ESSENTIAL SERVICES COMMISSION

WATER PERFORMANCE REPORT

Performance of Victorian urban water and sewerage businesses 2014-15

December 2015

An appropriate citation for this paper is:

Essential Services Commission 2015, *Performance of Victorian urban water and sewerage businesses 2014-15*, December

PERFORMANCE OVERVIEW 2014-15

Victoria's 2.6 million water customers generally continued to receive good levels of service from the state's 16 urban water businesses. Most residential customers saw their bills decrease as a result of water businesses passing through efficiency cost savings and the carbon tax repeal.

Customers of North East Water had the lowest typical annual water bills ($843), followed by Goulburn Valley Water ($891) and City West Water ($904). At the other end of the range, GWMWater's customers had the highest typical water bill ($1316) followed by Coliban Water ($1286) and Gippsland Water ($1239).

With a milder summer, water consumption remained flat for most of the state, with small increases recorded in the hotter northwest regions. The statewide average household consumption was 159 kilolitres, compared with 160 kilolitres in 2013-14, and is sitting at about 10 per cent above consumption levels at the height of the Millennium Drought (143 kilolitres in 2010-11). Average consumption in Melbourne (149 kilolitres per household) was lower than in regional Victoria (188 kilolitres).

Reliability of water supply improved, with fewer supply interruptions and lower overall customer minutes off supply. Wannon Water was again the best performer in this area, followed by Coliban Water and Central Highlands Water. Sewer reliability dropped off a little, with small increases in sewer blockage rates and sewer spills – Westernport Water had the best sewer reliability, while Coliban Water and GWMWater again had the least reliable sewer services.

The Energy and Water Ombudsman (Victoria) received 16 per cent fewer complaints related to Victoria's water businesses this year, while the water businesses themselves reported a 20 per cent reduction, down 2728 complaints to 10 764 from 13 492 complaints last year — Yarra Valley Water and South East Water reported 2260 fewer complaints between them, accounting for over 80 per cent of the decrease.

The number of residential customers who had their water supply restricted for nonpayment of water bills increased by over 40 per cent this year, up to 4673 — this increase was mostly customers of Yarra Valley Water (which more than doubled its number of restrictions) and South East Water (up 42 per cent). By contrast, City West Water and East Gippsland Water both retained their policy not to restrict the water supply of customers for non-payment of bills. The highest restriction rate (one in every 217 customers) was recorded by both Wannon Water and North East Water.

Payment instalment plans are a particularly effective way to help customers manage their payments and avoid accumulation of debt. However, the overall number of residential customers on instalment payment plans declined by five per cent this year, after several years of steady increase in uptake by customers across most water businesses. Only four businesses reported increases this year, compared with twelve last year. Coliban Water, which already had the highest proportion of customers on instalment plans, further increased this by 12 per cent and now has over 20 per cent of its customers managing their payments through instalment plans. North East Water also reported a 12 per cent increase this year.

Water businesses appear to be delivering effective support for most customers experiencing financial hardship, as we have reported for the metropolitan businesses in our separate report on hardship measures.[1] However, there might be opportunity for businesses to make more use of flexible payment options for all customers before restricting their water supply for nonpayment of bills. The Commission is currently undertaking a review of energy hardship and the findings of this review may also be applicable to the water sector.

The reported performance results show considerable variation can occur across businesses for a given performance indicator. This is to be expected given the diversity in operational conditions across the state. In reviewing the water performance data this year, we noted that East Gippsland Water and Wannon Water were among the best performers in a number of key areas, with Coliban Water also recording several very strong results.

[1] Essential Services Commission 2015, *Review of hardship measures taken by metropolitan water businesses 2014-15 report,* December.

The Commission expects that businesses will continue to consider how their own performance compares with the best performers in a particular category, and to what extent they might improve their own performance.

THIS REPORT

For 2014-15, observations regarding business performance have been simplified compared to the prior year's report structure. A brief summary introduces the performance indicator, usually followed by a chart or table displaying the data reported by each business. Further background information is located at the end of a section.

This year we have introduced an indicator snapshot that provides an overview of state, metropolitan and regional average/totals.

The snapshot includes the current and prior year value, percentage change and also an indicator of the size of the change (see table below). Depending on the indicator, an increase could be an improvement or deterioration in performance.

	**Large arrow up -** increase greater than 5 per cent
	**Small arrow up** - increase between 1 and 5 per cent
	**No material change** - percentage change plus or minus 1 per cent
	**Small arrow down** - decrease between 1 and 5 per cent
	**Large arrow down** - decrease greater than 5 per cent

As usual, we have invited water businesses to explain or provide a comment on various aspects of their performance (notably a very strong or very poor performance, or a significant change from last year), and these comments are incorporated into our report where appropriate.

More detailed information is available on our website

As well as this performance report, there is a summary fact sheet for each business and data spreadsheets for those who wish to interrogate the data further. These documents are available on our website at www.esc.vic.gov.au

CONTENTS

1 WHY WE DO THIS

1.1 THE COMMISSION'S ROLE

The Essential Services Commission (the Commission) is the economic regulator of the Victorian water sector. One of its regulatory functions is to monitor and to report publicly on the performance of Victorian water businesses.

Monitoring and reporting is important because it provides reliable and consistent information that can be used to:

- inform customers about the performance of their water business
- identify base line performance and provide incentives for water businesses to improve their own performance over time
- compare water businesses and thereby facilitate competition by comparison, which can encourage water businesses to further improve relative performance
- inform the decision making processes of regulated water businesses, regulatory agencies and Government.

This 2014-15 report is the Commission's eleventh annual report on the performance of all Victorian urban water businesses, which commenced for the 2004-05 period. Performance reporting between 1995 and 2004 was done for the three metropolitan water retailers only.

Performance reports assess the performance of:

- Three metropolitan retailers — City West Water, South East Water and Yarra Valley Water
- 13 regional urban businesses — Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, Grampians Wimmera Mallee Water (GWMWater), Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Western Water and Westernport Water

- Melbourne Water — the supplier of bulk water and sewerage services to the metropolitan retailers (and a number of regional water businesses).

This report covers the businesses' performance over the 2014-15 financial year across key performance indicators that were developed in consultation with the businesses and a range of other stakeholders. The data provided by the businesses was independently audited to provide assurance it is accurate and reliable. Where data has not passed the audit requirements, it has been excluded from this report or qualified in our discussion. Water businesses were invited to comment on various aspects of their performance, and these comments are incorporated into the report.

1.2 THE SCOPE OF THIS REPORT

This report focuses on performance indicators in a number of key areas for urban water businesses including:

- **usage, price trends and payment management** — including the size of household bills, consumption levels, and managing nonpayment of bills and customers facing hardship
- **customer responsiveness and service** — including customer complaints and call centre performance
- **network reliability** — including the reliability, responsiveness to faults and interruptions around water and sewer systems
- **water quality** — including drinking water quality and associated complaints
- **conservation and the environment** — including levels of effluent and biosolids reuse and recycling, and greenhouse gas emissions
- **historical performance** — including comparisons for all indicators and businesses with previous years' data
- **major project status** — summary report on the status of those major projects scheduled for completion during the 2013–18 pricing period.

This report does not include information on the rural water businesses that supply irrigation, drainage, diversion, storage operator and bulk water services.

1.3 THE COMMISSION'S ROLE IN REGULATING SERVICE STANDARDS

The Commission is responsible for regulating service standards and conditions of supply. In the urban sector, the framework comprises:

- A Customer Service Code (the Code) that imposes a consistent overarching framework for delivering services to both metropolitan and regional urban customers. The Code sets out service obligations for key matters including connection and service provision, charges, handling complaints and disputes, billing, payment of bills, collection of outstanding bills, actions for nonpayment including restriction of supply or disconnection, quality of supply, reliability of supply, meters, works and maintenance, and information and administrative arrangements for guaranteed service levels. The Code is available on our website at www.esc.vic.gov.au
- A separate Trade Waste Customer Service Code that establishes consistent trade waste management requirements for water businesses across Victoria.
- Flexibility for the businesses to propose their own service levels or targets, rather than having to meet a consistent performance standard across businesses. This flexibility recognises the different operating environments each business faces and allows customers to express their preferences about the level of service for which they are prepared to pay. These service targets provide an important reference point for monitoring performance over the pricing period.
- A requirement that each business maintain a Customer Charter that informs customers about its services, the respective rights and responsibilities of the business and its customers, and the service standards the business proposes to deliver over the regulatory period.

The Commission monitors and enforces compliance with obligations set out in the Customer Service Code. It does this by auditing compliance with the regulatory obligations, and by responding to and following up on issues or concerns raised by customers or other stakeholders about compliance matters.

The Commission is not responsible for regulating or driving performance in the areas of water conservation, the environment and water quality. The Environment Protection Authority (EPA) Victoria is responsible for regulating environmental standards. The

Department of Environment, Land, Water and Planning is responsible for water conservation measures, and the Department of Health and Human Services is responsible for drinking water quality standards.

1.4 WHERE WE SOURCE THE INFORMATION FROM

This report is based on two principal sources of information:

- performance data reported by the businesses against key performance indicators specified by the Commission, and comments from the businesses explaining their performance, and
- the findings of regulatory audits on the reliability of the performance indicator data reported by the businesses.

Some additional information is also sourced from other government departments and from the Energy and Water Ombudsman (Victoria) (EWOV).

INDICATOR DEFINITIONS

We released a major update to our water performance indicator definitions for the 2014-15 performance audit. While we did not materially change the indicators, the clarification in all our definitions to remove any ambiguity will ensure greater consistency in reporting across all water businesses. This year's audits were designed to identify any existing inconsistent interpretations, and to assist businesses to reset their data collection and reporting processes ahead of future audits. This approach may produce some apparent step changes in performance where a business has recalibrated its results consistent with a new interpretation of an indicator.

2 OVERVIEW OF THE WATER INDUSTRY

The Victorian water businesses are diverse in terms of size, the services they provide and the environments in which they operate.

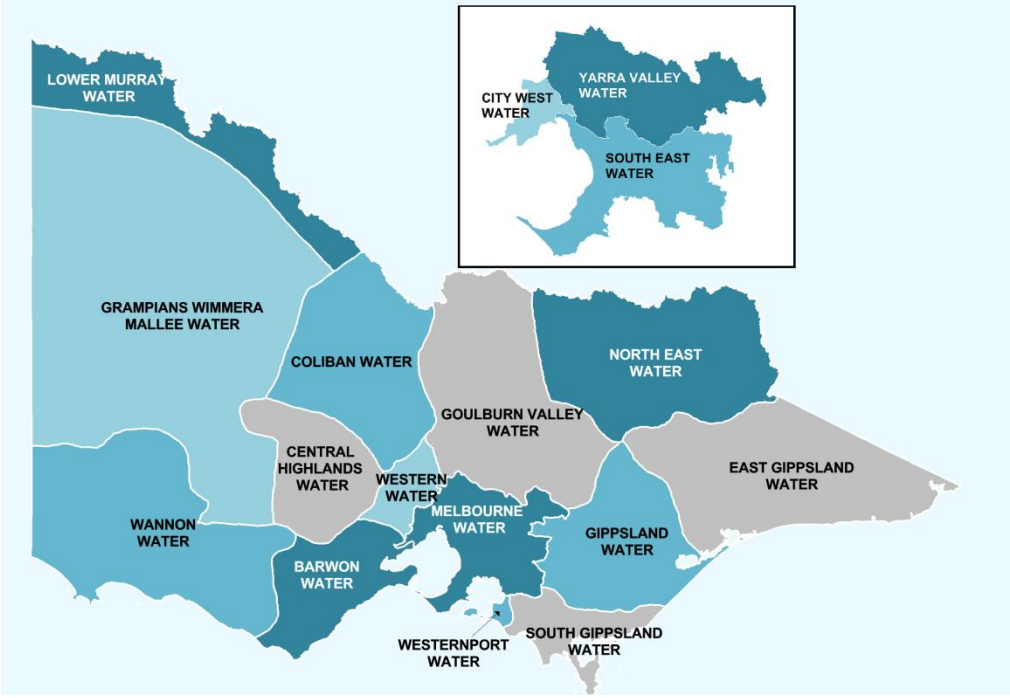
The three key components of the water sector the Commission regulates are:

- the metropolitan water sector, comprising Melbourne Water, City West Water, South East Water and Yarra Valley Water;
- the regional urban water sector, comprising Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Goulburn Valley Water, Gippsland Water, Grampians Wimmera Mallee Water (GWMWater), Lower Murray Water, North East Water, South Gippsland Water, Wannon Water, Western Water[1], Westernport Water; and
- the rural water sector, comprising Goulburn Murray Water and Southern Rural Water. GWMWater and Lower Murray Water provide rural water services in addition to urban water services.

A map of the Victorian water sector, showing the metropolitan and regional urban water business boundaries, is provided in figure 2.1.

[1] For the recent Water Price Review for the 2013–18 pricing period**,** Western Water was grouped with the metropolitan Melbourne water businesses. For this performance report, it will be considered a regional business, consistent with previous years, except in the average bill comparisons where it will be grouped under greater metropolitan Melbourne.

FIGURE 2.1 VICTORIAN WATER BUSINESSES 2014-15



2.1 METROPOLITAN BUSINESSES

In the metropolitan area, Melbourne Water provides wholesale services to the three metropolitan retailers. These services include:

- harvesting, storing and treating raw water supplies
- transmitting bulk water supplies
- operating the bulk sewerage service and treating the majority of sewage, including providing some recycled water
- managing rivers and creeks and major drainage systems in the Port Phillip and Westernport regions (municipal councils provide local drainage services).

The three metropolitan retailers supply water and sewerage services to almost 1.9 million customers (table 2.1). This represents about 75 per cent of the state's population and accounts for around 14 per cent of total metered water use in Victoria.

Their functions include:

- Distributing and supplying water to customers and operating the sewerage network from customer premises through to the trunk sewer network. The retail businesses also operate some small sewage treatment plants from which they may also provide recycled water.
- Providing a range of retail functions, including meter reading, customer billing, handling call centre enquiries, and handling complaints. The retailers also bill metropolitan customers for drainage services on behalf of Melbourne Water and parks charges on behalf of the Minister for Water.
- Providing trade waste services to commercial and industrial customers.

Each retailer services a specific geographic area and (unlike the gas or electricity industries) does not compete directly with other retailers for customers.

TABLE 2.1 METROPOLITAN WATER BUSINESSES — 2014-15 OVERVIEW

	Water customers (no.)	Sewerage customers (no.)	Length of water main (km)	Length of sewer main (km)
City West	414 224	410 794	4 826	4 164
South East	708 747	678 117	9 606	9 052
Yarra Valley	751 930	709 048	9 984	9 390
Melbourne Water	na	na	1 295	344

na Not applicable
Note: Water main includes both potable water and recycled water mains

2.2 REGIONAL BUSINESSES

Regional urban water businesses operate within geographically defined areas, providing services to regional cities and towns throughout Victoria. Their customer base is smaller than that of the metropolitan retailers, representing about 25 per cent of the state's population, and their customers are generally dispersed across broader geographical regions (table 2.2). Total water use in regional urban areas is half that of the metropolitan areas, and accounts for about 7 per cent of total metered water use in Victoria.

Unlike the metropolitan sector, these businesses are generally vertically integrated, providing wholesale, distribution and retail services for both water and sewerage.

TABLE 2.2 REGIONAL WATER BUSINESSES — 2013-14 OVERVIEW

	Water customers (no.)	Sewerage customers (no.)	Length of water main (km)	Length of sewer main (km)
Barwon	148 214	132 877	4 031	2 483
Central Highlands	66 192	56 486	2 511	1 377
Coliban	72 117	65 038	2 220	1 885
East Gippsland	22 865	19 095	933	686
Gippsland	66 877	58 395	2 105	1 660
Goulburn Valley	56 537	49 682	1 819	1 261
GWMWater	31 445	25 416	1 235	680
Lower Murray	32 942	28 519	915	636
North East	49 114	44 006	1 737	1 172
South Gippsland	19 637	16 967	704	440
Wannon	42 261	35 839	1 882	919
Western	58 477	52 564	1 924	1 231
Westernport	15 708	14 213	448	356

Note: Water main includes both potable water and recycled water mains

3 USAGE, PRICE TRENDS AND PAYMENT MANAGEMENT

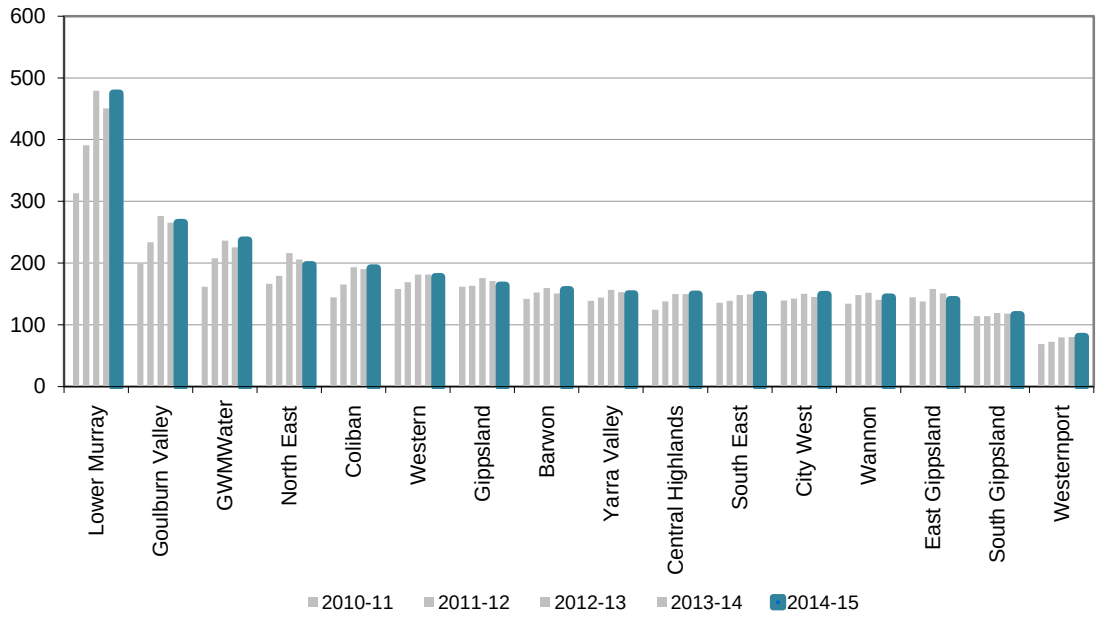
This chapter reports on:

- average annual household water consumption **(section 3.1)**
- average household bills for owner-occupiers and tenants **(section 3.2)**
- assisting with payment difficulties **(section 3.3)**
  - customer instalment payment plans
  - customers receiving government assistance through concession payments and the Utility Relief Grants Scheme
  - water businesses' own hardship grants schemes
- actions for nonpayment of bills **(section 3.4)**
  - restrictions of water supply
  - legal action and average debt levels at the time such action is taken.

3.1 AVERAGE ANNUAL HOUSEHOLD CONSUMPTION

Average household consumption is important in calculating a typical average water bill. Consumption patterns differ throughout the state in terms of climate, demographics, housing mix and any water restrictions that may be in place.

FIGURE 3.1 AVERAGE ANNUAL HOUSEHOLD CONSUMPTION
(kilolitres per household)



SNAPSHOT (Average consumption per household, kilolitres)

State-wide Average		-0.3%	Metro Average		-0.5%	Regional Average		0.5%
2014-15	159		2014-15	149		2014-15	188	
2013-14	160		2013-14	150		2013-14	187	

KEY OBSERVATIONS

- Weighted average[1] annual household consumption across Victoria remained fairly steady (159 kilolitres per household, slightly down from 160 kilolitres in 2013-14). This is about 10 per cent above the state's minimum average annual consumption of 143 kilolitres recorded in 2010-11 during the Millennium Drought.
- Generally, average annual household consumption remained higher in regional Victoria (188 kilolitres per household, slightly up from 187 kilolitres in 2013-14), than in metropolitan Melbourne (149 kilolitres per household, down from 150 kilolitres in 2013-14).
- Average annual household consumption ranged from 80 kilolitres for Westernport Water's region (which has a large seasonal population) to 475 kilolitres in Lower Murray Water's region in the state's north west, which is generally hotter and drier and traditionally has the highest consumption in the state.
- Average annual consumption in Melbourne was very similar across the three metropolitan retail businesses, with 148 kilolitres for City West Water, 149 kilolitres for South East Water and 150 kilolitres for Yarra Valley Water.
- For most businesses the average household consumption levels stayed fairly steady. The largest increases were Lower Murray Water and GWMWater (both 5 per cent), while East Gippsland Water dropped 7 per cent, and North East Water and Gippsland Water both fell 4 per cent.

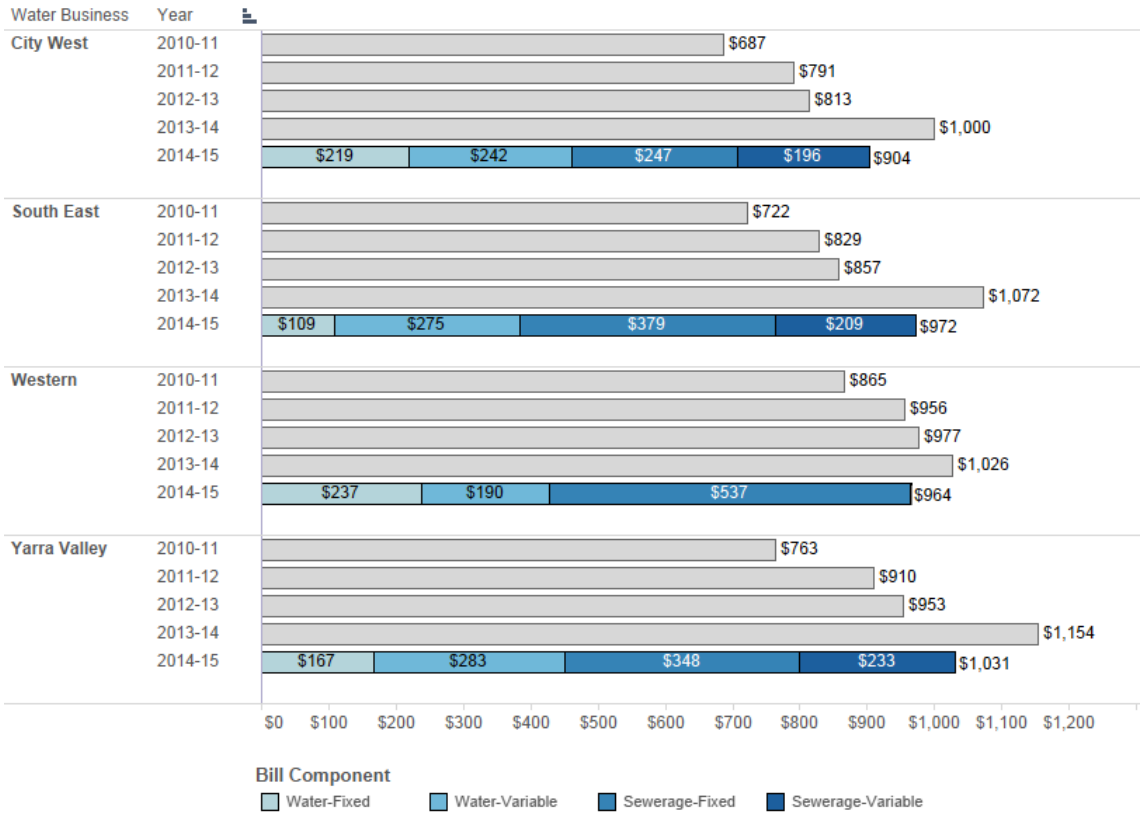
[1] A weighted average reflects the size of each water business and its relative contribution to the overall average.

3.2 AVERAGE HOUSEHOLD BILLS

Average household bills shown for each year are in that year's dollars (that is, they are not adjusted for inflation), and calculated using that year's average annual household consumption and actual prices for each business.[2]

FIGURE 3.2 OWNER OCCUPIERS — AVERAGE HOUSEHOLD BILLS
($, nominal)

Greater metropolitan Melbourne[3]



[2] There is an interactive bill estimator available to consumers on our website at www.esc.vic.gov.au where an indicative bill can be calculated for any annual water usage, and compared across all water businesses.

[3] The three Melbourne metropolitan water businesses and Western Water have been grouped together in this section as greater metropolitan Melbourne, as they were for the 2013 water price review.

