ESSENTIAL SERVICES COMMISSION

Water performance report 2017-18

Performance of Victorian urban water and sewerage businesses

10 December 2018

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What we found in 2017-18

Victoria's 16 urban water businesses operate across a diverse range of geographic, environmental and social conditions. In this report, we examine the 2017-18 performance of the Victorian urban water sector, both as a whole and as individual businesses. We compare the businesses with each other, and against their own previous performance. This report also marks the conclusion of the five year regulatory pricing period from 1 July 2013 to 30 June 2018.

About these prices and bills…

This report looks at the performance of water businesses during the financial year 1 July 2017 to 30 June 2018.

In May and June 2018, we released new pricing decisions for all urban water businesses, establishing the prices to apply from 1 July 2018. For most businesses, the new prices are about the same or lower than those that applied in 2017-18 (not including the impacts of inflation).

The typical bills described in this report predate the new prices, which will be reflected in our performance reporting for 2018-19.

In 2017-18, a typical Victorian residential water customer:

- **Received high quality drinking water.** Almost all Victorian customers received water that was fully compliant with safe drinking water regulations.
- **Used slightly more water.** Average household use was up 1.9 per cent from 2016-17 due mainly to lower rainfall this year, particularly across the north of the state. There was also a corresponding increased demand for recycled water.
- **Received slightly higher bills.** A typical bill for owner occupiers increased by 2 per cent, reflecting inflation and the higher average water usage (with underlying prices generally remaining steady in real terms for most businesses).
- **Received consistent service levels.** Water network reliability was similar to prior years. Sewer reliability improved, with a lower blockage and spill rate, which is typical in a lower rainfall year.
- **Received support if experiencing payment difficulties.** Customers continued to access a range of support programs offered by the water businesses and the government.

Overall, we consider Victoria's 2.7 million customers continue to receive good service from their water businesses, as they have across the last five years, even though there is considerable

variation in performance across the various indicators owing to the diverse operational conditions across the state.

The better performers across a number of key areas this year were Goulburn Valley Water, East Gippsland Water and Western Water.

A new pricing framework

In 2016, we released our new pricing framework (PREMO) for the Victorian water sector, which puts customers squarely at the centre of water businesses' considerations. We challenged businesses to engage with their customers to understand what they value most, and prepare price submissions which take these views into account.

The PREMO framework provides incentives for water businesses to provide greater value to customers, and holds them accountable for delivering on their commitments. Businesses have established clear outcomes and performance targets, and will self-report their achievements and the value they have actually delivered to their customers.

Our performance reporting will change from 2018-19 to reflect this new approach, as businesses take greater responsibility for reporting and explaining their own performance to customers. How well they do this will help us determine what role we play in reporting on this sector in the future.

Read all of our 2017–18 water performance resources

Find all of our 2017-18 performance information at https://www.esc.vic.gov.au/water/water-sector-performance-and-reporting/water-performance-reports, including:

- this report comparing the performance of the 16 urban water businesses
- a supplement discussing how water businesses delivered their major projects across the five year regulatory period
- water business profiles that provide a snapshot of each business's performance
- a summary of the data behind our tables and charts in this report.

Contents

1. Why we do this

1.1. Who we are

The Essential Services Commission is the economic regulator of the Victorian water sector. One of our regulatory functions is to monitor and to report publicly on the performance of the Victorian Government-owned water businesses.[1]

This report covers the key performance indicators for the 16 Victorian urban water businesses for the 2017-18 financial year, and excludes the rural water businesses.[2]

Figure 1.1 Importance of performance reporting

We are responsible for regulating service standards and conditions of supply, see Figure 1.2. However, we do not regulate or drive performance in the areas of water conservation, the environment and water quality, although some of these areas are covered in our report.

The Environment Protection Authority Victoria (EPA) 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.

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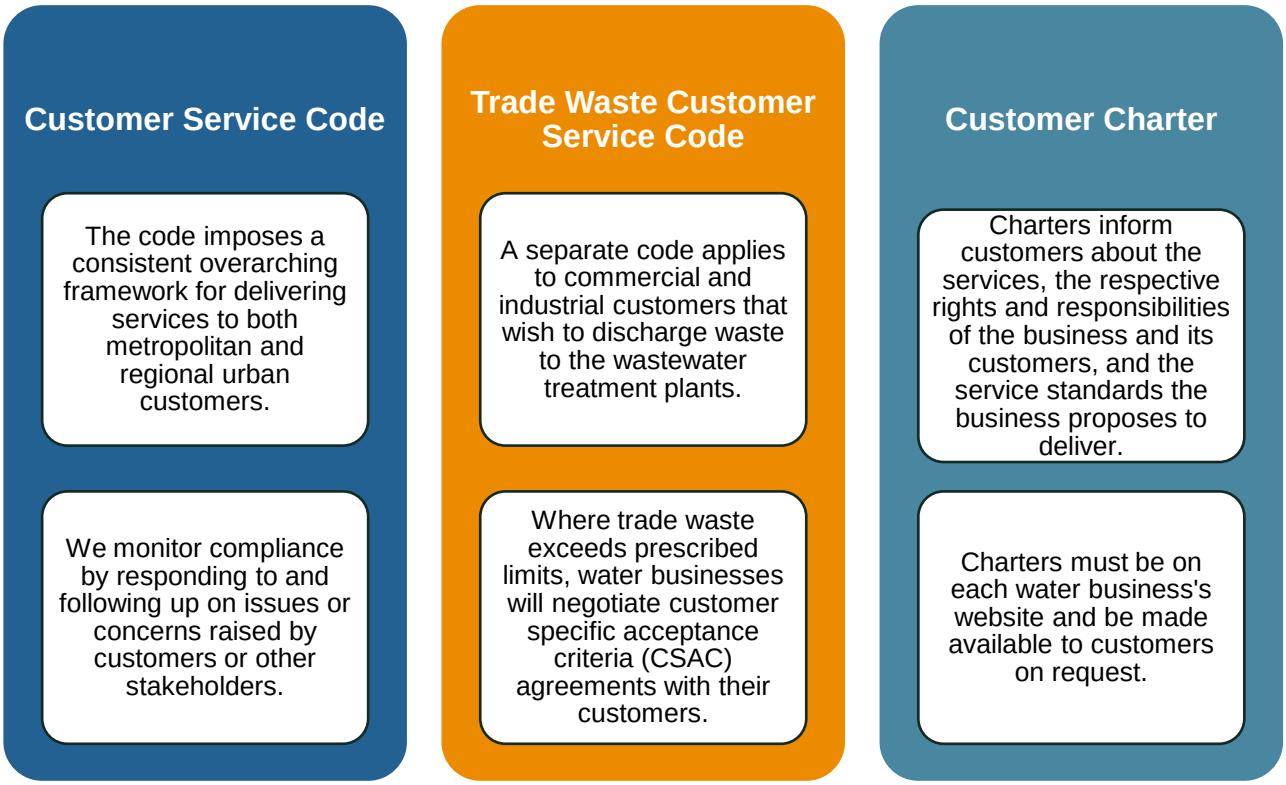
[1] Clause 18 of the *Water Industry Regulatory Order* (WIRO) 2014

[2] As well as excluding the rural activities of GWMWater and Lower Murray Water, which provide both urban and rural services.

Figure 1.2 How we regulate service standards



The codes are available on our website (www.esc.vic.gov.au/water-codes-and-guidelines/).

