about their water use given severe and sustained drought.
- Mandatory restrictions on outdoor water use.

Sydney Water has recently developed new models to provide more reliable and transparent forecasts of water use. These models provide separate forecasts of residential and non-residential water use. Sydney Water estimates that total water use is expected to remain at about 490 GL per year over the next 4 years.[176]

Figure 7.11 Sydney Water - actual v allowed water sales (GLs)

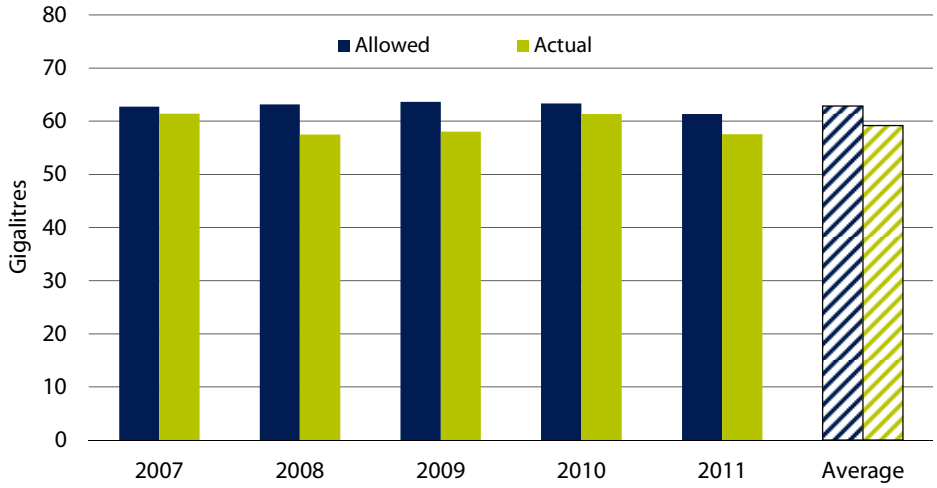


Data source: See Table B.3 in Appendix B.

Hunter Water's actual water sales have been less than forecast in each of the last 5 years, averaging a 5.8% difference. In 2010/11, Hunter Water sold 57.6 GL of water which was 6.2% lower than our forecast.[177]

[174] See Table B.3 in Appendix B.
[175] Sydney Water Corporation submission to IPART 2012 pricing determination, September 2011, p 97.
[176] Sydney Water Corporation submission to IPART 2012 pricing determination, September 2011, p 95.
[177] See Table B.3 in Appendix B.

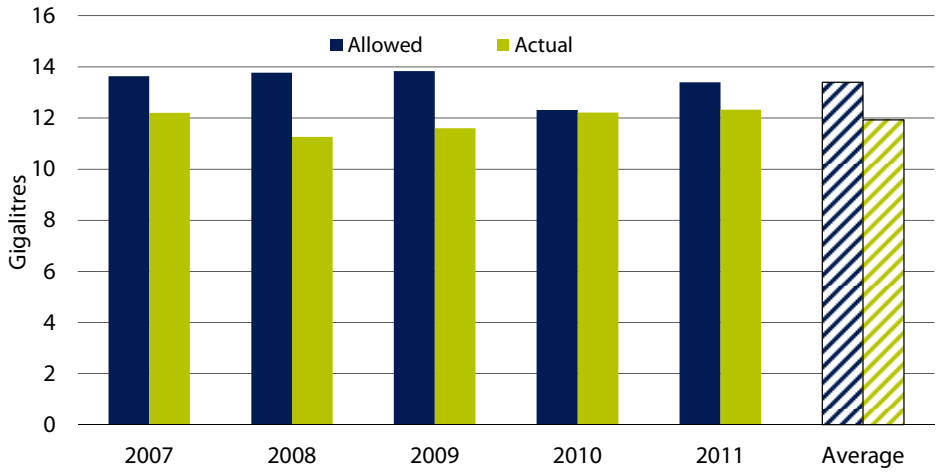
Figure 7.12 Hunter Water - actual v allowed water sales (GLs)



Data source: See Table B.3 in Appendix B.

Gosford Council's water sales were also less than forecast, by 1.1 GL or an 8.1% difference. Over the last 5 years, water sales have remained at a fairly constant level, and on average, have been 11% lower than forecast.[178]

Figure 7.13 Gosford Council – actual v allowed water sales (GLs)

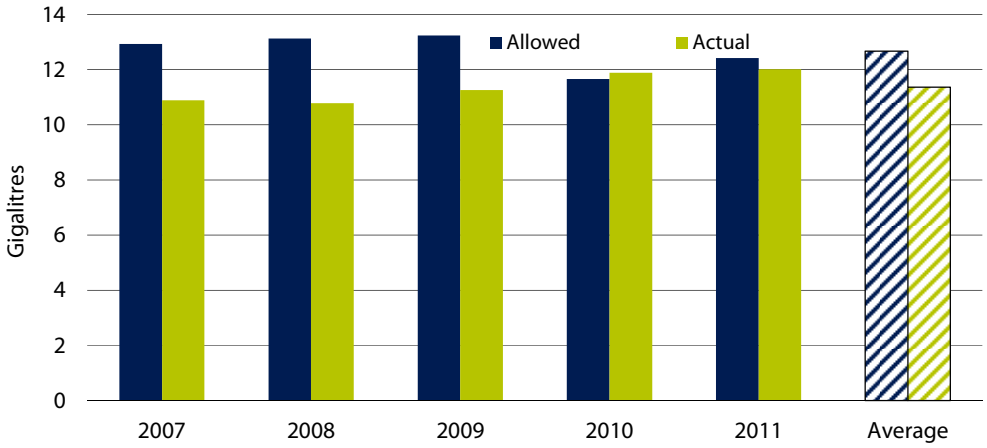


Data source: See Table B.3 in Appendix B.

Over the last 5 years, Wyong Council's water sales have been gradually increasing from 10.9 GL in 2006/07 to the current level at 12 GL. In 2010/11, water sales were 3.3% below the forecast amount. There has been less variation between the forecast and actual sales in the current determination (the last 2 years) than in the previous years.[179]

[178] See Table B.3 in Appendix B.
[179] Ibid.

Figure 7.14 Wyong Council – actual v allowed water sales (GLs)



Data source: See Table B.3 in Appendix B.

7.2.4 Retail utilities' revenue generated

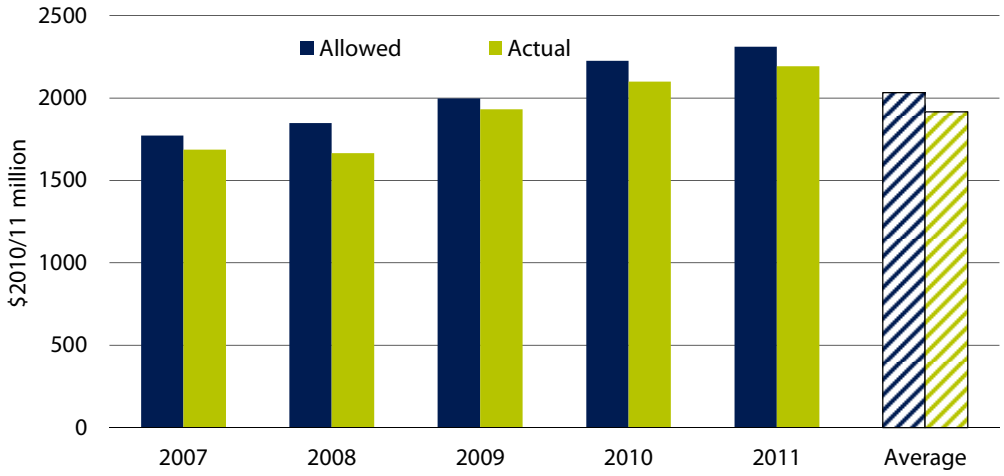
Water sales contribute 35% to 50% of revenue[180] and the remainder mainly comes from fixed charges and other user fees and charges. Revenue is therefore linked to water sales.

All 4 utilities' revenues have been increasing slowly (in real terms) over the past 5 years.[181] In 2010/11, all water utilities generated less revenue than forecast, however, up to a 6.6% difference.

Sydney Water's revenue in 2010/11 was $2.19b, which is 5.1% less than allowed in the determination. The 5-year average is 6.3% lower than allowed, whilst over the current determination period (ie, the last 3 years) the revenue is 5.2% less than allowed.[182] (See Figure 7.15)

[180] 40% to 45% for Sydney Water, 45% to 50% for Hunter Water, and 35% to 40% for Wyong and Gosford Councils. Source: IPART calculations, 2011.
[181] See Figures 7.15-7.18 and Table B.4 in Appendix B.
[182] See Table B.4 in Appendix B.

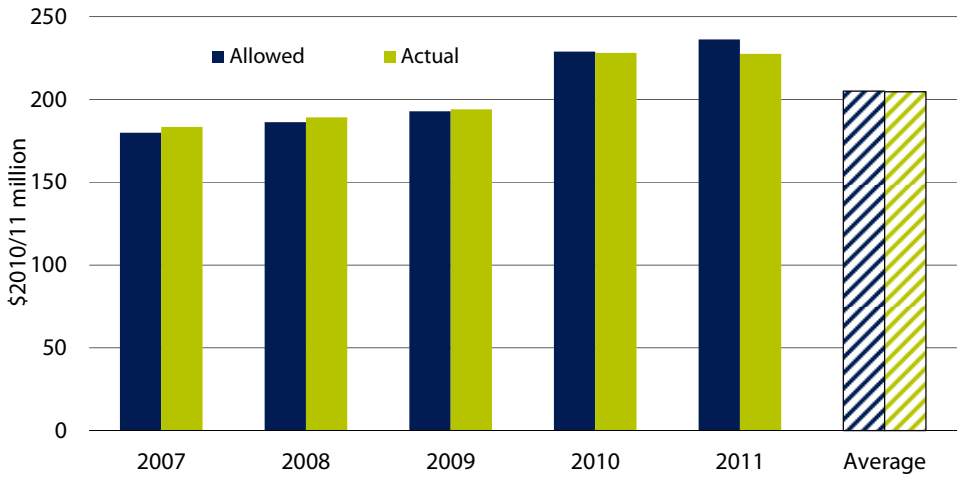
Figure 7.15 Sydney Water – actual v allowed revenue ($million, 2010/11)



Data source: See Table B.4 in Appendix B.

Hunter Water's revenue was $227.8m in 2010/11 which was 3.6% less than allowed. Its actual revenue has remained close to that allowed over the last 5 years, with an average variance of only 0.2%.[183] (See Figure 7.16)

Figure 7.16 Hunter Water – actual v allowed revenue ($million, 2010/11)

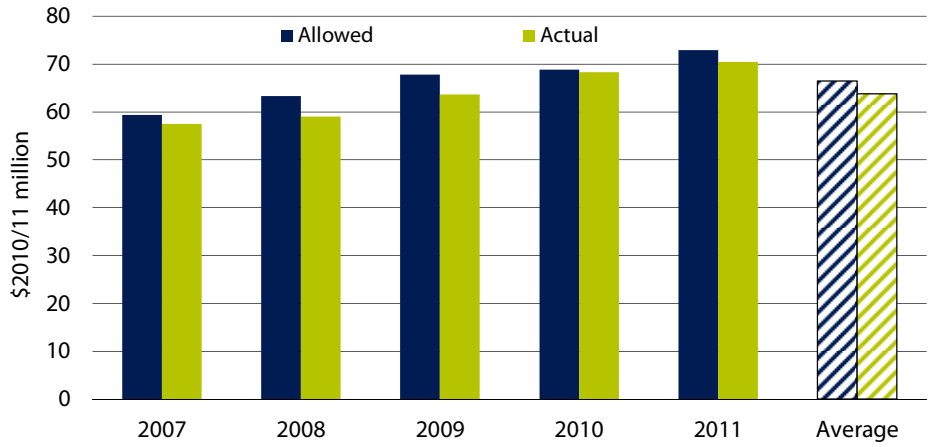


Data source: See Table B.4 in Appendix B

In 2010/11, Gosford Council's revenue was $70.5m, which was 3.4% less than allowed in the determination. Over the last 5 years, revenue has been steadily increasing (in real terms).[184] (See Figure 7.17)

[183] See Table B.4 in Appendix B.
[184] Ibid.

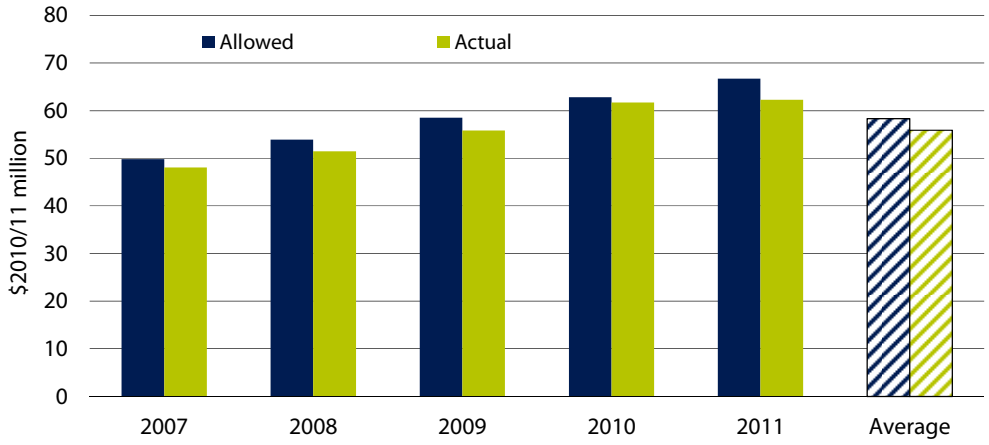
Figure 7.17 Gosford Council – actual v allowed revenue ($million, 2010/11)



Data source: See Table B.4 in Appendix B.

Wyong Council's revenue in 2010/11 was $62.3m which was 6.6% less than the allowed amount. Over the last 5 years, actual revenue was 4.2% less than forecast for the council.[185] (See Figure 7.18)

Figure 7.18 Wyong Council – actual v allowed revenue ($million, 2010/11)



Data source: See Table B.4 in Appendix B.

7.3 Findings on performance against output measures

In each of the 4 retail utility's price determinations, we set out the capital projects allowed for in making the determination and the output measure targets we expect them to meet over the determination period. We have assessed their performance against the projects and targets included in current price determinations.

[185] See Table B.4 in Appendix B.

Generally, we set the targets to emphasise performance over the determination period in total rather than on a year-to-year basis. This allows water agencies to manage their project construction in the most effective and efficient manner.

Sydney Water's output measures under the current determination were reviewed by our consultants Atkins Cardno as part of the 2012 price review. They found that all outputs were delivered generally to target. The main shortfall was in growth where the number of connections was below the target.[186] As timing of new developments is determined by others this is no reflection on Sydney Water's performance.[187]

Hunter Water is 2 years into its 4-year determination. Progress on projects is varied, with some completed early, whilst others have been delayed for a number of reasons including a slower residential growth rate resulting in a deferral in asset construction. In December 2010, the State Government refused planning approval for the Tillegra Dam.[188]

Similarly, Gosford Council and Wyong Council are now halfway through their 4-year determination periods. Together they have a joint capital expenditure program, which is reported to be on track and under budget.[189] They also undertake some projects individually.

Gosford Council's capital expenditure for its water and drainage businesses was generally on track against forecasts. Capital expenditure on sewerage services was lower than forecast by this time, mainly due to delays in 2 projects – the Coastal carrier waste water system upgrade and the Kincumber and Woy Woy sewerage treatment plant upgrade.[190] Despite delays, these projects should still be completed by the end of the determination period.[191]

Wyong Council's capital expenditure program has had some delays, due to internal and external reasons, with one third of projects being completed, and another third on target. It currently reports to being on-track to meet its water and wastewater performance targets.[192]

Appendix D provides a detailed summary of the performance against output measures for the water utilities, and Appendix E provides a summary of the capital projects.

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186 WS Atkins and Cardno, *Final Report Detailed Review of Sydney Water Corporation's Operating and Capital Expenditure*, November 2011, p 24.
187 See Table D.1 in Appendix D and Table E.1 in Appendix E.
188 See Table D.2 in Appendix D and Table E.2 in Appendix E.
189 See Table E.5 in Appendix E.
190 See Table D.3 in Appendix D and Table E.3 in Appendix E.
191 Gosford City Council, *Annual Progress report 2011,* pp 7-8.
192 See Table D.4 in Appendix D and Table E.4 in Appendix E.

8 Water and sewerage bills and disposable income across the water utilities

We have looked at how each utility's water and sewerage bills for residential customers and pensioners have changed over the 5-year period.

In addition, we have used our household survey data in Sydney, the Hunter and the Central Coast[193], to analyse the utilities' water and sewerage bills and household disposable income. This allows us to better understand the impact that our pricing decisions have on consumers in the service areas of the 4 retail water utilities. We have also separately considered the impact on low income households and concession holders.

8.1 Water and sewerage bills for residential customers

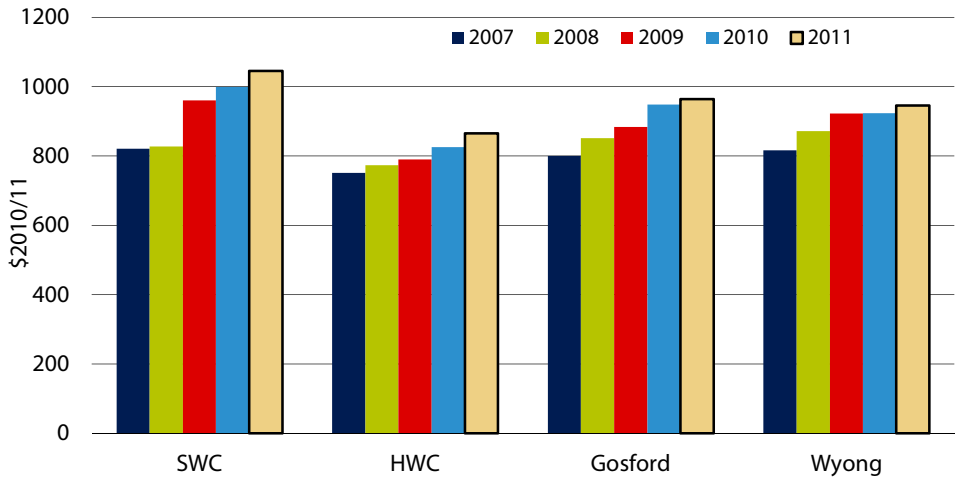
Over a 5-year period, we have compared water and sewerage bills across the utilities for a residential customer using 200 kL of water per year.[194] This analysis includes the impact of the Climate Change Fund (and former Water Savings Fund) on residential customer bills. This reflects what customers actually pay to the water utilities.