FIGURE 3.3 OWNER OCCUPIERS — AVERAGE HOUSEHOLD BILLS
($, nominal)

Regional businesses

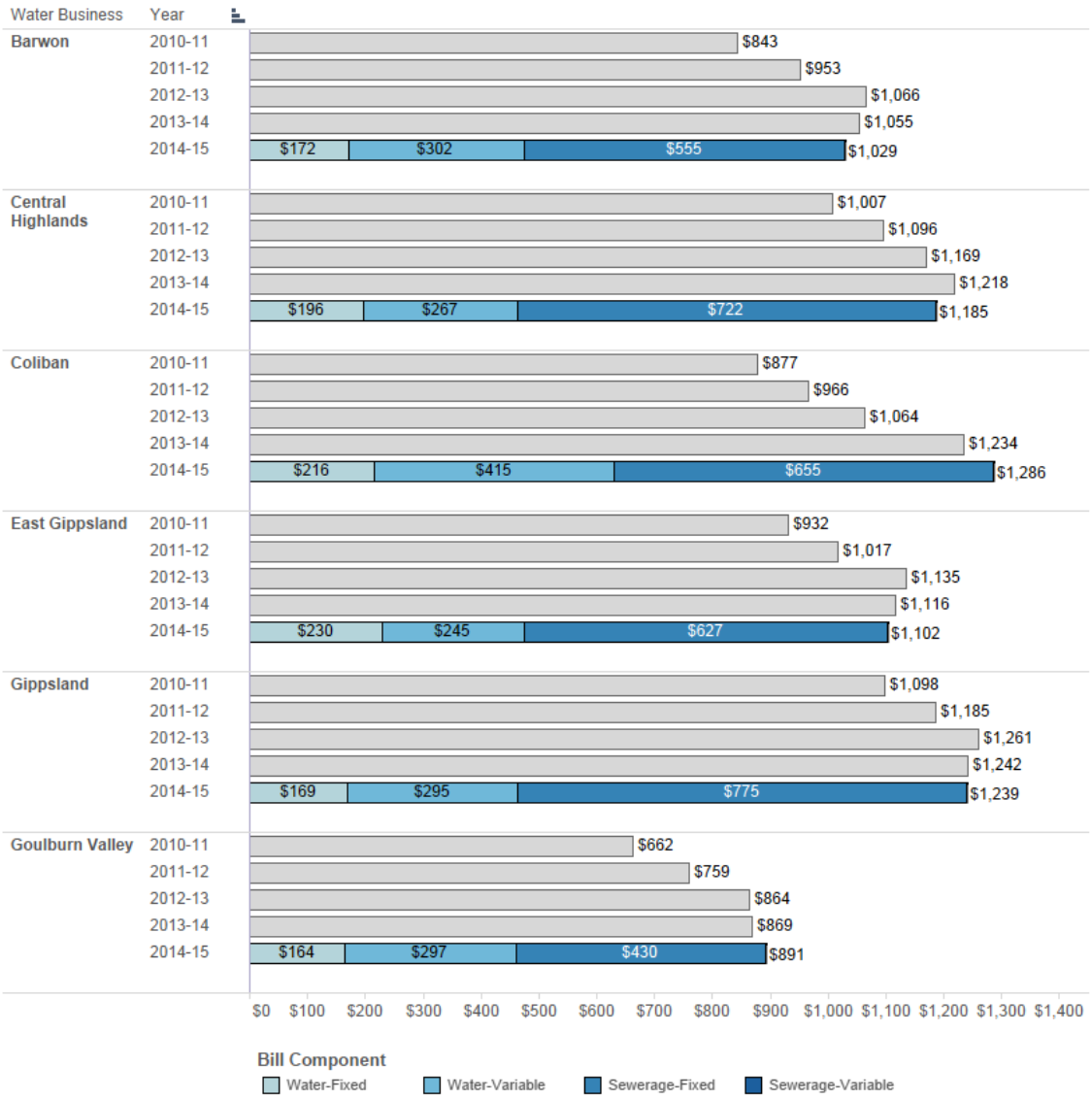
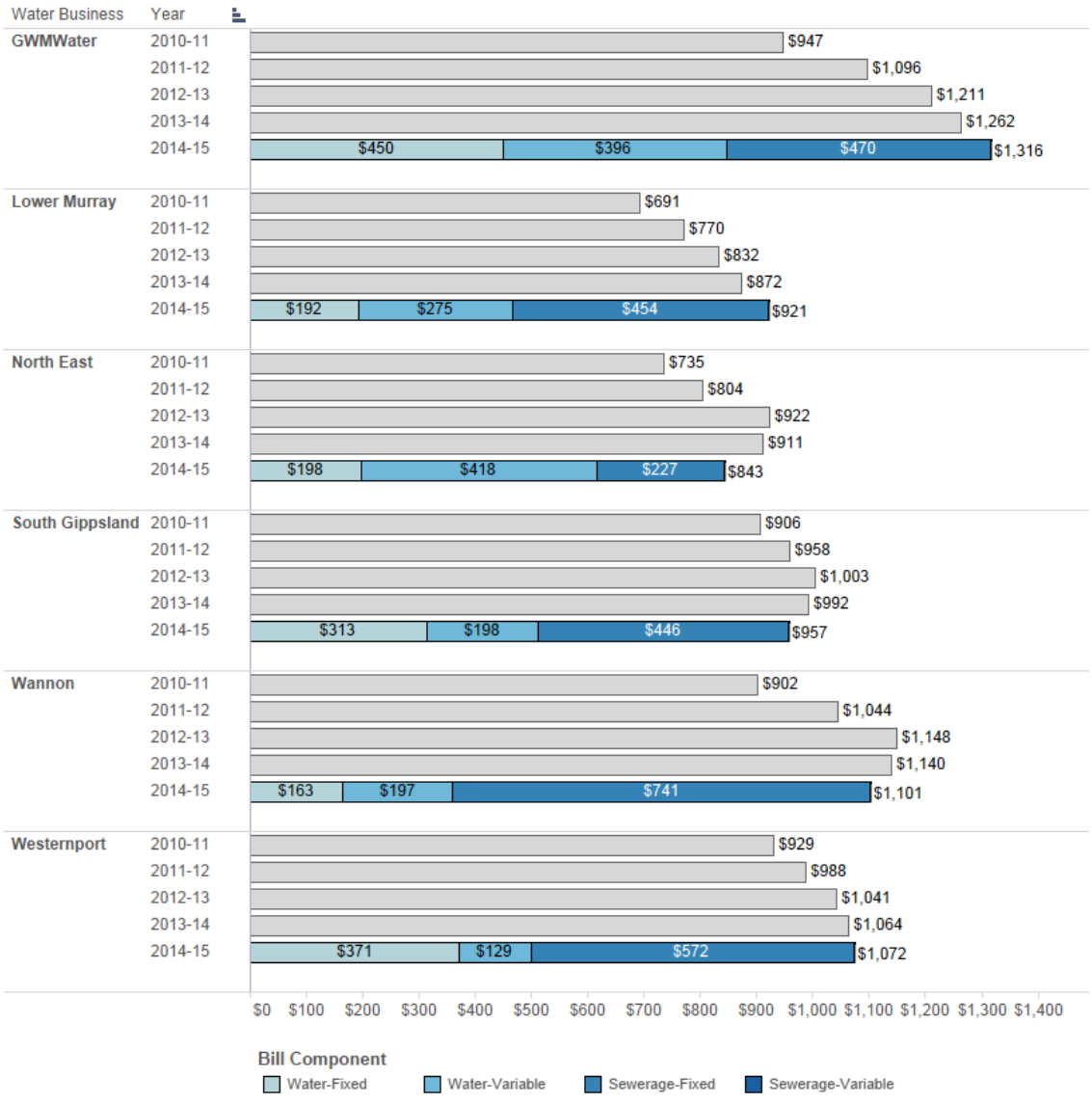


FIGURE 3.3 (CONT) OWNER OCCUPIERS — AVERAGE HOUSEHOLD BILLS
($, nominal)

Regional businesses (cont.)

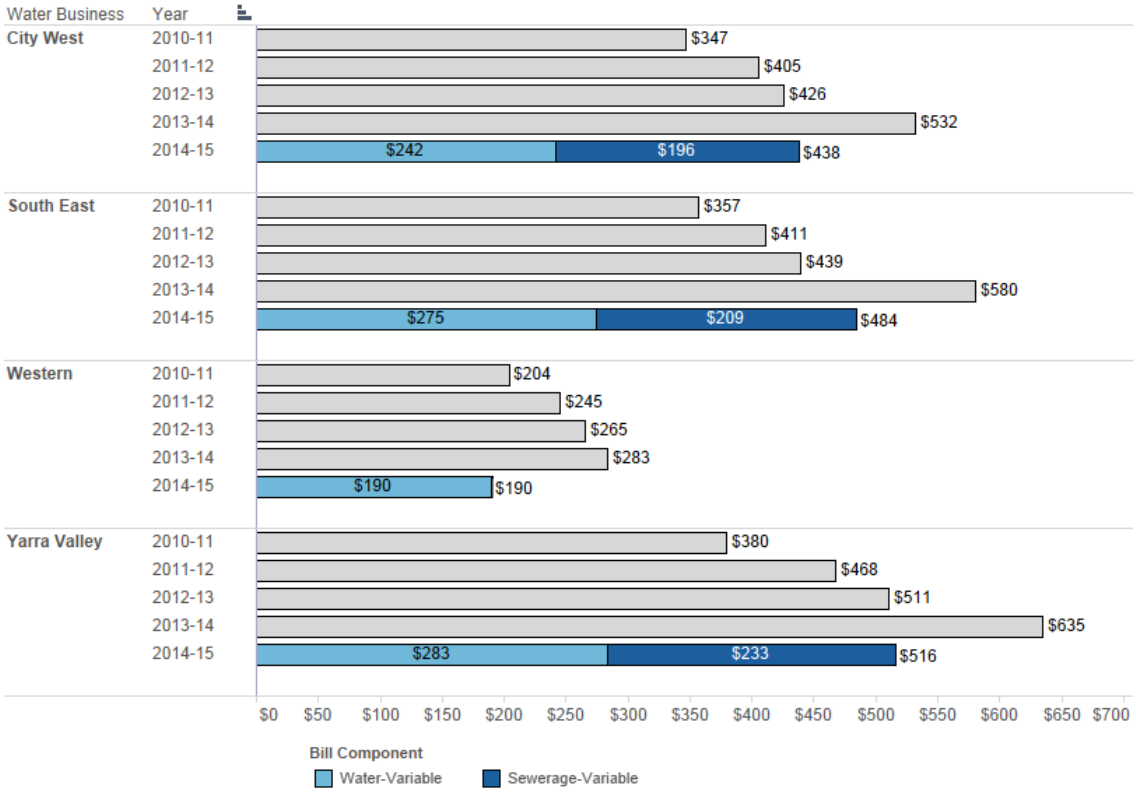


KEY OBSERVATIONS

- For 2014-15, the indicative bills reflect the cost savings identified through the state government's 2014 review of Victorian water businesses, as well as savings resulting from the abolition of the carbon tax. Most businesses have passed these cost savings on to customers through lower prices and/or as a rebate.
- Statewide, average household bills for owner occupiers fell by $83 (or 8 per cent), decreasing from $1089 in 2013-14 to $1006 in 2014-15. The average household bill across businesses ranged from $843 to $1316.
- North East Water ($843) reported the lowest average water bill, followed by Goulburn Valley Water ($891) and City West Water ($904).
- As in 2013-14, GWMWater ($1316) had the highest average water bill, followed by Coliban Water ($1286) and Gippsland Water ($1239).
- The metropolitan average household bill fell 10 per cent, from $1088 in 2013-14 to $981 in 2014-15. This decrease was largely driven by the efficiency and carbon tax savings reflected in 2014-15 customer bills.
- The regional average household bill fell by 1 per cent, from $1086 in 2013-14 to $1075 in 2014-15.
  - Seven businesses saw the average bill fall in nominal terms — Barwon Water, Central Highlands Water, East Gippsland Water, Gippsland Water, North East Water, South Gippsland Water and Wannon Water.
  - Five businesses saw an increase in the average bill this year — Coliban Water (up 4 per cent), Goulburn Valley Water (3 per cent), GWMWater (4 per cent), Lower Murray Water (6 per cent) and Westernport Water (1 per cent).
  - While Lower Murray Water had the largest increase in percentage terms, rising from $872 in 2013-14 to $921 in 2014-15, it still had the fourth lowest average household bill across all businesses.

FIGURE 3.4 TENANTS — AVERAGE HOUSEHOLD BILLS
($, nominal)

Greater metropolitan Melbourne[4]



[4] The three Melbourne metropolitan water businesses and Western Water have been grouped together in this section as greater metropolitan Melbourne, as they were for the 2013 price review.

FIGURE 3.5 TENANTS — AVERAGE HOUSEHOLD BILLS
($, nominal)

Regional businesses

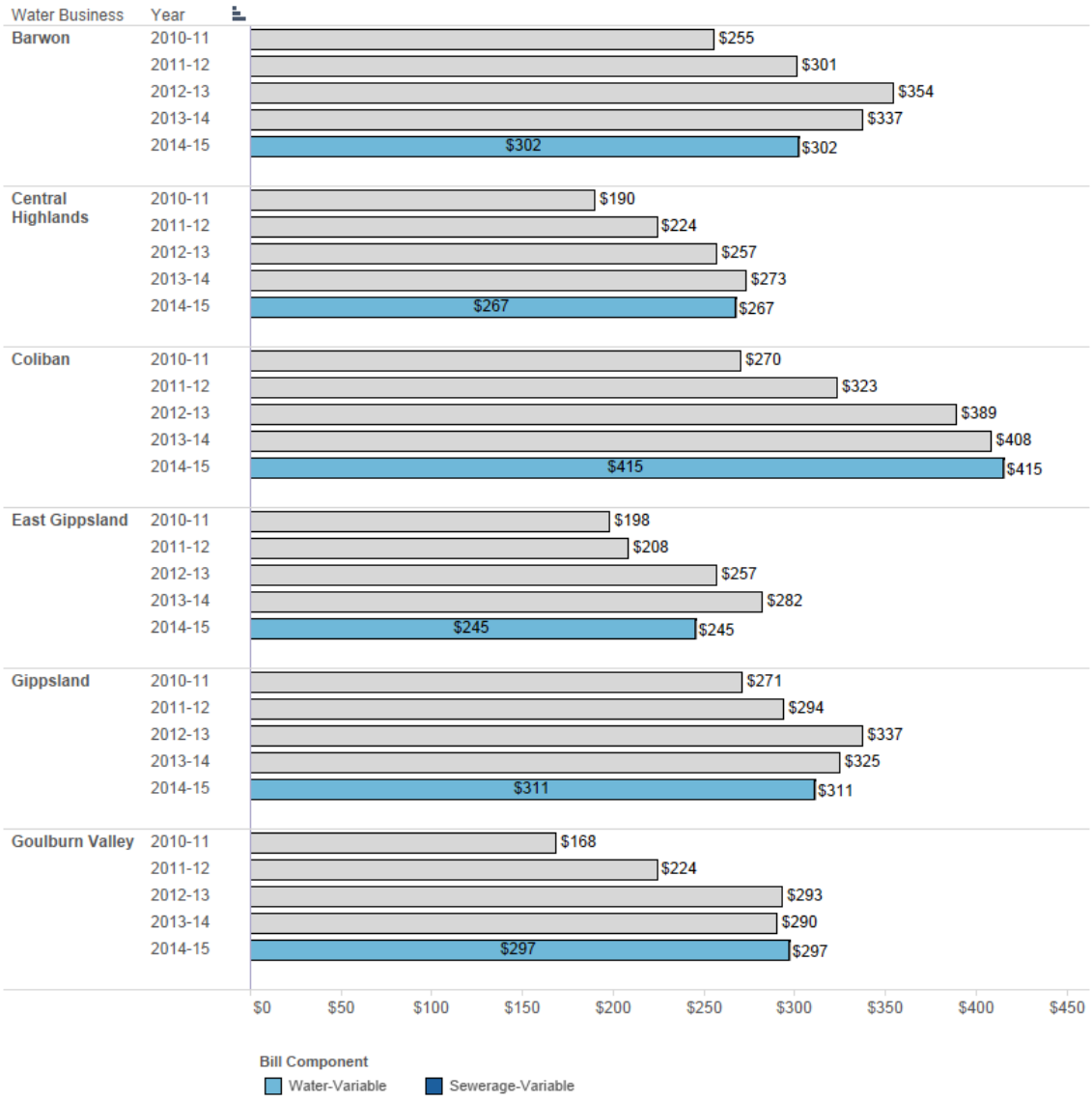
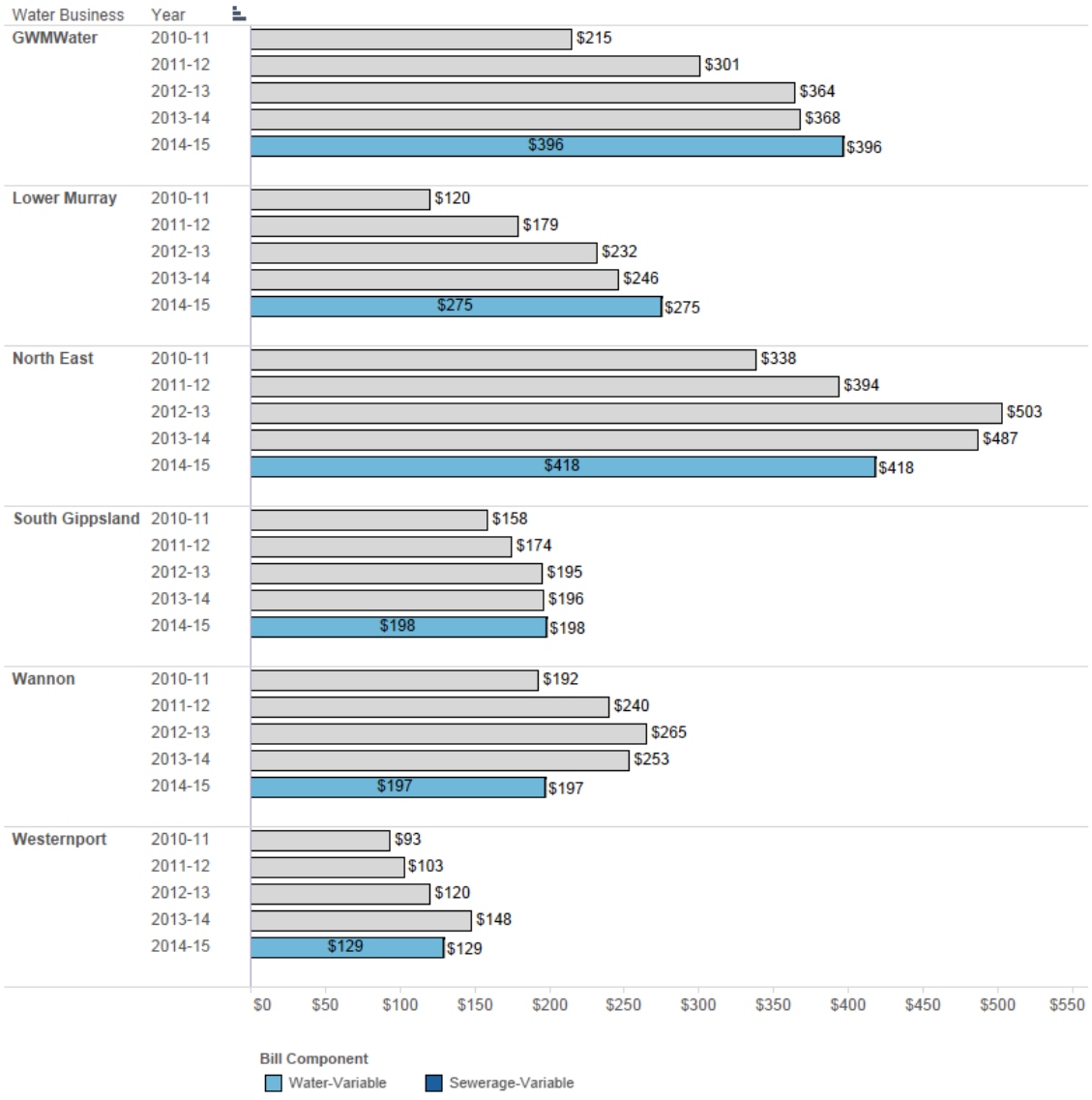


FIGURE 3.5 (CONT) TENANTS — AVERAGE HOUSEHOLD BILLS
($, nominal)

Regional businesses (cont.)



KEY OBSERVATIONS

- Tenants' average household bills ranged from $129 (Westernport Water, which has a high proportion of fixed charges and low average consumption) to $516 (Yarra Valley Water) in 2014-15.
- Tenants' average bills fell in nominal terms for seven regional businesses, and increased by less than CPI for three others. Tenants of the remaining two regional businesses had bill increases of 7 per cent (GWMWater) and 12 per cent (Lower Murray Water).
- The greater metropolitan Melbourne businesses all showed significant decreases in the typical tenant bill — City West Water by 18 per cent, South East Water by 17 per cent, Yarra Valley Water by 19 per cent and Western Water by 33 per cent. The efficiency cost savings for these businesses were all passed through as rebates against the variable water charge, so tenants received the full benefit of this saving with landlords paying the full fixed charges.

BACKGROUND

- The Commission approves maximum prices for urban water and sewerage, rural water and other prescribed services. In June 2013 the Commission approved prices for metropolitan, regional and rural businesses for a five year pricing period (from 2013-14 to 2017-18), except for Melbourne Water and Goulburn Murray Water which both have a three year pricing period.
- Prices and tariff structures for water and sewerage differ between businesses. All businesses have a fixed fee and a usage based charge for water. Only the metropolitan retail businesses have a usage based charge for residential sewerage. Usage based charges allow households to influence their total bill by reducing water consumption.
- A number of businesses use an 'inclining block' tariff structure for water, where the usage price rises with the level of consumption. City West Water, South East Water, Yarra Valley Water, Central Highlands Water, Lower Murray Water, Wannon Water and Western Water used an inclining block tariff structure in 2014-15. The other nine urban water service providers had a single tier water usage charge. Coliban Water and Westernport Water changed their tariff structures from inclining block to single tier for the 2013–18 pricing period, which commenced 1 July 2013.
- Tenants do not pay service or fixed charges and are only responsible for the usage, or variable, component of the bill. Melbourne tenants pay the sewer variable charges as well as the water variable charges.
- The Commission's pricing determinations establish a fixed price path by stating the maximum prices businesses may charge for each year of the pricing period. The Commission then reviews annually each business's proposed price increases to ensure they still comply with the price determination, and approves the annual increment including the consumer price index (CPI) component. Annual price increases for a particular business may vary from year to year across the pricing period; hence the relative increases for various businesses may differ each year. Some businesses have larger increases built in at the beginning of the pricing period, while others have no real increase in prices over the pricing period.

- Differences in average household bills across the businesses can be attributed to several factors: the cost to service different regions, sources of water, historical decisions about tariff structures and the average volume of water used.
- Customers serviced by businesses with a higher variable water component can exercise greater control over their bills.
- We use each business's average household consumption (figure 3.1) to calculate an indicative average household bill for water and sewerage services. This average bill includes both the fixed and variable water and sewerage charges. Metropolitan customers also pay drainage charges on behalf of Melbourne Water and parks charges on behalf of the Minister for Water, but these charges are not included in our typical household bill estimates. For regional businesses with multiple pricing zones, we used the prices in the largest town to calculate each business's average household bill.
- There is a bill estimator available to consumers on our website at www.esc.vic.gov.au

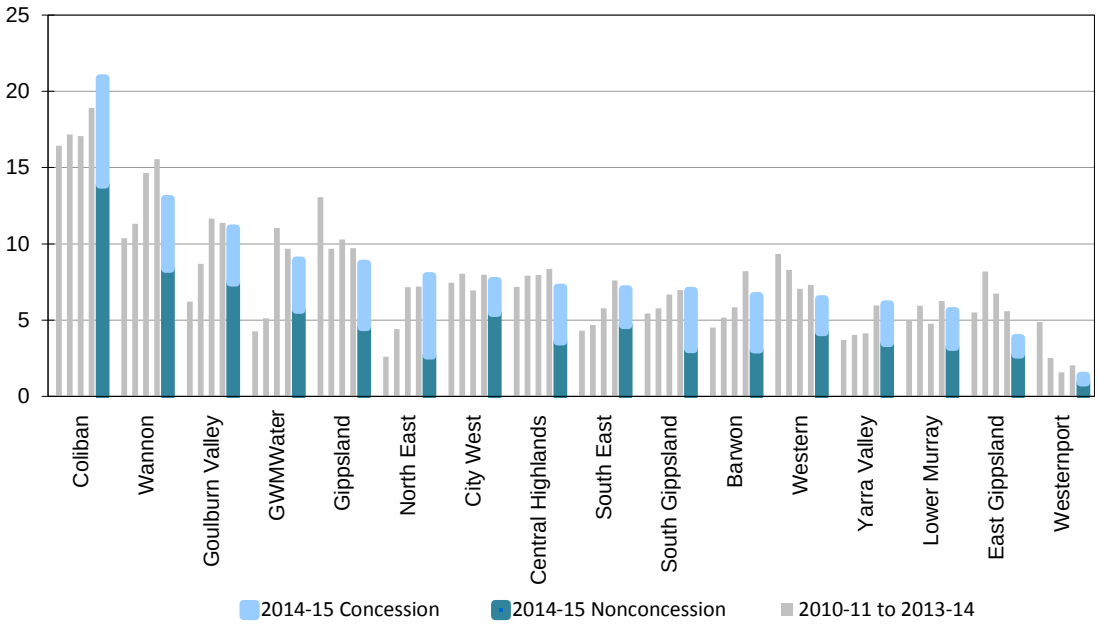
3.3 ASSISTING WITH PAYMENT DIFFICULTIES

The Commission's Customer Service Code requires urban water businesses to assist customers who have payment difficulties. This section reports on how the water businesses have assisted customers through a number of different methods.

CUSTOMER INSTALMENT PAYMENT PLANS

Instalment plans help to address affordability issues by providing customers with the flexibility to manage their bill payments. This may be of particular assistance for customers experiencing financial difficulties.