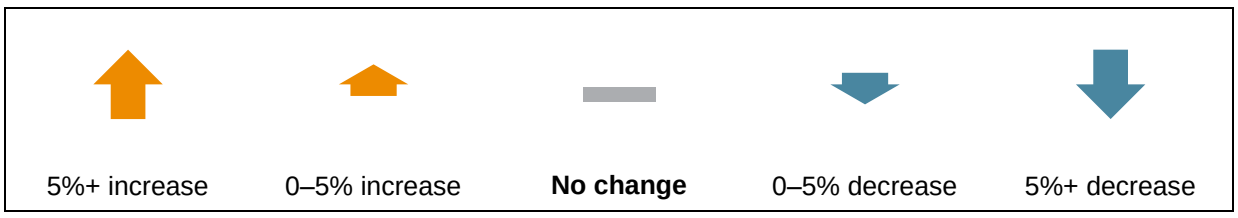
1.2. Our data

This report is based on two principal sources of information:

- Performance data reported by the businesses against key performance indicators specified by us, and comments from the businesses explaining their performance.
- The findings of regulatory audits on the reliability of the performance indicator data reported by the businesses. Where data has not passed the audit requirements, it has been excluded from this report or qualified in our discussion.

We use snapshots alongside some indicators to highlight changes made at metropolitan Melbourne and regional Victoria level, and the state-wide trends. Depending on the indicator, an increase could be an improvement or deterioration in performance.

Figure 1.3 Snapshot (key to symbols)

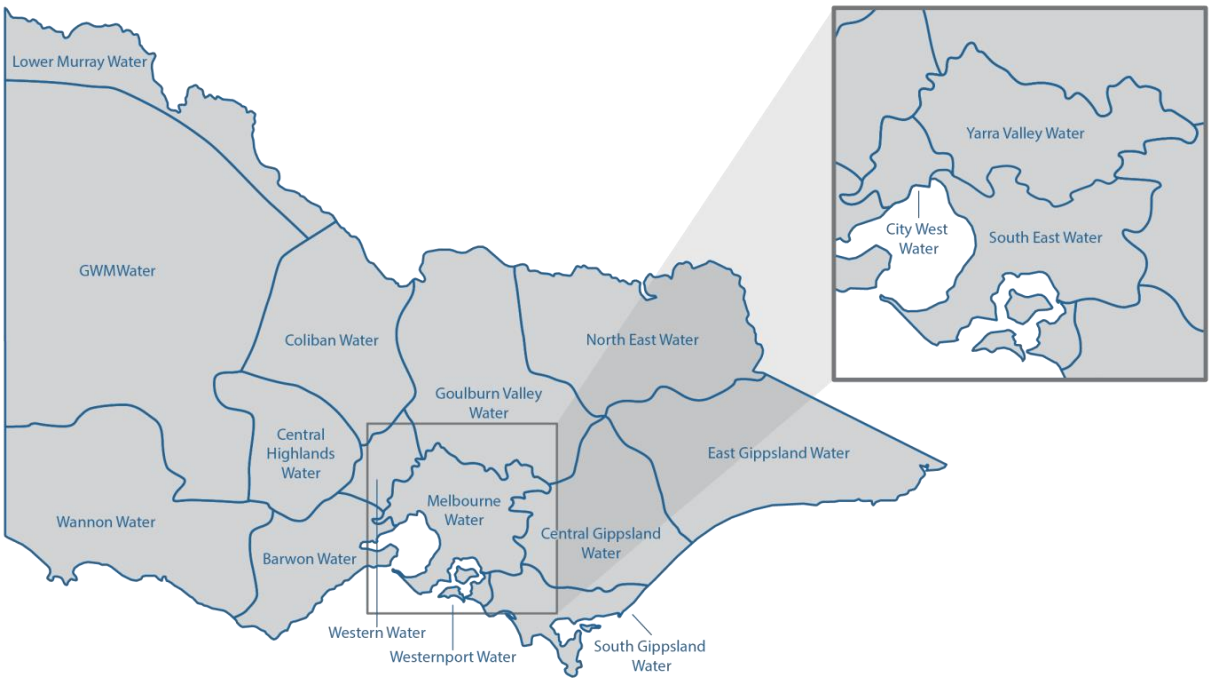


2. The Victorian water industry

There are 19 water businesses in Victoria, each with a clearly defined geographic region for servicing customers. As a result, the businesses do not compete directly for each other's customers, unlike the gas or electricity retailers. The water businesses are diverse in terms of size, the services they provide and the environments in which they operate. The16 urban businesses, Melbourne Water and the two rural businesses are owned by the Victorian Government. Figure 2.1 shows the 16 urban water business boundaries and Melbourne Water.

Note that this report does not cover the two rural water businesses or the rural activities of GWMWater and Lower Murray Water.

Figure 2.1 Victorian urban water businesses

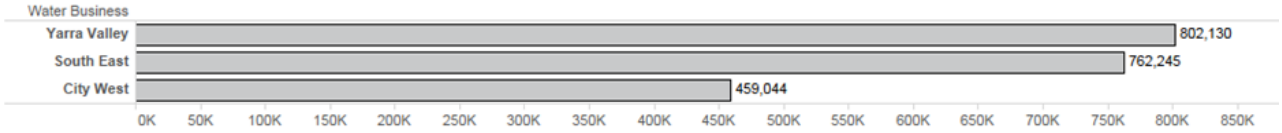


2.1. Melbourne's urban water businesses

Three metropolitan retailers (City West Water, South East Water and Yarra Valley Water) and one bulk water company (Melbourne Water) service the Melbourne area. These metropolitan water businesses together service 74 per cent of the 2.7 million customers in Victoria.

Figure 2.2 Number of water customers in metropolitan Melbourne

Residential and non-residential



The three metropolitan retailers handle:

- distribution of water and sewerage services
- meter reading, billing and customer service
- some sewage collection and treatment
- billing metropolitan customers for drainage services on behalf of Melbourne Water, and the parks charge on behalf of the Minister for Water
- trade waste services to commercial and industrial customers.

Melbourne Water does not provide services direct to customers. Instead it provides:

- bulk (wholesale) water and sewage treatment services for the three metropolitan retailers and a number of regional businesses
- drainage services, as well as managing rivers and lakes throughout Melbourne.

2.2. Regional urban water businesses

Thirteen water businesses provide water and sewerage services to urban customers throughout regional Victoria, including:

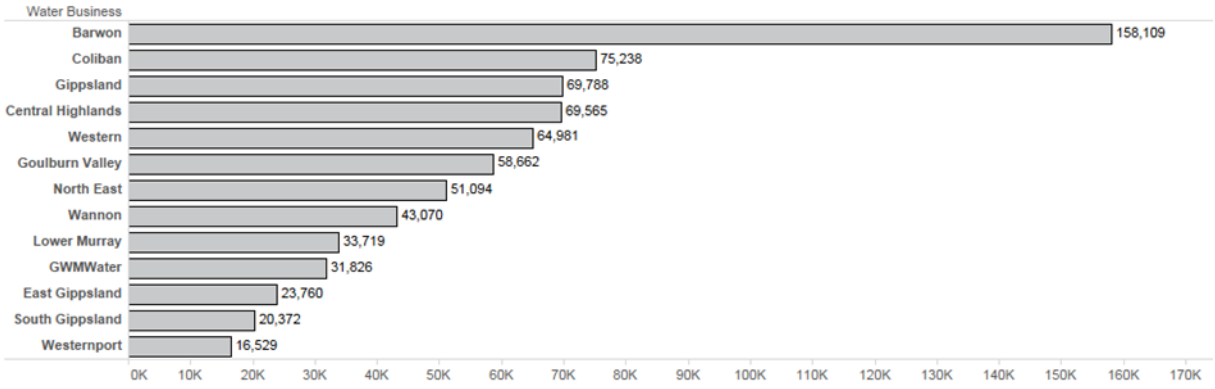
- harvesting bulk water
- treating and delivering water for human use
- treating and disposing of sewage
- meter reading, billing and customer service
- trade waste services for a relatively small number of industrial customers.