Figure 8.1 shows that all 4 utilities' bills for residential customers (consuming 200 kL of water per year) have increased in real terms over the 5-year period. In 2010/11, Gosford and Wyong Council's bills were fairly consistent with 2009/10 bills, whilst Sydney Water and Hunter Water's bills increased marginally.

[193] The Sydney survey was done in 2010 and the Hunter, Gosford and Wyong surveys were done in 2008.

[194] The average residential consumption for 2010/11 for all the utilities was 190 kL per annum in the Sydney Water area, and 160-170 kL per annum in the other areas – source: IPART, *Determinants of residential energy and water consumption in Sydney and surrounds*, December 2011, p 68.

Figure 8.1 Residential Bills ($2010/11 per connected property; based on 200 kL annual consumption)

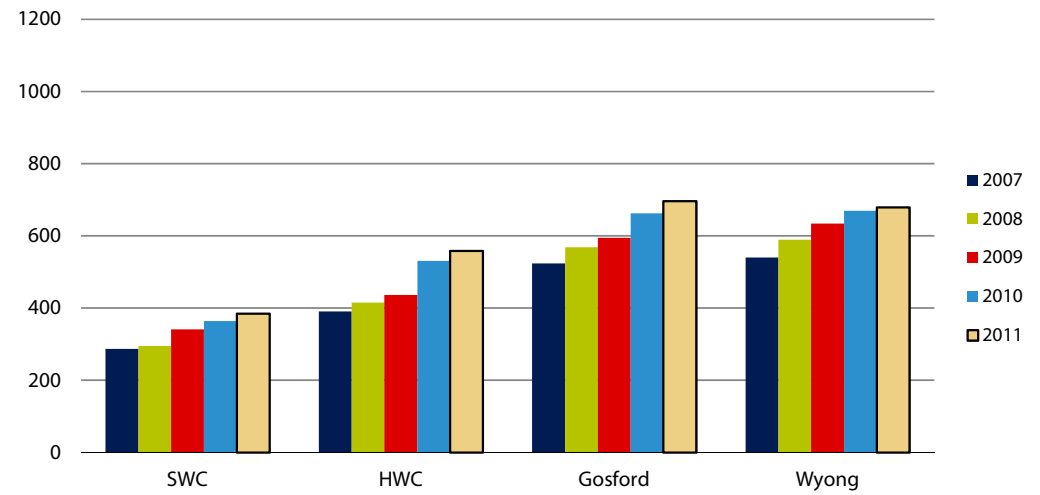


Data source: see Table B.8 in Appendix B.

For all the water utilities, pensioner bills have been steadily increasing in real terms over the last 5 years (see Figure 8.2). Pensioners in Sydney Water's area have the lowest bills as they receive much higher rebates than those living in the Hunter, Gosford and Wyong. In 2010/11, a pensioner using 150 kL[195] of water per year received $560 in rebates in Sydney Water's area, compared to $221 in the Hunter and $175 in Gosford and Wyong. In this example, pensioners in Sydney receive over 3 times the level of rebates than those living on the Central Coast.

[195] The average consumption for a pensioner customer in 2009/10 for Sydney Water was 151kL, and 139 kL on average for Hunter Water, Gosford Council, and Wyong Council – source: IPART, *Residential energy and water use in Sydney, the Blue Mountains and the Illawarra – results from the 2010 Household survey*, p 126.

Figure 8.2 Pensioner Bills ($2010/11/connected property; based on 150 kL annual consumption)



Data source: see Table B.9 in Appendix B.

8.2 Household survey

Our household survey data provides a good profile of water use according to different household characteristics in Sydney, Blue Mountains, Illawarra, Hunter and the Central Coast.

In the survey, we collected water consumption data, as well as socio-economic, demographic and behavioural data at the household level. This allows us to compare water and sewerage bills with disposable income levels. We first considered the results in the areas serviced by the 4 retail water utilities, and then separated low income households and households that receive financial concessions. The analysis for each of the 4 retail water utilities individually is presented in Appendix C.

8.2.1 Water consumption - general observations

The survey showed us that households with higher water consumption are likely to:

- have more occupants
- live in free-standing houses rather than other dwelling types
- have more water-using appliances/amenities (such as dishwashers and swimming pools), and use them more often.

Additionally:

- Households that live on large blocks of land are likely to use more water, particularly if they water their gardens with sprinklers.
- On average, higher income households use more water than lower income households. But there are significant numbers of both large and small users within each income category.[196]

8.2.2 How much are customers paying each year?

The median residential water and sewerage bill was the lowest in the Hunter at $674 and the highest in Sydney at $875. In Gosford the median bill was $720 and for Wyong it was $773.[197] The variation in the median bills can be explained by differences in types of housing, household characteristics, and variances in general usage, such as having a pool or using sprinklers.

In each of the areas serviced by the 4 utilities, the size of water and sewerage bills generally increases as household income increases.[198]

8.2.3 How does this compare to disposable incomes?

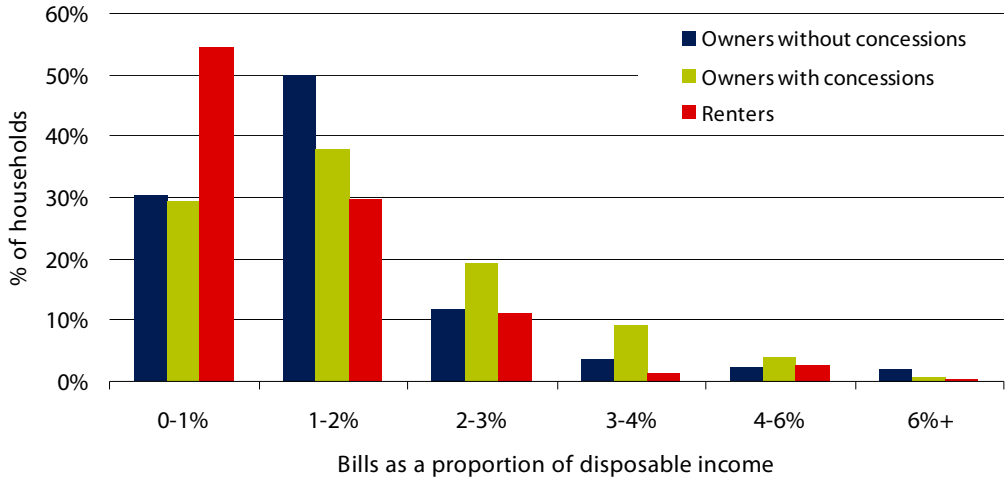
We found that the majority of households spend less than 2% of their disposable incomes on their water and sewerage bills.

For example, in Sydney Water's service area the majority of customers spent less than 2% of their disposable income on water and sewerage services. About 10% of households spent 2% to 3% of their disposable income on water and sewerage bills, with another 10% spending more than 3%.[199]

In our analysis of household disposable income and water and sewerage bills, we have looked in more detail at 3 categories: home owners with and without concessions, and renters. Home owners with concessions tend to spend a higher proportion of their income on their bills than other groups, with one third spending more than 2% of their disposable income on water and sewerage bills (see Figure 8.3).

196 IPART, *Fact Sheet: Residential energy and water use in Sydney, the Blue Mountains and Illawarra*, p 2.
197 See Appendix C for the separate median bill analysis for the 4 water utilities.
198 See Figures C.1, C.6, C.11 and C.16 in Appendix C.
199 See Figure C.2 in Appendix C.

Figure 8.3 Water and sewerage bills as a proportion of disposable income – all areas



Data source: IPART's household survey analysis, 2011.

We found that most home owners without concessions and renters also spend less than 2% of their disposable income on water and sewerage bills across all service areas. We would expect renters (or tenants) to spend a lower proportion of their income on bills as landlords are generally responsible for paying service charges for water and sewerage. A tenant may be asked to pay for the water they use.[200]

For home owners with concessions in areas serviced by Hunter Water, Gosford and Wyong Councils, we found that:

- the majority are spending from 1% to 4% of their disposable income on their water and sewerage bills
- about 5% are spending less than 1% of their income on bills (compared to almost 40% of the equivalent group for Sydney Water)
- around 10% of home owners with concessions are spending 4% to 6% of their disposable incomes on bills.

8.2.4 Low income households

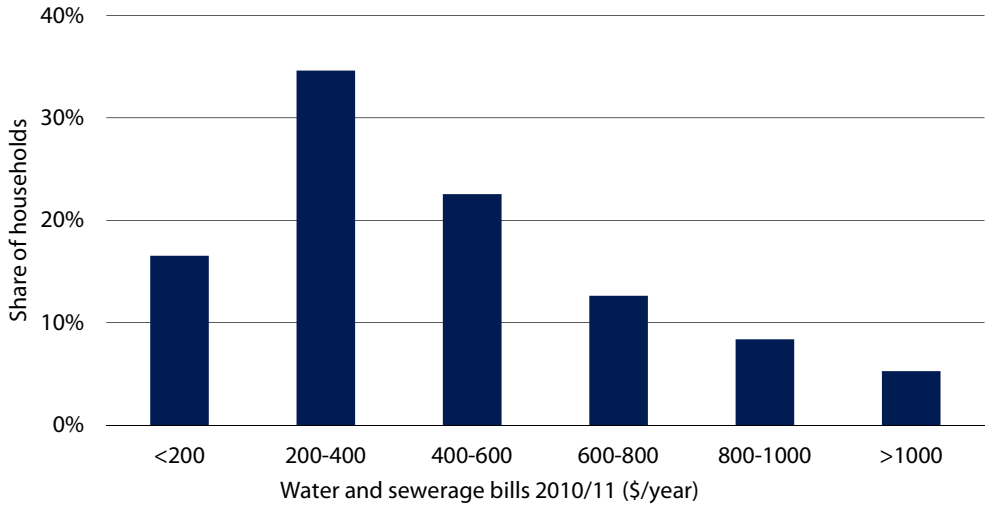
Generally, low income[201] households tend to spend a higher proportion of their income on utility bills than other households. Therefore they are more affected by the price changes for water and sewerage services.

[200] http://www.ewon.com.au see Information for tenants.

[201] Low income households are defined as those with an annual income of $13,000 to $34,000 in 2009/10.

Our survey analysis shows that most water and sewerage bills for low income customers fall within the range $200 to $600 with 35% being $200 to $400 and 23% in the range of $400 to $600 (see Figure 8.4).

Figure 8.4 Distribution of bills, low income households only ($13k-$34k in 2009/10)



Data source: IPART's household survey analysis, 2011.

We found that the water and sewerage bills are much lower for low income households in Sydney Water's area than for the other 3 utilities. In particular:

- In Sydney Water's area, 42% of water and sewerage bills for home owners with low incomes fell within $200 to $400, with 14% being less than $200.
- In Hunter Water's area, 47% of bills for low income households were between $400 to $600.
- In Gosford and Wyong Council's area, 39% and 56% of low income households had bills in the $400 to $600 range, respectively. Further, Gosford and Wyong also had the highest proportion of low income households with bills in the $600 to $800 range (33% and 32% respectively). See Appendix C for individual water utilities' charts.[202]

8.2.5 Households with concessions

Our survey shows that households that receive income concessions generally have significantly lower bills (after the concession) than other households.

The lowest median bill for households with concessions was $334 in Sydney Water's area and the highest was in Gosford Council's area at $590. For households with concession in Wyong the median bill was $544 and in the Hunter it was $502.[203]

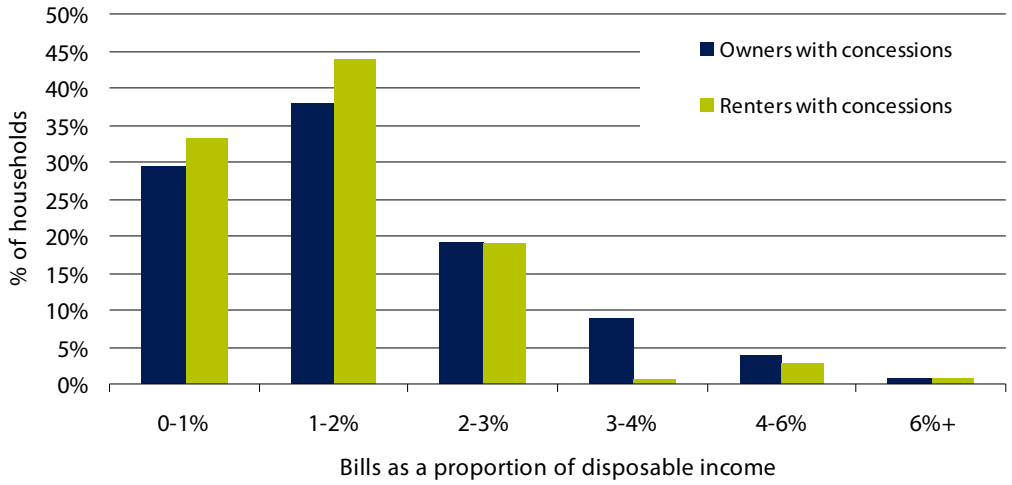
[202] See figures C.3, C.8, C.13 and C.16 in Appendix C.
[203] See Appendix C for the separate analysis for each water utility.

The biggest difference in the median bills for households that receive concessions and those that don't was in Sydney Water's service area. The median bill for households in Sydney was $875 and the median bill for households that receive concessions was $334. This reflects the higher level of pensioner rebates for Sydney Water's customers.

Again, for each of the water utilities there was generally a large variation in the bills for each income range for households that receive concessions.[204] We found that 72% of households with concessions spend 2% or less of their disposable income on water and sewerage bills, with 32% spending less than 1% (see Figure 8.5).

A greater proportion of customers with concessions in Sydney Water's service area also spend 2% or less of their disposable income on water and sewerage bills. This result reflects the higher level of pensioner rebates for Sydney Water's customers.

Figure 8.5 Distribution of households by spending on water and sewerage bills as a proportion of disposable income



Data source: IPART's household survey analysis, 2011.

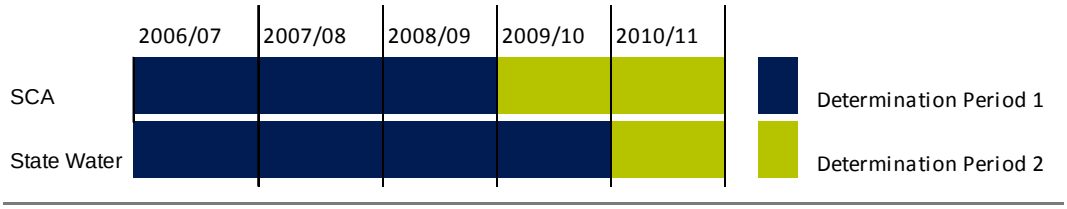
[204] For example, see Figures C.4 and C.9 in Appendix C.

9 Expenditure, sales and output measures for the bulk water utilities

In this chapter we analyse the operating expenditure, capital expenditure, water sales, revenue and output measures for the 2 bulk water utilities – the Sydney Catchment Authority and State Water Corporation – by comparing actual results with those that were forecast in our pricing determinations.

As well as the 2010/11 financial year, we have looked at the bulk water utilities' performance over the last 5 years to June 2011, covering 2 determination periods (see Figure 9.1).

Figure 9.1 Determination periods for the bulk water utilities



In assessing the performance of the bulk water utilities we have considered the results over a 5-year period as well as the results for a particular year. We would expect to find variation in the actual results compared to the forecasts we used in making our price determinations as these were based on the best information available at the time. Where there is a significant variation, we have attempted to identify the reasons for this.

To assess each utility's performance, we compared their actual operating expenditure, capital expenditure, water sales and revenue over the review period (2007 to 2011) to the forecasts we used in making its price determinations. These forecasts are referred to as the 'allowed' values in the following discussion and are expressed in $2010/11, which means that they have been adjusted to take account of the impact of inflation.

9.1 Summary of findings

In 2010/11 the Sydney Catchment Authority's operating expenditure was only marginally higher than allowed, and capital expenditures, water sales and revenue were all lower than allowed in the determination. In terms of output measures, it has reported that 3 major projects have either been delivered or are on track for delivery and 3 projects have been delayed (and will be delivered in the next price path).

State Water's operating and capital expenditures in 2010/11 were both lower than allowed for in the determination. The lower capital expenditure balances out an over expenditure in the previous year, and many output targets have been met. In 2010/11, water sales and correspondingly, revenue, were considerably higher than in the previous 4 years, but still significantly lower than the levels we had allowed for in the determination.

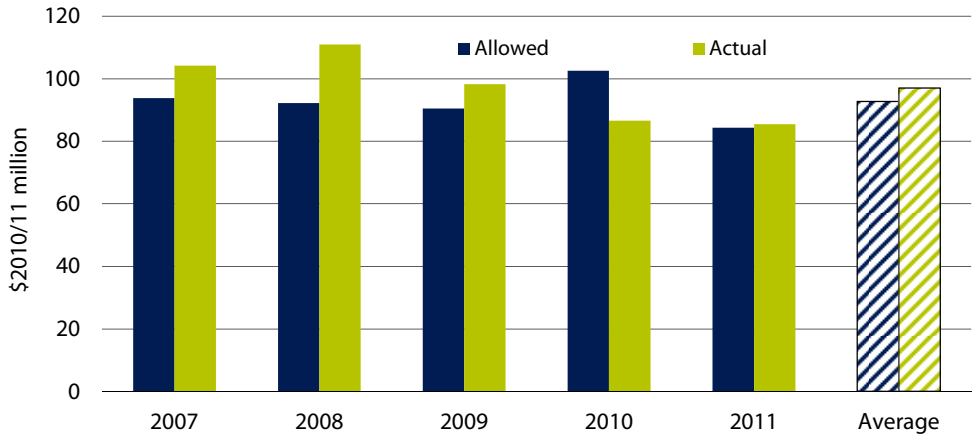
9.2 Sydney Catchment Authority

The Sydney Catchment Authority's revenue comes mainly from sales of bulk water to Sydney Water. Therefore its performance has a direct impact on the prices that Sydney Water charges its customers.

9.2.1 Operating expenditure

In the last year, Sydney Catchment Authority's actual operating expenditure was $85.5m, only marginally higher than what we had allowed for. Over 5 years, Sydney Catchment Authority's average actual expenditure has been slightly higher (4.7%) than the allowed amounts (see Figure 9.2).

Figure 9.2 Sydney Catchment Authority – actual v allowed operating expenditure ($million, 2010/11)



Data source: See table B.6 in Appendix B.