FIGURE 3.6 RESIDENTIAL CUSTOMERS WITH INSTALMENT PLANS
(per 100 customers)



SNAPSHOT (Residential instalment plans, per 100 customers)

State-wide Average		-5.1%	Metro Average		-3.9%	Regional Average		-7.5%
2014-15	7.3	↓	2014-15	6.7	↓	2014-15	9.0	↓
2013-14	7.7		2013-14	7.0		2013-14	9.7	

KEY OBSERVATIONS

RESIDENTIAL

- In 2014-15, the overall rate of residential instalment plans decreased to 7.3 per 100 customers from 7.7 in 2013-14. The number of residential customers on instalment plans decreased from 177 555 in 2013-14 to 171 832 in 2014-15.
- The use of instalment plans for residential customers ranged from 1.4 per 100 customers for Westernport Water to 20.9 per 100 customers for Coliban Water.
- Only four businesses reported an increase in the number of customers on instalment plans this year.
  - Coliban Water, which already had the highest proportion of customers on instalment plans, further increased this by 1489 customers (up 12 per cent) and now has over 20 per cent of its residential customers on flexible payment plans.
  - Yarra Valley Water increased by 1344 customers (3 per cent)
  - North East Water increased by 364 customers (12 per cent)
  - South Gippsland Water increased by 9 customers (1 per cent).
- Most businesses reported reductions in the number of customers on instalment plans, some by up to a third.
- This general tapering or even significant reduction in the use of instalment plans reverses the longer term trend where the number of instalment plans has been increasing every year until now.

NONRESIDENTIAL

- Overall, the number of nonresidential customers on payment instalment plans decreased by 3 per cent, down from 3871 customers in 2013-14 to 3757 in 2014-15, although there was a mix of increases and decreases across businesses. This also reversed the trend where this number has been increasing each year.
- Instalment plans for nonresidential customers increased significantly for GWMWater and Yarra Valley Water, both showing increases of over 30 per cent.
- Conversely, Barwon Water halved the number of instalment plans for nonresidential customers (from 192 in 2013-14 to 97 in 2014-15). Barwon Water's figures have historically fluctuated from year to year.

2014-15 REVIEW OF HARDSHIP MEASURES — MELBOURNE METRO

In its final decision for the 2013 water price review, the Commission allowed $5.25 million for the metropolitan retailers (City West Water, South East Water, Western Water, and Yarra Valley Water) to help customers manage the large price increases from July 2013. Businesses were expected to use the additional revenue to enhance existing hardship policies, expand programs, adopt best practice and improve associated infrastructure. The extra revenue was not intended for direct financial customer assistance, because other options existed already.

After consulting with water businesses and community groups, the Commission now measures how well the water businesses manage the additional hardship funds. The second report on water businesses' performance is now available on the Commission's website.[5]

In this year's report, customers were positive about the hardship programs they used, and consumer advocates commended water businesses on their awareness programs and encouraged tailored early intervention programs to reflect changes in those experiencing hardship. Compared to the 2013-14 report, this report showed mixed results in the take up of hardship programs. Overall the number of customers on instalment plans reduced, however the affordability of payment plans increased and water businesses provided more assistance to customers applying for Utility Relief Grants.

[5] Essential Services Commission 2015, *Review of hardship measures taken by metropolitan water businesses 2014-15 report,* December.

CONCESSION PAYMENTS

The Victorian Government provides concessions to assist low income households with water and sewerage bills at their principal place of residence.

TABLE 3.1 CONCESSION PAYMENTS
($, nominal)

Water business	2013-14	2014-15
City West	$21 661 105	$21 988 904
South East	$43 183 169	$44 191 476
Yarra Valley	$45 398 652	$47 506 925
Barwon	$9 488 852	$9 608 227
Central Highlands	$4 651 208	$4 659 156
Coliban	$4 936 714	$5 286 197
East Gippsland	$1 715 867	$1 809 971
Gippsland	$4 765 630	$4 994 916
Goulburn Valley	$3 965 546	$4 100 375
GWMWater	$2 378 006	$2 498 722
Lower Murray	$2 041 408	$2 051 528
North East	$3 549 131	$3 687 225
South Gippsland	$1 315 837	$1 385 801
Wannon	$2 875 456	$2 993 366
Western	$3 407 546	$3 685 248
Westernport	$641 120	$688 140
TOTAL	**$155 975 248**	**$161 136 177**

Source: Department of Health & Human Services.

KEY OBSERVATIONS

- In 2014-15, the government contributed $161 million in concession payments towards water bills. This was an increase of over $5 million compared with 2013-14, which roughly aligns with inflation.
- The number of concession households increased by 1893, from 683 362 in 2013-14 to 685 255 in 2014-15.

UTILITY RELIEF GRANTS SCHEME (URGS)

The Department of Health and Human Services administers the URGS, which provides one-off financial contributions towards a bill of a customer experiencing payment difficulties. The URGS payment is generally used for a short term financial crisis. It is different from the hardship programs provided by the water businesses to customers who experience ongoing financial hardship (discussed next).

TABLE 3.2 AVERAGE AMOUNTS OF UTILITY RELIEF GRANTS 2014-15
($, 2014-15)

	Approved	Grants paid ($)	Average amount grant paid ($)	Grants per 1000 customers
City West	714	$305 490	$428	1.9
South East	1 377	$577 426	$419	2.1
Yarra Valley	2 139	$910 920	$426	3.1
Barwon	205	$75 872	$370	1.5
Central Highlands	271	$105 126	$388	4.5
Coliban	524	$214 154	$409	8.0
East Gippsland	116	$49 927	$430	5.8
Gippsland	205	$89 535	$437	3.4
Goulburn Valley	293	$104 969	$358	5.8
GWMWater	83	$35 120	$423	3.1
Lower Murray	34	$12 323	$362	1.2
North East	182	$65 636	$361	4.1
South Gippsland	28	$11 360	$406	1.7
Wannon	186	$74 180	$399	5.2
Western	228	$102 378	$449	4.1
Westernport	29	$12 428	$429	2.0
TOTAL	**6 614**	**$2 746 844**	**$415**	**2.8**

Source: Department of Health & Human Services.

KEY OBSERVATIONS

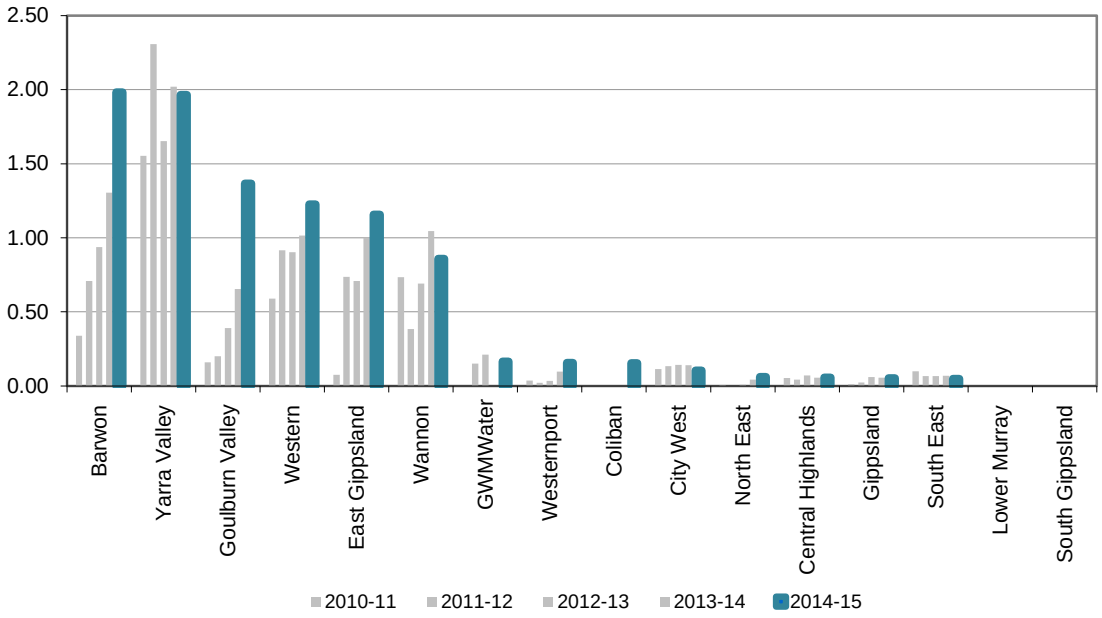
- The number of URGS grants increased by 5 per cent from 6309 in 2013-14 to 6614 in 2014-15; the rate of grants increased from 2.7 per 1000 customers in 2013-14 to 2.8 in 2014-15.

- Coliban Water recorded the highest rate of URGS uptake for the period, increasing from 2.4 per 1000 customers in 2013-14 to 8.0 in 2014-15. Coliban Water has established a new proactive and dedicated Debt Recovery and Hardship Team that seeks to find the best solutions for customers with payment difficulties. This includes supporting customers to obtain government grants where available.
- East Gippsland Water, Goulburn Valley Water and Wannon Water also recorded relatively high rates of URGS uptake for the period with 5.8, 5.8 and 5.2 per 1000 customers respectively.
- Almost a third of all URGS payments went to Yarra Valley Water customers, with a total of $910 920 paid between the 2139 customers.
- The average grant amount in 2014-15 was $415, up $8 from 2013-14. The average value of grants ranged from $358 for Goulburn Valley Water to $449 for Western Water.

WATER BUSINESSES' OWN HARDSHIP GRANTS SCHEMES

Hardship grants schemes are another approach used by water businesses to assist residential customers experiencing financial hardship. These often take the form of co-payment schemes, where the water business will waive a periodic payment if the customer meets a set number of scheduled payments, with the waived payment counted as a hardship grant.

FIGURE 3.7 HARDSHIP GRANTS APPROVED
(per 100 customers)



SNAPSHOT (Hardship grants approved, per 100 customers)

State-wide Average		5%	Metro Average		-4%	Regional Average		46%
2014-15	0.82	▲	2014-15	0.84	▼	2014-15	0.79	▲
2013-14	0.79		2013-14	0.87		2013-14	0.54	

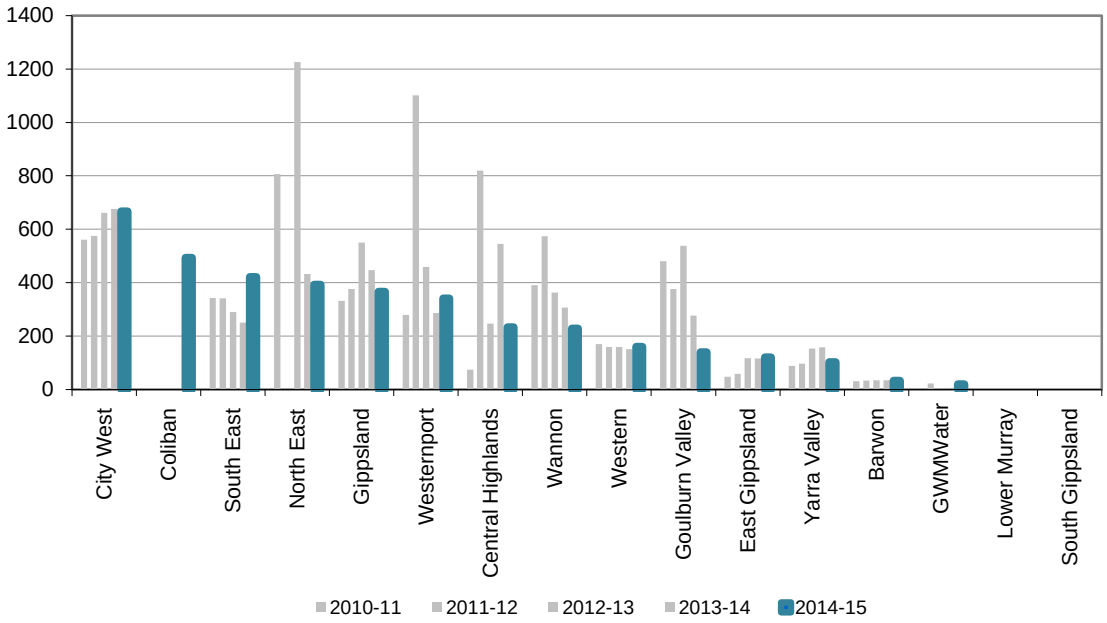
KEY OBSERVATIONS

- Water businesses approved 19 301 hardship grants in 2014-15, up 7 per cent from 18 065 in the previous year. While the number of hardship grants approved by

metropolitan businesses dropped slightly, there was a very large increase across the regional businesses.

- Barwon Water recorded the highest rate of hardship grants, increasing 55 per cent this year to a rate of 1.98 per 100 customers.
- Yarra Valley Water had the second highest rate of 1.96 this year, 1 per cent lower than in 2013-14, but still has the most hardship grants by far, with 13 726 grants approved at an average value of $102.
- Goulburn Valley Water approved 686 grants in 2014-15, more than doubling its 2013-14 figure of 324 grants as it fully implemented its Hardship Program.
- By contrast South Gippsland Water has not provided any hardship grants to customers since 2008-09, and Lower Murray Water has never provided a hardship grant.
- This was the first year Coliban Water provided hardship grants since 2006-07, approving 101 grants in 2014-15.

FIGURE 3.8 AVERAGE VALUE OF HARDSHIP GRANTS
($, nominal)



SNAPSHOT (Hardship grants value, $ nominal)

State-wide Average		-30.2%	Metro Average		-30.2%	Regional Average		-22.0%
2014-15	118	↓	2014-15	125	↓	2014-15	98	↓
2013-14	169		2013-14	178		2013-14	126	

KEY OBSERVATIONS

- The average value of hardship grants across businesses ranged from $19 to $667 in 2014-15, with an overall average of $118.
- However, the total dollar value of all grants fell by 25 per cent, down to $2.3 million from a high of $3.1 million in 2013-14.
- City West Water reported the highest average value of hardship grants and approved 391 grants, while GWMWater reported the lowest.
- Central Highlands Water reported the largest decrease in the average value of hardship grants, from $545 in 2013-14 to $233 in 2014-15.

BACKGROUND

The urban water businesses must assist customers with payment difficulties on a case-by-case basis by:

- providing alternative payment arrangements in accordance with a customer's capacity to pay, including offering a range of payment options (such as flexible payment plans) or redirecting the bill to another person to pay
- offering to extend the due date for some or all of an amount owed
- appropriately referring customers to government funded assistance programs (including the URGS) or to an independent financial counsellor
- observing minimum periods of notice before applying supply restrictions or pursuing legal action to recover outstanding debts
- not restricting water supply of a customer or pursuing legal action before first taking additional steps to secure payment, including making a reasonable attempt to contact the person, offering a payment arrangement and resolving any dispute over the outstanding amount.

The Commission extended the hardship related guaranteed service level (GSL) scheme to all 16 urban retail water businesses from 1 July 2012. It gives businesses another incentive to try contacting a customer before initiating legal action or restricting water services in response to nonpayment. Please see the Commission's website for more information about hardship GSLs.

3.4 ACTIONS FOR NON-PAYMENT OF BILLS

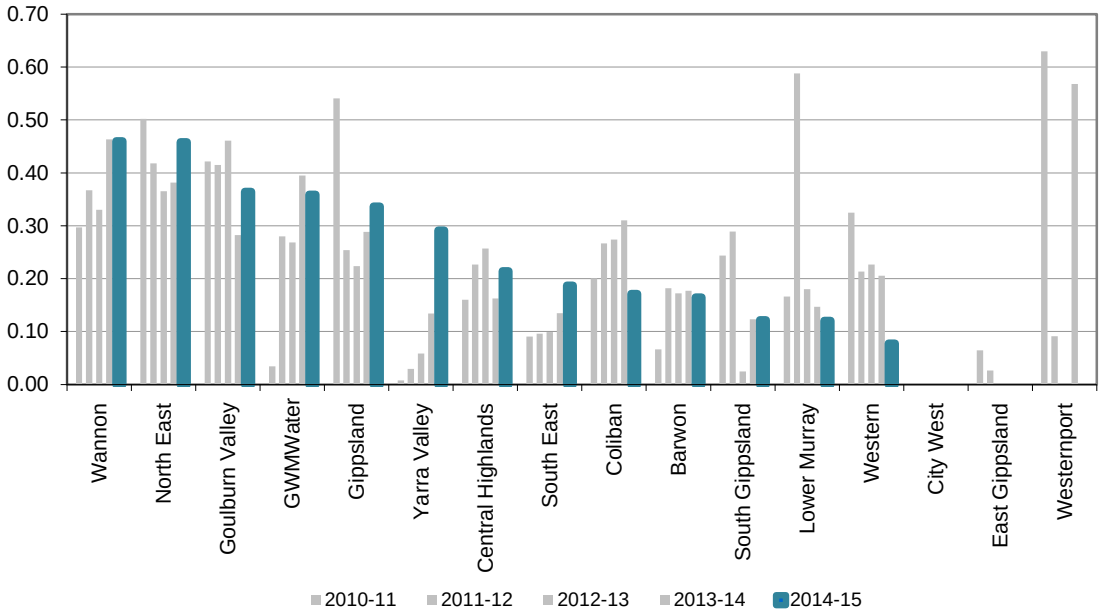
RESTRICTIONS OF SUPPLY

Water legislation allows water businesses to restrict water supply to customers.

The Commission's Customer Service Code sets out the procedures water businesses are required to follow before restricting a customer's water supply. The majority of water businesses will apply supply restrictions or take legal action only after offering all possible assistance to their customers, and where the level of outstanding debt is high.

FIGURE 3.9 RESIDENTIAL SUPPLY RESTRICTIONS FOR NONPAYMENT OF BILLS

(per 100 customers)



SNAPSHOT (Residential supply restrictions, per 100 customers)

State-wide Average		38.0%	Metro Average		78.9%	Regional Average		-9.3%
2014-15	0.20	▲	2014-15	0.19	▲	2014-15	0.23	▼
2013-14	0.14		2013-14	0.11		2013-14	0.25	

KEY OBSERVATIONS

- In 2014-15, 4673 residential customers (including 581 residential concession customers) had their water supply restricted for nonpayment of water bills.
- This result was a significant 41 per cent increase from 2013-14, with 1354 more residential customers having their water supply restricted.
- The large increase in water supply restrictions came primarily from Yarra Valley Water with 1116 additional residential customer restrictions (up 121 per cent) and South East Water with an additional 359 restrictions (up 42 per cent). Combined they accounted for 70 per cent of all restrictions in the state.
  - Yarra Valley Water provided the following comment:

The increase in restrictions is a direct result of Yarra Valley Water improving its practices, processes and systems to better engage with customers with outstanding debt. Following the issue of a bill and final notice, we seek to engage with customers through multiple channels including letters and telephone calls, registered mail and a property visit. After all avenues of making contact with a customer have been explored, the process of restriction is the last resort in engaging with a customer to address existing debt, and to prevent the debt from growing further.

During 2014-15, we commenced engagement with approximately 175 000 customers regarding outstanding debt with 2035 being restricted as a last resort. Of the customers whose water supply was restricted, 1051 were resolved within 3 days with normal water supply being restored. In total, 86 per cent of restricted customers contacted us to enter into an arrangement following the restriction of supply. Of these, 602 customers established affordable payment arrangement and 648 were identified as financially vulnerable, with water supply restored and access provided to support programs.

  - South East Water provided the following comment:

Restriction of the water supply remains our last resort action and we continue to promote payment assistance options and hardship options to customers who are unable to pay. Prior to restriction a customer will typically have two full collection cycles undertaken, which includes notices, letters, multiple attempted telephone contacts, SMSs (where

applicable) and property visits. Whilst restriction activity has increased, the volumes (on average 103 per month) remain low when compared to our payment plan volumes (on average 3833 per month), payment extensions (on average 13 843 per month) and our >90 Day Debtor volumes (on average, around 25 000 customers at any point in time). We are endeavouring to action our unpaid accounts as early as possible, before they get out of hand. As a last resort action, we prefer restriction of the water supply over legal action, as it will normally generate a response from the customer, without them incurring legal costs.

- However the highest restriction rate of 0.46 per 100 residential customers was recorded by both Wannon Water and North East Water.
- City West Water and East Gippsland Water continued to not restrict water supply to any customers for nonpayment of bills.
- Westernport Water traditionally has one of the highest restriction rates, with a large number of seasonal nonpermanent residents who do not require a water supply year round, and seem to not mind having their supply restricted until they need it again. However, this year Westernport Water has suspended its restrictions program while it changes over to a new billing system.
- Western Water reported the largest decrease in residential restrictions for nonpayment of bills (down 61 per cent), from 111 in 2013-14 to 43 restrictions in 2014-15, although this was largely due to a resourcing issue that meant the business was unable to install the restriction devices.
- The number of nonresidential customers whose water supply was restricted also increased, from 102 in 2013-14 to 148 in 2014-15.

RESTRICTION DURATION (RESIDENTIAL)

Water businesses must identify how long customers restricted for nonpayment remain on supply restrictions. Specifically, they must report the number of residential customers whose water supply is restored within three days of being restricted, as well as the number of residential customers with restrictions still in place after 14 days. A high proportion of customers on supply restrictions for long periods of time may suggest the restriction policy is poorly targeted, with customers unable to pay their bill rather than being unwilling to do so. Supply restrictions may also be less effective in rural areas where people have access to alternative water supplies such as water tanks and dams.

- Businesses reported a range of 19 per cent to 84 per cent of restricted customers had their water supply restored within three days of the restriction being applied.
- The proportion of supply restrictions not restored within 14 days generally ranged from 7 per cent (Western Water) to 73 per cent (GWMWater).

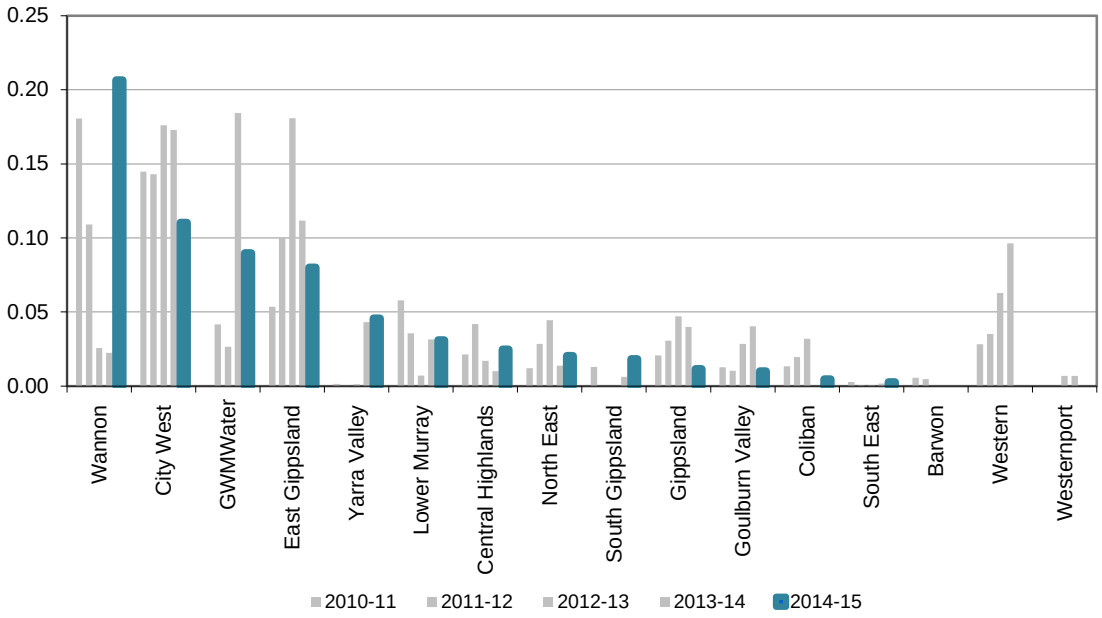
BACKGROUND

- The Customer Service Code requires all urban water businesses to assist customers facing payment difficulties on a case-by-case basis. It also requires water businesses to take steps before restricting supply. A revised Code, released in October 2010, increased the minimum outstanding payment amount at which businesses could initiate supply restriction or legal action to $200.
- Water businesses report on:
  - the number of customers restricted for nonpayment of their water bills
  - restrictions data disaggregated by concession/nonconcession for residential customers
  - the average level of outstanding debt for which supply restrictions were applied.

LEGAL ACTION AND AVERAGE DEBT LEVELS

Water businesses may take legal action against customers to recover unpaid debt.

FIGURE 3.10 RESIDENTIAL LEGAL ACTIONS
(per 100 customers)



SNAPSHOT (Residential legal actions, per 100 customers)

State-wide Average		-18.3%	Metro Average		-21.0%	Regional Average		-4.7%
2014-15	0.04		2014-15	0.05		2014-15	0.03	
2013-14	0.05		2013-14	0.06		2013-14	0.03	

KEY OBSERVATIONS

- Overall, businesses took legal action against 1098 customers across Victoria in 2014-15 for nonpayment of water bills — 220 customers (17 per cent) less than the previous year.
- Legal action was taken against 915 residential customers (819 nonconcession customers and 96 concession customers) and 183 nonresidential customers.

- The overall rate for legal action against residential customers for nonpayment of bills remained low at 0.04 per 100 customers (or one in 2500). Some businesses undertook no legal actions (Barwon Water, Western Water and Westernport Water) while Wannon Water had the highest rate of 0.21 legal actions per 100 customers.
- Wannon Water also reported the largest increase in legal actions for nonpayment of bills, increasing from 8 in 2013-14 to 74 in 2014-15. This was the result of a more concerted effort to collect outstanding accounts where the residential customer had refused to engage with Wannon Water.
- City West Water again recorded the highest number of legal actions (455 in 2014-15), reflecting its practice to take legal action rather than to restrict water supply, recognising the essential nature of its service to households. However this year's figure was 211 less than the 666 in 2013-14, which largely accounts for the overall state-wide reduction.
- City West Water and Yarra Valley Water collectively accounted for 78 per cent of all legal actions reported and recorded results much higher than South East Water with only 30 legal actions (with none against concession customers).
- The average debt for initiating legal action was substantially higher than the $200 minimum specified in the Code, ranging from $648 for Coliban Water to $5785 for South East Water.
- City West Water, with the highest number of legal actions, had one of the lowest average debt levels for legal action, indicating its preference to use legal actions instead of restrictions.