Each business is responsible for serving a number of supply areas (regional cities or towns), often across a number of catchments. This often requires a business to use a number of discrete water supply systems.

The regional water businesses serve 26 per cent of the 2.7 million customers in Victoria.

Figure 2.3 Number of water customers in regional Victoria

Residential and non-residential



3. How much are households using and paying for water?

This chapter looks at the average water use of households and typical bills at the average usage level across Victoria.

The bill estimates in this chapter reflect prices charged by water businesses in the year to 30 June 2018. In May and June 2018, we approved new prices taking effect from 1 July 2018.

We also discuss how customers are paying their bills. Government support and water business assistance programs are available where customers are experiencing payment difficulties. If bills remain unpaid, customers may face water supply restrictions or legal action.

3.1. 2017-18 at a glance

Household water use increased by 2 per cent, following a reduction in 2016-17 when above average rainfall was recorded.

North East Water ($859) and Goulburn Valley Water ($925) had the lowest typical bills for residential owner-occupiers. GWMWater ($1375) had the highest typical bill, followed by Coliban Water ($1367).

Across the state, 27 per cent of customers received concessions for their bills, similar to last year.

Customers continued to receive grant assistance from the Victorian Government to help with one-off bill payments.

Water businesses awarded slightly more hardship grants to customers, but decreased the value of their grants compared to 2016-17.

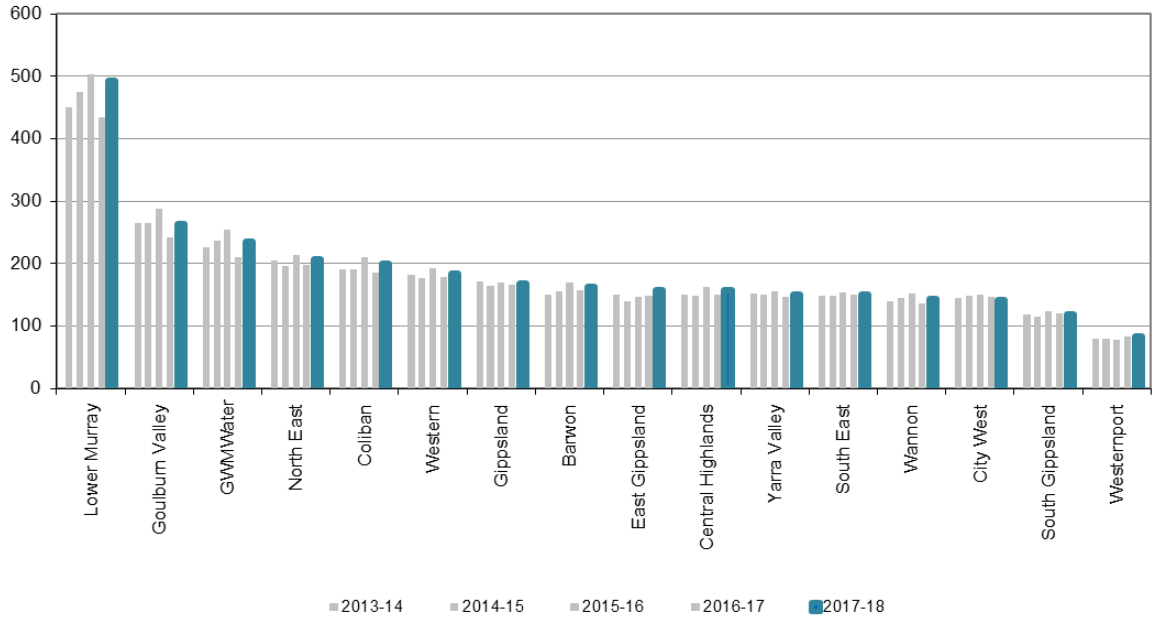
Slightly more customers faced water supply restrictions or legal actions for non-payment of bills than in 2016-17.

3.2. Average household water use

Water use varies around the state due to different climates, household demographics, property sizes, and any water restrictions that may be in place.

Figure 3.1 Average household use

Kilolitres per household



Snapshot (average household water use, kilolitres)

State-wide average		1.9%	Metro average		0.2%	Regional average		5.9%
2017-18	160	↑	2017-18	148	–	2017-18	194	↑
2016-17	157		2016-17	148		2016-17	183	

Key observations

- Average annual household water use across Victoria rose by 1.9 per cent in 2017-18, to 160 kilolitres, reflecting a warmer and drier year.[3] This is 12 per cent higher than the most recent low of 143 kilolitres recorded in 2010-11 (end of the millennium drought).
- Average annual household water use increased by nearly 6 per cent in regional Victoria. The largest increases were recorded by businesses in the north and north-west of the state, reflecting relatively hot and dry conditions in these areas.

[3] Average state-wide consumption is reported on a weighted basis, where the weighted average reflects the size of each water business and its relative contribution to the overall average.

- Lower Murray Water recorded the largest rise in average household water use (13 per cent), followed by GWMWater (12 per cent), Goulburn Valley Water (9 per cent), and Coliban Water (8 per cent). South Gippsland Water was the only regional water business to record a fall in annual average household water use (down 1 per cent).
- In metropolitan Melbourne, average annual household water use was little changed on the previous year. City West Water recorded a 4 per cent fall, the largest decline recorded by any business in 2017-18. By contrast, Yarra Valley Water recorded a 2 per cent increase.

3.3. Typical household bills

Household bills across Victoria vary due to: the cost to service different regions, sources of water, historical decisions about tariff structures and the average volume of water used.

Bills are a combination of how much water is used, prices for fixed-and variable-rate charges, and other charges. Owner occupier households pay both fixed and variable charges for their bills. Landlords pay the fixed charges for their property and the tenants only pay the variable charges. Only metropolitan Melbourne households have a variable sewerage charge.

How typical bills are calculated

Typical household bills shown for each year are in that year's dollars. We use each business's average household usage (Figure 3.1) to calculate an indicative household bill for water and sewerage services. This includes both the fixed and variable water and sewerage charges, and any applicable rebate.[4]

For regional businesses with multiple pricing zones, we used the prices in the largest town to calculate each business's typical household bill.

Some water businesses applied a rebate to residential bills from 2014 to 2018. For many water users, this rebate was shown as an annual credit on water bills. Where applicable, the bill estimates in this chapter include the impact of the rebate on bills paid by customers.[5]

[4] For consistency in comparison, we have excluded the metropolitan drainage charges for Melbourne Water and the metropolitan parks charges set by the Minister for Water, collected on their behalf by the metropolitan water businesses via water bills. These charges are not directly levied by these water businesses and are not part of their revenue stream.

[5] These rebates ended in 2017-18.

The bill estimates in this chapter reflect prices charged by water businesses in the year to 30 June 2018. In May and June 2018, we approved new prices taking effect from 1 July 2018.

For most businesses, the new prices are about the same or lower than those that applied in 2017-18 (not including the impacts of inflation). Our performance reporting for 2018-19 will reflect this latest decision on prices.

Figures 3.2 to 3.4 show typical bills for owner occupiers and Figures 3.5 to 3.7 show typical bills for tenants.

Want more information?

We have an interactive bill estimator available at www.esc.vic.gov.au/water/information-water-consumers, where an indicative bill can be calculated for any annual water usage, and compared across all water businesses.