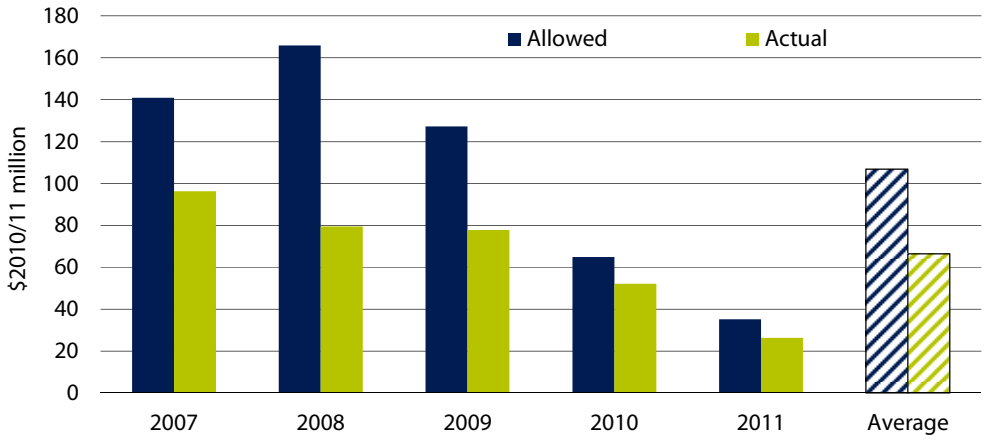
As part of the 2012 price review, we engaged consultants Halcrow Pacific Pty Ltd (Halcrow) to review Sydney Catchment Authority's operating expenditure from 1 July 2009. They found that over the 2 years, operating expenses were lower than that allowed for the following reasons: reduced staff numbers, project deferment, improved operating conditions, change in the scope of projects and new efficiency measures.[205]

9.2.2 Capital expenditure

Sydney Catchment Authority's capital expenditure in 2010/11 was $26.3m, the lowest in the last 5 years, and about 75% of the allowed amount. In 2009/10, capital expenditure was 19.6% lower than that allowed. The variation is smaller than the previous determination where there was a large underspend resulting from the Government's decision not to proceed with the upgrade of infrastructure for transferring water from the Shoalhaven River. Over the 5-year period spending on capital expenditure was 37.8% lower than allowed (see Figure 9.3).

Halcrow reviewed Sydney Catchment Authority's capital expenditure and generally found historic and future projects (15 were examined) to be prudent. Halcrow noted that while there has been little consistency in documenting business needs, the Sydney Catchment Authority's rationale for the projects was evident. Halcrow recommended a downward adjustment to the historic capital program of $4.27m ($2011/12).[206]

Figure 9.3 Sydney Catchment Authority – actual v allowed capital expenditure ($million, 2010/11)



Data source: See table B.6 in Appendix B.

[205] Halcrow, *Review of Operating and Capital Expenditure of the Sydney Catchment Authority*, November 2011, pp ii-iii.

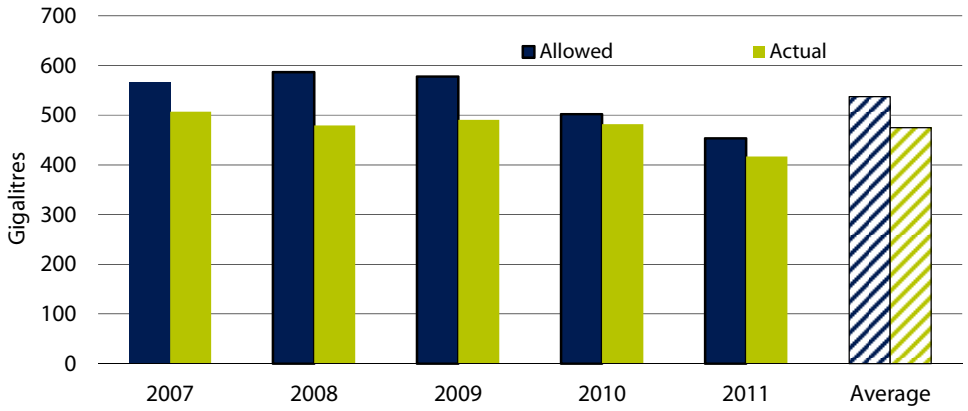
[206] Halcrow, *Review of Operating and Capital Expenditure of the Sydney Catchment Authority*, November 2011, p iv.

9.2.3 Water sales

In 2010/11 water sales have been lower than we forecast for the Sydney Catchment Authority, by 8% or 36 GL. This is the lowest level of sales in the past 5 years and is largely due to Sydney Water sourcing 15% of its bulk water from the Sydney Desalination Plant instead of purchasing this bulk water from the Sydney Catchment Authority. In addition, higher rainfall levels have resulted in lower demand.

Over the last 5 years, water sales were 11.5% lower than we had forecast for the Sydney Catchment Authority. However, in the current determination period (ie, the last 2 years) there are much smaller variances between the forecast and actual water sales (see Figure 9.4).

Figure 9.4 Sydney Catchment Authority – actual v allowed sales of water (GL)

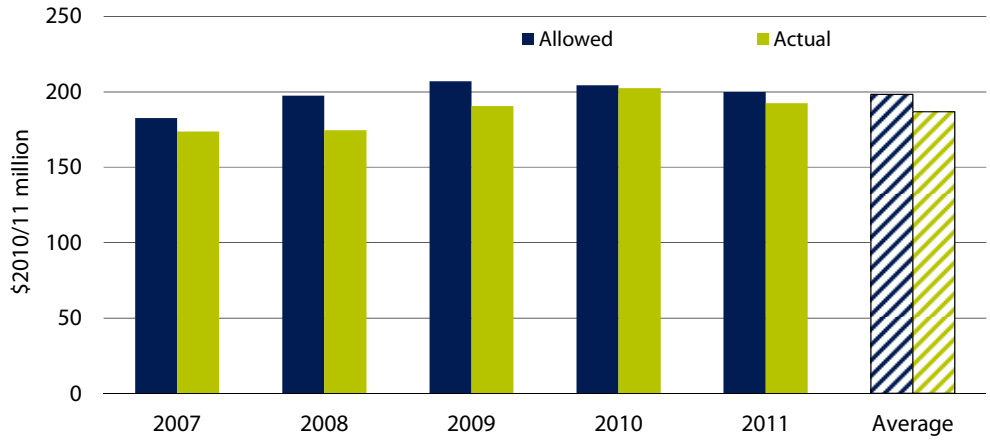


Data source: See table B.6 in Appendix B.

9.2.4 Revenue

In 2010/11, Sydney Catchment Authority's revenue was 3.7% lower than allowed. Over the last 5 years, actual revenue has been 5.8% lower than allowed corresponding to lower than expected water sales.

Figure 9.5 Sydney Catchment Authority – actual v allowed revenue ($million, 2010/11)



Data source: See table B.6 in Appendix B.

9.2.5 Output measures

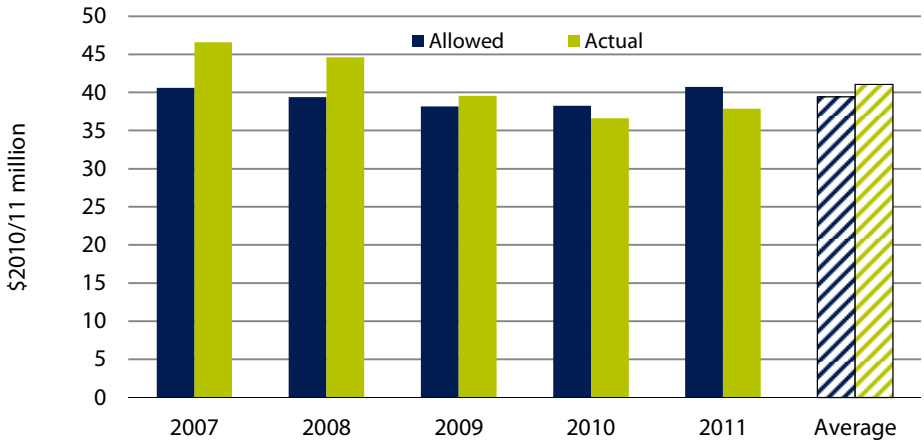
The Sydney Catchment Authority has reported on 6 major projects as a part of its output measures. Of these, 3 projects have either been delivered or are on track for delivery, and 3 projects have been delayed to allow scoping and external review of design parameters. It is anticipated that these projects will be delivered in the next price determination (see section D.5 in Appendix D and E.6 in Appendix E).

9.3 State Water Corporation

9.3.1 Operating expenditure

In 2010/11 State Water's operating expenditure was $37.9m which is 7% lower than allowed for in the determination. This was a similar level of expenditure to the previous year. Over the 5-year period average operating expenditure was slightly above (4.1%) the allowed amount (see Figure 9.6).

Figure 9.6 State Water Corporation - actual v allowed operating expenditure

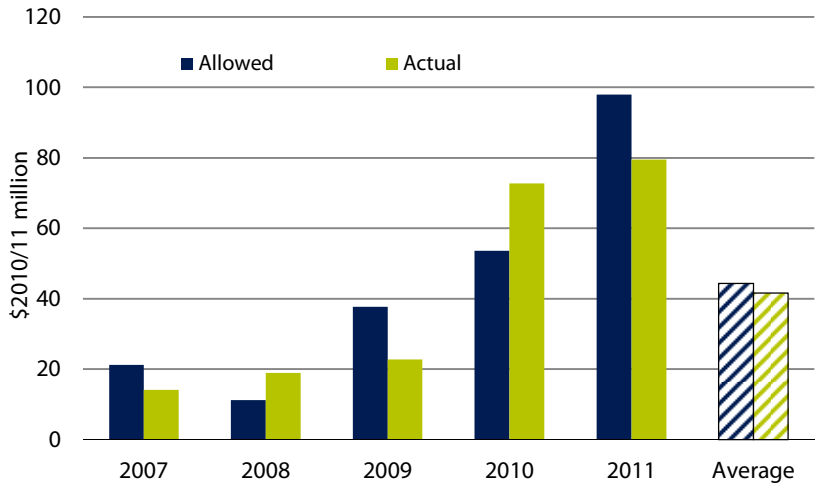


Data source: See table B.7 in Appendix B.

9.3.2 Capital expenditure

In 2010/11 capital expenditure for State Water was $79.5m which is 18.7% below the allowed amount and smooths out the variation from the previous year. Over a 5-year period the actual capital expenditure was 6.1% lower than the allowed expenditure (see Figure 9.7).

Figure 9.7 State Water Corporation – actual v allowed capital expenditure ($million, 2010/11)

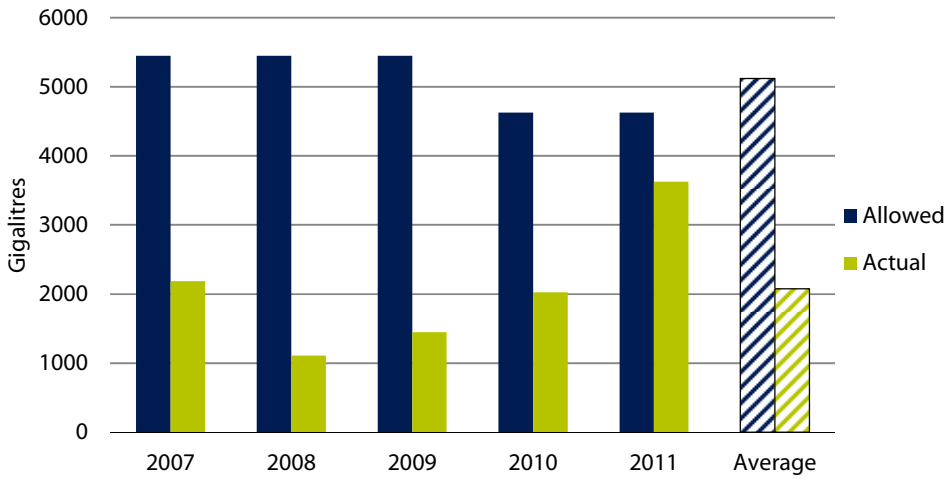


Data source: See table B.7 in Appendix B.

9.3.3 Water sales

In 2010/11 State Water's sales were 21.6% less than we had forecast in the determination. Over the last 5 years, average sales have been 59.4% lower than forecast and this is primarily due to the severe drought that affected rural NSW. In addition, IPART acknowledged that the forecasting method used to estimate water demand failed and it was revised in the 2010 determination.

Figure 9.8 State Water Corporation - actual v allowed sales of water (GL)

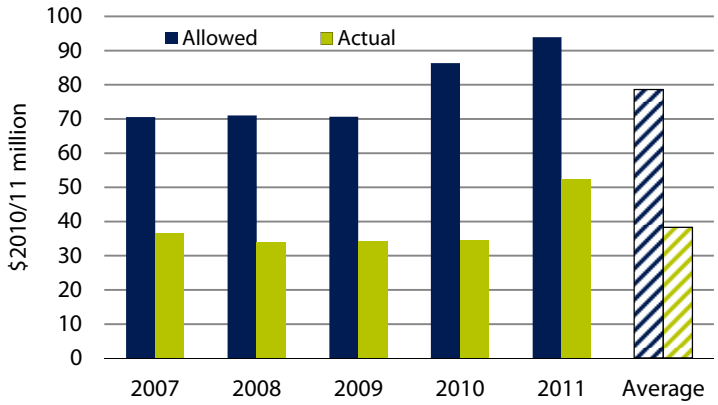


Data source: See table B.7 in Appendix B.

9.3.4 Revenue

As water sales have been substantially less than we forecast, State Water's revenue over the last 5 years has been much lower with an average difference of 51.3% between forecast and actual revenue. In 2010/11 State Water's revenue was $52.3m, a substantial increase from the $34.4m in the previous year.

Figure 9.9 State Water Corporation's revenue



Data source: See table B.7 in Appendix B.

9.3.5 Output measures

State Water Corporation has met most of the targets for 2010/11, and is ahead of schedule for many of them. Some targets that have not been achieved include the automation of some key sites and development of surveillance monitoring. State Water has explained this is due to difficulties in finding suitably qualified staff for these projects but expects to be back on target by the end of 2011/12 (see sections D.7 in Appendix D and E.7 in Appendix E).

9 Expenditure, sales and output measures for the bulk water utilities

Appendices

A Data underlying figures in Chapters 3-6

Table A.1 Water quality complaints per 1,000 properties

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	0.8	0.9	0.6	0.7	0.6
Hunter Water	3.9	2.8	3.2	3.4	2.8
Gosford Council	56.4	94.3	25.3	38.9	9.3
Wyong Council	7.2	3.4	5.1	5.1	17.1

Note: data underlying Figure 3.1.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator C9.

Table A.2 Frequency of unplanned water interruptions (expressed in number per 1,000 properties)

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	252	221	200	189	175
Hunter Water	372	225	271	255	258
Gosford Council	280	181	203	239	200
Wyong Council	33	39	61	61	88

Note: data underlying Figure 4.1.

Source: Sydney Water report to IPART (commercial in confidence), *Performance Indicators Report 2010/11*, 1 September 2011, p 10, and correspondence from Sydney Water to IPART, 11 November 2011. For the remaining utilities: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator C17.

Table A.3 Average duration of an unplanned water interruption (minutes)

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	141	167	141	140	147
Hunter Water	177	118	121	119	141
Gosford Council	224	232	238	230	222
Wyong Council	150	202	210	204	195

Note: data underlying Figure 4.2.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator C15.

Table A.4 Number of water main breaks per 100km of water main

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	35	30	34	28	28
Hunter Water	37	30	33	32	31
Gosford Council	36	29	27	34	29
Wyong Council	4	4	9	6	10

Note: data underlying Figure 4.3.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator A8, and email from Elizabeth Knight, Gosford Council, on 21 February 2012.

Table A.5 Real water losses due to leakage (litres/service connection/day)

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	94	91	81	73	79
Hunter Water	85	80	94	88	84
Gosford Council		25	32	52	61
Wyong Council	26	28	29	31	31

Note: data underlying Figure 4.4.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator A10.

Table A.6 Number of sewer main breaks and chokes per 100km of sewer mains

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	90	64	51	56	57
Hunter Water	63	50	88	58	60
Gosford Council	68	55	44	40	42
Wyong Council	42	50	54	48	57

Note: data underlying Figure 4.5.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator A14.

Table A.7 Average duration of sewerage service interruptions (2008/09 onwards), and average sewerage break/choke repair time (prior to 2008/09)

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	326	246	240	238	240
Hunter Water	151	144	156	119	142
Gosford Council	120	134	116	161	209
Wyong Council	186	165	156	150	143

Note: data underlying Figure 4.6.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator C16. Emails from Stuart Wilson, Sydney Water, on 16 February 2012, and email from Nicole Holmes, Hunter Water, on 16 February 2012.

Table A.8 Water sourced in 2010/11 by source (ML)

	W1 Surface water	W2 Groundwater	W3 Desalination	W4 Recycled water	W5 Bulk supplier	Total
Sydney Water	5,589	0	77,102	10,606	414,004	507,301
Hunter Water	65,676	2,333	0	2,186	0	70,195
Gosford Council	14,026	127	0	510	1,444	16,107
Wyong Council	12,516	162	0	997	2,035	15,710

Note: data underlying Figures 5.1-5.4.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicators W1-W7.

Table A.9 Recycled water as a percentage of treated sewage

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	4.0	4.0	5.3	7.3	10.1
Hunter Water	5.0	6.0	7.9	9.6	7.4
Gosford Council	1.0	2.0	1.7	3.0	4.0
Wyong Council	9.0	9.0	8.6	7.0	6.3

a Correspondence received by IPART from Gosford Shire Council, 21 February 2012.

Note: data underlying Figure 5.5.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator W27, and email from Elizabeth Knight, Gosford Council, on 21 February 2012.

Table A.10 Percentage of sewage volume treated that complied with environmental protection licence conditions (%)

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	100	96	96	97	100
Hunter Water	99	87	91	95	100
Gosford Council	100	100	100	100	100
Wyong Council	99	100	100	100	100

Note: data underlying Figure 5.6.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator E4.

Table A.11 Percentage of biosolids reused

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	100	100	100	100	100
Hunter Water	104	100	88	104	95
Gosford Council	100	100	100	100	100
Wyong Council	100	100	100	100	100

Note: data underlying Figure 5.7.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator E8.

Table A.12 Sewage odour complaints per 1,000 properties

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	0.07	0.12	0.14	0.13	0.09
Hunter Water	NA	1.73	0.69	0.55	0.73

Note: data underlying Figure 5.8.

Source: Sydney Water report to IPART (commercial in confidence), *Performance Indicators Report 2010/11*, 1 September 2011, p 9, and Hunter Water report to IPART, *Environmental Performance Indicators Report 2010/11*, September 1 2011, p22.