4 CUSTOMER RESPONSIVENESS AND SERVICE

This chapter reports on:

- responsiveness of water business call centres **(section 4.1)**
  - average time to connect to an operator
  - calls answered within 30 seconds

- benchmarking call centres **(section 4.2)**
  - call centre connect times
  - greeting quality
  - agent manner
  - enquiry handling skills

- complaints **(section 4.3)**
  - complaints received by the water businesses

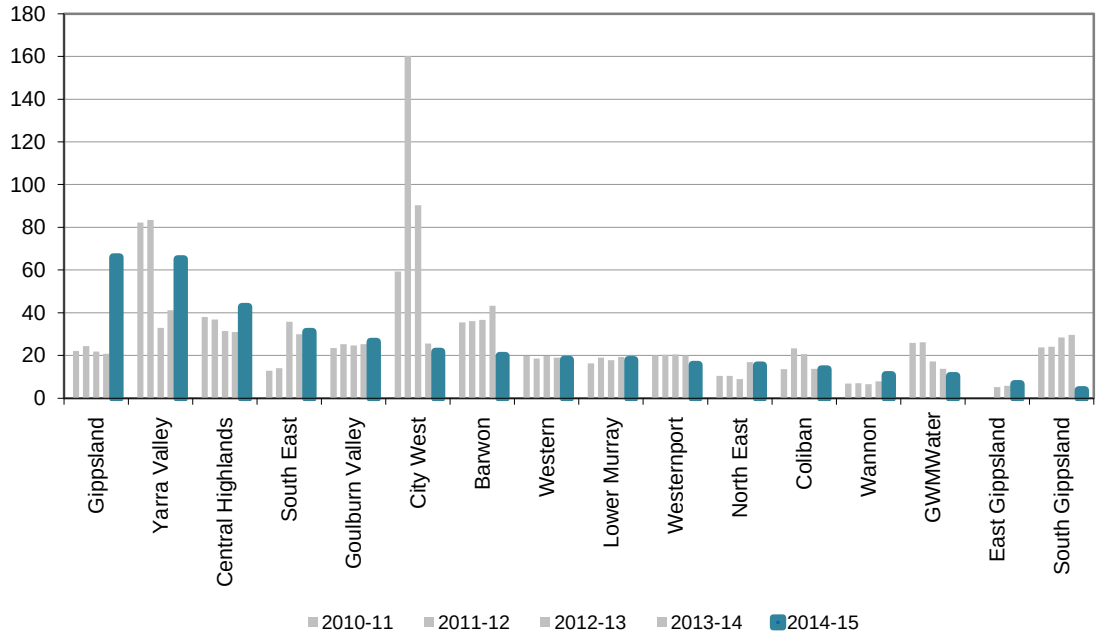
- complaints received by the Energy and Water Ombudsman Victoria (EWOV) **(section 4.4)**.

4.1 RESPONSIVENESS OF WATER BUSINESS CALL CENTRES

Timeliness of call centres in connecting incoming calls to operators is an important factor influencing customer satisfaction.

These indicators were modified this year to specifically exclude time taken to navigate an automated interactive voice response (IVR) system. Consistent with the national reporting framework, the response time commences when the customer selects an option to speak with an operator.

FIGURE 4.1 AVERAGE TIME TAKEN TO CONNECT TO AN OPERATOR — ACCOUNT AND FAULT LINES
(seconds)



Note: East Gippsland Water could not report this data for years prior to 2012-13.

SNAPSHOT (Connect time, seconds)

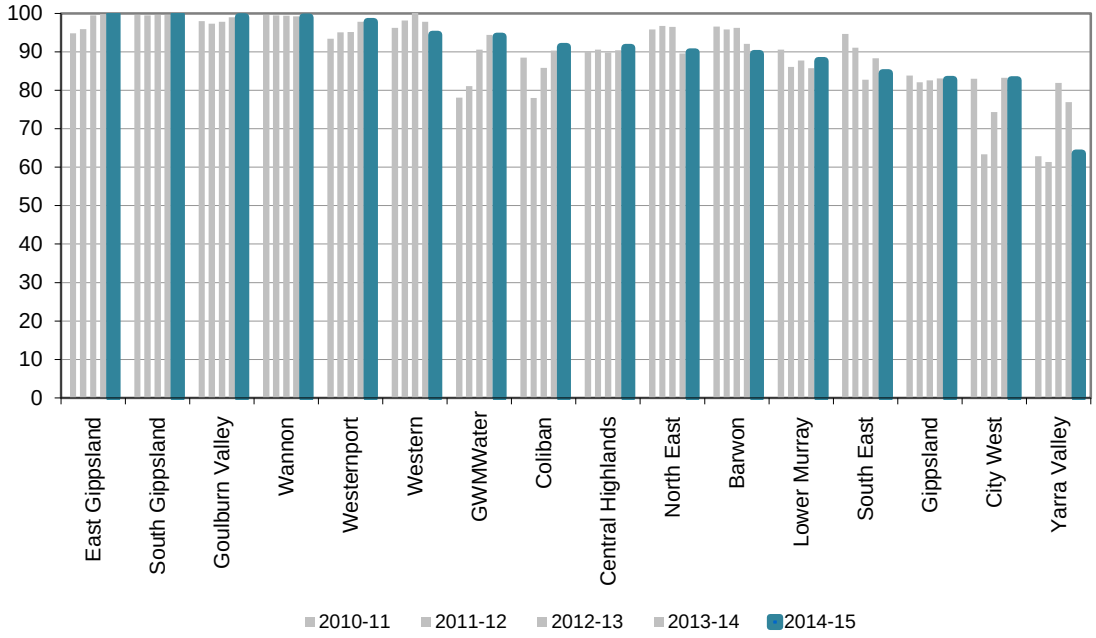
State-wide Average		19.2%	Metro Average		26.8%	Regional Average		-6.0%
2014-15	37		2014-15	42		2014-15	22	
2013-14	31		2013-14	33		2013-14	24	

KEY OBSERVATIONS

- In 2014-15, the water businesses received 2.11 million phone calls, 83 per cent of which were calls to account enquiry lines. This was an 8 per cent decrease from 2.29 million calls in 2013-14.
- Seven businesses recorded an increase in average connect time. Statewide, the weighted average time to connect to an operator was 37 seconds in 2014-15, six seconds longer than the average of 31 seconds in 2013-14. This increase was unexpected — given the IVR navigation time was specifically excluded for the first time this year, average connect times were more likely to decrease compared with previous years. It appears that some businesses may not have included IVR time in previously reported figures.
- Gippsland Water more than tripled its reported average connect time from 21 seconds to 66 seconds. It implemented a new telephony system at the end of 2013-14, and advises that its 2014-15 figure includes the time required to listen to the IVR system prior to selecting to speak to an operator, whereas its previous times did not. Gippsland Water will remove the IVR time for its 2015-16 reporting and expects that connect times will be closer to historical figures (about 20 seconds).
- Yarra Valley Water also recorded a significant increase in average connect time of 58 per cent from 41 to 65 seconds. It now takes an average 24 seconds longer to connect to an operator, more than double the average connection time of the two other metropolitan businesses. In response to customer feedback, commencing March 2015, Yarra Valley Water provided customers with the choice to either wait for their call to be answered or to leave a message and be called back within a 24 hour period. (Prior to this, customers were automatically being directed to a voicemail during busy periods.) Yarra Valley Water attributes the increased average call connect time to those customers now choosing to wait for an operator.
- The exclusion of the IVR navigation time produced some significant reductions in reported connect time, in particular South Gippsland Water falling from 30 seconds in 2013-14 to only 4-seconds in 2014-15, which is now the fastest reported average connect time across all businesses. Barwon Water also dropped 23 seconds from 43 seconds last year to 20 seconds this year.

FIGURE 4.2 CALLS ANSWERED WITHIN 30 SECONDS — ACCOUNT AND FAULT LINES

(per cent)



SNAPSHOT (Percent of calls answered in 30 seconds)

State-wide Average		-6.1%	Metro Average		-8.6%	Regional Average		-0.9%
2014-15	80		2014-15	75		2014-15	92	
2013-14	85		2013-14	82		2013-14	93	

KEY OBSERVATIONS

- Ten businesses reported at least 90 per cent of calls answered within 30 seconds. East Gippsland Water, South Gippsland Water, Goulburn Valley Water and Wannon Water reported 99 per cent and over — South Gippsland Water and Wannon Water for the sixth consecutive year.
- Yarra Valley Water had the lowest percentage of calls answered within 30 seconds at 64 per cent, followed by City West Water and Gippsland Water both recording 83 per cent.
- Yarra Valley Water also recorded the largest decline in performance over the period, falling from 77 per cent in 2013-14 to 64 per cent in 2014-15. Yarra Valley

Water also attributed this decline to giving customers the choice to either wait for their call to be answered or leave a message and be called back within 24 hours, rather than automatically being directed to a voicemail during busy periods as was their practice previously.

BACKGROUND

- The Customer Service Code places obligations on businesses for customer responsiveness and service. These obligations include having policies, practices and procedures for handling customers' complaints and disputes, and providing certain information to customers on request. Auditing businesses' compliance with the Code is done in conjunction with performance report audits.
- Customer connection measures are disaggregated between account enquiries and emergency contact numbers. Nine businesses have a separate number for faults and emergencies. These businesses are Goulburn Valley Water, Barwon Water, South East Water, North East Water, Westernport Water, Gippsland Water, City West Water, GWMWater and Yarra Valley Water. Businesses without a separate fault and emergency number must record all calls against account lines. These differences can make direct comparisons between businesses difficult, although calls are generally answered faster when a business has a fault line available to customers.
- Businesses may use automated interactive voice response (IVR) systems to intercept calls before directing the customer to the appropriate customer service area. This approach generally increases the time taken to connect to an operator, and will vary according to the number of menu options, length of recordings, and the ability to bypass the recordings if a customer is familiar with the options. For this reason, the IVR time is now excluded from the comparison measures; however businesses should not ignore the impact that lengthy IVR processes will have on customer satisfaction.

4.2 BENCHMARKING OF CALL CENTRES

The Commission engaged Customer Service Benchmarking Australia (CSBA) to benchmark call centre performance in 2014-15 against Australian water and energy sector averages. CSBA assesses a business's performance from calls to its account lines using the 'mystery caller' technique, which can result in different call connect times than those reported by businesses.

CSBA reported performance for sector averages (metropolitan retail and regional urban) and for the top performing business in a particular category. These results were also compared with the Australian water sector average, and an overall Australian utility sector average.

In 2014-15 CSBA made 1600 calls to regional urban businesses and 360 calls to the metropolitan retailers.

KEY OBSERVATIONS

CALL CENTRE CONNECT TIMES

- CSBA's 'mystery caller' survey for the metropolitan water businesses reported an average connect time, *inclusive* of Integrated Voice Response (IVR) time, of 54 seconds in 2014-15, 4 seconds faster than in 2013-14. South East Water again secured the shortest connect time, averaging 39 seconds per call.
- Regional businesses recorded an average connect time of 42 seconds, which is higher than in 2012-13 and 2013-14. GWMWater remained the best performing regional urban business, averaging 15 second connect times.
- The average connect time for the Australian water sector was 45 seconds in 2014-15 (up from 40 seconds in 2013-14), while the average response time for All Utilities in Australia (which includes Australian energy and water businesses) also increased, rising to 70 seconds from 66 seconds.

GREETING QUALITY

- CSBA measures greeting quality according to an index comprising: welcome salutation, giving the business name, giving the agent's name, making an offer to help the caller and sign off. The results are combined for a score out of 100.

- The metropolitan retailers achieved an overall greeting quality score of 90 in 2014-15, slightly down on 91 for the previous two years. City West Water achieved the best result with 93, and has remained the top metropolitan retailer for the past four years.
- The regional urban businesses achieved an overall greeting quality score of 86, a drop from the score of 90 for the previous two years. Wannon Water again led the Victorian regional water sector for 2014-15 with 98, unchanged from 2013-14.
- Victorian water businesses were consistent with Australian utility averages. The overall greeting quality score for the Australian water sector was 86 in 2014-15, a little lower than the All Utilities result of 91.

AGENT MANNER

- CSBA classifies agent (operator) manner as Acceptable or Unacceptable using four mutually exclusive ratings:

  Acceptable
  - interested, helpful and warm (best practice agent manner)
  - businesslike and unemotive

  Unacceptable
  - laidback and easy going
  - disinterested and curt.

- Acceptable Agent Manner scores remained high and stable for both metropolitan retailers and regional businesses, at 98 per cent and 99 per cent respectively, the same results as for 2013-14. Regional and metropolitan water providers generally provided a service where agents were interested, warm and attentive in their conduct with customers.
- Yarra Valley Water and South East Water shared best metropolitan performance again, both scoring 99 per cent, while five regional water businesses scored full marks of 100 per cent over 2014-15.
- Victorian water businesses were consistent with Australian All Utilities averages. The overall Acceptable Agent Manner score for the Australian water sector was 99 per cent for 2014-15, the same as the All Utilities average. This pattern demonstrates companies' focus on creating a positive and lasting impression with customers.

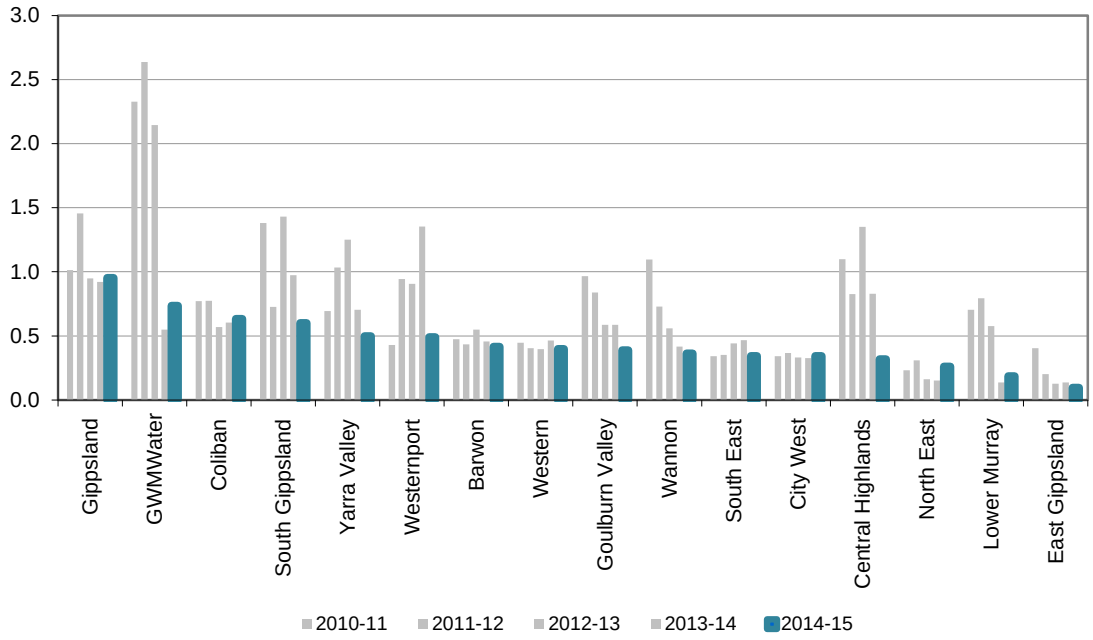
ENQUIRY HANDLING SKILLS

- CSBA measures four key enquiry handling skills:
  - ability to probe to clarify customer needs
  - product service knowledge
  - agent provides a clear outcome for the enquiry
  - agent is helpful and courteous.
- Overall Enquiry Resolution scores continued to trend upward, and now sit at 95 (metropolitan) and 96 (regional), compared with 86 and 90 in 2012-13. This is now consistent with both the Australian water sector and the All Utilities scores.
- In 2014-15 call centre staff of the metropolitan retailers:
  - clarified the customer needs 96 per cent of the time (compared with 90 per cent in 2013-14 and 78 per cent in 2012-13)
  - demonstrated good product knowledge 96 per cent of the time (up from 90 per cent in 2013-14 and 87 per cent in 2012-13)
  - provided a clear outcome to an enquiry 93 per cent of the time (unchanged from 2013-14 and up from 89 per cent in 2012-13).
- Of the metropolitan retailers, City West Water was the best performer across all enquiry handling skill categories, with 95 per cent overall for 2014-15.
- In 2014-15 call centre staff of the regional urban businesses:
  - clarified the customer needs 96 per cent of the time (up from 90 per cent in 2013-14 and 81 per cent in 2012-13)
  - demonstrated good product knowledge 96 per cent of the time (up from 94 per cent in 2013-14 and 91 per cent in 2012-13)
  - provided a clear outcome to an enquiry 95 per cent of the time (slightly down from 96 per cent in 2013-14 and 92 per cent 2012-13).
- South Gippsland Water was the best Victorian regional water company in the enquiry handling skills category for 2014-15, with 99 per cent.

4.3 COMPLAINTS

Customer complaints can indicate dissatisfaction with the services provided by water businesses. The reasons for customer complaints can also provide important information about aspects of performance needing improvement. If a business cannot resolve a complaint directly with the customer, the customer may refer the matter to the Energy and Water Ombudsman (Victoria) (EWOV) for further investigation (see section 4.4).

FIGURE 4.3 COMPLAINTS RECEIVED BY WATER BUSINESSES
(per 100 customers)



SNAPSHOT (Complaints, per 100 customers)

State-wide Average		-21.7%	Metro Average		-23.7%	Regional Average		-16.5%
2014-15	0.42		2014-15	0.41		2014-15	0.46	
2013-14	0.54		2013-14	0.53		2013-14	0.56	

KEY OBSERVATIONS

- In 2014-15, businesses received 10 764 customer complaints, a 20 per cent decrease from the 13 492 complaints received in 2013-14. Yarra Valley Water and South East Water accounted for over 80 per cent of the decrease, with 2260 fewer complaints between them.
- This result equates to an overall frequency of 0.42 complaints per 100 customers across the state in 2014-15, down from 0.54 in 2013-14 and 0.74 in 2012-13.
- Ten water businesses reported falls in total complaint rate, with the most significant rate decrease coming from Westernport Water (from 1.35 in 2013-14 to 0.49 in 2014-15) — this is consistent with Westernport Water's historical levels, following a large spike in complaints in 2013-14 after an algal bloom in Candowie Reservoir.
- Central Highlands Water also reported a significant decrease in complaint rate in 2014-15, however its audit this year identified that complaints resolved during the initial customer contact were not included in its reported complaints figures. This will be rectified and the correct figures reported in 2015-16.
- The complaint rate rose for six businesses, three of which were relatively minor.
- The largest increases in complaint rate were recorded by North East Water (72 per cent), GWMWater (34 per cent), and Lower Murray Water (34 per cent), although the North East Water and Lower Murray Water complaint rates are both still at the bottom end of the scale.
  - The substantial increase in North East Water's complaint rate is predominantly due to payment issues and water supply reliability complaints which were nearly three times the 2013-14 recorded levels. North East Water noted that at least half of the supply reliability complaints reported by customers were actually related to leaks on nature strips or stop tap failures.
- Water businesses received most complaints about water quality (45 per cent), followed by payment issues (18 per cent), water pressure (15 per cent), sewer odour (5 per cent), water supply reliability (2 per cent), and sewer service reliability (1 per cent). Other complaints not included in these categories comprised 14 per cent of total complaints.

BACKGROUND

- A complaint is recorded if a customer registers dissatisfaction in a complaint category. Australian Standards define a complaint as an "expression of dissatisfaction made to or about an organisation, related to its products, services, staff or handling of a complaint where a response is implicitly expected or legally required." (AS/NZS 10002:2014)
- Businesses report the number of customer complaints about:
  - water quality
  - water supply reliability
  - sewerage service quality and reliability
  - payment issues[1]
  - water pressure/flow rate
  - sewage odour
  - 'other' complaints.
- Water quality complaints are discussed in more detail in chapter 6.

[1] The Commission formed a new category, payment issues, in 2012-13. It combines the affordability and billing categories from previous years.

4.4 COMPLAINTS RECEIVED BY ENERGY AND WATER OMBUDSMAN (VICTORIA)

EWOV has investigated complaints about water businesses since 2001. Its role is to help resolve complaints and disputes between consumers and electricity, gas and water providers in Victoria. It reports on consumer cases that involve payment difficulties, disconnections or restrictions and debt collection or credit default.

EWOV provides us with a summary of complaints and enquiries it received for each water business (see table 4.1). This provides a useful comparison with complaint rates reported to us by each water business.

KEY OBSERVATIONS

- In 2014-15 EWOV received 2148 complaints about the metropolitan and regional urban water businesses, down 16 per cent from 2559 complaints in 2013-14. EWOV also received 57 enquiries, down from 67 last year.
- The number of complaints to EWOV for each of the three metropolitan retailers was fairly consistent with the sector share of customers for each business. South East Water and Yarra Valley Water had a slightly lower proportion of complaints than their sector share, while City West Water was slightly higher.
- Of the regional businesses, Coliban Water again had the highest number of complaints referred to EWOV relative to sector share, with 19 per cent of all regional complaints while only servicing 11 per cent of the regional population.
- Lower Murray Water experienced the lowest ratio of customer complaints to EWOV relative to customers served, with only 2 per cent of all regional complaints while servicing 5 per cent of regional customers. Next was East Gippsland Water (with 2 per cent of regional complaints and a 3 per cent sector share).

TABLE 4.1 COMPLAINTS RECEIVED BY ENERGY AND WATER OMBUDSMAN (VICTORIA)

Water businesses	Total cases				Total enquiries		Total complaints		2014-15 complaints				Sector share	Ratio
	2014-15	**%**	**2013-14**	**%**	**2014-15**	**%**	**2014-15**	**%**	**Investigated complaints**	**Real time resolution**	**Assisted referrals**	**Unassisted referrals**	**%**	**Complaints to sector share**
Melbourne	27		27		0		27		6	1	13	7	-	
City West	443	26	439	21	14	34	429	26	24	24	297	84	22	1.17
South East	634	37	715	35	15	37	619	37	60	46	401	112	38	0.98
Yarra Valley	627	37	914	44	12	29	615	37	65	41	389	120	40	0.92
Total – Metropolitan	**1 704**	**100**	**2 068**	**100**	**41**	**100**	**1 663**	**100**	**149**	**111**	**1 087**	**316**	**100**	
Barwon	94	20	149	28	1	6	93	20	10	5	61	17	22	0.93
Central Highlands	46	10	38	7	5	31	41	9	5	5	23	8	10	0.92
Coliban	85	18	80	15	0	0	85	19	14	6	49	16	11	1.76
East Gippsland	10	2	13	2	1	6	9	2	0	0	6	3	3	0.59
Gippsland	37	8	35	7	0	0	37	8	4	3	27	3	10	0.82
Goulburn Valley	30	6	24	5	0	0	30	7	2	1	21	6	8	0.79
GWMWater	25	5	29	5	1	6	24	5	2	1	17	4	5	1.14
Lower Murray	10	2	7	1	0	0	10	2	1	1	5	3	5	0.45
North East	44	9	37	7	0	0	44	10	9	0	27	8	7	1.33
South Gippsland	15	3	10	2	2	13	13	3	1	0	7	5	3	0.99
Wannon	36	8	36	7	5	31	31	7	6	0	13	12	6	1.09
Western	26	5	52	10	0	0	26	6	1	2	15	8	9	0.66
Westernport	16	3	21	4	1	6	15	3	2	1	8	4	2	1.42
Total – Regional	**474**	**100**	**531**	**100**	**16**	**100**	**458**	**100**	**57**	**25**	**279**	**97**	**100**	
TOTAL – VICTORIA	**2 205**		**2 626**		**57**		**2 148**		**212**	**137**	**1 379**	**420**		

BACKGROUND

- EWOV records complaints under four separate categories:
  - **unassisted referrals** — where a customer did not speak with their water business about their complaint and they are referred back to the business's contact centre;
  - **assisted referrals** — where a customer spoke with someone at their water business's contact centre about their complaint, but it remains unresolved and the matter is referred by EWOV to a higher level complaint resolution officer at the business;
  - **real time resolution** — EWOV's Real Time Resolution Team receives failed assisted referral calls from customers and then works to resolve the complaint through customer education and direct negotiation with the customer and their water business (all within a one-call approach); and
  - **investigated complaints** — when the matter remains unresolved, the customer or the water business can request the matter be investigated by EWOV.
- EWOV also records the number of enquiries it receives. Table 4.1 records the number of enquiries and complaints EWOV received about metropolitan and regional urban water businesses.[1]

[1] The Commission does not report enquiries and complaints about rural water businesses.