Our website also explains some key terms for understanding bills, and describes how we regulate prices, visit www.esc.vic.gov.au/water/water-prices-tariffs-and-special-drainage/

Figure 3.2 Typical household bills – metropolitan owner occupiers

$, including inflation

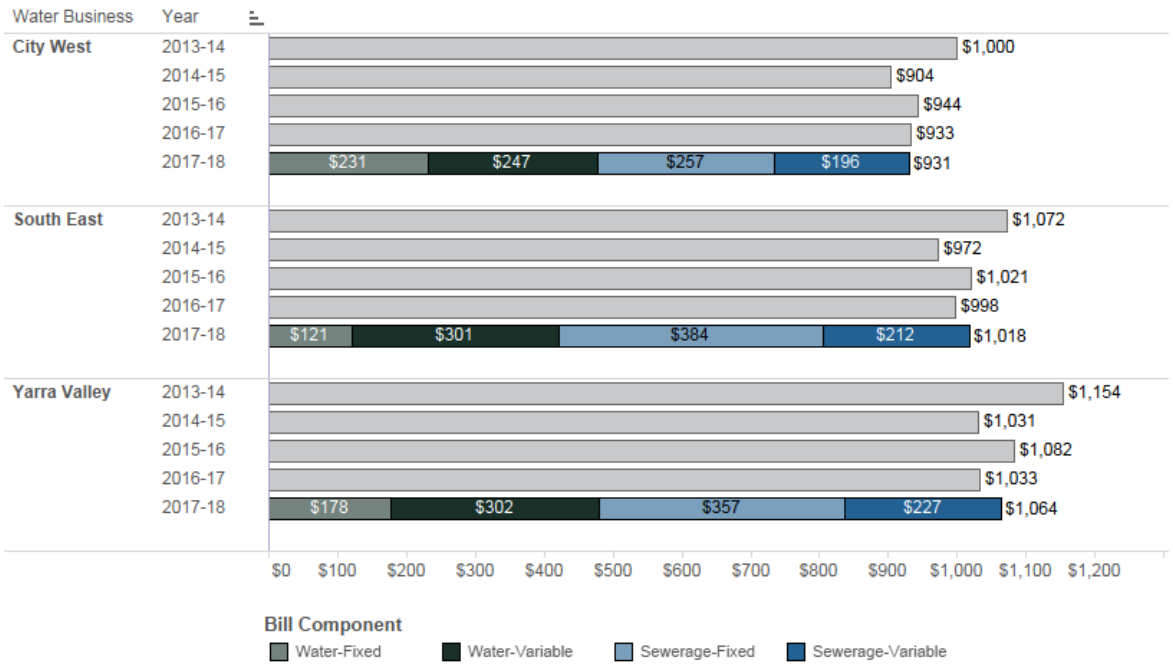


Figure 3.3 Typical household bills – regional owner occupiers, part I

$, including inflation

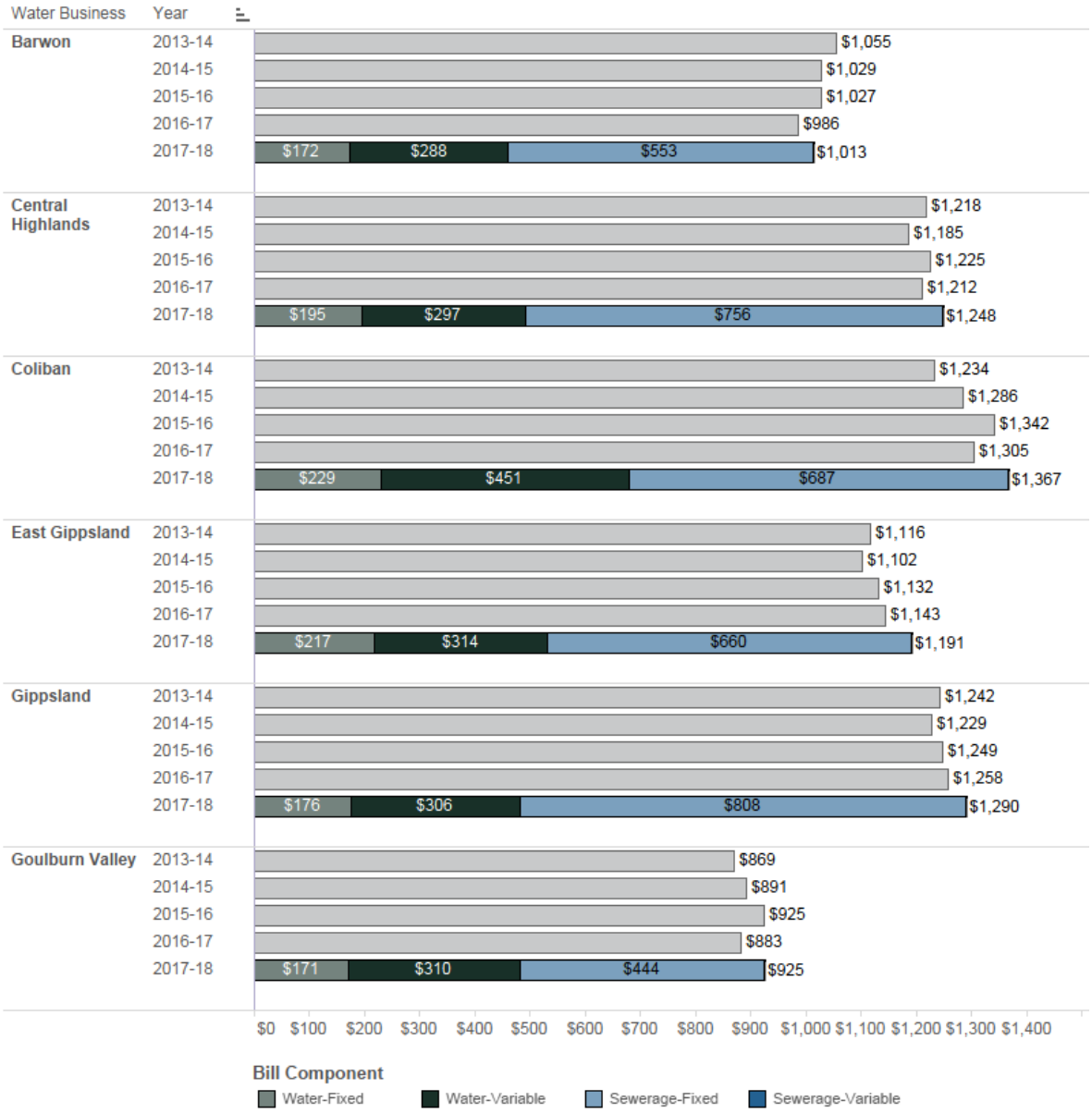
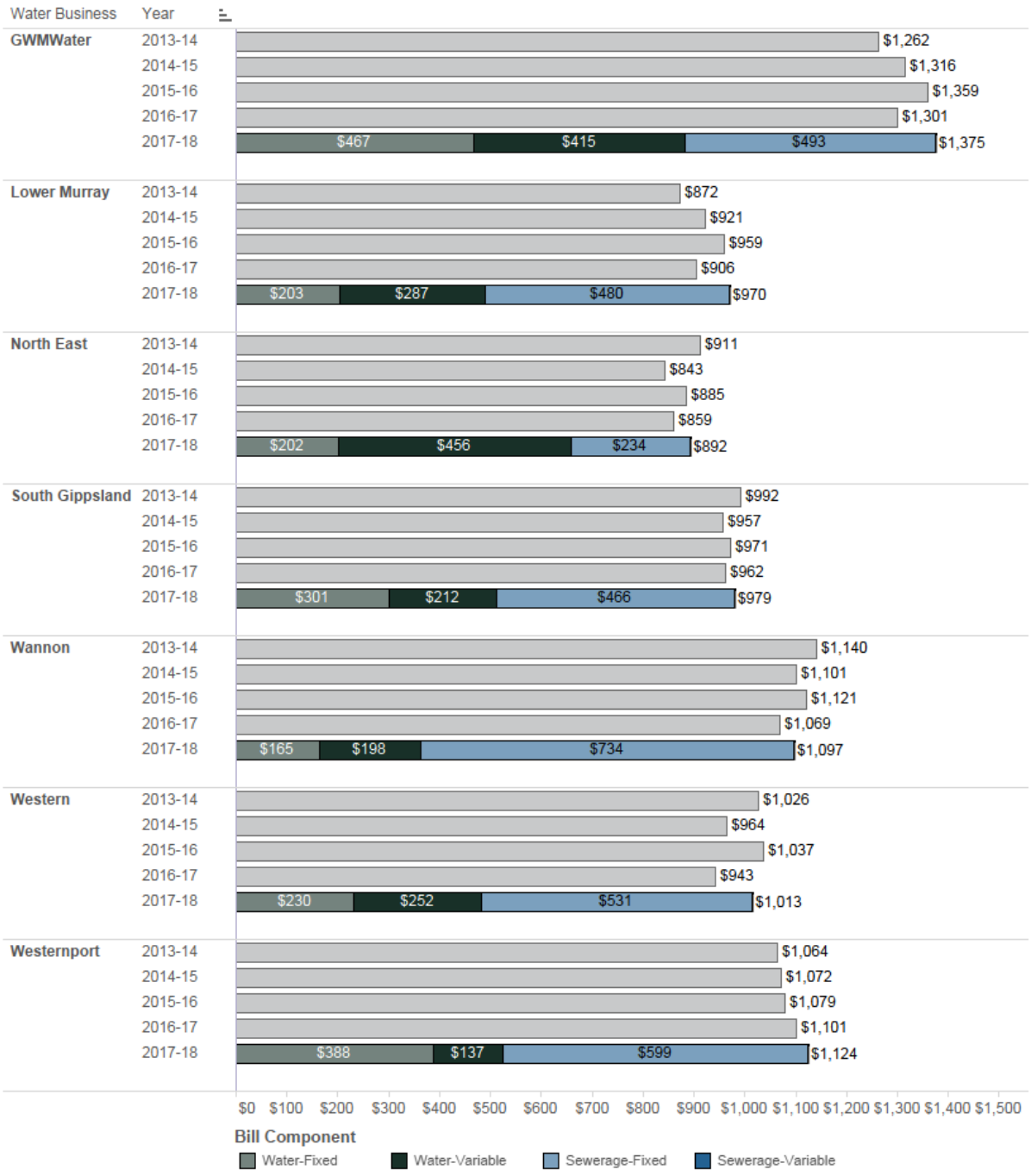