Table A.13 Total electricity consumption for water and sewer assets (kWh/ML water supplied and kWh/ML sewage treated)

	2006/07	2007/08	2008/09	2009/10	2010/11
SWC – water assets	283	273	276	284	272
SWC – sewer assets	468	427	485	485	460
HWC – water assets	570	473	487	503	499
HWC – sewer assets	490	529	601	677	613

Note: data underlying Figure 5.9.

Source: Sydney Water report to IPART, *Sydney Water Operating Licence Environment Report 2010/11*,p 30; and Hunter Water report to IPART, *Environmental Performance Indicators Report 2010/11*, September 1 2011, p 36.

Table A.14 Total net greenhouse gas emissions (net tonnes CO_2-equivalents) per 1,000 properties

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	NA	240	200	164	143
Hunter Water	371	333	412	448	455
Gosford Council	386	380	439	482	536
Wyong Council	NA	NA	NA	NA	449

Note: data underlying Figure 5.10.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator A12.

Table A.15 Percentage of electricity consumed that was from renewable energy sources (%)

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	6.1	4.9	6.3	10.3	14.6
Hunter Water	0	0	0	0	0
Gosford Council	5.9	6.1	6.0	5.6	6.0

Note: data underlying Figure 5.11.

Source: Sydney Water report to IPART, *Sydney Water Operating Licence Environment Report 2010/11*,p 30; Hunter Water report to IPART, *Environmental Performance Indicators Report 2010/11*, September 1 2011, p 38; and email from Elizabeth Knight, Gosford Council, on 21 February 2012.

Table A.16Total number of water and sewerage complaints per 1,000 properties

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	4.7	8.1	6.0	4.1	3.4
Hunter Water	44.0	38.7	7.4	8.2	7.6
Wyong Council	NA	NA	21.2	21.0	34.0

Note: data underlying Figure 6.1.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator C13.

Table A.17 Percentage of complaints resolved in <2 days and <10 days (%)

	2006/07	2007/08	2008/09	2009/10	2010/11
SWC – complaints resolved in less than 2 days	27	20	22	30	27
SWC – complaints resolved in less than 10 days	89	90	91	86	86
HWC – complaints resolved in less than 2 days	NA	71	80	71	51
HWC – complaints resolved in less than 10 days	NA	87	94	97	90

Note: data underlying Figure 6.2.

Source: Sydney Water, *Operating Licence 2010-2015 Performance Indicators Report*, September 1, p12.

Table A.18 Percentage of telephone calls answered within 30 seconds

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	83	88	85	89	79
Hunter Water	61	56	72	70	64
Wyong Council	NA	88	92	65	59

Note: data underlying Figure 6.3.

Source: Australian Government National Water Commission, *National Performance Report 2010/11*, indicator C14.

Table A.19 Total number of complaints referred to EWON

	2006/07	2007/08	2008/09	2009/10	2010/11
Sydney Water	590	504	498	614	593
Hunter Water	NA	242	129	119	145
Gosford Council	NA	NA	NA	6	14
Wyong Council	NA	NA	NA	8	13

Note: data underlying Figure 6.4.

Source: 2010/11 operating licence reports from Sydney Water and Hunter Water; and *EWON Annual Report 2009-2010*, p 21 and *EWON Annual Report 2010-2011*, p 21 viewed on www.ewon.com.au

B Data underlying figures in Chapters 7 and 9, and bills analysis

Table B.1 Utilities' Operating expenditures, ($m; $2010/11)

		2007	2008	2009	2010	2011	Average
Sydney Water	Allowed	1048.9	1048.5	1049.5	1217.1	1243.1	1121.4
	Actual	898.4	1178.3	1035.5	1079.9	1222.7	1083.0
Hunter Water	Allowed	81.6	81.3	81.2	98.1	97.7	88.0
	Actual	92.4	93.6	92.7	98.4	100.9	95.6
Gosford Council	Allowed	44.8	43.8	41.9	42.5	42.8	43.2
	Actual	50.2	47.2	49.2	47.3	47.7	48.3
Wyong Council	Allowed	33.3	34.8	34.9	39.6	40.3	36.6
	Actual	64.1	47.6	59.2	42.9	43.5	51.5

Note: Operating expenditure excludes the Climate Change Fund and the former Water Savings Fund. Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.2 Utilities' Capital expenditures, ($m; $2010/11)

		2007	2008	2009	2010	2011	Average
Sydney Water	Allowed	683.3	691.1	1555.8	1023.5	741.1	939.0
	Actual	738.7	1478.5	1934.6	1274.2	689.0	1223.0
Hunter Water	Allowed	100.0	98.9	91.8	202.6	184.6	135.6
	Actual	157.0	106.8	172.7	181.4	175.1	158.6
Gosford Council	Allowed	50.0	28.2	24.0	95.4	45.3	48.6
	Actual	43.4	44.1	40.5	62.2	72.3	52.5
Wyong Council	Allowed	63.7	25.9	19.7	141.3	43.6	58.9
	Actual	48.4	25.1	26.5	84.7	86.5	54.2

Note: Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.3 Utilities' Water Sales (GL)

		2007	2008	2009	2010	2011	Average
Sydney Water	Allowed	504	530	459	500	486	496
	Actual	457	426	438	450	441	442
Hunter Water	Allowed	62.8	63.1	63.6	63.3	61.4	62.8
	Actual	61.4	57.5	58.0	61.3	57.6	59.2
Gosford Council	Allowed	13.6	13.8	13.8	12.3	13.4	13.4
	Actual	12.2	11.3	11.6	12.2	12.3	11.9
Wyong Council	Allowed	12.9	13.1	13.2	11.7	12.4	12.7
	Actual	10.9	10.8	11.3	11.9	12.0	11.4

Note: Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.4 Utilities' Revenue, ($m; $2010/11)

		2007	2008	2009	2010	2011	Average
Sydney Water	Allowed	1773	1848	1997	2226	2310	2031
	Actual	1670	1645	1904	2101	2192	1902
Hunter Water	Allowed	180.1	186.3	193.0	229.0	236.3	204.9
	Actual	183.5	189.3	194.0	228.3	227.8	204.6
Gosford Council	Allowed	59.4	63.3	67.8	68.9	72.9	66.5
	Actual	57.5	59.1	63.6	68.3	70.5	63.8
Wyong Council	Allowed	49.8	53.9	58.5	62.8	66.7	58.3
	Actual	48.1	51.4	55.9	61.7	62.3	55.9

Note: Operating expenditure excludes the Climate Change Fund and the former Water Savings Fund. Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.5 Utilities' Operating expenditure per property, ($m; $2010/11)

		2007	2008	2009	2010	2011	Average
Sydney Water	Allowed	591	581	580	663	668	617
	Actual	513	667	580	608	682	610
Hunter Water	Allowed	364	359	354	416	407	380
	Actual	411	410	401	438	443	421
Gosford Council	Allowed	674	651	617	627	628	640
	Actual	762	704	730	702	704	721
Wyong Council	Allowed	543	556	549	627	628	581
	Actual	1064	778	960	695	700	839

Note: Operating expenditure excludes the Climate Change Fund and the former Water Savings Fund. Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.6 Sydney Catchment Authority

		2007	2008	2009	2010	2011	Average
Operating Expenditure ($m; $2010/11)	Allowed	93.8	92.2	90.5	102.6	84.4	92.7
	Actual	104.2	111.0	98.2	86.6	85.5	97.1
Capital Expenditure, ($m; $2010/11)	Allowed	141.0	165.9	127.3	64.9	35.2	106.9
	Actual	96.3	79.5	77.9	52.2	26.3	66.5
Revenue, ($m; $2010/11)	Allowed	182.6	197.3	207.1	204.3	199.9	198.2
	Actual	173.7	174.5	190.6	202.3	192.5	186.7
Water Sales (GL)	Allowed	567	587	578	502	453	537
	Actual	507	479	490	482	417	475

Note: Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.7 State Water Corporation

		2007	2008	2009	2010	2011	Average
Operating Expenditure ($m; $2010/11)	Allowed	40.6	39.4	38.2	38.2	40.7	39.4
	Actual	46.6	44.6	39.5	36.6	37.9	41.1
Capital Expenditure, ($m; $2010/11)	Allowed	21.2	11.2	37.7	53.5	97.9	44.3
	Actual	14.1	19.0	22.7	72.7	79.5	41.6
Revenue, ($m; $2010/11)	Allowed	70.6	71.0	70.6	86.4	93.9	78.5
	Actual	36.6	33.9	34.1	34.4	52.3	38.3
Water Sales (GL)	Allowed	5450	5450	5450	4627	4627	5121
	Actual	2188	1111	1447	2026	3626	2080

Note: Percentages in the report may be slightly different due to rounding.

Source: Allowed values from IPART Pricing Determinations. These can be found on our website: www.ipart.nsw.gov.au. Actual values are derived from utilities' 2010/11 Annual Information Returns to IPART.

Table B.8 Residential Bills ($2010/11/connected property; based on 200kL annual consumption)

Year	2007	2008	2009	2010	2011
SWC	821	827	960	999	1045
HWC	751	773	790	826	865[a]
Gosford	800	851	883	948	964
Wyong	817	872	922	923	945

[a] Hunter Water's service charge includes an adjustment (reduction) to rebate customers for works not undertaken for Tillegra Dam.

Source: Utilities' 2010/11 Annual Information Returns to IPART.

Table B.9 Pensioner Bills ($2010/11/property; based on 150kL annual consumption)

Year	2007	2008	2009	2010	2011
Sydney Water	287	295	341	364	384
Hunter Water	390	415	436	530	544
Gosford Council	524	569	594	662	696
Wyong Council	540	589	634	669	679

Source: IPART calculations.

C Water and sewerage bills and disposable income analysis for the retail water utilities

Using IPART's household survey data, we have considered the water and sewerage bills and household disposable income for each of the 4 retail water utilities. We have further analysed low income households[207] and households that receive concessions.[208]

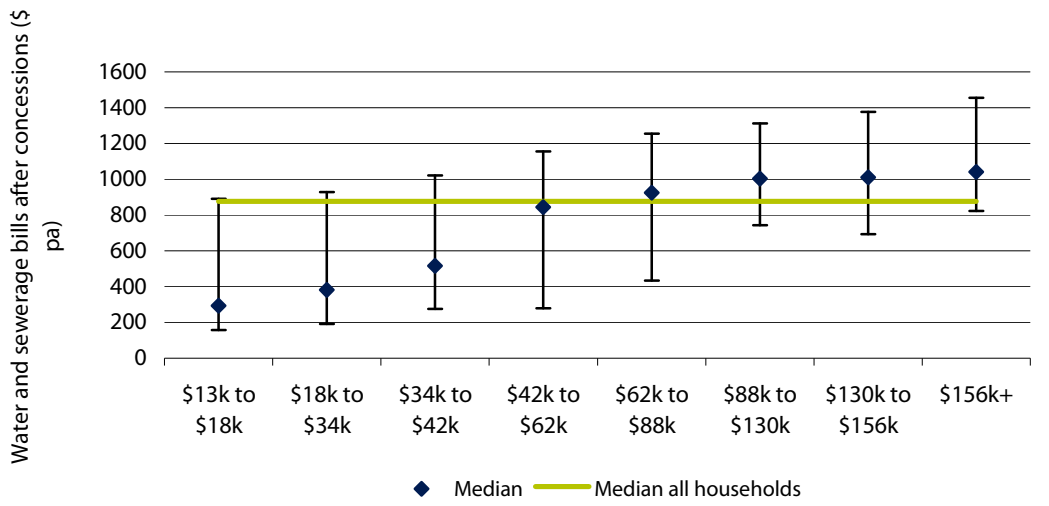
Sydney Water Corporation

The median water and sewerage bill for Sydney Water's customers is $875. We can see a significant variance in the size of bills as disposable income increases. The majority of Sydney Water customers spend 2% or less of their disposable income paying these bills. Low income households' bills were generally around $200 to $400 (see Figures C.1 to C.3).

[207] Low income households are defined as those with an annual income of $13,000 to $34,000 in 2009/10.

[208] Concessions are defined to include Pensioner Concession Cards and Veterans' Affairs Gold Health Cards.

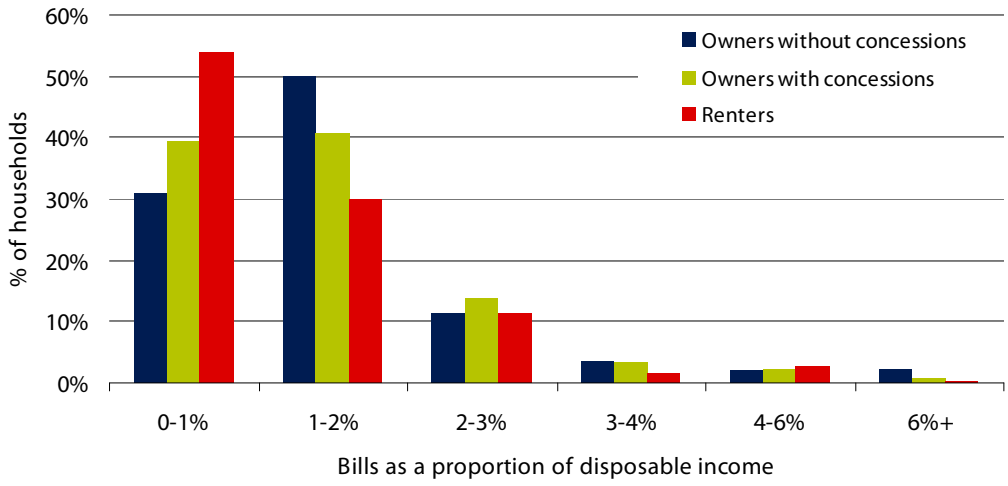
Figure C.1 Distribution of water and sewerage bills against income – Sydney Water



Note: The upper and lower ends of the vertical lines show the 10th (lower) and 90th (upper) percentiles. A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

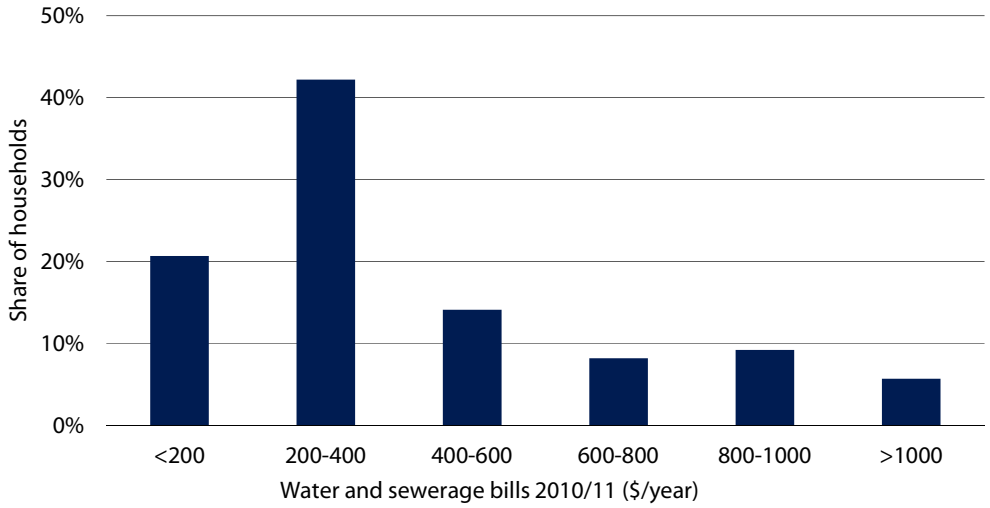
Data source: IPART's household survey analysis, 2011.

Figure C.2 Water and sewerage bills as a proportion of disposable income – Sydney Water



Data source: IPART's household survey analysis, 2011.

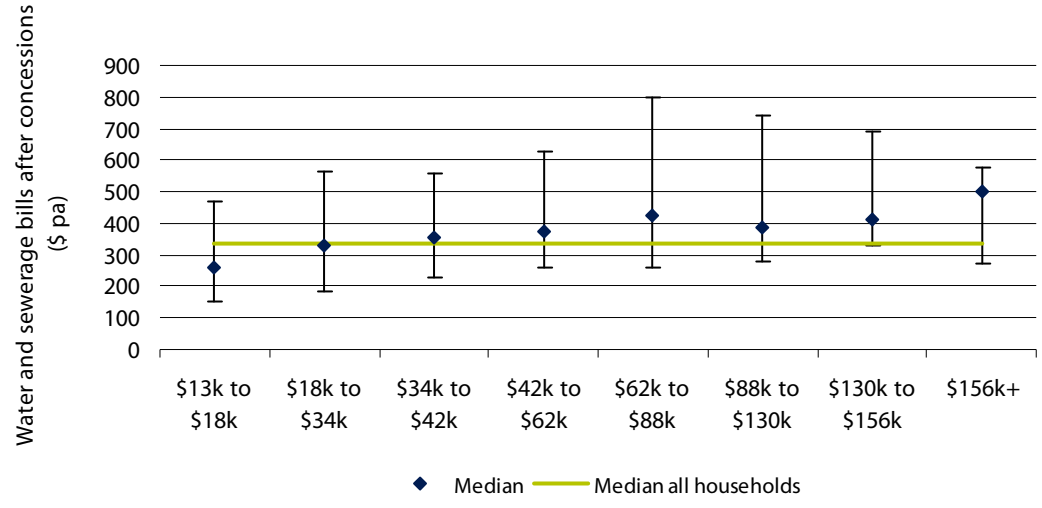
Figure C.3 Distribution of bills- Low income households – Sydney Water



Data source: IPART's household survey analysis, 2011.

We found that households in receipt of concessions in Sydney have significantly smaller bills, with a median of $334 (after concessions). The median bills for different incomes levels did not vary much from this amount, with the exception of those earning $156,000. Most households receiving concessions also spend less than 2% of their income on their water and sewerage bills (see Figures C.4 and C.5).

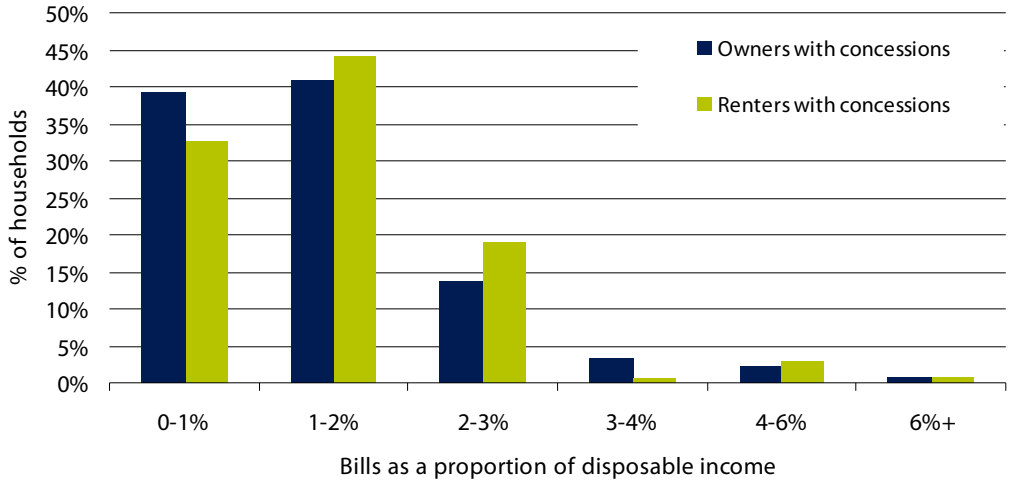
Figure C.4 Water and sewerage bills for households with concessions (amount after concession) - Sydney Water



Note: The upper and lower ends of the vertical lines show the 10th (lower) and 90th (upper) percentiles. A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

Data source: IPART's household survey analysis, 2011.