5 NETWORK RELIABILITY

This chapter reports on:

- water supply reliability **(section 5.1)**
  - water supply interruptions
  - customer interruption frequency
  - timing of interruptions
  - average duration of interruptions
  - overall reliability
  - number of customers experiencing an interruption

- sewerage service reliability **(section 5.2)**
  - sewer blockages
  - containment of sewer spills
  - sewer spills to customer properties

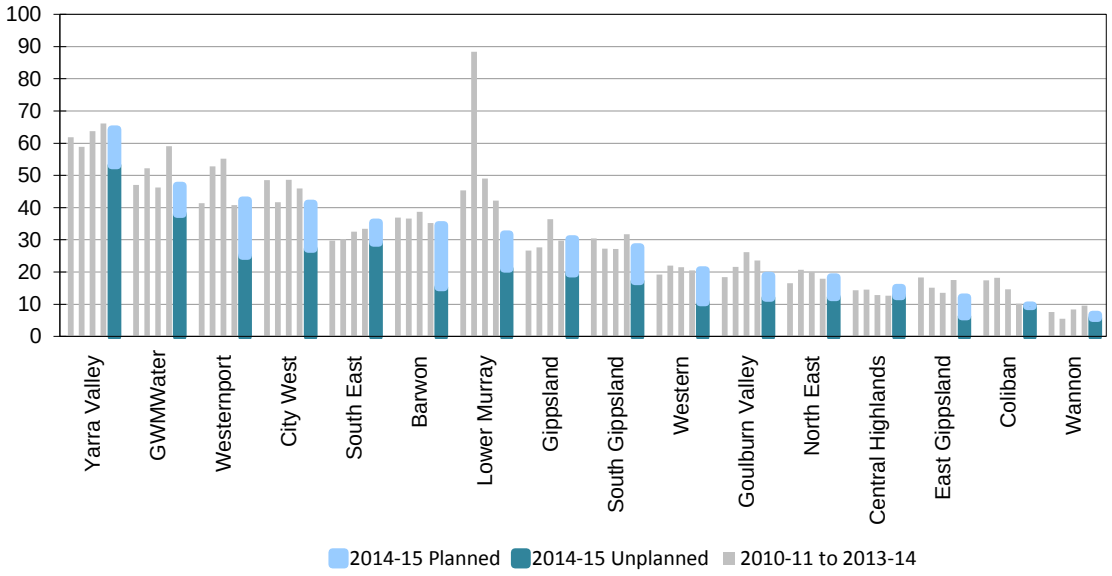
5.1 WATER SUPPLY RELIABILITY

A reliable supply of water to customers is the cornerstone of a water business's operation. This chapter presents information on network reliability, considering asset performance, service interruptions to customers and responsiveness to service problems.

WATER SUPPLY INTERRUPTIONS

A water supply interruption is an event that causes a total loss of supply to one or more customers. Interruptions may be due to planned maintenance activities, or unplanned activities resulting from pipeline or delivery system failures.

FIGURE 5.1 WATER SUPPLY INTERRUPTIONS (PLANNED AND UNPLANNED)
(per 100 kilometres of water main)



SNAPSHOT (Water supply interruptions, per 100 kilometres)

State-wide Average		-3.3%	Metro Average		-2.0%	Regional Average		-6.5%
2014-15	36.2	↓	2014-15	48.4	↓	2014-15	23.0	↓
2013-14	37.5		2013-14	49.3		2013-14	24.6	

KEY OBSERVATIONS

- The average water supply interruption rate across the state was 36.2 interruptions per 100 kilometres of water main in 2014-15, a 3 per cent improvement from 37.5 interruptions in 2013-14.
- The unplanned interruptions statewide average remained between 26 and 30 interruptions per 100 kilometres over the past five years. In 2014-15 only the three metropolitan businesses and GWMWater recorded rates above the average.
- In 2014-15, Wannon Water again reported the lowest rate of water supply interruptions (at 6.8 per 100 kilometres); it has done so for the past seven years.
- By contrast, Yarra Valley Water again reported the highest number of water supply interruptions (64.3 per 100 kilometres), albeit down 3 per cent from last year.
- GWMWater's interruption rate returned to historical levels (at 46.8 per 100 kilometres in 2014-15) after a spike in 2013-14 due to its increased and targeted scheduled maintenance strategy.
- Lower Murray Water recorded its lowest ever unplanned interruption rate (21.1 per 100 kilometres), down 36 per cent from 2013-14. This was largely the result of a change to its interpretation of what constitutes an interruption. The business previously also counted interruptions to a customer service pipe, even though an alternate water supply was provided to the affected customer.

BACKGROUND

- The frequency of interruptions across different networks is compared by measuring the number of water supply interruptions per 100 kilometres of water main.
- Soil type, geography and the assets' age and material cause regional variations in interruption rates for water mains, but asset management can also significantly affect supply reliability in the medium to long term.

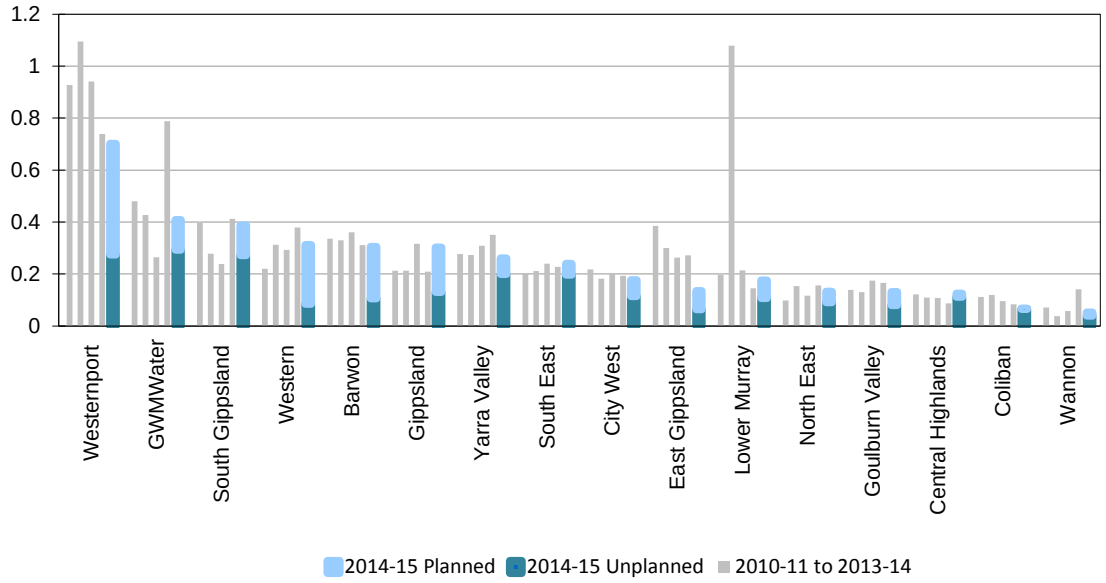
CUSTOMER INTERRUPTION FREQUENCY

Customer interruption frequency measures how often on average a customer will experience an interruption.

A single water supply interruption will generally inconvenience a specific number of customers. An event causing 50 customers to lose supply is recorded as one water supply interruption and 50 customer interruptions.

FIGURE 5.2 CUSTOMER INTERRUPTION FREQUENCY — PLANNED AND UNPLANNED

(interruptions per customer)



SNAPSHOT (Customer interruption frequency per customer)

State-wide Average		-12.5%	Metro Average		-13.1%	Regional Average		-10.9%
2014-15	0.23		2014-15	0.23		2014-15	0.23	
2013-14	0.27		2013-14	0.27		2013-14	0.25	

KEY OBSERVATIONS

- In 2014-15, the average frequency of customer interruptions (planned and unplanned) across the state was 0.23 interruptions per customer, down from 0.27 interruptions per customer in 2013-14. This average rate was consistent across both metropolitan and regional sectors.
- Wannon Water reported the fewest water supply interruptions per customer (0.05) down from 0.14 in 2013-14. It has retained one of the lowest rates since 2009-10.
- In 2014-15, GWMWater's customer interruption frequency returned to historic levels, falling 48 per cent after a jump in 2013-14 that was caused by a number of power failures, resulting in whole-of-town outages that affected every customer.
- Yarra Valley Water's customer interruption frequency decreased by 26 per cent in 2014-15, but both City West Water and South East Water remained fairly steady.

Planned interruptions

- The frequency of planned interruptions across the state was 0.07 per customer. This was a decrease of 21% on the 0.09 reported in 2013-14 and was largely driven by a decrease of 28% for the metropolitan water businesses.
- Wannon Water's planned interruptions decreased by 88 per cent, returning to its historical base of less than 0.01 planned interruptions per customer.
- By contrast, Westernport Water recorded the highest rate of 0.43, which it attributed to its planned Water Main Air Scouring program conducted throughout many of its main townships.

Unplanned interruptions

- The statewide average for frequency of unplanned interruptions was 0.16 per customer, a decrease of 8% on the prior year value of 0.18. The regional urban businesses average was 0.11 unplanned interruptions per customer, down on 0.13 in 2013-14. Out of the metropolitan businesses, City West Water and South East Water both remained relatively steady for 2014-15, while Yarra Valley Water decreased by 14%.
- Central Highlands Water reported the largest increases (39 per cent) in unplanned customer interruption rate in 2014-15 (although it is still on par with the regional

average), while GWMWater, Western Water and Goulburn Valley Water reported the largest improvements.

- Western Water's unplanned customer interruption rate improved significantly again this year (from 0.16 in 2012-13 and 0.12 in 2013-14 to 0.09 in 2014-15). The business attributed this to three key factors:
  - Prioritisation of water system maintenance and replacement programs.
  - Prompt response by field teams to bursts and leaks; over 2000 fewer customers experienced shutdowns this year compared with last year.
  - A mild climate during 2014-15 and the absence of extreme heat wave events, as had been experienced the previous two years, reduced the number of water pipe ruptures. (The extreme heat dramatically affects the soil in Western Water's region leading to increased ground movement and pressures causing more pipe failures).

TIMING OF WATER SUPPLY INTERRUPTIONS

The timing of customer interruptions, as well as the frequency, affects the inconvenience caused to customers. Peak hours of water use occur from 5am–9am and 5pm–11pm, and interruptions during these peak times generally cause greater inconvenience than during the off-peak times.

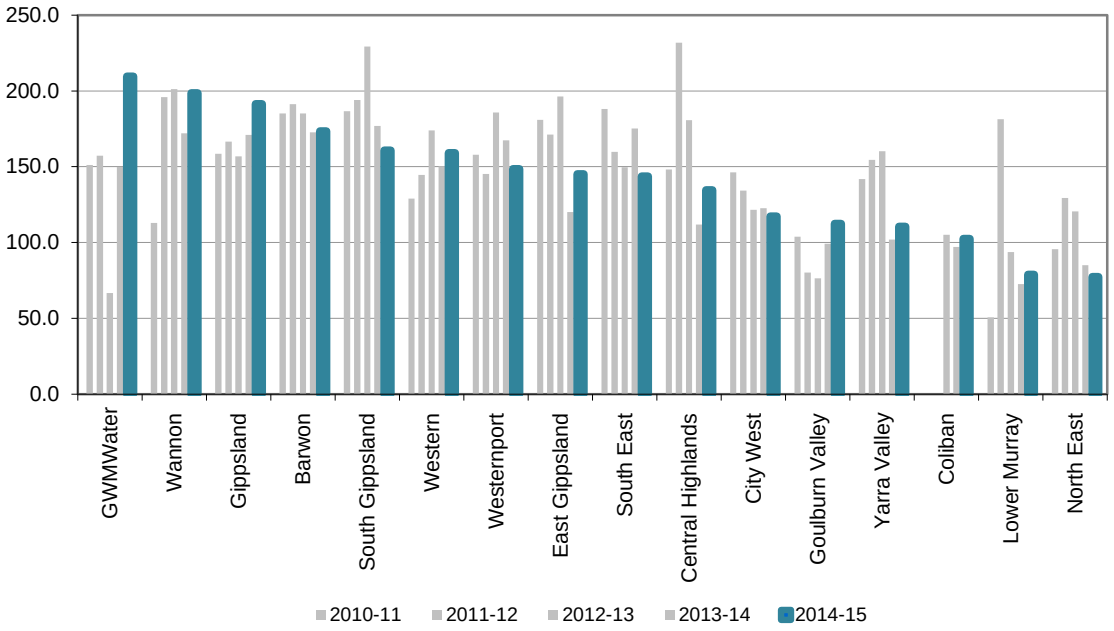
KEY OBSERVATIONS

- In 2014-15, Western Water and Coliban Water reported no planned customer interruptions during peak hours, the fifth straight year for Western Water.
- GWMWater reported the highest result this year, with a frequency of 0.027 planned interruptions per customer during peak hours; however, this was well down from its figure of 0.051 in 2013-14.
- Westernport Water reported a greatly reduced (by 96 per cent) peak hour interruption rate in 2014-15 — in 2013-14 it ran parts of its air scouring program in peak hours due to contractor availability.
- North East Water had the most significant increase in peak hour interruption rate this year, more than doubling its 2013-14 rate to produce the second highest rate in 2014-15 of 0.014.

AVERAGE DURATION OF WATER SUPPLY INTERRUPTIONS

Average interruption duration indicates how long it takes, on average, to restore supply after an interruption. It is measured from the time water supply is shut down until it is returned to normal service levels.

FIGURE 5.3 AVERAGE DURATION OF PLANNED INTERRUPTIONS (minutes)



SNAPSHOT (Average duration planned interruptions, minutes)

State-wide Average		5.7%	Metro Average		3.5%	Regional Average		4.5%
2014-15	140	▲	2014-15	122	▲	2014-15	164	▲
2013-14	133		2013-14	118		2013-14	157	

KEY OBSERVATIONS

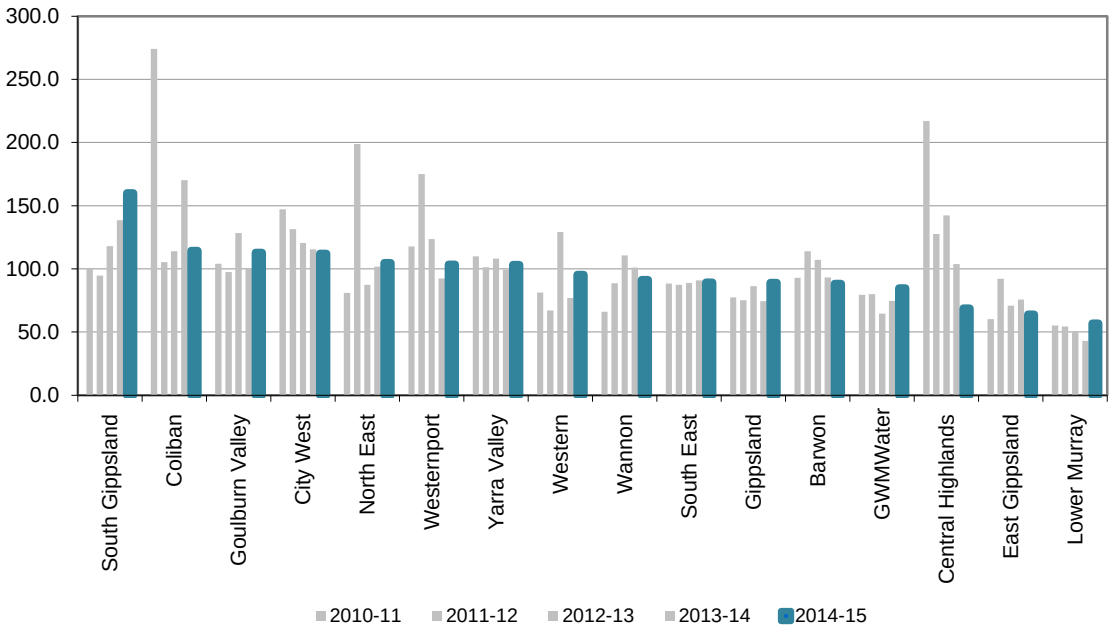
- In 2014-15, the average duration of planned interruptions increased across the state, rising from 133 minutes in 2013-14 to 140 minutes.

- North East Water recorded the shortest average duration of planned interruptions (77 minutes) while GWMWater recorded the longest (210 minutes).
- Among the metropolitan businesses, Yarra Valley Water was the only business to record an increase in its average duration for planned interruptions compared with 2013-14.
- Among the regional businesses, GWMWater, Central Highlands Water and East Gippsland Water all reported substantial increases in the average duration for planned interruptions.
  - GWMWater's average duration rose from 150 minutes in 2013-14 to 210 minutes in 2014-15. The business attributed this to planned maintenance activities such as the air scouring/swabbing of water mains with the balance being larger water main extensions/renewals. It also noted that all planned interruptions occurred within the times customers were notified.

BACKGROUND

- The frequency of interruptions may be influenced by matters outside the control of water businesses, but it is possible to establish practices and procedures to restore supply quickly when an interruption does occur.
- Supply interruptions for planned work can vary greatly in duration, depending on the nature and extent of the planned work. On the one hand, businesses may conduct extensive programs to clean or replace pipes, and choose to maximise the amount of work performed during each scheduled supply interruption; this will increase the average duration.
- On the other hand, a business may strive to minimise or avoid planned supply interruptions wherever possible. This strategy can produce quite varied results for a particular business from year to year, as it may not always be possible to avoid a supply interruption to complete the required work.

FIGURE 5.4 AVERAGE DURATION OF UNPLANNED INTERRUPTIONS (minutes)



SNAPSHOT (Average duration unplanned interruptions, minutes)

State-wide Average		0.5%	Metro Average		0.4%	Regional Average		1.0%
2014-15	98		2014-15	99		2014-15	95	
2013-14	97		2013-14	98		2013-14	94	

KEY OBSERVATIONS

- In 2014-15, the average duration for unplanned interruptions remained fairly steady across the state (98 minutes compared with 97 minutes in 2013-14).
- Lower Murray Water again recorded the shortest average duration (57 minutes). Conversely, South Gippsland Water reported the longest average duration (160 minutes), which it attributed to a single incident on a major trunk main affecting 10 per cent of customers for 205 minutes (noting that excluding this one incident it would have achieved an average duration for unplanned water interruptions of 98 minutes).
- Of the metropolitan businesses, both City West Water and South East Water recorded small improvements in their average duration for unplanned interruptions in 2014-15, while Yarra Valley Water increased slightly.

- Eight regional businesses improved their performance but performance deteriorated for the other five. Notable results for the regional businesses included:
  - Coliban Water returned to its recent historical trend — it had the longest average duration in 2013-14 due to accidental isolation of a trunk main that skewed the data.
  - Central Highlands Water reported a significant decrease for the second consecutive year, falling from 104 minutes in 2013-14 to 69 minutes in 2014-15 and continuing a longer-term trend. Central Highland Water's improved performance reflected three factors:
    - the business re-educated staff on minimising interruption duration by changing how tasks are carried out
    - staff demonstrated appropriate implementation of this training
    - the business experienced fewer failures that required joint to joint replacement.

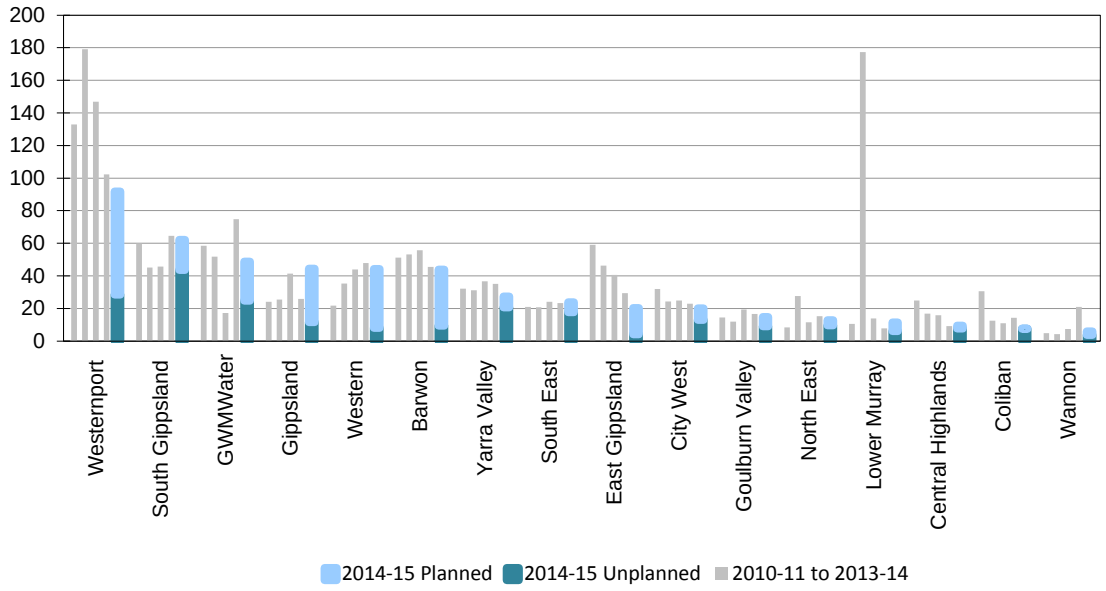
BACKGROUND

- Unplanned interruptions generally involve water supply infrastructure failures (such as pipeline bursts, equipment or instrument failures) that require shutting down the water supply to conduct emergency repairs. The duration can be greatly affected by factors including the size and location of the pipeline, access to the worksite, the availability of work crews to attend, and the nature of the repair required.
- Planned interruptions that take longer than the planned duration are also considered to be unplanned interruptions.

OVERALL WATER SUPPLY RELIABILITY

Overall reliability of a water supply network is measured by customer minutes off supply (the product of average customer interruption frequency and average interruption duration).

FIGURE 5.5 AVERAGE CUSTOMER MINUTES OFF SUPPLY
(minutes)



SNAPSHOT (Average customer minutes off supply, minutes)

State-wide Average		-11.4%	Metro Average		-12.9%	Regional Average		-7.7%
2014-15	26		2014-15	24		2014-15	29	
2013-14	29		2013-14	28		2013-14	32	

KEY OBSERVATIONS

- In 2014-15, the average customer minutes off supply across the state fell to 26 minutes (from 29 minutes in 2013-14), reflecting improvement in both metropolitan and regional sectors.
- Performance improved for two of the three metropolitan businesses in 2014-15, and also improved for ten of the 13 regional businesses.

- Wannon Water reported the lowest 2014-15 result of 6 minutes — it has delivered the best overall reliability results for four of the past five years, but spiked up to 21 minutes in 2013-14 due to its planned air scouring program to clean and maintain its pipe network.
- Gippsland Water reported the largest increase (from 26 minutes up to 44 minutes), due to its continued air scouring maintenance program throughout 2014-15 in the towns of Warragul, Drouin and Mirboo North. Gippsland Water noted it endeavoured to undertake all scouring work outside peak times.
- Although Westernport Water reported a 10 per cent fall in average time off supply, it again recorded the highest result (92 minutes) for the fifth consecutive year. According to Westernport Water, its result reflected the unusual nature of its network (where a burst or a leak can affect a significant proportion of its customers) and its preventative maintenance plan.
- GWMWater also recorded a significant improvement this year following last year's power outages that affected a large proportion of its customers, dropping from 75 minutes in 2013-14 to 49 minutes in 2014-15.

BACKGROUND

- Businesses can improve overall reliability by reducing the frequency of interruptions, reducing the number of customers affected with each interruption event or by reducing the duration of interruptions. Businesses are likely to pursue a combination of these approaches to improve reliability.

NUMBER OF CUSTOMERS EXPERIENCING AN INTERRUPTION

This measure is the number of customers who experienced multiple water supply interruptions in a year. Many of the performance indicators concentrate on average performance, but this measure can identify customers who received poor service with a higher number of interruptions.

It is also important to note the restoration times for unplanned and planned customer interruptions. These measures look at how promptly a water business restores supply once it shuts down a water main.

KEY OBSERVATIONS

- Ten of the 16 businesses reported fewer than 10 per cent of customers incurred one or more unplanned water supply interruptions during 2014-15.
- Wannon Water again reported the lowest interruption rate (3.7 per cent of customers had at least one interruption) while South Gippsland Water and Westernport Water reported the highest rates (25.3 per cent and 19.6 per cent respectively). South Gippsland Water's high figure was a result of the single incident on a major trunk main that affected 10 per cent of its customers.
- For customers incurring multiple interruptions (two or more unplanned interruptions), East Gippsland Water reported the smallest percentage (0.2 per cent of customers) while GWMWater reported the highest (6.2 per cent) followed by Westernport Water (5.1 per cent).
- The majority of unplanned water supply interruptions are restored within five hours, ranging from 95.4 per cent at Wannon Water up to 99.5 per cent at Lower Murray Water.

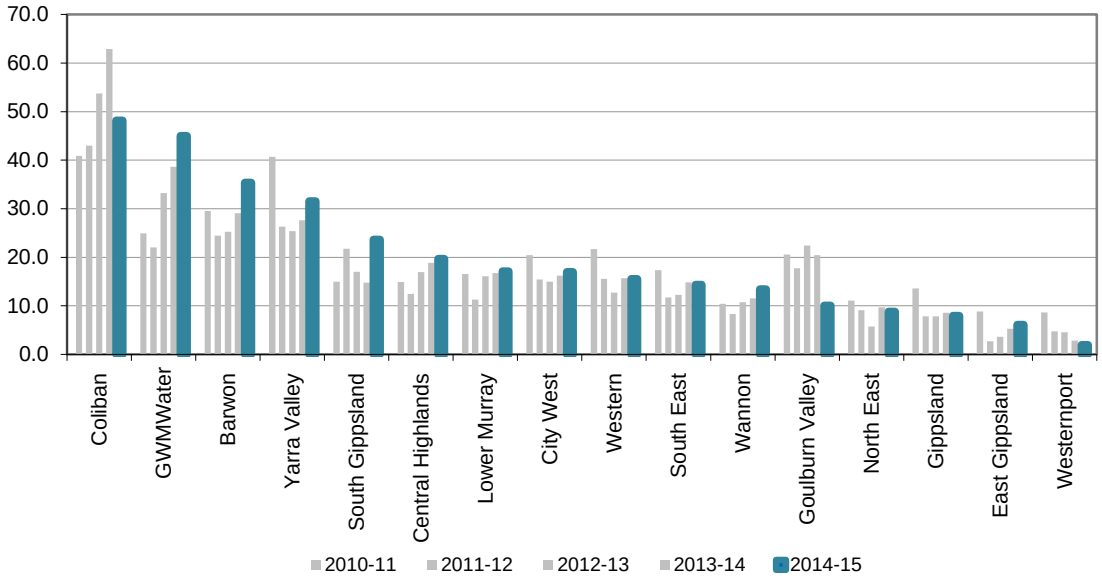
5.2 SEWERAGE SERVICE RELIABILITY

This section reports information about the reliability of sewerage services from two perspectives — the performance of the sewer assets and the impacts on customers.