Figure 3.4 Typical household bills – regional owner occupiers, part II

$, including inflation



Key observations

- State-wide, typical bills for residential owner occupiers increased by $25 (2 per cent) from $1,016 in 2016-17 to $1,041 in 2017-18. The increase reflects inflation and higher water use. For most businesses, prices remained relatively steady in real terms (that is, before inflation).
- The increase in typical household bills was generally higher in regional Victoria, mainly due to the larger increase in water use compared to metropolitan areas. The typical bill in regional Victoria rose by 4 per cent, from $1,178 in 2016-17 to $1,221 in 2017-18. The typical bill in metropolitan Melbourne increased by 2 per cent, from $966 in 2016-17 to $985.
- Western Water recorded the biggest increase in typical bills (7.4 per cent) which also included an increase in its prices, consistent with the approved price paths in our 2013 determination. Higher household water use across the hotter northern parts of the state underpinned relatively large increases for Lower Murray Water (typical bills up 7.0 per cent) and GWMWater (up 5.6 per cent).
- Across all businesses, North East Water ($892) reported the lowest typical bill, followed by Goulburn Valley Water ($925). GWMWater ($1375) had the highest typical bill, followed by Coliban Water ($1367) and Gippsland Water ($1290).
- City West Water had the lowest typical bill in metropolitan Melbourne ($933), and recorded the only fall in typical bills, underpinned by lower household water use.