Figure C.5 Distribution of households by spending on water and sewerage bills as a proportion of disposable income – owners and renters with concessions only - Sydney Water

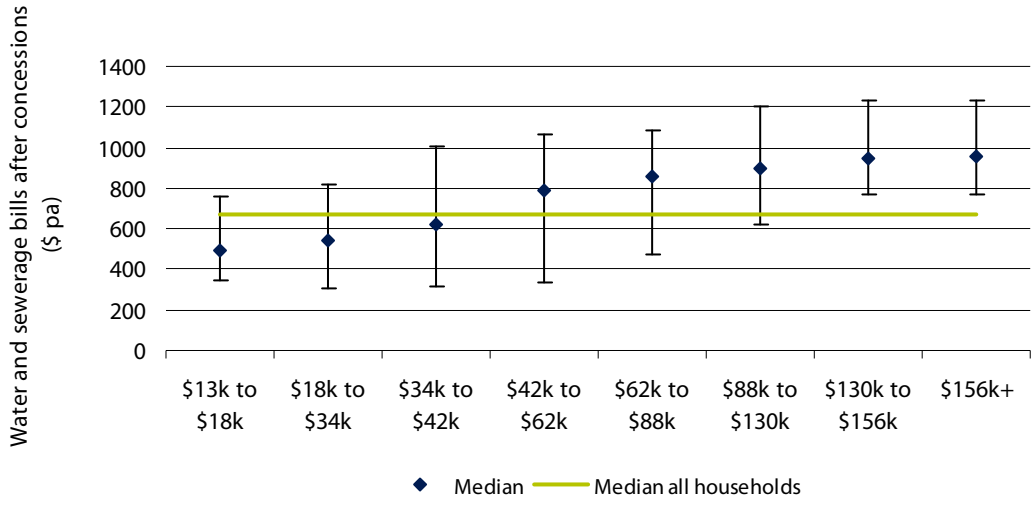


Data source: IPART's household survey analysis, 2011.

Hunter Water Corporation

The median water and sewerage bill for households in the Hunter was $674, with a variance of about $450 between the different incomes groups. Again, most households spend 2% or less of their income on bills, although home owners with concessions spend a greater proportion. Almost half of low income households have bills in the $400 to $600 range with around 20% in the $600 to $800 range (see Figures C.6 to C.8).

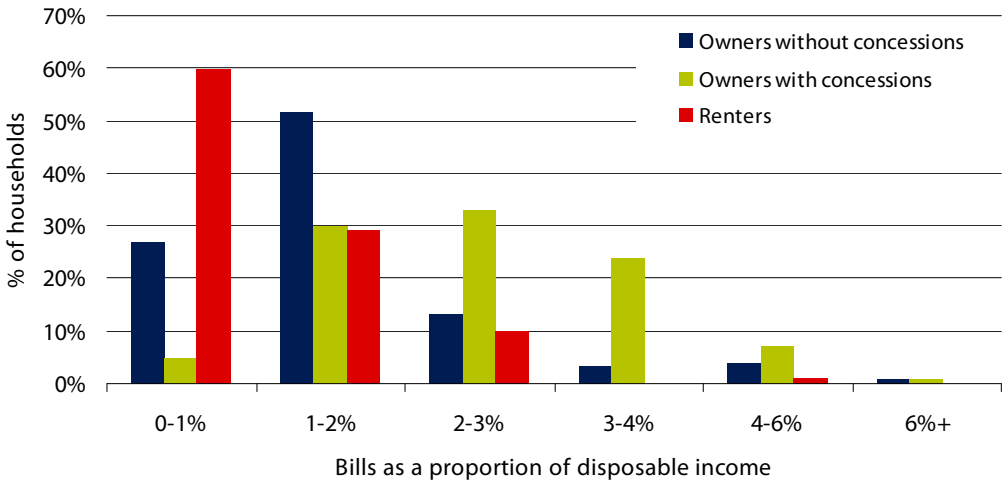
Figure C.6 Distribution of water and sewerage bills against income – Hunter Water



Note: The upper and lower ends of the vertical lines show the 10th (lower) and 90th (upper) percentiles. A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

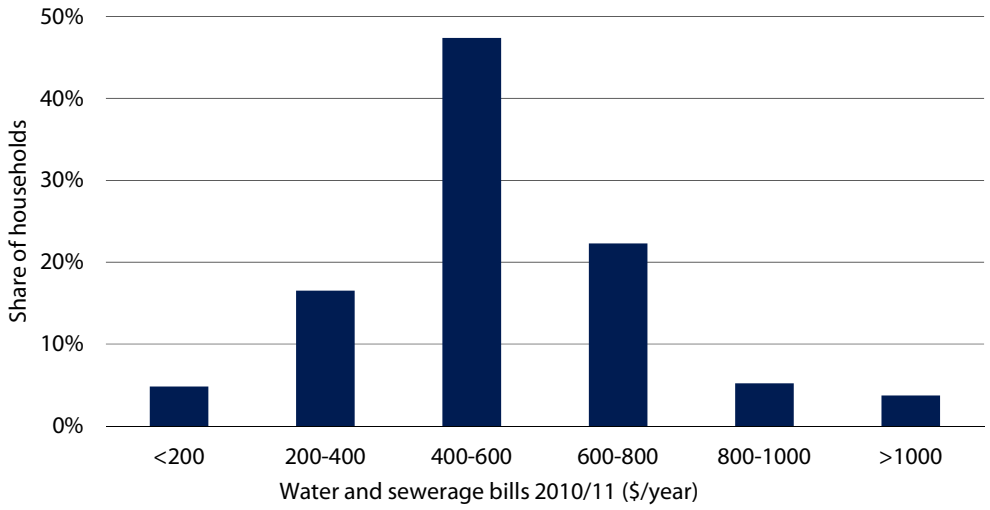
Data source: IPART's household survey analysis, 2011.

Figure C.7 Water and sewerage bills as a proportion of disposable income – Hunter Water



Data source: IPART's household survey analysis, 2011.

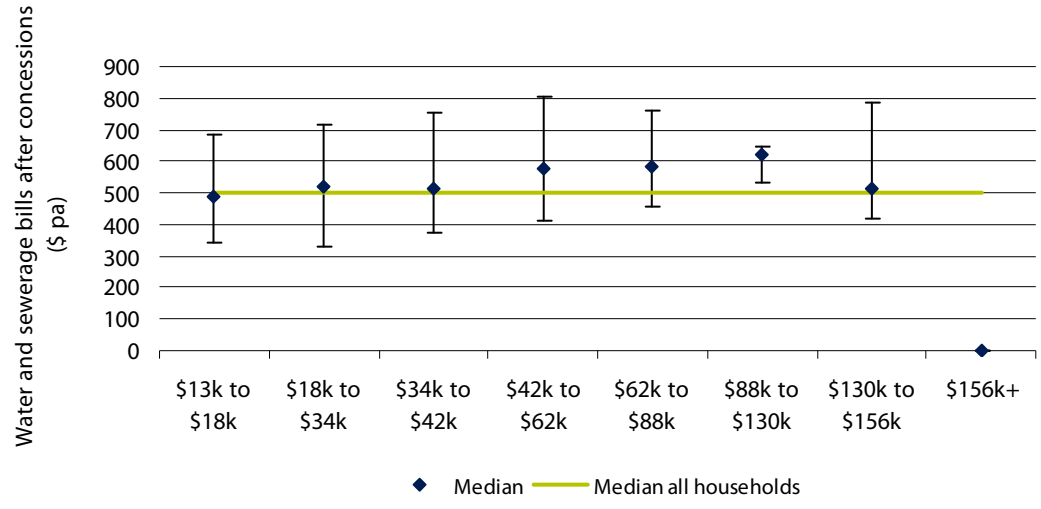
Figure C.8 Distribution of water and sewerage bills- Low income households – Hunter Water



Data source: IPART's household survey analysis, 2011.

We found that households in receipt of concessions in the Hunter have a median bill of $502 (after concessions). These households tend to spend 1% to 4% of disposable income on bills, with renters spending 1% to 3% (see Figures C.9 and C.10).

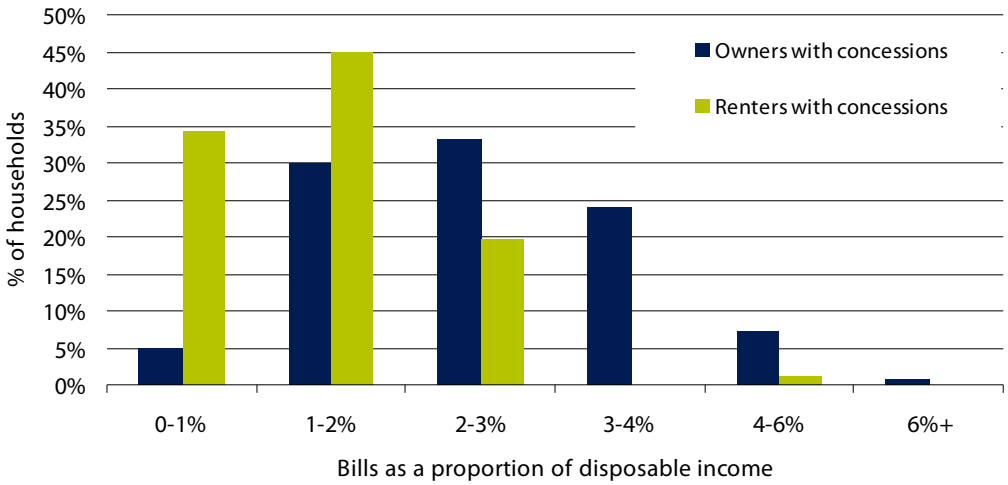
Figure C.9 Water and sewerage bills for households with concessions (amount after concession) – Hunter Water



Note: The upper and lower ends of the vertical lines show the 10th (lower) and 90th (upper) percentiles. A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

Data source: IPART's household survey analysis, 2011.

Figure C.10 Distribution of households by spending on water and sewerage bills as a proportion of disposable income – owners and renters with concessions only – Hunter Water

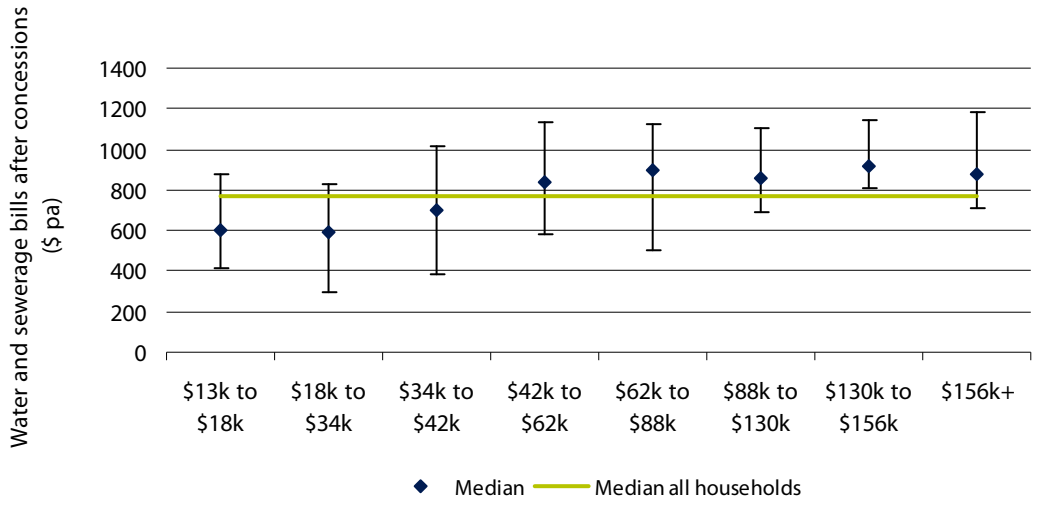


Data source: IPART's household survey analysis, 2011.

Gosford City Council

The median water and sewerage bill for households in Gosford was $773, with a relatively small variance across the different income groups. The majority of these households spend 2% or less of their income on these bills. Once again, home owners with concessions spend a greater proportion of their income on these bills. Most low income households have bills in the $400 to $800 range (see Figures C.11 to C.13).

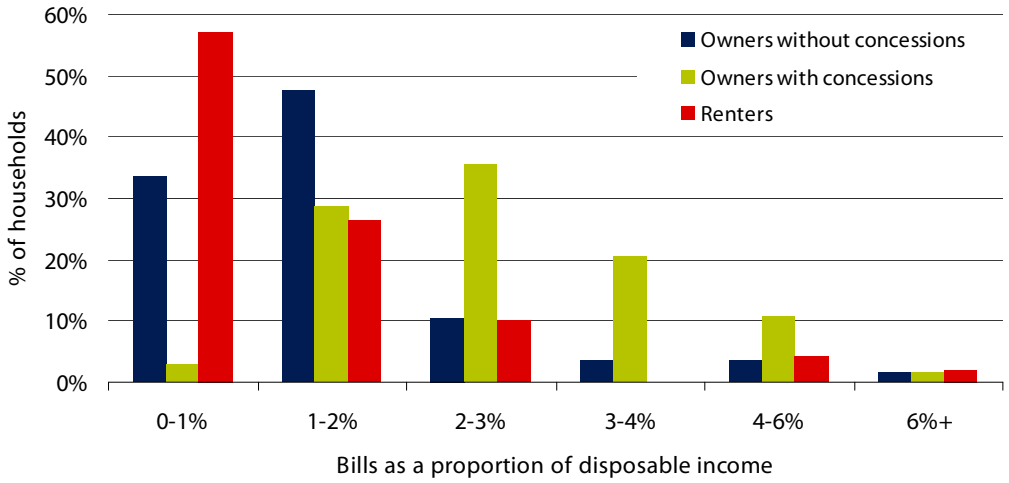
Figure C.11 Distribution of water and sewerage bills against income – Gosford Council



Note: The upper and lower ends of the vertical lines show the 10th (lower) and 90th (upper) percentiles. A **percentile** is the value below which a certain percentage of observations fall. For example, the 10th percentile is the value below which 10% of the observations may be found. In the above diagram, 10% of customers in each income band would fall below the bottom of the vertical line (paying less than that amount) and 10% of customers would pay more than the top of the vertical line.

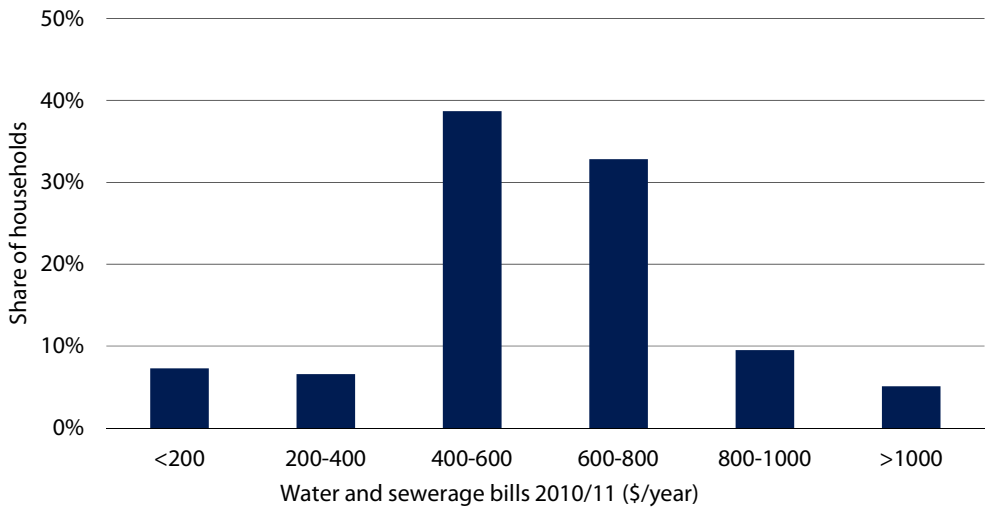
Data source: IPART's household survey analysis, 2011.

Figure C.12 Water and sewerage bills as a proportion of disposable income - Gosford Council



Data source: IPART's household survey analysis, 2011.

Figure C.13 Distribution of water and sewerage bills- Low income households – Gosford Council



Data source: IPART's household survey analysis, 2011.

The median water bill for households with concessions living in Gosford is $590.

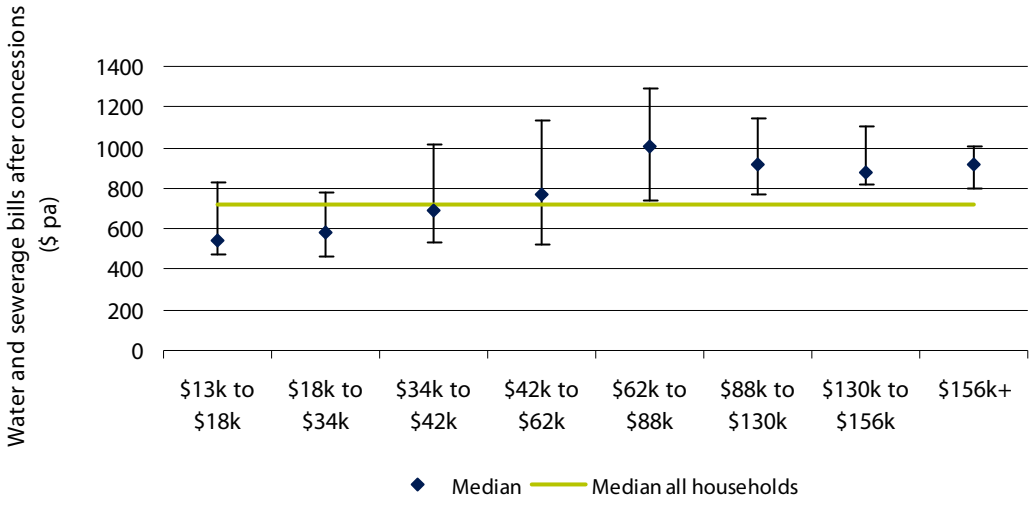
We found that the data for renters with concessions in Gosford was not reliable due to a small sample size. As a result we have not presented the income and bill analysis for concession holders in the Gosford area.