SEWER BLOCKAGES

A sewer blockage is a partial or total obstruction of a sewer main that impedes sewage flow. This measure includes all trunk and reticulation main blockages (core infrastructure that transfers sewerage to treatment facilities), but excludes blockages in the house connection branch (HCB) and property drain (ancillary infrastructure that transfers sewerage to the core network).

FIGURE 5.6 SEWER BLOCKAGES
(per 100 kilometres of sewer main)



SNAPSHOT (Sewer blockages, per 100 kilometres)

State-wide Average		2.2%	Metro Average		7.4%	Regional Average		-4.5%
2014-15	22.1	▲	2014-15	22.0	▲	2014-15	22.3	▼
2013-14	21.6		2013-14	20.5		2013-14	23.4	

KEY OBSERVATIONS

- The overall rate of sewer main blockages across the state remained fairly steady in 2014-15 at 22 sewer blockages per 100 kilometres.
- Westernport Water again had the lowest rate of sewer blockages with only 2.0 blockages per 100 kilometres of sewer main — this is the lowest blockage rate reported to the Commission by any business.
- Coliban Water's sewer blockage rate fell 23 percent in 2014-15 to 48.2 blockages per 100 kilometres of sewer main. However, it still recorded the highest rate in the state, as it has done for every year of reporting. The improved results this year were attributed to greater investment of resources into sewer blockage prevention programs and initiatives.
- GWMWater again reported the second highest sewer main blockage rate (45.0 blockages per 100 kilometres of sewer main). The business had implemented a new asset management strategy in 2013, expecting to see an improvement in the sewer blockage rate by 2015-16. This strategy focused heavily on scheduled maintenance, with an increase in preventative measures such as mains renewals and chemical treatment in known problem areas. However, the continuing dry season throughout northern Victoria has caused an increase in sewer blockage counts this year.
- South Gippsland Water reported the largest increase (60 per cent) in sewer main blockages, increasing from 14.8 blockages per 100 kilometres of sewer main in 2013-14 to 23.6 in 2014-15, which the business attributed mainly to a reporting issue. Previously, private plumbers would deal with minor mains blockages when called out to inspect a possible HCB blockage, and not report this to the water business. However, now that water businesses are responsible for both mains and HCBs, South Gippsland Water believes it has assigned the blockages more accurately, resulting in a higher mains blockage count.
- Goulburn Valley Water reported 10.1 blockages per 100 kilometres of sewer main, less than half of its reported figure of 20.4 in 2013-14. However, this is due to previously including HCB blockages as well as main blockages, as its systems did not differentiate between the two. Goulburn Valley Water has been recording these separately since October 2014.

Customers affected by sewer blockages

- Businesses are required to report the number of customers experiencing three or more sewer blockages in the year. Most businesses reported very low numbers of customers experiencing three or more sewer blockages per year. The exceptions were North East Water (18 customers or 0.04 per cent) and South Gippsland Water (4 customers or 0.02 per cent).

BACKGROUND

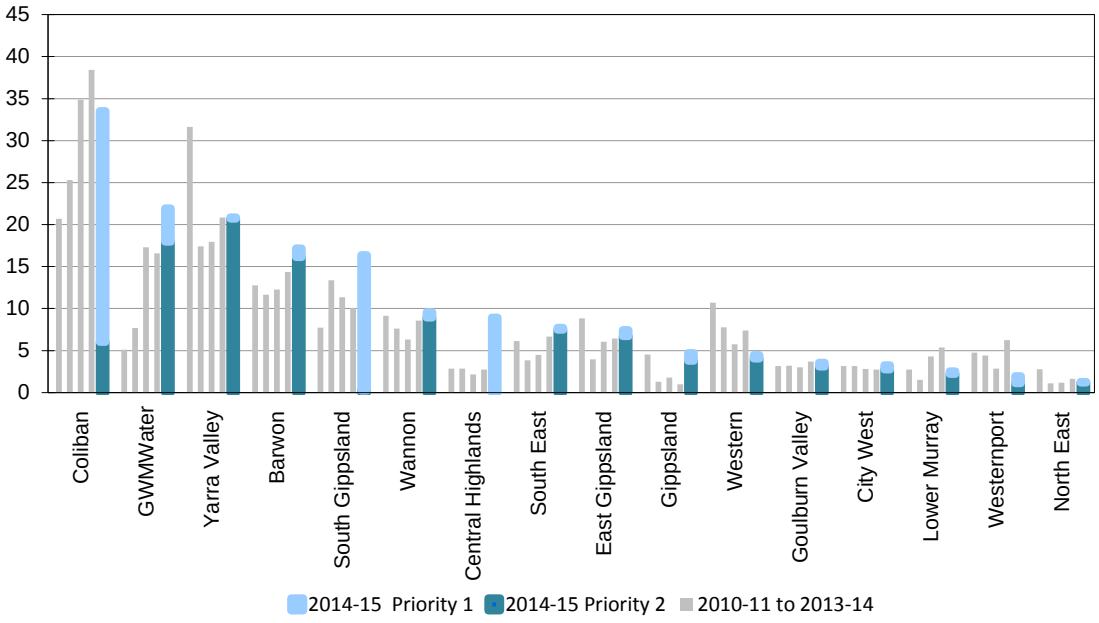
- Sewerage reliability is influenced by:
  - frequency of service failure (as indicated by sewer blockages per 100 kilometres of main and the number of blockages experienced by customers).
  - responsiveness to service failure (as indicated by sewer spills contained within five hours).
  - containment of sewage within the system (as indicated by the number of sewage spills, in particular spills onto customers' properties).
- Customers in Victoria rarely lose access to sewerage services. Blockages or other faults usually result in sewage spills rather than incapacity to dispose of sewage. The exception is when blockages occur in the pipe connecting a customer's property to the sewerage system. The impact of these interruptions, while great on the individual customer affected, is minor in an overall network context because it is confined to that customer. By contrast, a single water supply interruption will typically result in a loss of service to about 50 properties.
- A sewer blockage may lead to a sewage spill because it reduces the capacity of the sewer to handle the volume of sewage, particularly at times of high rainfall. Asset management practices affect the performance of the sewerage network, but a range of external factors can contribute to sewer blockages, particularly hot liquid fats solidifying as they cool and tree roots intruding into the sewers.

CONTAINMENT OF SEWER SPILLS

Reticulation and branch spills are a failure to contain sewage within the sewerage system. This measure excludes spills from emergency relief structures and at sewer pump stations and spills due to blockages in house connection branches. Depending on severity, customers may experience property damage and/or health risks.

The percentage of spills that are fully contained within five hours reflects the timeliness with which businesses contain sewer spills from branch and reticulation sewers.

FIGURE 5.7 SEWER SPILLS FROM RETICULATION AND BRANCH SEWERS
(per 100 kilometres of sewer main)



SNAPSHOT (Reticulation and branch sewer spills, per 100 kilometres)

State-wide Average		5.4%	Metro Average		3.8%	Regional Average		8.0%
2014-15	12.2	▲	2014-15	12.3	▲	2014-15	11.9	▲
2013-14	11.5		2013-14	11.9		2013-14	11.0	

KEY OBSERVATIONS

Priority one and two spills

- Twelve of the 16 water businesses reported one or less priority one sewer spills per 100 kilometres of sewer main.
- Coliban Water reported 518 priority one spills this year, more than all other businesses combined. However its overall sewer spill rate dropped 13 per cent from 38.4 spills per 100 kilometres of sewer main in 2013-14 to 33.5 in 2014-15, reflecting its increased focus on sewer blockage management. The large increase in priority one spills was attributed to a shift in how sewer spills are recorded, with all reported spills assigned priority one as a default and then relying on the responding team to reclassify it after the site visit. Coliban Water reported a corresponding reduction in priority two spills this year.
- Gippsland Water's sewer spill rate increased substantially, from 1.0 blockages per 100 kilometres of sewer main in 2013-14 to 4.7 in 2014-15, the result of a wet weather event that occurred during December 2015. However its overall spill rate was still low compared with most other businesses.
- Central Highlands Water reported 8.9 sewer spills per 100 kilometres of sewer main in 2014-15. The business incorrectly reported 2.7 spills per 100 kilometres in 2013-14, the result of a change in personnel and processes. Following the 2013-14 audit, Central Highlands Water delivered training to all relevant staff, to ensure all sewer spills are accurately recorded.
- Yarra Valley Water reported the highest rate of priority two spills (20.7 per 100 kilometres of sewer main, very similar to 20.6 in 2013-14).

Containing spills

- Twelve businesses contained 100 per cent of sewer spills within five hours in 2014-15, up from 11 businesses last year. The percentage of spills contained within five hours for the remaining four businesses was:
  - GWMWater — 99.3 per cent, down from 100 per cent in 2013-14
  - Yarra Valley Water — 98.8 per cent, down from 99.9 per cent in 2013-14
  - East Gippsland Water — 98.0 per cent, down from 100 per cent in 2013-14
  - Goulburn Valley Water — 97.8 per cent, down from 100 per cent in 2013-14.

BACKGROUND

The severity of sewer spills is broken into two priority levels.

A priority one spill refers to a sewage spill that involves or results in any of the following:

- a public health concern
- significant damage to property
- a discharge to a sensitive receiving environment, or
- a discharge from a sewer pipe that is 300 millimetres (or greater) in diameter, or the flow is greater than 80 litres per minute.

A priority two spill refers to any minor failure to contain sewage within the sewerage system and any spill affecting several users that results in:

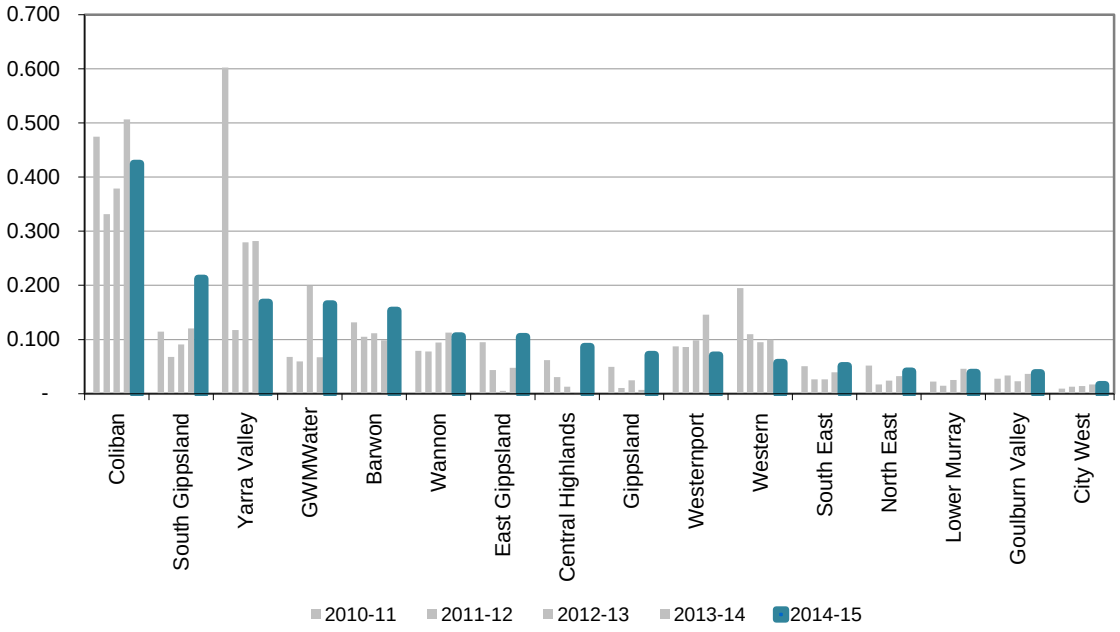
- minor property damage, or
- a discharge outside a building that does not pose a health risk.

Some businesses choose to classify all sewage spills as priority one on the basis that any spill could potentially pose a health concern.

SEWER SPILLS TO CUSTOMER PROPERTIES

Another measure of sewerage reliability is the number of sewer spills caused by a fault in the water business's systems that allowed sewage to discharge onto a customer's property.

FIGURE 5.8 SEWER SPILLS TO CUSTOMER PROPERTY
(per 100 customers)



SNAPSHOT (Customer property sewer spills, per 100 customers)

State-wide Average		-20.4%	Metro Average		-31.5%	Regional Average		18.4%
2014-15	0.10	↓	2014-15	0.09	↓	2014-15	0.13	↑
2013-14	0.13		2013-14	0.13		2013-14	0.11	

KEY OBSERVATIONS

- Across the state, the overall rate of sewer spills to customer property decreased slightly from 0.13 spills per 100 customers in 2013-14 to 0.10 spills per 100 customers in 2014-15.

- City West Water reported the lowest customer property spill rate with 0.016 per 100 customers in 2014-15.
- By contrast, Coliban Water reported the highest rate of 0.424. This result was consistent with Coliban Water's continual higher rate of sewer blockages and spills than the other businesses. Large increases were also recorded by Gippsland Water, GWMWater and East Gippsland.
- Central Highlands Water reported 0.087 blockages per 100 customers (49 spills) in 2014-15. The business incorrectly reported 0.002 blockages per 100 customers (one spill) in 2013-14, the result of a change in personnel and processes that have since been rectified.

6 DRINKING WATER QUALITY

This chapter reports on compliance with some key parameters that indicate drinking water quality, namely:

- microbiological activity (*E. coli*) & turbidity **(section 6.1)**
- water quality complaints **(section 6.2)**.

6.1 WATER QUALITY

Safe, good quality drinking water is essential for community health and wellbeing. One of the core functions of the urban water businesses is delivering water that is safe and pleasant to drink.

Microbiological water quality, measured by the presence of *E. coli*, is the most important indicator from a public health perspective. The other key indicator is turbidity, a measure of cloudiness due to fine suspended particles.

KEY OBSERVATIONS

Microbiological activity (*E. coli*)

In Victoria, the governance framework for supplying safe drinking water is set out in the *Safe Drinking Water Act 2003* and the Safe Drinking Water Regulations 2005, both administered by the Department of Health and Human Services. (Note that the new 2015 regulations came into operation on 18 July 2015, and will be the applicable standard for the 2015-16 reporting year. The new regulations require that all samples contain no *E. coli*.)

The microbiological quality of drinking water is measured in terms of the number of *Escherichia coli (E. coli)* bacteria per 100 millilitres of drinking water. The presence of *E. coli* means water may be contaminated with faecal material. These organisms should not be present in drinking water.

- In 2014-15, all 16 urban water businesses met the Safe Drinking Water Regulations 2005 requirement for all water supply zones. That is, at least 98 per cent of all samples of drinking water collected for a water supply zone in any 12 month period contained no *E. coli*.
- This is the first time since the commencement of our performance reporting that all businesses have recorded 100% compliance with the *E. coli* standard.

Turbidity

Turbidity in water is caused by the presence of fine suspended particles of clay and silt, algae and other microscopic organisms. It is measured in Nephelometric Turbidity

Units (NTU). High turbidity levels can result in water having a 'muddy' or 'milky' appearance.

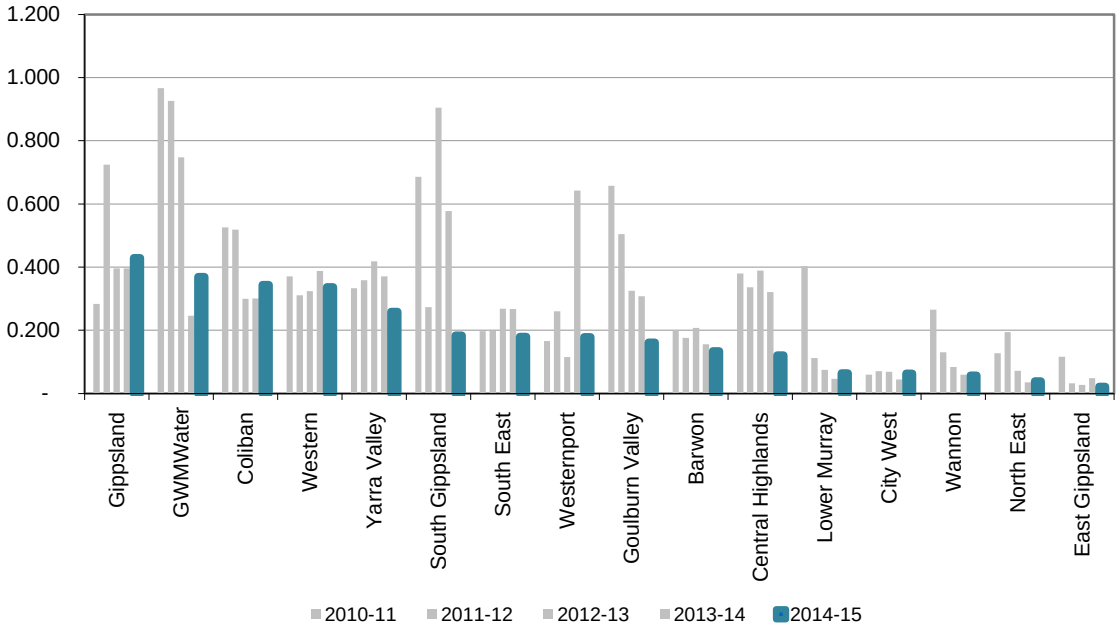
The Safe Drinking Water Regulations require at least 95 per cent of samples collected for a drinking water supply zone in a 12 month period should be below 5.0 NTU.In 2014-15, all but one water business reported delivering drinking water that complied with the Regulations.

- GWMWater recorded 99.4 per cent of customers received water that met the turbidity limits in 2014-15, after recording full compliance for the first time in 2013-14. The noncompliance was reported for the small community of Quambatook, due to variability in the raw water supply. The town's water treatment process was upgraded during 2014-15 to continuously meet the turbidity standard.

6.2 WATER QUALITY COMPLAINTS

The number of water quality complaints is a measure of customer satisfaction with the colour, taste and odour of water supplied.

FIGURE 6.1 WATER QUALITY COMPLAINTS – ALL CAUSES
(per 100 customers)



SNAPSHOT (Complaints, per 100 customers)

State-wide Average		-26.4%	Metro Average		-28.7%	Regional Average		-19.9%
2014-15	0.19		2014-15	0.19		2014-15	0.20	
2013-14	0.26		2013-14	0.26		2013-14	0.25	

KEY OBSERVATIONS

- The water quality complaint rate for all Victorian water customers was 0.19 complaints per 100 customers in 2014-15, a 26 per cent reduction from 0.26 recorded in 2013-14. The result was consistent across both metropolitan and

regional sectors, and is the lowest overall rate reported by the water industry, almost half the peak of 0.35 recorded in 2007-08.

- Most water businesses reported significant variations in their overall rate of water quality complaints for 2014-15, with ten businesses reporting reductions and six reporting increases.
- Seven businesses reported their lowest recorded water quality complaint rate this year — Yarra Valley Water, Barwon Water, Central Highlands Water, East Gippsland Water, Goulburn Valley Water, South Gippsland Water and Wannon Water.
- Gippsland Water reported this year's highest complaint rate of 0.43 complaints per 100 customers, slightly higher than its previous two years. A single water main break incident in Morwell during April 2015 accounted for 67 of the total 287 complaints it received this year.
- Westernport Water's water quality complaint rate fell by 72 per cent in 2014-15, returning to normal levels after recording last year's highest complaint rate (the result of a spike in taste/odour complaints following a naturally occurring algal bloom in the Candowie Reservoir).
- South Gippsland Water also recorded a sharp drop in complaints this year following spikes from two separate incidents in the previous two years with a result of 0.18 complaints per 100 customers.
- GWMWater's complaint rate increased to 0.37 per 100 customers, from 0.25 in 2013-14, with an increase in colour and taste/odour complaints. However this result is still similar to those recorded before the 0.97 spike in 2010-11 (following the January 2011 floods).
- East Gippsland Water reported the lowest complaint rate of 0.02 per 100 customers, followed by North East Water with 0.04 and then Wannon Water, City West Water and Lower Murray Water all with 0.06.
- Most complaints were about colour for most businesses. By contrast, taste/odour prompted most complaints for East Gippsland Water, Goulburn Valley Water, South Gippsland Water and Wannon Water.

BACKGROUND

- From a public health perspective, microbiological water quality is the most important indicator. However, colour, taste and odour are important to customers' perceptions.
- The number of water quality complaints is a measure of customer satisfaction with these aesthetic qualities. This can vary considerably from year to year for a water business; specific one-off type events can produce a large number of complaints, significantly affecting the business's performance for the year.

7 ENVIRONMENTAL

We compare water businesses' environmental performance by looking at three main areas, namely:

- Sewage treatment and effluent reuse **(section 7.1)**
- Biosolids reuse **(section 7.2)**
- Greenhouse gas emissions **(section 7.3)**

7.1 SEWAGE TREATMENT AND EFFLUENT REUSE

Sewage treatment plants generate an effluent stream that can be reused as recycled water, with the remaining unused effluent normally discharged to the environment. Water businesses report on the amount of available treated effluent that is reused for various fit-for-purpose activities, reducing the demand for potable water.

TABLE 7.1 VOLUME OF EFFLUENT REUSED (megalitres)

	2011-12	2012-13	2013-14	2014-15	Change in 2014-15	Percentage change
Melbourne Water	48 756	48 849	49 723	46 709	- 3 014	-6%
City West	1 216	873	138	140	+ 2	1%
South East	2 277	3 106	2 967	3 397	+ 430	15%
Yarra Valley	2 319	2 687	3 135	3 665	+ 530	17%
Barwon	3 483	4 790	5 008	5 078	+ 70	1%
Central Highlands	1 628	1 971	1 683	1 531	- 152	-9%
Coliban	3 893	3 346	2 658	3 198	+ 540	20%
East Gippsland	2 469	2 959	2 903	2 755	- 148	-5%
Gippsland	1 128	1 651	1 104	1 701	+ 597	54%
Goulburn Valley	6 824	7 344	6 594	7 686	+ 1 092	17%
GWMWater	2 291	2 366	2 302	2 233	- 69	-3%
Lower Murray	2 456	2 491	3 202	2 799	- 403	-13%
North East	1 959	2 203	1 895	2 552	+ 658	35%
South Gippsland	87	168	108	145	+ 37	34%
Wannon	1 248	1 490	1 251	1 978	+ 726	58%
Western	4 814	4 880	5 701	5 367	- 335	-6%
Westernport	129	238	273	254	- 19	-7%
TOTAL	**86 976**	**91 413**	**90 644**	**91 187**	**543**	**1%**

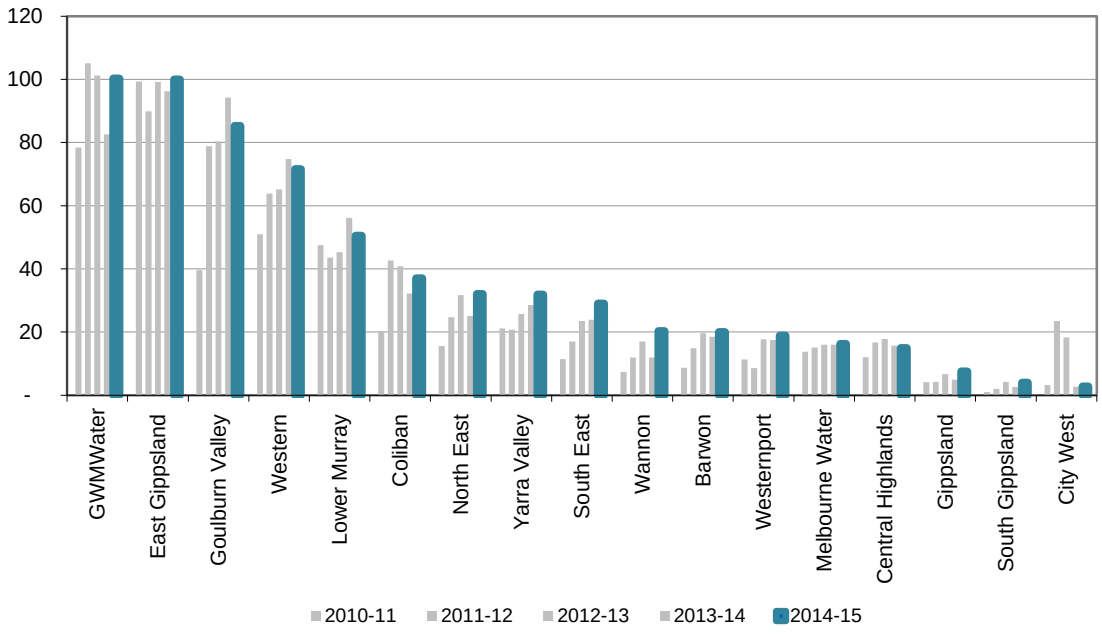
SNAPSHOT (Volume effluent reused, megalitres)

State Total		0.6%	Metro Total		-3.7%	Regional Total		7.5%
2014-15	91187		2014-15	53911		2014-15	37276	
2013-14	90644		2013-14	55962		2013-14	34681	

KEY OBSERVATIONS

- Victoria treated 461 700 megalitres of sewage in 2014-15, down 3 per cent from 475 500 megalitres in 2013-14. This produced 431 900 megalitres of treated effluent suitable for either reuse purposes or for disposal to the environment.
- Most businesses (11 of 17, including Melbourne Water) recorded small decreases (1–15 per cent) in the amount of sewage treated compared with last year, with four businesses reporting small increases (4–7 per cent) — the variations were generally within the range of previously reported effluent volumes. The three metropolitan businesses all reported similar levels of sewage treated to 2013-14, recording less than a 1 per cent change in volumes. Melbourne Water treats about two thirds of the state's total reported sewage volume (92 per cent of Melbourne's total sewage volume) at its two Melbourne treatment plants.
- In 2014-15, the total volume of treated effluent reused across the state remained fairly steady at 91 200 megalitres compared with 90 600 megalitres in 2013-14.
- This represents a reuse rate of 21 per cent of total available treated effluent, with the remainder discharged to the environment. This figure has been relatively steady for the past three years, after a low of only 15 per cent in 2010-11 which was a very wet year with a reduced demand for recycled water. At the height of the drought in 2008-09, total reuse was 115 600 megalitres, representing 31 per cent of the available effluent.
- Ten businesses reported increases ranging from 1–58 per cent, while the remaining seven businesses reported decreases of 3–13 per cent.
- Wannon Water recorded the largest increase in effluent reuse, up from 1251 megalitres (12 per cent) in 2013-14 to 1978 megalitres (20 per cent) in 2014-15. The business attributed this to increased availability of irrigation infrastructure (due to a focus on maintenance activities), and weather conditions returning to normal after a cooler than average year in 2013-14.