Figure 3.5 Typical household bills – metropolitan tenants

$, including inflation

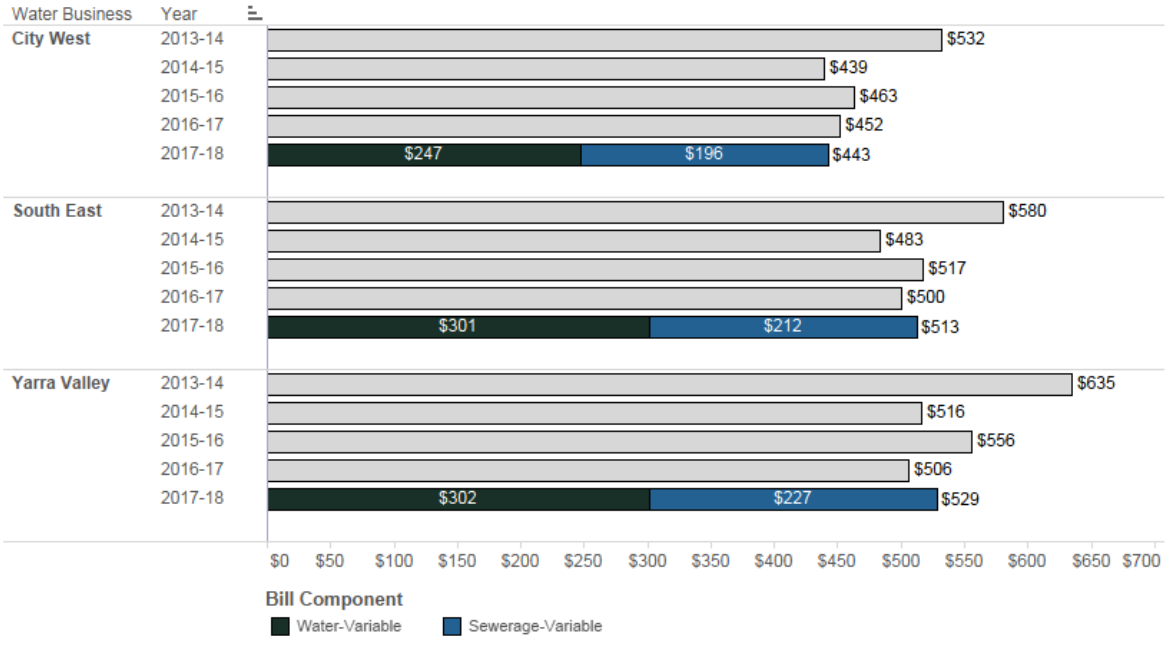


Figure 3.6 Typical household bills – regional tenants, part I

$, including inflation

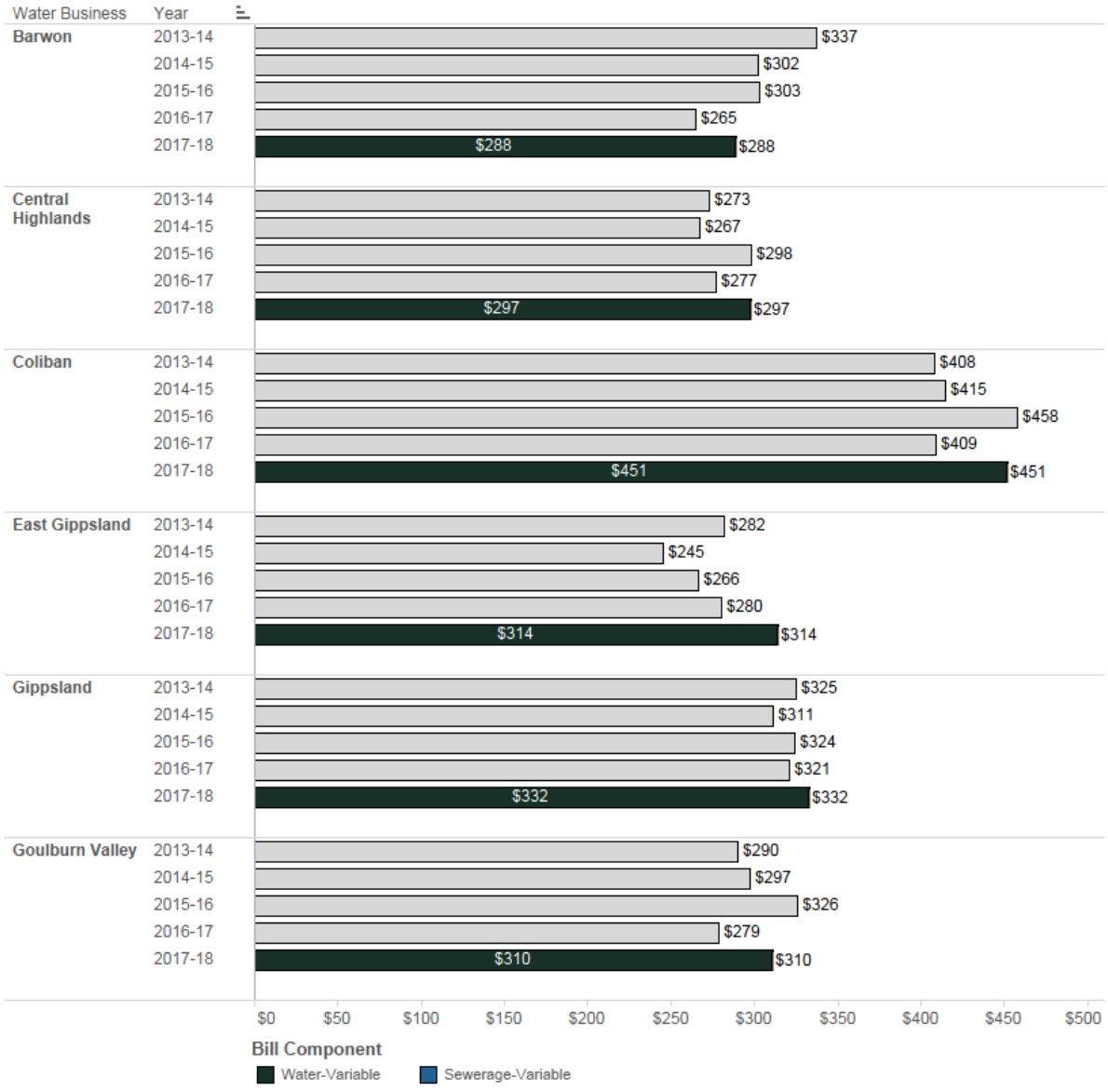
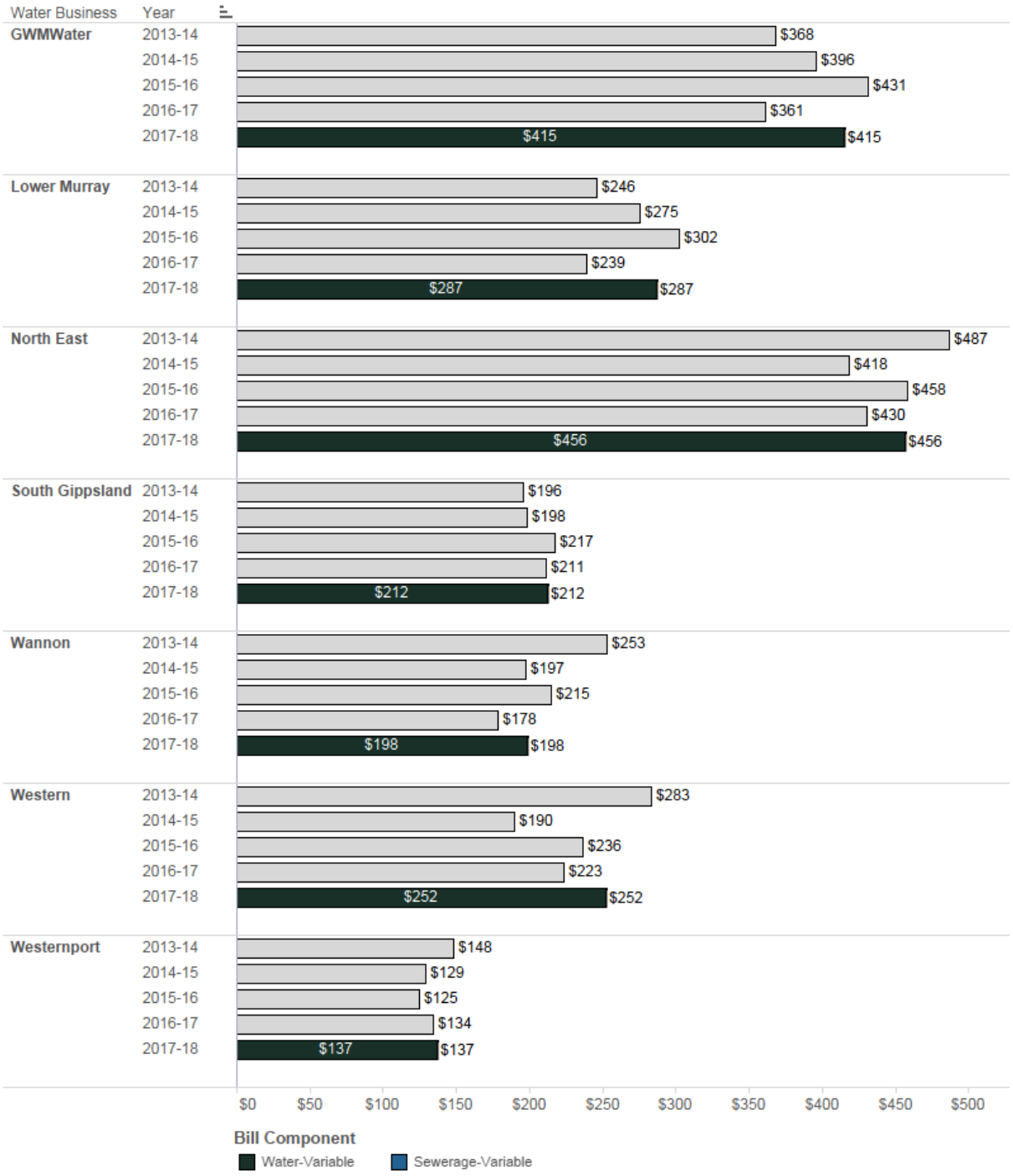


Figure 3.7 Typical household bills – regional tenants, part II

$, including inflation



Key observations

- Nearly all water businesses recorded an increase in tenants' typical household bills in 2017-18, reflecting inflation and higher water use.
- Overall, the typical bill for a residential tenant rose by 3 per cent or $15. Typical tenant bills rose by 2 per cent in metropolitan Melbourne which had no change in average consumption this year, compared to a 9 per cent rise for regional businesses where average water use increased by 6 per cent.
- City West Water was the only business that recorded a decrease in the typical bill in 2017-18, decreasing by 2 per cent or $8, reflecting the lower average water usage.
- Tenants' average household bills ranged from $137 (Westernport Water, which has a high proportion of fixed charges and low average water use) to $529 (Yarra Valley Water).
- Lower Murray Water reported the largest tenant bill increase (20 per cent), consistent with a relatively large increase in average water use per household.

3.4. Concession customers

Twenty-seven per cent of residential customers have a concession applied to their water bills.[6]

The Victorian Government, through the Department of Health and Human Services, provides concessions to assist low income households with water and sewerage bills at their principal place of residence. In 2017-18, over $170.7 million was contributed as concessions to urban water bills.