Wyong Shire Council

The median water bill for household living in Wyong is $720, with a significant variance amongst the different income levels. Most bills are 3% or less of disposable income, however home owners with concessions tend to spend more on their bills.

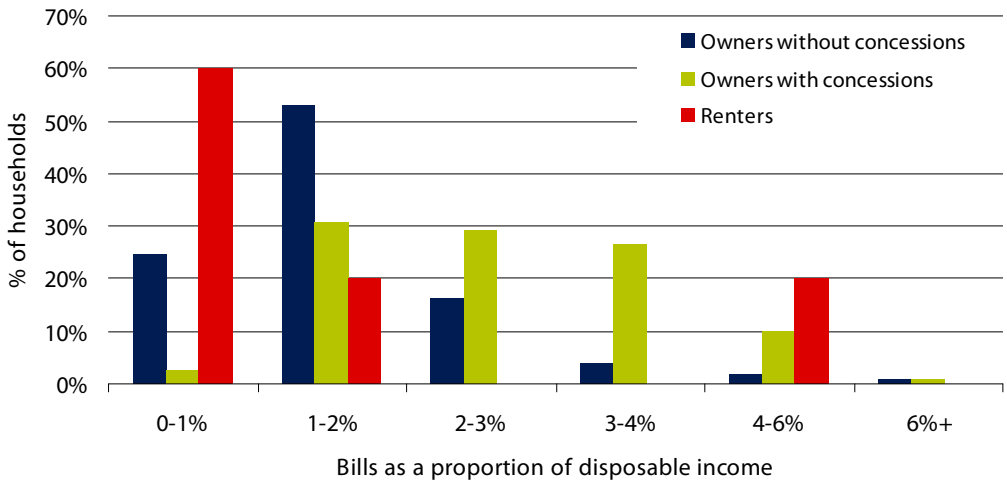
Over half of low income households' bills are $400-$600, with over 30% falling between $600 and $800 (see Figures C.14 to C.16).

Figure C.14 Distribution of water and sewerage bills against income – Wyong Council



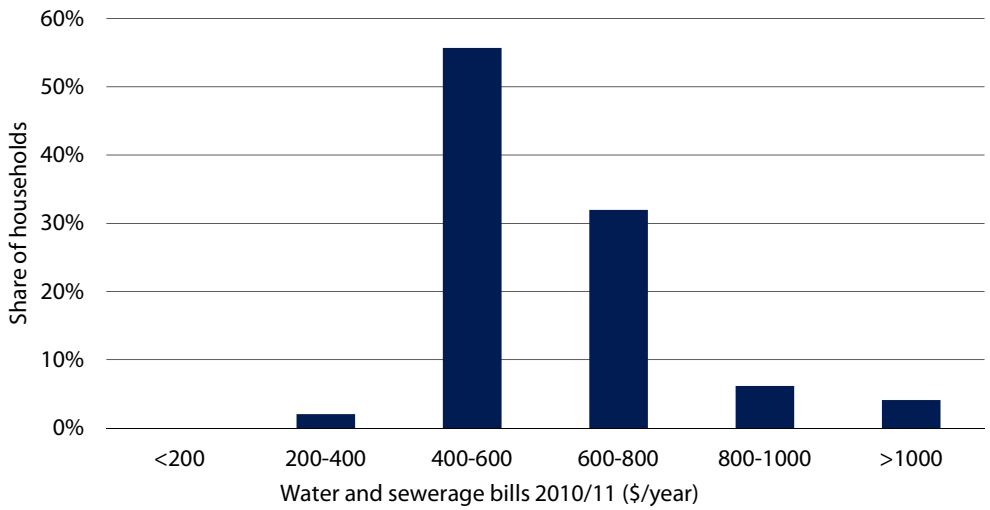
Data source: IPART's household survey analysis, 2011.

Figure C.15 Water and sewerage bills as a proportion of disposable income – Wyong Council



Data source: IPART's household survey analysis, 2011.

Figure C.16 Distribution of water and sewerage bills- Low income households – Wyong Council



Data source: IPART's household survey analysis, 2011.

The median water bill for households with concessions living in Wyong is $544 and they generally spend up to 4% of their disposable income on bills.

We found that the data for renters with concessions in Wyong was not reliable due to a small sample size. As a result we have not presented the income and bill analysis for concession holders in the Wyong area.

D Project delivery – output measures for each water utility

D.1 Sydney Water Corporation

Table D.1 Sydney Water – Activity against output measures 2010/11

Output or activity measure	Indicator of activity by 2011/12	Activity 2010/11	Cumulative progress as at 2011
Water Services			
1. Renewal of critical water mains	40 km	13	28
2. Renewal/reliability of distribution mains	420 km	79	291
3. Pressure control areas established	112 no.	52	131
4. Bulk water meters: new and refurbished	200 no.	39	124
5. Water Pumping Station Renewals	28 no.	1	6
6. Installation/renewal of SCADA systems	2 sites	1	3
7. Renewal of customer water meters	426,000 no	64,160	197,157
8. Additional generation capacity installed	8.5 MW	4	9
Wastewater services			
9. Renew critical mains	55 km	14	45
10. Rehabilitate sewers subject to dry weather overflows	290 km	61	188
11. Major Sewage Treatment Plants (STP) renewals	North Head	0	Completed in 2009/10
12. Sewage Pumping Station (SPS) renewals	100 no.	27	74
13. Increase capacity at STP	6 no.	1	3
14. Reduce wet weather overflows	7 catchments	2	4

Output or activity measure	Indicator of activity by 2011/12	Activity 2010/11	Cumulative progress as at 2011
15. Priority Sewerage Program Schemes	5 no.	2	6
Recycled Water			
16. Recycled water schemes	1 no.	Replacement Flows Complete in 2010/11	Replacement Flows Complete in 2010/11
Stormwater services			
17. Complete Alexandria Canal Improvements to satisfaction of DIPNR by 2009	Water quality improvements 2009/10	0	0
18. Pipe and channel renewal and rehabilitation	15 km	0.4	1.8
Desalination			
19. Desalination Project	Completion by 2009/10	0	Completed in 2009/10

Source: Sydney Water Corporation, *Sydney Water – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

Comments[209]

1. A total of 36 kilometres are forecast to be renewed over 2008/09 to 2011/12, 4 kilometres less than the 4-year target. The reason for the variance is that the level of renewals identified from condition and risk assessment is less than what was planned.
2. A total of 336 kilometres are forecast to be renewed over 2008/09 to 2011/12, 84 kilometres less than the 4-year target. The variance is mainly due to the effects of the pressure reduction program and refinements in decision-making processes resulting in reduced lengths of main identified for renewal.
3. It is planned to complete 153 pressure control areas over 2008/09 to 2011/12, 41 more than the 4-year target. The variance is attributed to the schemes sizes being smaller than originally anticipated.
4. 150 meters are forecast to be completed over 2008/09 to 2011/12, 50 less than the 4-year target. The variance is due to a change in the program to support efficient management of leakage.

[209] Comments provided by Sydney Water Corporation, *Sydney Water – Activity against output measures and capital expenditure program 2010-11*, report submitted to IPART in November 2011.

5. The original target of 28 stations over 4 years will not be reached due to the scoping and delivery of projects taking much longer than anticipated, and the need to defer work to periods of lowest water demand. In addition, there has been a major focus on improved contingency against power supply failure at various water pumping stations, which has not previously been included in this output measure.
6. Cascade and Orchard Hills WFPs completed in June 2010. Castle Hill WWTP was completed in 2010/11 and Nepean WFP expected to be completed in 2011/12.
7. It is planned to complete 272,000 meters in the period 2008/09 to 2011/12, 154,000 less than the 4-year target. The variance is mainly due to changes in criteria used for replacing meters (age of water meters renewed increased from 10 to 15 years) and delays from electrical work safety procedures.
8. By June 2011, the Renewable Energy Generation program completed the installation of 5 co-generation plants (Bondi, Glenfield, Liverpool, Wollongong and Warriewood) and 3 hydro-electric generation plants (North Head, Woronora and Prospect). The total installed generation capacity of these units is 9.0 MW.
9. The planned target of 55 kilometres over the period 2008/09 to 2011/12 is expected to be reached.
10. It is planned to complete 223 kilometres over the period 2008/09 to 2011/12. This is less than the target of 290 as some areas require shorter lengths rehabilitated and rehabilitation is planned in areas with difficult access (environmentally sensitive sites).
11. The original scope of works at the North Head WWTP was completed in 2009/10. Additional works on the biosolids component was completed in July 2011.
12. It is expected that the planned target of 100 stations will be achieved by 2011/12.
13. Rouse Hill WWTP, North Head WWTP and Winmalee WWTP were completed. Warriewood is forecast for completion in 2012-13 due to longer than expected project planning and approval stages. Completion of Picton WWTP is dependent on the overall strategy adopted for the Hawkesbury-Nepean and WWTP licensing arrangements yet to be determined by Office of Environment and Heritage, which is not likely by 2011/12. System planning showed that North Richmond WWTP has sufficient capacity to 2031 without amplification.
14. Six catchments are forecast to be completed by 2011/12. Target of 7 catchments will not be achieved as further investigations showed Warriewood, Bombo and West Hornsby did not require work.
15. The target of 5 schemes in 2008-12 will be achieved.
16. The 'Replacement Flows' recycled water project was completed in 2010/11.

17. Investigation to date has found the original strategy of constructing SQIDs (Stormwater Quality Improvement Devices) to improve water quality entering Alexandra Canal is not viable, except for one site at Sydney Park. In 2010/11, City of Sydney Council constructed Stage 1 of a biofiltration harvesting scheme to treat 50 ML/year for irrigation of Sydney Park. Sydney Water has commenced water quantity and quality testing of the scheme. This will be completed in December 2011 and will identify the effectiveness of the biofiltration technology for pollutant removal. This will be used to determine the feasibility of Sydney Water constructing Stage 2 to treat potentially 440 ML/year for broader stormwater reuse.

18. A total of 2.7 kilometres is planned to be completed by 2011/12. Detailed investigations have revealed that approximately 8.7 kilometres of the originally identified 2008-12 total of 15 kilometres is not required. Another 3.6 kilometres has been delayed due to negotiations with key stakeholders (Birds Gully) and procurement delays (Cooks River and Powells Creek).

19. The Desalination project was completed in June 2010 with first water pumped into the distribution network in January 2010.

D.2 Hunter Water Corporation

Table D.2 Hunter Water – Activity against output measures 2010/11

Output or activity measure	Target by 30 June 2013	Activity 2010/11	Cumulative progress as at 2011
Water services			
Length of critical trunk mains undergoing condition assessment	160 km	20.5 km	78.83 km
Length of trunk mains for renewal/upgrade	3.5 km	3.03 km	5.66 km
Length of distribution mains for renewal/upgrade	46 km	6.4 km	16.7 km

Output or activity measure	Target by 30 June 2013	Status as at 2011
Pump stations constructed/upgraded to increase capacity for growth		
West Cessnock	Complete	In process of finalising tender documentation
Telarah	Complete	Design work has commenced however construction timing has been postponed until 2013-14 due to slower than anticipated growth.
Cameron Park	Complete	Complete
Wallsend	Complete	On track

New reservoirs constructed		
Windella	Complete	Tenders being assessed
Anna Bay	Complete	Complete
West Cessnock	Complete	Tenders being assessed
North Wallarah	Complete	To be designed and built by Wallarah Development. Strategy covering supply to Wallarah and Catherine Hill Bay Developments has been approved by HWC.
Water treatment upgrades		
Anna Bay	Complete	Project currently in design phase
Grahamstown	Complete	Revised demand projections and understanding of water quality risks mean this project will be deferred at least until the next price path.
Construction of Tillegra Dam	Commence construction	Project cancelled. Development approval refused by NSW Planning.

Output or activity measure	Target by 30 June 2013	Activity 2010/11	Cumulative progress as at 2011
Wastewater services			
Length of critical sewer mains to undergo condition assessments	120 km	42.1 km	79.6 km
Length of critical sewer mains renewed/refurbished	6 km	1.6 km	3.9
Length of non-critical sewer mains renewed/refurbished	32 km	30.1 km	37.1

Output or activity measure	Target by 30 June 2013	Status as at 2011
Priority sewerage programs		
Millfield / Ellalong scheme	Complete	Complete
Clarence Town scheme	Complete	Wastewater treatment works commissioned. Wastewater transportation system construction complete with commissioning in progress.
Sewerage treatment plant upgrades		
Burwood Beach (Stage 2)	Complete	Complete
Branxton	Complete	Complete
Boulder Bay (Stage 2)	Complete	Complete
Raymond Terrace (Stages 2&3)	Complete	Complete
Toronto (inlet works)	Complete	Construction in progress
Shortland (Stage 3)	Complete	Construction in progress

Paxton	Complete	Complete
Dora Creek	Complete	Complete
Farley (Stage 3a)	Complete	Design in progress
Sewerage pumping station upgrades		
30 pump stations	Complete	10 pump stations complete 13 on track for delivery by 30 June 2013 7 have been reprioritised to the next price path
Reduce wet weather overflows in the following catchments[a]		
Newcastle	No. of overflow events / year	24 overflow events
Windale/Gateshead	No. of overflow events / year	18 overflow events
Dora Creek	No. of overflow events / year	3 overflow events
Kurri Kurri	No. of overflow events / year	2 overflow events
Raymond Terrace/Medowie	No. of overflow events / year	5 overflow event
Dudley/Charlestown	No. of overflow events / year	1 overflow events
Sandgate/Shortland	No. of overflow events / year	No overflow events
Maryland/Minmi	No. of overflow events / year	No overflow events
Sewerage transport system upgrades		
Newcastle (Stage 1)	Complete	The Newcastle Stage 1 sewerage transport system upgrades have undergone significant review over the first 18 months of the price path in conjunction with a review of stage 2 works. As a result, there has been some change in scope and timing for specific elements within the 2 stages. The bulk of stage 1 will be completed within the current price path, however one component has been deferred beyond 2015 and another added to the package that will be delivered by 2015.
Dudley-Charlestown (Stage 1)	Complete	Complete
Cardiff	Complete	Construction in progress
Dora Creek (Stages 1 & 2)	Complete	Upgrade no longer considered required given slower growth within catchment. Will not proceed this price path. Timing will be determined by population growth.

Windale (Stages 1 & 2)	Complete	Construction of Windale Stage 1 is well advanced and will be commissioned by end of 2011 calendar year. Windale Stage 2 Design is currently 80% complete but has been deferred out of the price path due to prioritisation.
Kurri Kurri (Stages 1 & 2)	Complete	Stage 1 construction is complete. Commissioning pending. Stage 2 construction on hold due to prioritisation. Detail design is complete.
Raymond Terrace (Stages 1 & 2)	Complete	Wastewater Pump Station (WWPS) 2 & 3 on track to be completed by June 2012. Rising main works complete. Upgrades to Raymond Terrace WWPS 7 and Medowie WWPS 11 have been reprioritised until the next price path due to lower growth than projected.
Sandgate/Shortland	Complete	Construction in progress.
Maryland/Minmi (Stages 1 & 2)	Complete	Stage 1 complete in July 2011. Stage 2 design has commenced with construction scheduled to be completed by the end of the current price path.
Improve Biosolids Management		
Dry tonnes per annum produced	Tonnes 2009/10	4,911 tonnes
Dry tonnes per annum disposed	Tonnes 2009/10	4,668 tonnes

Output or activity measure	**Target by 30 June 2013**	**Design Flow / Current Flow as at 30 June 2011 (EP)**
Design biological capacity of treatment works with a licence requiring biochemical oxygen demand and suspended solids removal only (EP)		
Note: These plants are the only plants that have been designed to remove BOD and TSS only. A licence requirement does not necessarily correspond to design intent.		
Burwood Beach	Record capacity and load by plant	225,000 / 187,307
Kearsley	Record capacity and load by plant	2,050 / 1,151
Design biological capacity of treatment works with a licence requiring nutrient removal (nitrogen only or both nitrogen and phosphorous)		
Note: These plants have been designed to remove N or both N and P. A licence requirement does not necessarily correspond to design intent.		
Belmont	Record capacity and load by plant	115,000 / 81,196
Boulder Bay	Record capacity and load by plant	58,000 / 37,634
Branxton	Record capacity and load by plant	9,000 / 6,187

Cessnock	Record capacity and load by plant	32,000 / 26,068
Dora Creek	Record capacity and load by plant	28,000 / 17,578
Dungog	Record capacity and load by plant	3,260 / 2,818
Edgeworth	Record capacity and load by plant	60,500 / 51,000
Farley	Record capacity and load by plant	40,000 / 34,444
Karuah	Record capacity and load by plant	1,450 / 1,291
Kurri Kurri	Record capacity and load by plant	21,500 / 17,300
Morpeth	Record capacity and load by plant	55,500 / 43,200
Paxton	Record capacity and load by plant	3,200 / 1,400
Raymond Terrace	Record capacity and load by plant	35,000 / 25,225
Shortland	Record capacity and load by plant	48,000 / 34,851
Tanilba Bay	Record capacity and load by plant	6,800 / 6,718
Toronto	Record capacity and load by plant	40,000 / 34,799

Output or activity measure	**Target by 30 June 2013**	**Status as of October 2011**
Stormwater drainage channel rehabilitations		
Newcastle system	1.5km	19 jobs have been undertaken over the 2009/10 and 2010/11 financial years. This includes 450 metres of work along Throsby Creek and $200k to install a Continuous Deflective Separation (CDS) unit on the Merewether Stormwater System. This measure remains on target.
Cessnock system	0.6km	3 jobs have been rolled off the 2009/10 and 2010/11 annual provisions for stormwater channel rehabilitation in the Cessnock LGA. This measure remains on target.
Lake Macquarie system	0.3km	2 jobs were rolled off the 2010/11 annual provision for stormwater channel rehabilitation in the Lake Macquarie LGA. Including flood warning alarm system at Cardiff and Detention Basin 5 survey.

Output or activity measure	Target by 30 June 2013	Activity 2010/11	Cumulative progress as at 2011
Corporate services			
Replace customer meters 20mm	44,000	19,472 replacements	32,901 replacements
Replace customer meters >20mm	2,000	337 replacements	823 replacements

[a] Wet weather overflows increased in 2010/11 due to increased rainfall intensity.

Source: Hunter Water Corporation, *2011 Periodic Pricing Report – 2009 Pricing Determination*, report submitted to IPART in November 2011.