FIGURE 7.1 PROPORTION OF EFFLUENT REUSED
(per cent)



SNAPSHOT (Percent of effluent reused)

State-wide Average		6.7%	Metro Average		3.9%	Regional Average		8.7%
2014-15	21		2014-15	17		2014-15	32	
2013-14	20		2013-14	16		2013-14	29	

KEY OBSERVATIONS

- Most water businesses reported similar reuse rates to previous years.
- GWMWater and East Gippsland Water both recorded 100 per cent effluent reuse rates. By contrast, City West Water and South Gippsland Water recorded the lowest reuse rates (3 per cent and 4 per cent respectively) followed by Gippsland Water (8 per cent).
- Overall, the distribution across the various effluent reuse categories was consistent with last year. Agriculture still accounted for the largest proportion of recycled effluent (41 per cent or 38 gigalitres), similar to 38 per cent in 2013-14
- A further 14 gigalitres was reused in sewage treatment processes across the state, effectively backing out potable water use.

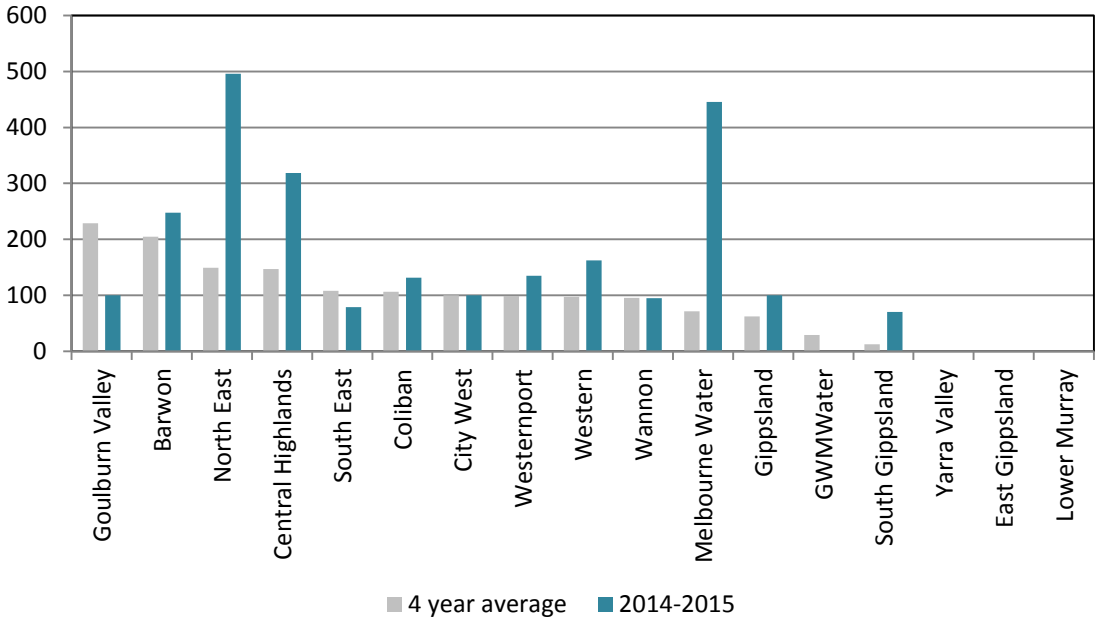
BACKGROUND

- A sewerage system receives waste water from various sources, including residential sewage, nonresidential sewage, trade waste and other sources such as inadvertent storm water. The nature of this combined sewage stream, and therefore the treatment required, can vary significantly due to these different sources, in particular the trade waste sources.
- The Environment Protection Authority (EPA) regulates treated sewage effluent quality through discharge licences at sewage treatment plants. The level of sewage treatment required usually depends on the type of waterway into which the treated sewage is discharged. There are three defined levels of sewage treatment:
  - *primary treatment* — generally to remove a substantial amount of suspended matter
  - *secondary treatment* — to substantially reduce biological oxygen demand (BOD) and suspended solids
  - *tertiary treatment* — to remove nutrients, further suspended solids and possibly targeted contaminants of concern.
- The majority of sewage treatment plants operated by the water businesses are subject to the State Environment Protection Policy (Waters of Victoria) schedules, which are developed and administered by the EPA. The schedules require sewage treatment plant operators to sustainably reuse wastewater and treatment sludge wherever practicable and environmentally beneficial.
- Recycled water is generally used for activities such as turf farms, some industrial processes, dairy farms, recreational lands such as parks or golf courses, and irrigation. Some businesses operate ‘third pipe’ recycled water supply systems to their customers, for nonpotable uses such as garden watering and toilet flushing. Recycled water can also be used for beneficial environmental outcomes, such as wetlands, and onsite treatment plant uses external to the treatment process.

7.2 BIOSOLIDS REUSE

The organic sludge (biosolids) produced during sewage treatment can be put to beneficial reuse, rather than disposed of as a waste.

FIGURE 7.2 PROPORTION OF BIOSOLIDS REUSED
(per cent)



KEY OBSERVATIONS

- Total biosolids production was 73 200 tonnes, down from 88 900 tonnes in 2013-14, and 117 400 tonnes in 2012-13. By contrast, overall biosolids reuse was 233 600 tonnes, a five-fold increase over the 38 800 tonnes reused in 2013-14.
- This is mainly due to Melbourne Water drawing down its sizable biosolids stockpile, reusing 189 962 tonnes in 2014-15. Through collaboration with EPA Victoria and a civil contractor it has locked-in a beneficial use for up to 400 000 tonnes of previously stockpiled biosolids, to be removed from its Eastern Treatment Plant (ETP) over three years. The biosolids' geotechnical property of low permeability makes it suitable for re-establishing a landfill cap on an old landfill site close to the ETP.

- City West Water, Gippsland Water and Goulburn Valley Water reused all biosolids produced during the year, while Coliban Water, Westernport Water, Western Water, Barwon Water, Central Highlands Water, Melbourne Water and North East Water reported higher quantities reused than produced, indicating they ran down stockpiled biosolids produced in previous years.
- Ten businesses have four year averages above or close to 100 per cent, indicating full reuse of biosolids over the longer term.
- By contrast, three businesses (Lower Murray Water, East Gippsland Water and Yarra Valley Water) showed zero biosolids reuse over the four year period.
  - Yarra Valley Water continued to investigate reuse opportunities for existing biosolids stockpiles. It has progressed a review of sewage treatment sludge management strategies with findings due to be implemented in 2015-16.
  - Lower Murray Water generates relatively small quantities of biosolids and continues to stockpile for a minimum of three years before beneficial reuse, to achieve the required treatment grade and allow sufficient drying. Lower Murray Water's Regional Environment Improvement Plan for application of biosolids to land was approved by the EPA in November 2015. This provides an approved framework to assess land capability and safety of biosolids reuse programs across all LMW and third party sites. The first opportunity for application of biosolids to land at the Mildura Wastewater Treatment Plant is Autumn 2016.
  - East Gippsland Water reuses all of its biosolids in the long term, but its lagoons are only desludged every 10 or so years.
- South Gippsland Water recorded 125 tonnes of biosolids reuse in 2014-15, the first instance of reuse since reporting began in 2004-05.

BACKGROUND

- Organic sludge material, or biosolids, produced during the sewage treatment process is periodically removed from treatment plants and can be either stockpiled or disposed of. Disposal options include beneficial reuses such as organic rich fertiliser, or disposal as a non-reusable waste to landfill.
- Under the reporting protocol, biosolids are produced when they are removed from the treatment process. It is therefore possible for a business to not produce any biosolids in a given year, by not desludging any of the lagoons or tanks

where the sludge accumulates.

- In any given year, a water business can accumulate (stockpile) biosolids without disposing of any; therefore, a zero reuse figure does not necessarily imply a business does not reuse its biosolids. Correspondingly, reuse percentages over 100 per cent indicate businesses used some stockpiled material from previous years. To help produce a clearer picture of the longer term biosolids management for the businesses, our analysis includes a four year average reuse figure, along with the current year's reuse as a percentage of this year's biosolids production. Businesses are ranked according to the four year average figure.

7.3 GREENHOUSE GAS EMISSIONS

We look at each business's greenhouse gas emissions, broken down by source, and also on a per customer basis.

TABLE 7.2 HISTORIC NET GREENHOUSE GAS EMISSIONS
(equivalent tonnes of CO_2)

	2011-12	2012-13	2013-14	2014-15	Percentage change	Per customer
Melbourne Water	361 288	378 785	339 137	316 135	–7%	0.18
City West	–1 651	9 841	10 310	11 102	8%	0.03
South East	33 554	40 211	36 645	42 326	16%	0.06
Yarra Valley	28 361	29 512	32 708	33 255	2%	0.05
Barwon	56 422	37 960	39 943	38 849	–3%	0.28
Central Highlands	14 797	14 567	16 271	16 277	0%	0.27
Coliban	33 126	33 017	31 648	44 006	39%	0.67
East Gippsland	8 378	8 442	8 098	7 912	–2%	0.40
Gippsland	61 727	42 864	38 246	42 706	12%	0.70
Goulburn Valley	42 453	46 926	48 750	49 295	1%	0.98
GWMWater	10 778	11 966	20 401	19 087	–6%	0.71
Lower Murray	34 922	11 166	17 366	17 912	3%	0.62
North East	38 432	39 637	41 521	41 162	–1%	0.93
South Gippsland	8 154	7 550	6 872	7 411	8%	0.45
Wannon	33 753	30 714	29 095	31 725	9%	0.88
Western	17 287	15 644	15 217	30 646	101%	0.55
Westernport	7 315	6 259	6 471	6 473	0%	0.44
TOTAL	**789 096**	**765 061**	**738 700**	**756 280**	**2%**	**0.32**

Note: Emissions per customer for Melbourne Water is calculated using the total residential customers of City West Water, South East Water and Yarra Valley Water.

KEY OBSERVATIONS

- Net CO_2-e emissions for Victorian urban water businesses were 756 280 tonnes in 2014-15, a 2 per cent increase from 738 700 tonnes in 2013-14, but still lower than previous years.

- The overall emissions per residential customer for all businesses in 2014-15 remained steady at an average of 0.32 tonnes per residential customer.
- Metropolitan businesses' emission rate fell to 0.23 tonnes per residential customer from 0.25 tonnes in 2013-14, while regional businesses' emissions increased to 0.57 from 0.53 tonnes per residential customer in 2013-14.
- With a relatively larger scale of operations, Melbourne Water was the largest net CO_2-e emitter and accounted for over 40 per cent of the net total, despite reducing its own emissions by 7 per cent this year. For the third consecutive year, Goulburn Valley Water was the next largest emitter with almost 7 per cent of the total, closely followed by several other businesses.
- Goulburn Valley Water and North East Water again had the highest level of emissions per customer with 0.98 tonnes and 0.93 tonnes respectively.
- Western Water, Coliban Water and South East Water had the largest net emission increases over the year, while most of the remaining businesses reported emissions within 10 per cent of last year's figure.

TABLE 7.3 SOURCES OF GREENHOUSE GAS EMISSIONS 2014-15
(equivalent tonnes of CO_2)

	Water	Sewerage	Transport	Other	Offsets	Total[a]
Melbourne Water	38 352	265 274	2 290	10 219	0	316 135
City West	313	7 787	1 131	1 871	0	11 102
South East	5 915	33 502	1 489	2 394	974	42 326
Yarra Valley	7 660	22 675	993	1 927	0	33 255
Barwon	5 419	30 272	738	2 421	0	38 849
Central Highlands	5 886	8 727	615	1 064	15	16 277
Coliban	18 501	24 006	870	629	0	44 006
East Gippsland	3 632	3 824	247	209	0	7 912
Gippsland	10 312	28 445	1 475	2 474	0	42 706
Goulburn Valley	15 116	32 571	1 242	366	0	49 295
GWMWater	13 141	5 905	1 093	560	1 612	19 087
Lower Murray	7 591	11 547	396	338	1 960	17 912
North East	8 808	30 204	825	1 325	0	41 162
South Gippsland	2 058	4 673	523	157	0	7 411
Wannon	12 143	18 147	807	628	0	31 725
Western	7 903	20 790	476	1 477	0	30 646
Westernport	1 351	4 512	190	420	0	6 473
TOTAL	**164 101**	**552 861**	**15 400**	**28 479**	**4 561**	**756 280**

[a] Total CO_2-e emissions are net of offsets.

KEY OBSERVATIONS

- Table 7.3 shows the contributions to CO_2-e emissions by each water business activity.
- Sewage treatment processes remain by far the biggest contributor of greenhouse gas emissions and accounted for 73 per cent of the gross emissions (that is, not including offsets) in 2014-15. Next were water treatment processes, which were responsible for 22 per cent of the gross total.
- Reported CO_2-e emissions offsets continued to fall, quite considerably this year, with only one metropolitan and three regional businesses reporting offsets for 2014-15, down from seven businesses last year. Reported offsets fell from 18 684 tonnes in 2013-14 to only a quarter of this, 4561 tonnes in 2014-15.

- Western Water reported the largest increase in net greenhouse gas emissions for 2014-15 (from 15 217 in 2013-14 to 30 646 in 2014-15) as a result of its decision not to claim any CO_2-e emissions offsets in 2014-15 (from 12 004 in 2013-14).
- Actual gross emissions remained fairly steady in 2014-15 with 760 841 tonnes increasing slightly from 757 383 tonnes in 2013-14.

BACKGROUND

- The calculations for greenhouse gas emissions are based on the framework of the National Greenhouse and Energy Reporting Scheme (NGERS); Melbourne Water is the only business required to report to the Australian Government's Clean Energy Regulator.
- Comparing different businesses' net carbon dioxide equivalent (CO_2-e) emissions should be done cautiously given the differences in the nature of each operation, including:
  - source of water
  - gravity versus pumped networks
  - geographical conditions (which influence pumping needs)
  - the number of large customers and the extent of industry within the customer base
  - the calculation method.
- Similarly, variations in emissions per customer might reflect the differences between customer bases across businesses.
- Businesses may also reduce their reported net CO_2-e emissions through accredited carbon sequestration activities (including purchases through accredited offset schemes) that remove carbon from the atmosphere; tree plantations, for example.

8 STATUS OF MAJOR PROJECTS

8.1 BACKGROUND

In their pricing submissions for the 2013–18 pricing period, water businesses included their proposed major capital investment projects that were to be progressed or completed during the period. The Commission's final pricing determination for each business includes a scheduled list of these projects allowed for in pricing, along with the anticipated completion year.

Customers' prices include recovering capital investment costs in accordance with this approved project schedule. Therefore, it is appropriate water businesses explain delays or alterations to their project schedules, because approved funds will flow from pricing whether the expenditure is incurred or not.

This section tracks the businesses' progress against their original schedule of projects. Table 8.1 summarises the current status of each business's scheduled major projects for the 2013–18 pricing period. Table 8.2 provides more details for each scheduled project, including:

- a brief description or project name
- the original scheduled start and end years (as per the pricing determination)
- businesses' latest updates of the actual or expected start and end years
- an overall project status (on-schedule, delayed, deferred, cancelled or completed)
- general comments to explain any relevant details of the project and its current status.

The table also includes some projects from the 2008–13 pricing period that were not completed before the end of 2012-13, and were therefore carried over into the 2013–18 pricing period. We are monitoring these projects through to their completion.

8.2 CAPITAL EXPENDITURE IN 2014-15

In 2014-15 the Victorian urban water industry spent $955 million on capital works. Capital expenditure on water was $396 million and on sewerage was $559 million. This amount includes ongoing capital works programs as well as the discrete major capital projects discussed below.

The Commission's approved pricing determinations for the 2013–18 pricing period include 100 major capital projects for the 17 urban water businesses. This number includes some projects that were originally included in the 2008–13 pricing period, but are now included on a new schedule for the current period.

Twelve of the 100 projects were completed in the first year of the period, with a further 13 completed in 2014-15 for a total of 25, and another 36 projects still proceeding on schedule. Nineteen projects have encountered delays that will affect the final completion timeline, and another 20 projects have been deferred by the water businesses for completion either later in this period or in future periods. The project delays and deferrals are discussed below.

The pricing determinations listed 35 projects due for completion by the end of 2014-15. Of these, 22 (63 per cent) have been completed, with 9 projects delayed, two deferred until later in this pricing period, and two deferred into the next pricing period. Three projects due for completion in 2015-16 have been reported as completed early.

Table 8.2 also includes 15 major projects carried over from the previous period that were not specified in the determinations for the current period.[1] Of these, nine are now completed, with three still on schedule. Two have been delayed, and one was deferred until later in the period because demand was lower than planned.

The major project status categories are:

- on-schedule — no significant changes to the project start and end dates

[1] Many major capital investment projects that were underway and mostly completed at the end of the 2008–13 pricing period had incurred much of the expenditure. The remaining expenditure to be incurred in the 2013–18 pricing period did not put the project into the business's 'major project' category.

- delayed — either the project start was delayed, or completion will be later than scheduled
- deferred — the business rescheduled the entire project, either within the current pricing period or into a future period
- cancelled — the project will not proceed in the foreseeable future
- completed on time — the project was completed in accordance with the original scheduled completion date (includes early completion)
- completed late — the project was completed within the period, but later than the original scheduled completion date.

TABLE 8.1 SUMMARY OF SCHEDULED MAJOR PROJECTS — 2013–2018

	No. major projects scheduled for 2013–18	On-schedule	Delayed	Deferred	Suspended or cancelled	Completed on time	Completed late
Melbourne Water	6	3	2			1	
City West	4	2	1			1	
South East	6	2		1			3
Yarra Valley	5		3	2			
Barwon	7	3		2		2	
Central Highlands	7	5				2	
Coliban	7	3	3			1	
East Gippsland	4	1		2		1	
Gippsland	3	1	1			1	
Goulburn Valley	6	1	3	1		1	
GWMWater	8		1	1		6	
Lower Murray	6	3		1		2	
North East	5	1	1	2			1
South Gippsland	5	2	2			1	
Wannon	7	3	1	2			1
Western	8	3		5			
Westernport	6	3	1	1		1	
TOTAL	**100**	**36**	**19**	**20**	**0**	**20**	**5**

PROJECT DELAYS

Project schedules can be delayed for a range of reasons, both internal and external to the water business. Projects might be delayed in the early stages for additional design or investigation work, or during construction due to unforeseen difficulties. External factors can be beyond the direct control of the water businesses, such as local government approvals or planning appeals, supplier issues, as well as weather impacts on construction.

Projects may also fall behind schedule simply because the project timeline is unrealistic, or is too tight with no allowance for any unforeseen delays.

Of the 19 projects listed as delayed this year, the reasons provided by the water businesses included:

- four projects required further investigation or detailed design work
- four projects were delayed due to funding issues
- three projects encountered planning or permit issues
- three projects were affected by contractor or supplier issues.

Water businesses did not explain the delays for the remaining five projects, but these projects will mostly be completed within one year of the original target completion date.

PROJECT DEFERRALS

Deferring or cancelling projects does not necessarily reflect poor project management, but may in fact show prudent investment decisions if priorities changed or the need for a particular project no longer exists. Water businesses may reinvest the available capital funds by bringing forward other pressing projects, or they may choose to return the unrequired funds to customers through lower prices.

The water businesses identified the following reasons for deferring 20 projects:

- four projects were deferred because a provisional upgrade or alternate facility effectively ‘bought time’
- nine projects were postponed because of slower than expected customer demand growth

- two projects were deferred following further analysis of the supply demand strategy
- four projects required additional time for further design or assessment of alternatives
- one project was delayed to avoid premature expenditure on land purchase.

Of the 20 projects:

- five were deferred 1–3 years and are still scheduled for completion within the 2013–18 pricing period
- 15 were deferred to the next pricing period.

By way of comparison, water businesses deferred 14 of 120 major projects scheduled for the 2008–13 pricing period to the 2013–18 pricing period or beyond. Another five were cancelled or suspended indefinitely due to changing requirements and circumstances.

TABLE 8.2 STATUS OF PROJECTS SCHEDULED FOR COMPLETION DURING 2013 TO 2018

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Melbourne Water						
St Albans-Werribee pipeline — stage 2	2013-14	2015-16	2014-15	2015-16	On schedule	Construction phase began early October 2014. The project is on track to be completed on time and under budget in November 2015.
Water mains renewals — North Essendon–Footscray	2013-14	2015-16	2014-15	2016-17	Delayed	The project is in tender phase, with the exception of the Airport stage which was delayed slightly pending agreement of easements with the Federal Government.
Western Treatment Plant capacity augmentation — stage 2	2013-14	2016-17	2014-15	2018-19	Delayed	Phase 1 (pilot plant trials and functional design) is due for completion around May 2016. Following Business Case approval by DTF, tender documents will be issued to the three shortlisted proponents with a view to letting the Phase 2 contract around October 2016.
Western Treatment Plant sludge drying augmentation	2013-14	2015-16	2013-14	2015-16	Completed	This project has achieved Practical Completion on schedule and under budget in August 2015.
Water main renewals — Preston	2013-14	2016-17	2013-14	2016-17	On schedule	The functional design phase began in 2015, with Design and Construction contract planned to be awarded in April 2016.
Sewer main rehabilitation — North Yarra	2013-14	2017-18	2013-14	2015-16	On schedule	The project will be completed under budget and ahead of schedule in late 2015.

Continued on next page

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
City West Water						
West Werribee dual water supply scheme	Carried over	2016-17	2010-11	2016-17	On schedule	The project (which will solely deliver recycled water assets) is now not expected to be fully operational until 2017. Recycled water will be available to all customers connected to the scheme at that time. Despite the delay to completion the project is on budget. CWW is in dispute with the contractor responsible for delivering the treatment plant component of the scheme. Proceedings have been issued in the Supreme Court of Victoria.
West Werribee low level reservoir and Werribee West — 750mm inlet/outlet main	Carried over	2016-17	2010-11	2014-15	Completed	The '750mm inlet/outlet main' project was incorporated into the West Werribee low level reservoir project. The combined project (which has solely delivered potable water assets) became fully operational in March 2015 and was delivered under budget.
Office relocation	2013-14	2013-14	2013-14	2013-14	Completed	Practical completion of fit out works for the new Brooklyn Maintenance occurred in April 2014. Practical completion of the fit out for the new Footscray head office facility occurred in June 2014. Staff relocated from Sunshine to the Footscray office in July 2014.
Program Arrow	2013-14	2015-16	2011-12	2016-17 (R2)	Delayed	Program Arrow comprises three releases. Arrow Release 1 (finance, procurement, contracts, accounts payable) went live successfully in August 2013. Arrow Release 2 (asset and field management) is estimated for completion in December 2016. This delay was caused by a change in systems integrator. The Arrow Release 3 (customer care and billing) is in pre planning with a completion date still to be determined.
Aquifer storage and recovery	2013-14	2017-18	2015-16	2015-16	On schedule	The construction of the West Werribee ASR scheme is expected to be completed on schedule. However the injection to the central bore will now not commence until 2017 due to recycled water not being available from the West Werribee Salt Reduction Plant. City West Water expects it will take 2-3 years to grow the injection plume to the point the water can be extracted. Water extracted from the scheme will be used to supply peak demands.