The number of concession households increased by approximately 700 (0.1 per cent), from 687,200 in 2016-17 to 687,900 in 2017-18.

Customers holding a concession card can contact their water business to apply for a concession. Concessions may be applied retrospectively.

[6] Concession data sourced from the Department of Health and Human Services.

3.5. Customers on flexible payment plans

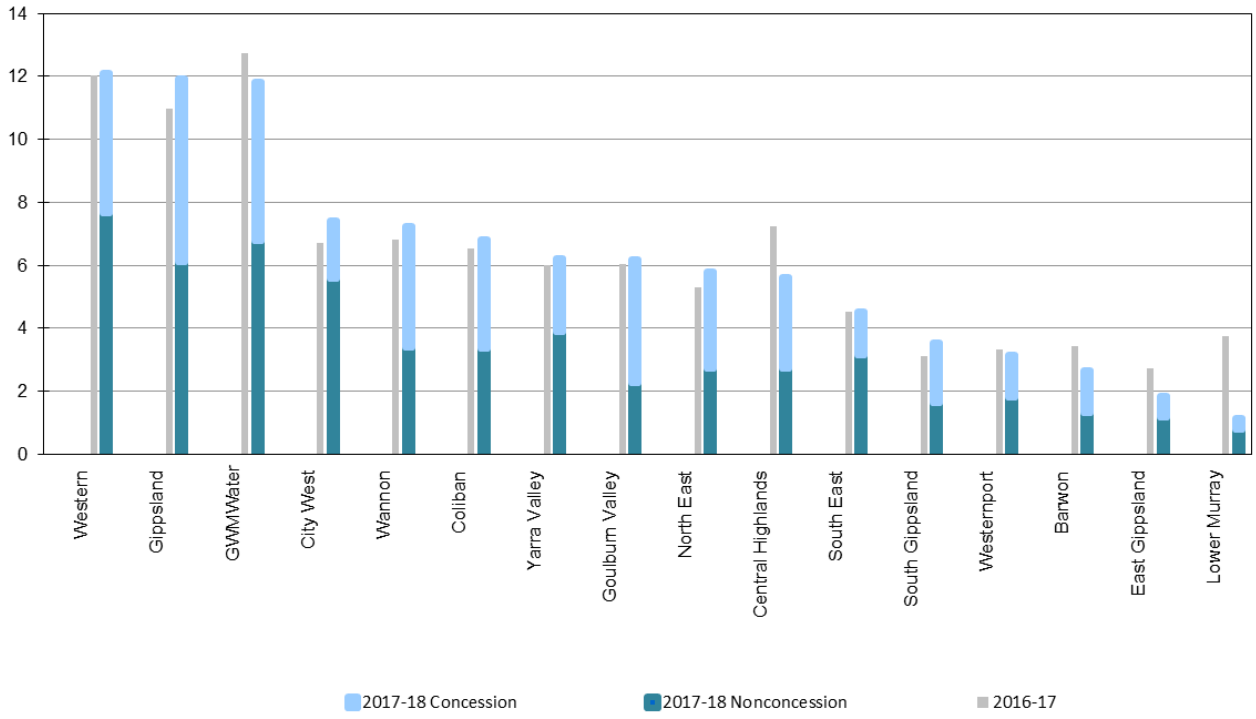
Instalment plans are alternative payment arrangements offered by water businesses to help customers experiencing affordability issues. Payment arrangements may include giving customers the ability to pay off their bill in monthly instalments. These kinds of arrangements provide customers with flexibility to better manage their bill payments.

Water businesses must assist customers experiencing payment difficulties on a case-by-case basis by:

- providing alternative payment arrangements in accordance with a customer's capacity to pay, or redirecting the bill to another person to pay
- offering to extend the due date for some or all of an amount owed.

From 2016-17, this performance indicator changed from number of customers entering instalment plans in a 12 month period to the number of customers on instalment plans at a point in time. Some businesses may have customers on several short term instalment plans within a year, while others may have their customers on longer instalment plans. We consider that a snapshot measure enables a better comparison between water businesses.

Figure 3.8 Customers with instalment plans (at 30 June 2018)
Residential, per 100 customers



Snapshot (residential instalment plans, per 100 customers)

State-wide Average		1.6%	Metro Average		4.2%	Regional Average		-4.7%
2017-18	6.0		2017-18	5.8		2017-18	6.3	
2016-17	5.9		2016-17	5.6		2016-17	6.6	

Key observations

- The revised indicator definition for 2016-17 caused a change in how water businesses reported their number of customers on instalment plans. This means we have a new baseline year (2016-17) to compare performance.
- In 2017-18, the overall rate of residential instalment plans increased slightly to 6.0 per 100 customers from 5.9 in 2016-17. The number of residential customers on instalment plans increased from 143,905 in 2016-17 to 149,806 in 2017-18.
- The use of instalment plans for residential customers ranged from 1.1 per 100 customers for Lower Murray Water to 12.1 per 100 customers for Western Water.
- Nine businesses reported increases of between 1 and 15 per cent in the number of customers on instalment plans.
- Lower Murray Water, East Gippsland Water, Barwon Water and Central Highlands Water reported significant decreases in the number of customers on instalment plans.
  - Lower Murray Water advised that it undertook a business process review, following the retirement of a key staff member, which restrained the administration of its debt collection process for six months.
  - East Gippsland Water advised that a number of customers were not meeting the requirements of alternative payment arrangements and had their arrangements cancelled.
  - Barwon Water attributed the decrease to the reduction in residential water bills resulting from the government efficiency review conducted in 2014.
  - Central Highlands Water advised that a number of its customers had come off the instalment plans and subsequently reverted to payments in full or self-managed direct debits.
- Both GWMWater and Westernport Water incorrectly reported their 2016-17 figure using our old definition. Both businesses have now provided updated figures for 2016-17 to reflect the number of customers entering instalment plans at a snapshot in time, consistent with the methodology used in 2017-18.

3.6. Government-funded grants scheme – URGS

The Department of Health and Human Services administers the URGS (Utility Relief Grants Scheme), 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.

Water businesses must assist customers experiencing payment difficulties on a case-by-case basis by appropriately referring customers to government funded assistance programs or to an independent financial counsellor. This includes assisting eligible customers to apply to the department for an URGS grant.

Table 3.2 URGS in 2017-18

Residential customers

	Number of grants approved	Percentage of grants initiated that are approved	Average value of grant paid	Percentage of customers
City West	796	47%	434	0.2
South East	1,864	45%	447	0.3
Yarra Valley	2,553	55%	446	0.3
Barwon	182	43%	402	0.1
Central Highlands	328	88%	417	0.5
Coliban	369	100%	411	0.5
East Gippsland	95	90%	472	0.5
Gippsland	397	82%	412	0.6
Goulburn Valley	332	89%	374	0.6
GWMWater	78	64%	425	0.3
Lower Murray	39	67%	325	0.1
North East	237	51%	360	0.5
South Gippsland	40	61%	448	0.2
Wannon	148	72%	419	0.4
Western	221	51%	464	0.4
Westernport	35	45%	465	0.2
Statewide	**7,714**	**55%**	**433**	**0.3**

Source: Department of Health and Human Services

Percentage of customers refers to the number of grants approved per the relevant water business's own residential customer base.

Key Observations

- The number of URGS grants approved decreased by 3 per cent from 7,961 in 2016-17 to 7,714 in 2017-18, while the proportion of customers receiving grants remained at 0.3 per cent.
- The average value of grants ranged from $325.31 (for customers of Lower Murray Water) to $471.91 for (East Gippsland Water). Almost a third of all URGS payments went to Yarra Valley Water customers, with a total of $1.14 million paid across 2,553 customers.
- Several water businesses reported a very high percentage of their customers' grant applications were approved, namely: Coliban Water (100 per cent), East Gippsland Water (90), Goulburn Valley Water (89) and Central Highlands Water (88).
- Goulburn Valley Water reported the highest rate of URGS uptake in 2017-18, at 0.64 per cent of customers, with Gippsland Water second highest, at 0.62 per cent of customers.