D.3 Gosford City Council

Table D.3 Gosford City Council – Activity against output measures 2010/11

Output or activity measure	Indicator of activity by 2011/12	Activity 2010/11
Water		
1. Water quality complaints	No more than 10 per 1,000 properties	9.3
2. Water main breaks	No more than 10 per 100 km of main	27.97
3. Average leakage	ML/d	3.64
4. Renewal of water mains	Km	2.26
Wastewater		
5. Wastewater odour complaints	No more than 2 per 1,000 properties	1.9
6. Wastewater main breaks and chokes	No more than 12 per 100 km of main	41.52
7. Wastewater overflows	No more than 9.5 per 100 km of main	38.55
8. Kincumber and Woy Woy STP upgrade	Complete	Progressing towards completion by the end of the determination period.
9. Coastal Carrier wastewater system upgrade	Complete	Progressing towards completion by the end of the determination period.
10. Comply with DECC effluent standards	All STPs	No

Source: Gosford City Council, *Annual Progress Report 2011 – Compliance against operating expenditure, capital expenditure and output measures*, report submitted to IPART in October 2011.

Comments[210]

10. Alternative method of flow volume estimation used due to failure of outfall flow meter. Replacement works underway. Nitrogen load limit exceeded. Aeration upgrade underway which will improve nitrogen removal. Oil and grease load limit exceeded. Review of trade waste contributors to identify sources underway.

D.4 Wyong Shire Council

Table D.4 Activity against output measures 2010/11

Output or activity measure	Indicator of activity by 2011/12	Activity 2010/11	2011/12 YTD progress as at September 2011
Water			
1. Water quality	100% compliance with NHMRC monitoring guidelines	100%	100%
2. Water quality	100% compliance with NHMRC health guidelines	100%	100%
3. Water quality complaints	No more than 5 per 1000 customers annually	17.2	5.3
4. Interruptions	Less than 5% of customers have service interrupted (planned or unplanned) that total more than 5 hours in a year	0.01%	0.01%
5. Water pressure	Water pressure at least 15m for at least 98% of customers on an annual basis	99.9%	99.9%
6. Customer satisfaction	No more than 15% of customers dissatisfied with the service delivered	5.0%	0%
Sewerage			
7. Effluent discharges	Effluent discharges to the ocean meet DECC licence conditions 100% of the time	100%	100%
8. Wastewater odours	Less than 1% of properties experience odours on an annual basis	0.3%	0.5%
9. Wastewater overflows	Less than 1% of properties experience overflows on an annual basis	0.7%	0.7%
10. Customer satisfaction	No more than 5% of customers dissatisfied with the service delivered	3.5%	0%

[210] Comments provided by Gosford City Council, *Annual Progress Report 2011 – Compliance against operating expenditure, capital expenditure and output measures*, report submitted to IPART in October 2011.

Source: Wyong Shire Council, *Wyong Shire Council – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

Comments[211]

The September YTD performance has been annualised.

Reduced performance against water quality in 2010/11 was impacted by a higher than anticipated level of complaints arising out of system changes associated with the completion and commissioning of new works at Mardi Dam and Mardi High Lift Pumping Station.

D.5 Sydney Catchment Authority

Table D.5 Activity against output measures 2010/11

Output or activity measure	Indicator of activity by 2011/12	Status as in July2011
1. Future of the Upper Canal	Deliver a strategy by June 2013	On track
2. Prospect Reservoir upstream embankment stabilisation upgrade	Complete by April 2013	Delayed
3. Warragamba Dam crest gates construction project	Complete by June 2011	To be completed
4. Wingecarribee Dam safety upgrade	Complete by June 2013	On track
5. Upper Nepean Environmental flows works project	Complete by April 2010	Completed
6. Metropolitan Dams electrical systems upgrade project	Complete by April 2013	Rescheduled

Source: Sydney Catchment Authority, *Submission to the Independent Pricing and Regulatory Tribunal –Review of the Operating Licence and Prices for the Sydney Catchment Authority 2011*, September 2011, p 33.

[211] Comments provided by Wyong Shire Council, *Wyong Shire Council – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

Comments[212]

Upper Canal strategy

The Upper Canal (Upper Nepean transfer scheme) is a series of tunnels, open canals and aqueducts built over 120 years ago. It currently transfers approximately 20% of Sydney's water from the Upper Nepean dams. The canal's design and age introduces risks to water quality, limits the volume of water that can be transferred and poses safety risks to the public and operators of the canal. These risks are currently satisfactorily managed by the SCA. However, in the medium to long term, a strategy needs to be implemented to ensure the Upper Nepean transfer scheme provides continual reliable service.

The SCA has completed initial feasibility options studies. A range of refurbishment works have been scoped and provisions have been made for expenditure to ensure the integrity of the canal is maintained. A large component of the replacement works on the canal has been deferred in order to allow further investigation to occur. This approach will also enable the NSW Government to consider the replacement of the Upper Canal as part of its broader infrastructure priorities.

Prospect Reservoir upstream embankment stabilisation

The dam safety risks for Prospect Reservoir have been re-examined. These include the risk of piping failure and upstream embankment stabilisation in the event of a drawdown.

Additional detailed investigative work has been undertaken following the various internal and external technical panel reviews. The enhanced stability analysis and stabilisation options for the upstream embankment are to be presented for internal and external technical review in late 2011. It is anticipated that the preferred option for improvement works on Prospect Dam will be approved-in-principle by the SCA Board by the end of 2011, with the NSW Treasury Gateway Review process, the NSW Dams Safety Committee (DSC) endorsement and SCA Implementation business case finalised by March 2012.

Warragamba Dam crest gate construction

The Warragamba crest gate construction project improves the safety and reliability of Warragamba Dam under all conditions, and especially during a probable maximum flood event. The project includes the upgrade of the drum and radial gates as well as upgrade to gate controls and associated electrical works.

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[212] Comments provided by Sydney Catchment Authority, *Submission to the Independent Pricing and Regulatory Tribunal –Review of the Operating Licence and Prices for the Sydney Catchment Authority 2011*, September 2011, pp 33-35.

All construction works have been completed and the project is now in its defects liability period, which will conclude in June 2012.

Wingecarribee Dam safety upgrade

The Wingecarribee Dam safety upgrade addresses 2 dam safety risks: the potential of erosion of dam material during flood events and overtopping of the dam crest which could occur due to blockage of the spillway and radial gate by floating peat. The completed works will ensure the Wingecarribee Dam meets NSW Dam Safety Regulations.

The DSC has endorsed SCA"s dam safety risk assessment and proposed upgrade option for Wingecarribee dam. The SCA Board approved the business case in March 2011 and a contract was awarded in mid-2011 for the embankment improvement works. It is anticipated that this work will commence in October 2011 and be completed by April 2012. The detailed design, technical specifications and construction for the peat barrier works component will be finalised by December 2012.

Upper Nepean environmental flows

The environmental flows requirement for the dams in the Upper Nepean was contained in the 2004 Metropolitan Water Plan and in the 2006 Metropolitan Water Plan. These works are now complete with environmental releases commenced from Avon Dam in March 2008 and from the remaining Upper Nepean dams in June 2011.

Metropolitan dams electrical systems upgrade

The majority of the metropolitan dams electrical systems were installed when the dams were constructed and are now in need of upgrade to meet current Australian Standards. The upgrade of the dams electrical systems will provide improved communications infrastructure, allow more efficient security monitoring, and improve service reliability.

Commencement of the project was deferred to ensure the electrical systems upgrade can be integrated with the SCADA upgrade project (due for completion in June 2013).

A business case is currently under development and it is due to be completed by November 2011. Works on the upgrade are therefore not expected to commence until 2012. The project is expected to finish in June 2013.

Other significant projects

Financial and business systems consolidation and upgrade

At the beginning of the current price path, the SCA was operating a number of business and financial systems that were not integrated and resulted in a complex array of processes and data flows. There were also overlaps in system functionality and a significant amount of manual work and duplication. In late 2009 the SCA conducted a review into its business with a view to streamlining its business processes. The outcome of the review was a consolidation of the SCA"s business systems into 4 core products:

- **SUN** - accounting, budgeting and forecasting
- **MAXIMO** - asset, contracts and resource management
- **eTRIM** - records management
- **CHRIS** - human resources and performance management, including the development of a time recording system.

Some of the key achievements of this project are:

- **Reduction of software licence cost -** The consolidation of the business systems provide single points of entry for each of the core business areas and allow the SCA to significantly reduce software licence costs.
- **Introduction of electronic time recording system -** The introduction of an electronic time management systems allow the SCA to capture staff costs by activity. This system replaced the previously manual entry system and significantly streamlines and improves the SCA"s reporting processes.
- **Introduction of electronic document management -** The implementation of the eTRIM system significantly improved business efficiencies and information sharing across the organisation.

SCA's Program and Project Management Framework

A robust Program and Project Management Framework has been developed and implemented to ensure all capital and operating projects and programs in the SCA are delivered effectively, provide value for money, and meet the strategic objectives of the organisation's Corporate Sustainability Strategy.

D.6 State Water

Table D.6 Activity against output measures 2010/11

Output or activity measure	Indicator of activity by 2010/11	Activity 2010/11
Operating – Facilities Maintenance Management System (FMMS)		
1. Extent of maintenance jobs planned on FMMS (%)	30%	96%
2. Number of planned jobs completed per annum	1066	5076 jobs Scheduled 4891 completed.
3. State Water to report on the number of backlog jobs at 30 June each year, excluding surveillance audit jobs. As at 1 January 2010, the backlog was 700 jobs. In the future, the time to resolve the jobs could also be provided.	50% reduction from 1 January 2010 backlog	(4570 Scheduled & Complete in 10/11 plus 167 completed since 30/6/11 plus 154 completed prior to 1/7/10) 214 Planned Jobs
Maintenance – asset condition profile		
4. Atkins/Cardno have provided a measure of asset condition.[a] This measure provides a condition profile of State Water's RAB. State Water should report against this measure.	No deterioration	No deterioration
Maintenance – Completion of dam safety schemes.		
State Water should report against the proposed construction program and key milestone dates for each project: design completion, award of the construction contract and completion of construction.		
5. Blowering dam	Project complete	Project complete
6. Burrendong dam	Design complete	Raising Dam Wall Complete Spillway Investigation Underway
7. Chaffey dam	Award contract	Project Complete
8. Copeton dam	Design complete	Commenced Construction
9. Keepit dam	Design complete	Construction Underway Package 2 Design Commenced
10. Split rock dam	Design complete	Construction Commenced
11. Wyangala dam	Design complete	Design complete
Telemetry		
12. State Water is to report on the number and percentage of key sites with remote monitoring for observation and control of assets.	15 dams (83%) 43 Weirs and Regulators (83%)	18 dams, 1 Water Treatment Plant (100%) 51 weirs and regulators (100%)

Output or activity measure	Indicator of activity by 2010/11	Activity 2010/11
13. Automation of key sites – this is the second stage of the iSMART project which will rationalise the existing telemetry infrastructure to ensure that full benefit of the iSMART project is realised.	9 Dams (69%) 14 Weirs and regulators (30%)	4 dams (22%) 0 weirs and regulators (0%)
14. Surveillance monitoring works – This project phase relates installation of new dam and weir instrumented surveillance systems to ensure that full benefit of the iSMART project is realised.	7 dams (58%) 21 Weirs and regulators (40%)	4 dams (45%) 0 weirs and regulators (0%)

State Water acknowledge it has not installed automation upgrades and dam surveillance instrumentation on some sites projected for the 2010/11 financial year.

The variation is due to resource shortages, most notably the inability to source a suitably qualified Project Manager to implement some of the projects.

State Water has subsequently resolved this issue and expects to be on target by the end of the 2011/12 financial year.

Environmental – fish passes

15. State Water is to report on the total length of river open to fish. This is to be measured by valley, length and year.	n/a	Macquarie – 193kms Lachlan – 284kms Murray – 8kms Murrumbidgee – 208kms Darling – 322kms Namoi – 1km Brunswick – 9kms Richmond – 2kms Macleay – 62kms

Environmental – cold water pollution

16. For valleys where Cold Water Pollution works are undertaken State Water is to achieve satisfactory performance by the scheduled date.	Achieving a 60% compliance with the 20th to 80th percentile range (would require at least 18 days observations to be within the range for a 31-day month) Achieving a 90% compliance with the 5th to 95th percentile range (would require at least 27 days observations to be within the range for a 31-day month) No observations outside the range of +/-3 standard	State Water structures that currently have intake works capable of drawing water from selected depths in the water column are using a protocol (Variable Offtake Management Protocol (VOMP)) that seeks to match the temperature of released water with the temperature of water entering the storage. These protocols were approved by the Cold Water Pollution Interagency

Output or activity measure	Indicator of activity by 2010/11	Activity 2010/11
	deviations.	Group June 2011 and incorporate all of State Waters release water quality requirements. No performance reporting undertaken to date.
Water Delivery – Expenditure to enhance the water delivery operations		
17. State Water is developing performance indicators for water delivery for each valley. These indicators will be rolled up to a state total.	Establish water delivery performance indicators and benchmarks in each major valley based on historical performance.	In 2010/11 we reviewed possible Water Delivery efficiency indicators and decided to adopt "Operational Surplus" as the KPI. The indicator will be expressed as a percentage of (regulated sales plus discretionary environmental water), reported monthly on cumulative monthly totals of Ops surplus and (sales plus Environment). The initial target has been set at 5% but is subject to analysis of past records to confirm whether this is achievable.

a Atkins/Cardno, *Strategic Management Overview and Review of Operating and Capital Expenditure of State Water Corporation – Final Report*, November 2009, p 38.

Source: State Water, *State Water – Activity against output measures 2010/11*, report submitted to IPART in November 2011.

E Activity against capital expenditure programs

E.1 Sydney Water Corporation

Table E.1 Sydney Water – Activity against capital expenditure program 2010/11 ($m, 2010/11)

Description	Actual 2010/11	Allowed 2010/11	Actual cumulative 2008-2011	Allowed cumulative 2008-2011	Allowed over determination period (until June 2012)
1. Maintain water distribution systems - Sydney, Blue Mountains	108.5	127.9	413.4	311.7	465.6
2. Sewer Network Reliability Upgrades	86.9	109.7	273.6	285.5	382.2
3. Overflow abatement	63.1	75.9	181.8	168.2	259.5
4. Water meter replacement program	7.3	8.6	24	26.5	34.7
5. Growth works to service urban development	81.2	227.4	293	395.4	627.7
6. Critical water main program	45.9	18.0	109.6	51.9	75.1
7. Upgrade Illawarra Sewage Treatment Plants to protect beaches	1.7	5.5	18.8	21.4	21.4
8. Upgrade Hawkesbury/Nepean Sewage Treatment Plants	0.3	0.0	4.6	26.8	29.2
9. Upgrade reliability of sewage treatment plants	43.7	31.7	125.8	114.2	149.5
10. Blue Mountains Sewage	0.8	0.0	39.5	54.2	54.2
11. Upgrade to Warriewood Sewerage Treatment Plant to protect oceans	1.3	4.1	8.8	20.6	20.6
12. Maintain Stormwater Capacity	0.0	0.0	0	0.0	0
13. Improve Stormwater Quality	2.8	6.2	10	30.8	36.3
14. Maintenance Plant Renewals	1.8	3.9	7.5	12.1	15.9
15. Property Management and Acquisition	23.2	3.4	195.6	78.9	82.2

Description	Actual 2010/11	Allowed 2010/11	Actual cumulative 2008-2011	Allowed cumulative 2008-2011	Allowed over determination period (until June 2012)
16. South Western Sydney Sewerage Scheme	1.0	0.0	3.7	11.4	11.4
17. Information Technology Projects	69.7	30.9	206.4	113.7	144.3
18. Brooklyn Dangar Island Sewerage Scheme	0.8	0.0	8.0	1.6	1.6
19. Mt Ku-ring-gai Sewerage Scheme	0.0	0.0	2.2	0.0	0.0
20. Mulgoa Wallacia Silverdale Sewerage Scheme	0.0	0.0	0.7	0.6	0.6
21. North Head STP Performance and Reliability	2.4	0.0	70.0	53.6	53.6
22. Recycled Water Projects	0.0	0.0	1.4	5.2	5.2
23. Desalination Project	4.1	0.0	1,140.4	1,159.5	1,159.5
24. Priority Sewerage Program - Stage 2	0.6	4.6	2.8	9.0	50.0
25. Western Sydney Recycled Water Initiative	6.1	0.0	178.5	192.0	192.0
26. Hawkesbury Heights Yellow Rock	9.9	0.0	46.4	28.8	28.8
27. Freemans Reach, Glossodia and Wilberforce	35.6	41.5	107.4	76.1	92.5
28. Appin, Wilton and Douglas Park	8.8	22.2	9.0	37.5	48.1
29. Agnes Banks and Londonderry	8.2	19.3	22.4	33.8	33.8
30. Diamond Bay/Vaucluse Sewage Transfer Scheme	0.3	0.0	0.3	1.0	19.2
Total	**616.0**	**740.8**	**3,505.6**	**3,322.0**	**4,094.7**

Source: Sydney Water Corporation, *Sydney Water – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

Comments[213]

Note: Comments relate to major variances to target expenditure over 2008-11.

1. Expenditure on water distribution systems and critical water main programs was higher over the 3 years to June 2011. This was largely due to IPART's decision to defer $130 million of water expenditure to the latter half of the 2008-12 determination period. Only a minor variance in water expenditure against the target is forecast for the 4 years.

[213] Comments provided by Sydney Water Corporation, *Sydney Water – Activity against output measures and capital expenditure program 2010-11*, report submitted to IPART in November 2011.

2. Lower expenditure across growth programs (including treatment plants at Warriewood and Hawkesbury/Nepean regions and recycled water schemes) is largely related to the deferral of schemes due to the financial climate and revised market demand.
3. Stormwater program is lower than determined for the 3 years to June 2011. This is mainly due to detailed condition assessments which have shown that the assets are in better condition than previously assumed. This has meant significant expenditure could be deferred.
4. Higher property management and acquisition costs are attributable to scope changes to 2 large workplace accommodation projects and the purchase of land and easements acquired in the course of Sydney Water's ordinary business. Additional works have been undertaken for building upgrades, land remediation and decontamination and land developments required for sale.
5. Expenditure has been higher than forecast for IT projects, mainly for modernisation projects and renewals. These will contribute to longer term operational efficiency in Sydney Water and improved services to its customers.