Continued on next page

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
City West Water (cont)						
Derrimut interceptor sewer	Carried over	2013-14	2006-07	2014-15	Completed	The project became fully operational in January 2015 and was delivered under budget. Project completion was delayed by poor weather, difficulties obtaining third party approvals, and by City West Water requiring the contractor to prioritise two other key CWW projects.
Stormwater projects (various)	2013-14	2017-18	2010-11	2017-18	On schedule	The Keilor Public Golf Course and Green Gully Stormwater Harvesting schemes have been completed and have been supplying stormwater since November 2013. The schemes can deliver 83.2 megalitres per year of fit-for-purpose storm water. The Paisley Park Stormwater Harvesting scheme has been commissioned and has been supplying stormwater since October 2013. The scheme can deliver 42 megalitres per year of fit-for-purpose storm water. The Laverton Recreational Reserve Stormwater Harvesting scheme is completed however supply has been delayed due to water quality testing showing the water within the reservoir has elevated salinity levels. Investigation into the source of the high salinity and its remediation is under way. The scheme will be able to deliver 88.8 megalitres per year of fit-for-purpose storm water. The Afton Street Stormwater Harvesting scheme was scheduled to be completed by the end of October 2014. The scheme was commissioned in Aug 2015 in time for the 2015-16 irrigation period. The scheme can deliver 20.2 megalitres per year of fit-for-purpose storm water. The Lake Caroline Stormwater Harvesting scheme is scheduled for completion in November 2015. It will supply 52 megalitres per year of fit-for-purpose storm water.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
South East Water						
Sherbrooke sewer backlog scheme reticulation	Carried over	2013-14	2013-14	2015-16	Delayed	The Belgrave Heights stage was completed in 2012-13. Reticulation construction is currently suspended due to poor ground conditions for the final Selby section of the Belgrave/Selby stage, with forecast completion now in 2016.
Pound Road sewerage pump station	2013-14	2013-14	2013-14	2014-15	Completed	This project was completed in February 2015. Electricity connection and a substation to the site was delayed, deferring commissioning.
Cranbourne recycled water tank	2013-14	2013-14	2013-14	2014-15	Completed	This project was completed early in 2015, slightly behind schedule.
Mt Martha treatment plant — long term sludge upgrade	2013-14	2014-15	2013-14	2015-16	Completed	This project was completed a little behind schedule in November 2015. The delay was due to unforeseen issues with upgrading the existing infrastructure without disrupting the plant performance.
Boneo treatment plant capacity upgrade	2013-14	2016-17	2016-17	2018-19	Deferred	An interim upgrade to the Boneo Treatment Plant is now scheduled for completion in 2015-16. Additional flow and load data analysis indicated growth (including the peninsula backlog currently under way) can be accommodated once this upgrade is completed. Plant capacity will be further upgraded as necessary to ensure South East Water is not exposed to any extreme risk of the plant failing compliance obligations.
Lang Lang treatment plant upgrade	2013-14	2016-17	2014-15	2016-17	On schedule	
Dromana–Portsea backlog scheme	2013-14	Beyond 2017-18	2013-14	2018-19	On schedule	Final reticulation and transfer main construction completed in 2015 and in operation. Portsea, Sorrento, Blairgowrie, Rye and St Andrews Beach property connections continuing beyond 2018 as originally planned.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Yarra Valley Water						
Warrandyte North sewerage project	2013-14	2013-14	2014-15	2015-16	Delayed	Local council planning permit approval process has taken significantly longer than expected. This delayed the commencement of the reticulation works, which are now nearly complete. Still awaiting planning approval for a siphon and sewage pumping station as of September 2015. Targeting completion of the project by March 2016.
Donvale sewerage project	2013-14	2015-16	2013-14	2017-18	Delayed	The design is currently 85 per cent complete. The project will be delivered through four separate construction packages to ensure efficient construction. The first package was tendered in mid-2015 however is still awaiting planning approval. Due to current planning approval timeframes, construction works are now expected to be completed in 2017-18.
Amaroo branch sewer	2013-14	2016-17	2014-15	2017-18	Delayed	The detailed design is now complete. The Department of Treasury and Finance has approved the project, and stakeholder engagement has been completed. The project was approved by the board in March 2015 and the construction contract has been awarded. The project is on track for completion in early 2017.
Lockerbie branch sewer	2013-14	2017-18	2018-19	2020-21	Deferred	The project was deferred following an upgrade of the Wallan Sewage Treatment Plant to accept additional flows and produce Class A recycled water. Completion is rescheduled for 2021. In addition, the treatment plant upgrade avoided construction of irrigation assets that would become redundant when the Lockerbie main sewer is commissioned.
Epping branch sewer tunnel	2016-17	Ongoing–2020	2016-17	2020-21	Deferred	The project is currently scheduled to be completed in 2021. Yarra Valley Water is monitoring the growth in flows to ensure the asset is delivered 'just in time'. Originally scheduled to commence construction in 2017-18, Yarra Valley Water now proposes to complete the design and confirm final estimated costs by 2016-17 with construction to commence in 2018-19. Depending on growth rates, construction timing may be brought forward or moved back as required.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Barwon Water						
Torquay West high level feeder main	2013-14	2013-14	2018-19	2019-20	Deferred	Deferred due to delays in the land use planning for this future growth area.
Apollo Bay bulk water supply expansion	2013-14	2014-15	2010-11	2014-15	Completed	This project commenced during the 2008–13 pricing period, and carried over to the current period. The project was completed according to the revised schedule in January 2014.
Pettavel water basin upgrade	2013-14	2014-15	2013-14	2014-15	Completed	The project was completed in 2014-15.
Black Rock water reclamation plant hydraulic capacity upgrade	2013-14	2015-16	2013-14	2015-16	On schedule	The project is currently under construction and is anticipated to be completed in 2015-16.
West Lara transfer system	2013-14	2015-16	2013-14	2015-16	On schedule	The project is currently under construction and is anticipated to be completed in 2015-16.
Aireys Inlet pipeline (replaces Aireys Inlet Water Treatment Plant Upgrade)	2014-15	2016-17	2013-14	2015-16	On schedule	The board decided to abort the treatment plant upgrade option and to complete a pipeline option, given cost increases. The project is currently underway and is anticipated to be completed in 2016.
Inverleigh low level feeder main	2015-16	2017-18	2018-19	2019-20	Deferred	This project was deferred for several years, given considerably slower growth in Inverleigh and reduced peak demand. It will be considered for inclusion in the next pricing period, with anticipated completion in 2019-20.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Central Highlands Water						
Blackwood sewerage	Carried over	Deferred to next pricing period	To be determined	To be determined	Delayed	A 12 month environmental sampling and monitoring program concluded in late 2014 and found that the waterways in the vicinity of Blackwood are not being adversely affected by human septic pollution. This program along with the Moorabool Council's Domestic Wastewater Management Plan and Septic Audit for Blackwood are key inputs to an investigation of a localised wastewater solution for Blackwood. Options on the way forward are to be developed during the current pricing period.
Raw water pipeline replacement	2014-15	2017-18	2015-16	2017-18	On schedule	Stage 1 of this project involving works associated with Talbot raw water customers is progressing in 2015-16. The detailed design of the next phase of the Evansford raw water main is scheduled to be completed in 2015-16 with construction planned to commence in 2016-17.
Living Victoria/Living Ballarat — Ballarat West aquifer storage and recovery project	2013-14	2014-15	2013-14	2014-15	Completed	The aquifer recharge injection pilot and rooftop water quality collection program is complete. Assessment of whole of water cycle management options for the potential future servicing of the Ballarat West Employment Zone was completed by June 2015.
Ballarat South flow containment project — Ballarat South outfall sewer	2016-17	2017-18	2016-17	2017-18	On schedule	Detailed planning and design works are scheduled to commence in 2015-16 with first stage of implementation to commence in 2016-17.
Ballarat South wastewater treatment plant augmentation works	2013-14	2017-18	2013-14	2017-18	On schedule	Central Highlands Water invested $2.6 million in capital expenditure activities across the site during 2014-15. A further $4.4 million is proposed for upgrade works in 2015-16 including finalising construction of a new 42 metre diameter clarifier.
Ballarat West urban growth zone	2013-14	2017-18	2013-14	2017-18	On schedule	Works are completed for the first two stages of Cuthberts Road water main upgrade and stage 3 is scheduled for completion by December 2015. Land acquisition, approvals and detailed design processes have commenced for the upgrade to the Kennedys Drive pump station that is planned for implementation in 2016-17. Other works are being planned to coincide with land developments.

Continued on next page

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Central Highlands Water (cont)						
Lexton water supply project	2013-14	2013-14	2013-14	2013-14	Completed	Works to deliver this water quality improvement upgrade were completed in June 2014.
Maryborough water quality improvement project	2013-14	2017-18	2013-14	2017-18	On schedule	Development of the preferred upgrade solution for Maryborough was completed in 2014-15. The detailed design, build and operational tendering phase is scheduled for completion in late 2015 or early 2016. Works on site are proposed to commence before the end of 2015-16.
Coliban Water						
Rochester wastewater connection to Echuca	2013-14	2013-14	2013-14	2013-14	Completed	The project was completed as expected.
Harcourt rural modernisation project	2013-14	2014-15	2012-13	2015-16	Delayed	The project commenced in 2012-13, and continues into the current pricing period. The construction works have been delayed due to contractual issues, however the remaining works are now expected to be completed by September 2016.
Heathcote backlog sewerage	2013-14	2014-15	2016-17	2017-18	Delayed	The community consultation has been finalised with the business case set for approval by October 2015. Implementation is scheduled for 2017-18.
Echuca and Cohuna water treatment plant upgrades	2014-15	2015-16	2016-17	2017-18	Delayed	The revised business case is on track to be completed and approved by the end of 2015-16.
Coliban main channel	2013-14	2016-17	2015-16	2017-18	On schedule	Works have been staged over 3 years, during the channel off-season to minimise customer service delivery impacts and remain on track.
Cohuna water reclamation plant refurbishment	2016-17	2017-18	2016-17	2016-17	On schedule	Detailed design works are in progress with construction works to be delivered by June 2016.
Bridgewater and Laanecoorie water treatment plant upgrades	2014-15	2017-18	2014-15	2018-19	On schedule	The business case for phase 1 was approved in June 2015. The Project is to be tendered in October 2015 with works to be delivered on schedule.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
East Gippsland Water						
Sarsfield — additional tank or liner	2013-14	2014-15	2019-20	2020-21	Deferred	This project was originally scheduled for construction in 2014-15. Further analysis of the Mitchell River Water Supply Demand Strategy deferred the project until the next pricing period. Related works were completed in 2014-15.
Bairnsdale sewer master plan bridge sewer pump station	2013-14	2015-16	2013-14	2015-16	Completed	Construction of three kilometres of dedicated rising main from Bridge SPS to Bairnsdale WWTP has been completed. Further works on the pump station and connections are being planned.
Paynesville main supply pipeline (stage 2)	2014-15	2015-16	2018-19	2020-21	Deferred	Analysis of the Mitchell River Water Supply Demand Strategy and risk assessment also deferred this project until the next pricing period.
Bairnsdale wastewater treatment plant upgrade	2014-15	2017-18	2014-15	2017-18	On schedule	Stage 1 works - digester cleanout and inlet screen works are complete. Digester refurbishment is in the commissioning phase and on schedule for completion during 2015-16. Subsequent stages of this project (including flow balancing, electrical upgrades, and digestate dewatering system) have commenced and are on schedule for completion by the end of the current pricing period.
Gippsland Water						
Drouin wastewater treatment plant upgrade	Carried over	2015-16	2015-16	2015-16	On schedule	The project provides screens and grit removal at the Drouin WWTP to remove inert solids and hence improve the treatment capacity of the lagoons.
Sale water treatment plant upgrade	2013-14	2014-15	2014-15	2015-16	Delayed	Project involves replacing ageing aeration towers and non-compliant chemical storage delivery and handling facilities (part 1 of a plant upgrade) to improve water quality. Contract signed January 2015. Project on track for practical completion in December 2015, with some remaining demolition works scheduled for March 2016.
Warragul-Hazel Creek trunk sewer (stage three)	2013-14	2014-15	2013-14	2014-15	Completed	Construction works began in September 2014 to make way for gas relocations. The project was completed in June 2015.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Gippsland Water (cont)						
Loch Sport sewerage scheme	2013-14	2016-17	2012-13	2015-16	On schedule	The project planning and design was completed, and construction commenced in early 2013. All key construction contracts were in place by October 2013. Project construction is on schedule to be completed by October 2015 with the whole Loch Sport township being declared serviceable in line with Gippsland Water's commitment to the community.
Goulburn Valley Water						
Cobram — MGC unfluoridated water pipeline	2013-14	2014-15	2013-14	2016-17	Delayed	The majority of expenditure associated with this project will be funded by parties external to Goulburn Valley Water. The project was delayed until funding commitment was provided. The funding arrangements have now been finalised and the project is proceeding with an expected completion date in 2016-17.
Kilmore wastewater management facility additional winter storage	2014-15	2015-16	2013-14	2018-19	Delayed	Planning and design stages are substantially completed for a base project option. An alternative innovative option was identified, which involves environmental offsets rather than constructing infrastructure. Implementing the base project option is on hold until the alternative option is evaluated.
Mansfield wastewater management facility additional winter storage	2014-15	2015-16	2013-14	2019-20	Delayed	Planning and design stages are substantially completed for a base project option. The base case requires significant land acquisition. An alternative innovative option was identified, which involves environmental offsets rather than constructing infrastructure. Implementing the base project option is on hold until the alternative option is evaluated.
Marysville new water treatment plant	2013-14	2015-16	2013-14	2014-15	Completed	This project was completed in June 2015.
Numurkah water treatment plant upgrade	2013-14	2015-16	2013-14	2015-16	On schedule	Construction works are substantially completed and the project is on schedule to be completed during 2015-16.

Continued on next page

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Goulburn Valley Water (cont)						
Shepparton water treatment plant upgrade	2014-15	2017-18	2017-18	2019-20	Deferred	The water treatment plant capacity upgrade works were deferred following the successful implementation of plant optimisation works. Water quality improvement works are still required, but were deferred to commence in 2017-18.
GWMWater						
Nhill Treated water supply	Carried over	2013-14	2013-14	2013-14	Completed	This project was completed in October 2013.
Jeparit treated water supply	Carried over	2013-14	2013-14	2014-15	Completed	This project was completed, with treated water supply to Jeparit available from August 2014.
Intelligent rural pipeline networks	2013-14	2013-14	2013-14	2015-16	Delayed	Project is scheduled to be completed by end June 2016. Project planning, the tendering process and finalising funding agreements delayed the commencement of the project.
Irrigation network decommissioning	2013-14	2014-15	2013-14	2014-15	Completed	This project was delivered and completed as scheduled.
Rupanyup sewerage scheme	2013-14	2014-15	2014-15	2014-15	Completed	This project was completed in October 2014 and the scheme was declared operational on 1 July 2015.
Upgrade of Donald wastewater and reuse system	2015-16	2015-16	2017-18	2017-18	Deferred	This project scope is being reviewed to investigate the impact of works to reduce infiltration. Infiltration works are currently being rolled-out and will continue up to 2017-18.
Donald treated water supply	2013-14	2014-15	2013-14	2013-14	Completed	Treated water supply to Donald was available from June 2014.
Wycheproof treated water supply	2013-14	2013-14	2013-14	2013-14	Completed	Treated water supply to Wycheproof was available from June 2014.
Rupanyup treated water supply	2013-14	2014-15	2013-14	2013-14	Completed	Treated water supply to Rupanyup was available from June 2014.
Minyip treated water supply	2013-14	2013-14	2013-14	2013-14	Completed	Treated water supply to Minyip was available from June 2014.

Continued on next page

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Lower Murray Water						
Mildura Trunk Extension	Carried over	2014-15	2014-15	2015-16	On schedule	The Mildura water supply 14th Street trunk main extension project was deferred because demand was lower than planned. It is now proceeding in three stages. • Stage 1: completed in 2015. • Stage 2 & 3: scheduled for construction Nov 2015 – Mar 2016.
Relocation of 14th Street tower	Carried over	2018-19	2017-18	2018-19	Deferred	This project was deferred during the 2008–13 pricing period because demand was lower than planned. The project is to prepare for future requirements in the relocation of this tank, with works now scheduled to start in 2017-18 with expected completion in 2018-19.
Mildura water supply strategy	2015-16	2015-16	2015-16	2015-16	On schedule	This project involves two major stages. Stage 1 (Riverside Avenue) and Stage 2 (Benetook and Cureton Avenues) are both scheduled to commence in March 2016 and finish in June 2016.
Red Cliffs WTP upgrade	2013-14	2014-15	2013-14	2014-15	Completed	This project was completed on schedule in December 2014.
WTP water quality improvements	2013-14	2016-17	2011-12	2016-17	On schedule	This is a program of works across several water treatment plants, which began in 2011-12 and will be undertaken progressively over the 2013–18 pricing period. Robinvale WTP was completed in 2011-12. Mildura 7th Street WTP was completed in June 2015. Swan Hill WTP works have commenced and will be completed in June 2016. Finally, Kerang WTP works will be undertaken in 2016-17.
WTP PLC replacement	2013-14	2016-17	2011-12	2016-17	On schedule	This is a program of works to be conducted in parallel with the WTP water quality improvements project, following the same timeline as described above.
Mildura emergency sewer overflow storages	2012-13	2013-14	2012-13	2013-14	Completed	Project works were completed on schedule in March 2014.
Merebin sewage diversion to Koorlong WWTP	2016-17	2017-18	2023-24	2027-28	Deferred	A revised Wastewater Management Plan has identified no immediate growth requirement to proceed with this project, and it has now been deferred into the fifth regulatory pricing period.

Continued on next page

TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
North East Water						
North Wangaratta reclaimed water	Carried over	June 2014	2012-13	2013-14	Completed	Construction of a 300 megalitre winter storage, pump line, pump station and irrigation systems were completed in July 2014 and are now operational.
Bright off-river storage	2013-14	2013-14	2010-11	2014-15	Completed	This project was put on hold in January 2011, following the Minister's request for a review of the site selection process. North East Water issued a report in February 2011 and the Minister decided in late September 2011 to allow the project to progress through to the planning stage. Transfer main and off-stream storage projects were awarded in June 2013 and September 2013 respectively. The transfer main was completed early 2014 and the storage dam was completed in November 2014 after experiencing wet weather construction delays.
Servicing unserviced communities (small towns) — Moyhu sewerage system	2013-14	2014-15	2013-14	2015-16	Delayed	This is an innovative STED (septic tank effluent drainage system) treatment and reuse project. The reticulation system is designed and the procurement stage is underway. Community option of local treatment and disposal through landscaped infiltration beds at the recreation reserve is not viable due to low permeability of the local soils. North East Water reviewed treatment and disposal options, preferring to move to adsorption fields out of town on a larger site. Treatment option component approvals are now being sought from EPA.
Yackandandah reclaimed water management	2013-14	2016-17	2018-19	2019-20	Deferred	This project was deferred to the next pricing period. An ecological risk assessment (ERA) process is to be completed for discharges from the site to determine the potential impact of the receiving environment and beneficial uses, to inform whether a longer term discharge option is more viable than the current option.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
North East Water (cont)						
Bright water treatment plant	2013-14	2017-18	2013-14	2015-16	On schedule	This project was brought forward from the original target of completion in 2017-18. The water treatment plant and clear water storage projects are now in their final stages of initial system definition and are tracking to the new schedule. Anticipated completion is June 2016.
Wangaratta wastewater treatment stage 1 upgrade	2014-15	2017-18	2014-15	2018-19	Deferred	This project is at the initial systems definition stage of development.
Beechworth clearwater storage tank ***NEW PROJECT ***	Next pricing period	Next pricing period	2014-15	2016-17	On schedule	This project is required to ensure the township of Beechworth has sufficient storage of safe drinking water to meet peak daily demand. The project was identified when developing the pricing submission for the 2013–18 pricing period capital works scope, and only just fell outside the suite of projects to be included. The project was reprioritised, bringing it forward to the current pricing period.
South Gippsland Water						
Wonthaggi wastewater strategy works	Carried over	2013-2014	2010-11	2014-15	Completed	The project was completed in November 2014. This included the installation of a probiotics low energy aeration system in the lead lagoon in February 2011, and sludge drying and removal facilities in 2014.
Agnes River augmentation — construction of off-stream storage (Replaced with Central Towns strategy)	Carried over	2015-2016	2013-14	2013-14	Completed	This project related to the feasibility of the Central Towns strategy, which is now complete. The augmentation project is not necessary until at least the next pricing period.
Leongatha wastewater treatment plant — refurbish decommissioned digestive system	2013-14	2013-14	2013-14	2013-14	Completed	The project was commissioned in September 2014.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
South Gippsland Water (cont)						
Poowong/Loch/Nyora sewerage scheme	2013-14	2017-18	2014-15	2016-17	On schedule	The project was deferred in 2013-14 while options were reviewed. The preferred delivery method was identified in March 2014 and the contract was executed. The project is being delivered in collaboration with South East Water, and commenced in July 2014, to be completed by November 2016 (18 months ahead of the 2017-18 schedule).
Foster wastewater treatment plant — rising main pipeline and storage	2017-18	2017-18	2017-18	2017-18	On schedule	The project is due to commence in November 2017.
Northern towns supply connection works — Lance Creek to Korumburra	2015-16	2017-18	2016-17	2018-19	Delayed	This project did not receive funding in the 2014-15 or 2015-16 State Budget. The key focus during 2015-16 will be a review of alternative options to ensure the security of water supply to South Gippsland Water's northern residential and business customers; this will include a customer and stakeholder engagement process. South Gippsland Water will again apply for funding in the 2016-17 State Budget.
Northern towns supply connection works — Korumburra to Poowong	2016-17	2017-18	2017-18	2018-19	Delayed	This project did not receive funding in the 2014-15 or 2015-16 State Budget. The key focus during 2015-16 will be a review of alternative options to ensure the security of water supply to South Gippsland Water's northern residential and business customers; this will include a customer and stakeholder engagement process. South Gippsland Water will again apply for funding in the 2016-17 State Budget.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Wannon Water						
West Portland sewerage services	Carried over	2013-14	2011-12	2014-15	Completed	This project was completed in 2014. The delay was due to planning appeals at VCAT, wet weather and difficult ground conditions impacting constructability.
Dutton Way sewerage and water services	Carried over	2013-14	2012-13	2013-14	Completed	This project was completed in 2014. Customers have commenced connecting their internal plumbing to the new services.
Curdie Vale bore construction	2013-14	2013-14	2013-14	2014-15	Completed	The project was completed in 2015.
Construct new bore at Wyatt St Portland	2014-15	2014-15	2014-15	2015-16	Delayed	Due to delays by the contractor in commencing site works the project is delayed, and is now expected to be completed by the end of 2015.
Casterton water treatment plant clarifier	2014-15	2015-16	2014-15	2016-17	On schedule	Tenders for the construction of the clarifier are currently being assessed. It is anticipated the project will be completed mid-2016.
Water tower and pump station in Wollaston Road Warrnambool	2014-15	2015-16	2016-17	2017-18	Deferred	This project was deferred for two years because demand growth softened. A temporary water supply was implemented, which satisfies the short term requirements within this development.
Water tower and pump station in Wangoom Road Warrnambool	2014-15	2016-17	2016-17	2017-18	Deferred	This project was deferred for a year because demand growth softened.
Heywood and Hamilton water reclamation plant irrigation works	2015-16	2016-17	2013-14	2017-18	On schedule	For the Heywood WRP, Wannon Water has secured an amendment to the discharge licence to the Fitzroy River, which has avoided the need to upgrade the irrigation system. Investigations into lower cost alternative options at Hamilton are continuing.
Cobden and Casterton water reclamation plant irrigation works	2014-15	2017-18	2014-15	2016-17	On schedule	This project is on schedule, but Wannon Water is investigating alterative options with lower cost.
Portland reclamation plant wind energy project ***NEW PROJECT***	2014-15	2015-16	2014-15	2015-16	On schedule	This is a new major project (not initially included in the pricing submission). It is currently in the planning stage, and is expected to deliver a significant reduction in energy costs at the site.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Western Water						
Rockbank outfall sewer (rising main)	2013-14	2014-15	2013-14	2017-18	Deferred	Detailed design is 90 per cent complete. Completion of design and subsequent construction was deferred due to Fair Water Bills and slower growth.
Surbiton Park RWP upgrade (digester)	2013-14	2014-15	2013-14	2017-18	Deferred	Tender responses are currently being assessed. Progression to tender and construction was deferred due to Fair Water Bills and slower growth.
Melton Class A RWP upgrade	2015-16	2016-17	2018-19	2020-21	Deferred	The project was deferred to the next regulatory pricing period due to Fair Water Bills and slower growth.
Sunbury additional water storage — Bald Hill tank	2013-14	2016-17	2013-14	2018-19	Deferred	Preferred site has been selected for land acquisition, and currently negotiating with land owner. Land acquisition and construction was deferred due to Fair Water Bills and slower growth.
Sunbury recycled water plant (RWP) upgrade	2013-14	2016-17	2013-14	2016-17	On schedule	The Treasurer approved the business case, and tendering activities commenced in 2014-15.
Bacchus Marsh RWP winter storage lagoon	2016-17	2017-18	2016-17	2017-18	On schedule	Site investigations commenced in October 2015.
Bacchus Marsh rising main	2017-18	2017-18	2010-11	2020-21	Deferred	This project is to provide some redundancy and capacity increase of a critical asset. In 2013-14, the project was deferred to the next pricing period because other projects reduced the catchment and testing found the main was in better condition than expected.
Bacchus Marsh sewer rising main Geelong Road	2016-17	2017-18	2012-13	2017-18	On schedule	Detailed design commenced early in the event growth exceeded expectations, and is now 75 per cent complete. A Master Plan review to confirm sizing will be completed by December 2015.

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TABLE 8.2 (CONT)

Project description	Scheduled start date	Scheduled completion date	Expected/actual start date	Expected/actual completion date	Status	Water business comments
Westernport Water						
Candowie upgrade project	2013-14	2013-14	2013-14	2013-14	Completed	The project was completed in July 2013. The reservoir capacity is now doubled to 4463 megalitres, and it reached the new full supply level in September 2013.
Cowes wastewater reticulation — upgrade pump stations	2014-15	2014-15	2014-15	2015-16	Delayed	The Church Street upgrade was completed in 2014-15, and the Chapel Street SPS upgrade is under way and will be completed in 2015-16.
Ian Bartlett water purification plant tertiary treatment	2015-16	2015-16	2015-16	2017-18	Deferred	The tertiary treatment upgrade concept design was completed in 2014-15; however further investigations into optimising existing plant to achieve treatment targets will be completed in 2015-16 before implementation of the tertiary treatment solution.
Cowes wastewater reticulation — new rising mains	2016-17	2017-18	2016-17	2017-18	On schedule	The project is on schedule. The implementation schedule of the rising main from Chapel St SPA will be reviewed in 2015-16.
San Remo basin cover replacement	2016-17	2017-18	2016-17	2017-18	On schedule	The project is on schedule.
Cowes wastewater treatment plant upgrade	2013-14	2017-18	2013-14	2015-16	On schedule	The project commenced late 2013-14 and the construction phase is now complete. Testing and commissioning of the new works are underway, and the project is scheduled for completion in 2015-16.