E.2 Hunter Water Corporation

Table E.2 Summary of Hunter Water's capital expenditure projects that are currently more than $0.5m off budget ($m, 2008/09)

Project	Forecast expenditure	Actual Expenditure (cumulative 2009/10 and 2010/11	Variation on Target	% of target
1. Boulder Bay Wastewater Treatment Works Upgrade	12.08	16.94	4.86	140%
2. Morpeth Wastewater Transport System Upgrade – Stage 2	7.10	11.01	3.90	155%
3. Backlog Sewerage for Millfield/Ellalong	4.53	7.20	2.67	159%
4. Backlog Sewerage to Clarence Town	7.21	9.02	1.81	125%
5. Additional Clear Water Tank Storage Dungog Water Treatment Plant	8.11	9.78	1.68	121%
6. Toronto Wastewater Treatment Upgrade	2.46	3.73	1.27	152%
7. Kooragang Island Recycled Water Scheme	0.76	1.86	1.10	244%
8. Farley Wastewater Treatment Upgrade	1.26	2.15	0.90	171%
9. Newcastle Wastewater Transport Upgrade – Stage 1	6.10	6.99	0.89	115%
10. Tomago/Shortland Water Supply - Ash Island water main	5.80	6.64	0.85	115%
11. Cessnock Water Supply upgrades – Stage 1	7.57	8.38	0.81	111%
12. Wastewater Treatment – Network E&M replacements	2.26	2.91	0.65	129%
13. Aberglasslyn Wastewater transport upgrade – Stages 1-3	2.79	3.35	0.56	120%
14. Williamtown/Tomago Wastewater transport system	0.50	1.02	0.53	206%
15. Tillegra Dam – Design & Construction	29.40	(8.73)	(38.13)	-30%

Source: Hunter Water Corporation, *2011 Periodic Pricing Report – 2009 Pricing Determination*, report submitted to IPART in November 2011.

Comments[214]

1. This project proceeded ahead of schedule in 2009/10 and is on schedule to be completed in late 2011. In terms of the overall project it is on track in terms of time and budget.
2. This project proceeded ahead of schedule in 2010/11 and is on track to be completed in late 2011. In terms of the overall project it is on track in terms of time and budget.

[214] Comments provided by Hunter Water Corporation, *2011 Periodic Pricing Report – 2009 Pricing Determination*, report submitted to IPART in November 2011.

3. This project was slightly delayed in early 2009 causing some expenditure to carry-over into 2009/10. The project has now been completed with greater expenditure in this price path than forecast in the revised Appendix D. In terms of the overall project budget, the 2009/10 and 2010/11 expenditure translates to 46% of planned total expenditure.
4. The Clarence Town Wastewater treatment works was completed ahead of schedule. The Wastewater transportation construction is complete with commissioning in progress. The project has been delivered at a cost higher than budget predominantly due to issues surrounding the transportation contract.
5. This project proceeded ahead of schedule in 2009/10 and was completed in mid-2011. In terms of the overall project budget, the 2009/10 and 2010/11 expenditure translates to 18% of total planned price path expenditure. This project is on track in terms of time and budget.
6. This project proceeded ahead of schedule in 2010/11 and is scheduled to be completed in 2011/12. It is on track in terms of timing but the target budget will be exceeded.
7. This project has been delayed by negotiations with the customer. The contract has now been signed and the project is scheduled to be completed by December 2014. The target budget will be exceeded.
8. The design for this project proceeded ahead of schedule for 2010/11, it is scheduled to be completed on time, but is likely to be completed over budget.
9. Principal supplied materials were purchased for this project to take advantage of procurement efficiencies resulting in an increased expenditure in 2009/10. In terms of the overall project budget, the expenditure to date translates to 23% of total planned price path expenditure. This project is on track in terms of time and budget.
10. In terms of the overall project budget, the expenditure to date translates to 115% of total planned price path expenditure. This project is on track in terms of time but is likely to be completed slightly over the anticipated budget.
11. This project proceeded ahead of schedule in 2009/10 and is on schedule to be completed in 2011/12. The project underwent a business case review and a major component was deferred to beyond the current price path. The components of this project that have not been deferred are on track in terms of time and budget. In terms of the overall project budget, the expenditure to date translates to 45% of total planned price path expenditure. This project is on track in terms of time and budget.
12. This is a price path provision that allows for the replacement of network electrical and mechanical components. There has been a trend of increases in this provision that are likely to continue through the current price path. The provision is on track in terms of timing but will exceed the price path target budget.

    Drivers for the increase in spend are due to the following:

    – Increased size of network eg, number of pumping stations.

- Required monitoring technology is increasing in complexity.
- Increase in replacement costs and cost of contract labour required to manage this.

13. Principal supplied materials were purchased for stage 2 of this program to take advantage of procurement efficiencies causing an increase in expenditure in 2009/10. In terms of the overall project budget, the 2010/11 expenditure translates to 30% of total planned price path expenditure. Stages 1 and 2 of this project is on track in terms of time and budget however stage 3 has been deferred due to the need to reprioritize the capital portfolio program due to competing priorities and capital budget constraints.
14. This project has proceeded ahead of schedule in 2010/11 and is on schedule to be completed in 2011/12. This project is on track in terms of time and budget.
15. In December 2010, the NSW State Government announced that it would not provide planning approval for Tillegra Dam. As such the expenditure in the period is less than the target and the project will not meet time or budget.

E.3 Gosford City Council

Table E.3 Gosford Council - Activity against capital expenditure program 2010/11 ($m, 2010/11)

	Actual spend, cumulative 2008-2011	Allowed spend over determination period
1. Water Main Renewals – Unallocated Budget	5.764	10.527
2. Meter Replacement Program	1.410	2.273
3. Water Quality 2010	7.079	2.984
4. JWS Gosford CBD	0.059	1.112
5. Contract Management	0.187	1.146
6. JWS Mardi Highlift PS Assoc Works	0.647	2.256
7. JWS Wtp Mech/Elect Renewal/Refurbish Unallocated	2.499	1.106
8. Minor SPS Replacement – Mech/Elec	3.672	15.911
9. Sewer Gravity Mains	3.404	5.726
10. SPS and Reticulation Upgrade	1.363	2.682
11. Major SPS Replacement – Mech/Elec	3.678	1.575
12. KSTP – Biosolids Treatment Area	3.410	11.391
13. KSTP – Secondary Treatment Area	1.463	5.871
14. WWSTP – Biosolids Treatment Area	0.473	2.612
15. KSTP – General Works	2.671	2.021
16. SWC – Works Contract	0.227	1.842
17. KSTP – Preliminary Treatment Area	0.543	1.554

	Actual spend, cumulative 2008-2011	Allowed spend over determination period
18. WWSTP – General Works	1.495	1.040
19. Hawkesbury Villages PSP – Stage 1	9.261	6.555
20. Gosford CBD Sewer DSP	1.658	2.642
21. Hawkesbury Villages PSP – Stage 2	0.353	2.159
22. Salaries Re Developers Dedicated Assets	0.560	1.304
23. Terrigal To Kincumber Augmentation	4.593	38.719
24. CBD Upgrade – Gosford	0.875	1.374
25. Kincumber STP – Gosford Council Costs	-	3.240
26. Woy Woy Drainage	-	3.275
27. Copacabana Urban Flood Mit. – Oceano To Segura CWP369	0.271	2.323
28. East Gosford Finley Ave U/S Lushington Street	1.143	2.272
29. Terrigal CBD Urban Flood Mit.Cwp 368	1.124	1.213
30. Riviera Catchment Trunk Drain	0.881	1.526
31. Narara Valley Drive Bridge Invest	-	1.257
32. Gosford CBD Trunk Drain Kibble Park	-	1.187
33. Garnet Rd/Diamond Rd. Pearl Beach Cwp381	-	1.042

Source: Gosford City Council, *Annual Progress Report 2011 – Compliance against operating expenditure, capital expenditure and output measures*, report submitted to IPART in October 2011.

Comments[215]

3. Over expenditure due to increased scope of works required to deliver water quality improvements. Higher than expected costs from some aspects.

4. Project did not progress as early as anticipated. Other higher priority works have proceeded.

6. Works delayed as not required until the Mardi-Mangrove project is completed. Works scheduled for completion by June 2012.

7. Over expenditure due to requirement to fast track water quality improvements by implementing new dosing facilities, and providing pre-chlorination at the Somersby WTP facilities.

11. Under expenditure due to delays caused to physical works by the planning/investigations required.

12, 13, 14, 15, 17, 18. Under expenditure due to delays to physical works by additional planning/investigations being required and the delays caused by the establishment of an Engineering Procurement & Construction Management contract.

[215] Comments provided by Gosford City Council, *Annual Progress Report 2011 – Compliance against operating expenditure, capital expenditure and output measures*, report submitted to IPART in October 2011.

19. Over expenditure due to greater than first estimated costs for the scheme. Design issues and costs incurred due to a bridge crossing increased the overall costs of the scheme.

20. Over expenditure due to increased requirements (extra costs) of Energy Australia (AusGrid) for the electrical supply to the station.

23. Under expenditure due to delays to physical works by additional planning/investigations being required and the delays caused by the establishment of an Engineering Procurement & Construction Management contract.

24. Over expenditure in 2 of the upgrade lines due to encountering poor ground conditions.

26. Postponed - pending water sensitive urban design (WSUD) analysis.

31. Postponed - pending RTA strategy for Narara Valley Drive.

32. Complete.

33. Further design works required.

E.4 Wyong Shire Council

Table E.4 Wyong Council - Activity against capital expenditure program 2010/11 ($m, 2010/11)

Description	Actual cumulative 2008-2011	Allowed over determination period
1. Mardi to Warnervale Trunk Main	0.313	24.201
2. Porters Creek Drainage	0.046	10.902
3. Water main Refurbishment	1.652	5.04
4. Entrance/North Entrance Trunk Main	0.039	6.43
5. Reclaimed Effluent Plant upgrade (DAFF Plant at Toukley)	2.027	4.533
6. Trunk Main Gorokan to Norah head	0	3.811
7. Effluent Reuse (Toukley)	0.038	1.089
8. Kiar/Bushells Reservoir	0	2.756
9. Electrical Refurbishment	0	2.401
10. Main Adjustments (Roads/Drainage)	0.703	1.83
11. Fittings and Tapping Band Replacement	0.317	1.766
12. Water Quality 2010	0.439	1.41
13. Stormwater Harvesting	0.715	1.35
14. Porters Creek Stormwater Harvesting (100% Grant Funding)	0	1.589
15. Warnervale Employment Zone Water Mains	0.476	1.247
16. Repainting/Re-roofing	0.491	1.02

Description	Actual cumulative 2008-2011	Allowed over determination period
17. Wyong South – No 4 Aeration Tank/No 5 Aeration Tank	0.36	15.243
18. Charmhaven (20000 EP)	0.864	15.243
19. Unidentified Works (Wastewater)		13.184
20. Section 94 Works (Undertaken by Council)	1.601	7.827
21. Sewer Rehabilitation	2.26	3.965
22. General Mechanical/Electrical/Civil Refurbishment	0.95	3.519
23. Other (Wastewater)	0.359	1.21
24. Upgrade Toukley STP Inlet Works	2.495	2.458
25. Upgrade Mannering Park STP Inlet Works	2.075	2.662
26. Other (Wastewater)	0.437	1.42
27. Valves/Pumps/Switchboard	0.244	1.907
28. Other (Wastewater)	0.122	1.44
29. WS36 E&M (inc 50% refurbishment)	0	1.344
30. Refurbish Mech	0.336	1.159
31. Refurbish Elec	1.176	1.159
32. Unallocated Projects (Stormwater)	20.975	18.655
33. Warnervale Water Quality A1 AND B6	0	2.895
34. Lake Rd (East)	0	2.655
35. Various S94 Projects	1.422	2.19
36. Category 1 & Category 2 Projects	1.418	1.418
Total	**44.35**	**172.928**

Note: All figures inflated by year-on-year CPI June to June.

Source: Wyong Shire Council, *Wyong Shire Council – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

Comments[216]

As a general comment, growth in the "greenfield" development area in the north of the Shire has been slower than originally forecast. This can be attributed to the economic climate over recent years. As a result works required to service these areas and extend the trunk system in the north has been able to be deferred.

1. Deferred due to slower growth than forecast. Completion now planned for 2016.
2. This project has been deferred due to delays in development.
4. Link across The Entrance bridge scheduled for 2014.
5. Complete.

[216] Comments provided by Wyong Shire Council, *Wyong Shire Council – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

6. Deferred until 2016 due to delays in development.
7. Further investigations have indicated this project is not viable.
8. Deferred until 2016 due to delays in development.
9. Priorities are currently being reviewed.
10. On track.
11. On track.
12. Complete.
13. On track.
14. Deferred due to delays in development.
15. Deferred due to delays in development.
16. On track.
17. Design progressing but construction deferred due to slower rate of development.
18. This project has been deferred for completion in 2015 due to delays in development.
19. To date $5.5m has been earmarked for 2012/13 comprising Warnervale Town Centre ($3m), Pump Station Programme ($2m for PS WS8, B5 and B6) and South Tacoma Sewerage ($0.5m).
20. Under expenditures due to delays in development.
21. On track.
22. On track.
23. On track.
24. Completed.
25. Completed.
26. On track.
27. On track.
28. On track.
29. Deferred until 2017 due to delays in development.
30. On track.
31. On track.
33. Subject to further review.
34. Subject to further review.
35. Under expenditure due to delays in development.

E.5 Gosford City Council and Wyong Shire Council Joint Water Supply Authority

Table E.5 Gosford City Council and Wyong Shire Council JWS - Activity against capital expenditure program 2010/11 ($m, 2010/11)

Description	Actual cumulative 2008-2011[a]	Allowed over determination period
1. Mardi to Mangrove Transfer System	50.101	54.247
2. JWS Lower Mooney Dam Remedial/Removal Works	0.050	1.319
3. Mardi Transfer System	14.666	16.652
4. Mardi Dam Pre-treatment Facilities Associated with Mangrove to Mardi Transfer System	0.141	10.680
5. Mardi High Lift	7.469	9.491
6. JWA Minor Capital Works	[b]	6.199
7. Mardi Power Supply Upgrade	2.109	2.451
8. General Mardi Infrastructure Refurbishment	[b]	2.257
9. Porters Creek Stormwater Harvesting JWS (Warnervale)	0.094	2.256
10. Mooney Mooney Dam Remedial	[b]	1.615
11. Balickera Pre Treatment Facility	0.078	1.125
Total	**74.708**	**108.3**

[a] Due to inconsistencies between the figures provided by Gosford and Wyong Councils, the figures presented here are the higher of the two.

[b] These projects have been incorrectly included in the Table B.1 of the Final Determination. In accordance with email advice from IPART on 5 October 2011 these projects will not be reported on here.

Note: All figures inflated by year-on-year CPI June to June.

Source: Gosford City Council, *Annual Progress Report 2011 – Compliance against operating expenditure, capital expenditure and output measures*, report submitted to IPART in October 2011; and Wyong Shire Council, *Wyong Shire Council – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

Comments[217]

1. The system is now in the final stages of commissioning.
2. Under expenditure due to delays in the provision of advice from the Dam Safety Committee and National Parks.
3. Complete.
4. In early stages of investigations with other lower cost options being investigated.

[217] Comments provided by Gosford City Council and Wyong City Council in: Gosford City Council, *Annual Progress Report 2011 – Compliance against operating expenditure, capital expenditure and output measures*, report submitted to IPART in October 2011; and Wyong Shire Council, *Wyong Shire Council – Activity against output measures and capital expenditure program 2010/11*, report submitted to IPART in November 2011.

5. Complete.
7. Project completed under budget.
9. This project is still only in the feasibility stage.
10. Same as for 2. above.
11. All identified works have now been completed. Costs of this project have been paid by Wyong Shire Council and will be passed onto Gosford City Council.

    These projects have been incorrectly included in the Table B.1 of the Final Determination. In accordance with email advice from IPART on 5 October 2011 these projects will not be reported on here.

E.6 Sydney Catchment Authority

Table E.6 Sydney Catchment Authority – Activity against capital expenditure program

	2009/10 (Actual)	2010/11 (Actual)	2011/12 (Forecast)	Total
IPART Allowance ($m, 2008/09)	61.6	33.4	31.8	126.8
IPART Allowance ($m of the year)	64.1	35.3	34.7	134.1
SCA Expenditure ($m of the year)	51.0	26.3	18.7	96.0
Difference ($m of the year)	-13.1	-9.1	-16	-38.1

Source: Sydney Catchment Authority, *Submission to the Independent Pricing and Regulatory Tribunal –Review of the Operating Licence and Prices for the Sydney Catchment Authority 2011*, September 2011, p 44.

Comments[218]

The above table shows that the SCA is likely to underspend its capital allowance by $38.1 million. The main reasons for the underspending of capital are:

- A large component of the underspend has been due to the deferral of replacement works on the Upper Canal ($30m) as this will be subject to further investigation to fit within the government's broader infrastructure priorities. The other large project that has not progressed as planned is the upgrade works for the Bendeela Campground ($2.9 million).
- With the delay in the progress of the SCADA project, the projects for electrical upgrades on the Warragamba pipelines and at the Metropolitan dams have been moved outside the current price path ($12 million). Similarly the delay in completion of the Sydney Water hydro plant on the Warragamba pipelines delayed the Warragamba Pipelines Valves and Controls Upgrade ($4.8 million).

[218] Comments provided by Sydney Catchment Authority, *Submission to the Independent Pricing and Regulatory Tribunal –Review of the Operating Licence and Prices for the Sydney Catchment Authority 2011*, September 2011, pp 44-45.

- Offsetting some of this underspend are projects that have carried forward from the previous price path, and over expenditure (against IPART estimate) in some projects such as the Upper Nepean weirs.

Capital expenditure for more reliable water service

Capital expenditure enhanced reliable water service by making the water system more robust. Outcomes included:

- Completed work on upgrading drum and radial gates at Warragamba Dam.
- Completed work for upgrading scour outlets at Prospect Reservoir to continue to meet dam safety standards.
- Delivered a program to determine options to rehabilitate and/or replace the Upper Canal.
- Warragamba ladders and platforms upgrade works completed.
- Expansion into Shoalhaven of the Sydney Catchment Authority Reservoir Management System (SCARMS).
- Wingecarribee Dam safety upgrade commenced following approval by the SCA Board in May 2010.
- The Asset Renewals program included work on Warragamba Pipeline as part of the annual programs.
- Completed infrastructure upgrades at Upper Nepean Dams and water supply weirs to enable release of new environmental flows from 1 July 2010.
- Completed upgrade work on 7 weirs in Hawkesbury-Nepean River to pass environmental flows and allow movement of fish up and downstream.
- New environmental flows commenced from Tallowa Dam after successful commissioning of new infrastructure in July 2009.

E.7 State Water

State Water reports annually to IPART and the Customer Service Committees on any variation between operating and capital expenditure budgets and actuals on a valley basis.[219] We will consider reporting these expenditures by valley in future performance reports.

[219] IPART, *Review of bulk water charges for State Water Corporation from 1 July 2010 to 30 June 2014 – Determination and Final Report*, June 2010, p 191.