3.7. Water business hardship grants

Hardship grants are another approach used by water businesses to assist customers experiencing payment difficulties. 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.

Table 3.3 Hardship grants in 2017-18

Residential and non-residential customers, excluding inflation

	Per 100 customers, 2017-18	Change from 2016-17	Average value of grant paid, 2017-18	Change from 2016-17
City West	0.11	-0.01	$677	-$10
South East	0.08	-0.01	$42	-$232
Yarra Valley	0.98	+0.03	$220	+$9
Barwon	0.88	+0.07	$78	-$1
Central Highlands	0.17	-0.24	$437	+$211
Coliban	0.39	-0.29	$262	-$35
East Gippsland	1.25	+0.03	$165	+$14
Gippsland	0.15	+0.08	$142	-$486
Goulburn Valley	1.13	+0.28	$275	-$33
GWMWater	0.51	+0.32	$6	-$29
Lower Murray	0.00	+0.00	$0	+$0
North East	0.20	+0.09	$639	+$204
South Gippsland	0.00	-0.02	$0	-$3,000
Wannon	0.40	-0.17	$229	+$25
Western	0.64	-0.03	$486	+$81
Westernport	0.37	+0.35	$72	-$1,608
Statewide	**0.47**	**+0.01**	**$228**	**-$10**

Snapshot (hardship grants approved, per 100 customers)

State-wide average		1.2%	Metro average		0.9%	Regional average		2.1%
2017-18	0.47	▲	2017-18	0.45	▬	2017-18	0.53	▲
2016-17	0.46		2016-17	0.44		2016-17	0.52	

Key Observations

- Across the state, water businesses approved hardship grants for 11,802 customers in 2017-18, representing 0.47 grants per 100 customers. This was little changed from 2016-17.
- East Gippsland Water recorded the highest rate with 1.25 per 100 customers receiving grants in 2017-18, followed by Goulburn Valley Water with 1.13 per 100 customers.

- GWMWater and Westernport Water reported significantly higher hardship grants.
  - GWMWater noted that the number of customers actively seeking to meet application requirements had increased.
  - Westernport Water completed an investigation into customers who were maintaining their payment arrangements for a period greater than three months. These customers were awarded a hardship grant if they owed more than $900.
- Central Highlands Water and Coliban Water both reported significantly lower rates of hardship grants.
  - Central Highlands Water's Community Rebate Program had increased to $750 per household. The Community Rebate Program, funded by the Department of Environment, Land, Water and Planning and administered by Central Highlands Water, funds plumbing and replacement fittings to fix leaking services for those who cannot afford to pay for a plumber. As a result of rectifying leaks, customers save money, reducing their need for hardship funding.
  - Coliban Water advised that it has increased its focus on identifying and supporting customers in hardship which has resulted in many of its customers reducing their debt to manageable levels. Coliban Water also increased its efforts to support customers in accessing financial support services and entering into alternative payment arrangements.
- North East Water previously included customers supported through waived costs incurred by the business from the connection of its customers to a new sewer scheme. We did not consider these payments to be hardship grants, and we have removed them from North East Water's reported figures.
- The average value of hardship grants across businesses ranged from $6 (GWMWater) to $677 (City West Water) in 2017-18, with an overall average of $228 — a decrease of 4 per cent from 2016-17. Lower Murray Water and South Gippsland Water did not award any hardship grants this year.

3.8. Actions for non-payment of bills

Water legislation allows water businesses to limit the water flowrate to non-paying customers by inserting a restriction device in the customer's water supply line. Water businesses may also take legal action against customers to recover unpaid debt.

Water businesses must assist customers experiencing payment difficulties on a case-by-case basis by:

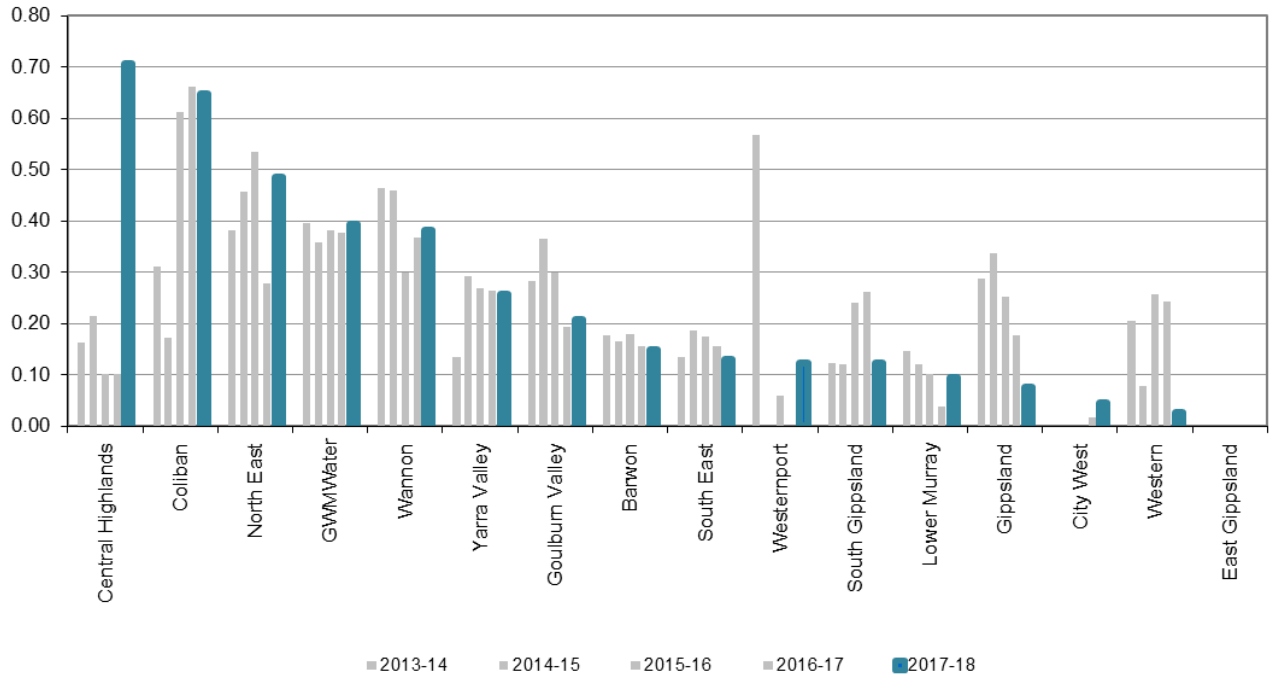
- observing minimum periods of notice before applying supply restrictions or pursuing legal action to recover outstanding debts
- not restricting water supply of a customer or pursuing legal action before first taking additional steps to secure payment, including making a reasonable attempt to contact the person, offering a payment arrangement and resolving any dispute over the outstanding amount.

Our Customer Service Code sets out the procedures water businesses are required to follow before restricting a customer's water supply or taking legal action.

Water businesses reported that they initiated unpaid debt recovery actions (including water supply restrictions or legal action) against 5,122 residential customers across the state in 2017-18 (0.19 per cent of Victorian customers).

Figure 3.9 Water supply restrictions for non-payment of bills

Residential, per 100 customers



Snapshot (residential water supply restrictions, per 100 customers)

State-wide average		3.7%	Metro average		-3.8%	Regional average		19.2%
2017-18	0.19		2017-18	0.16		2017-18	0.28	
2016-17	0.19		2016-17	0.17		2016-17	0.24	

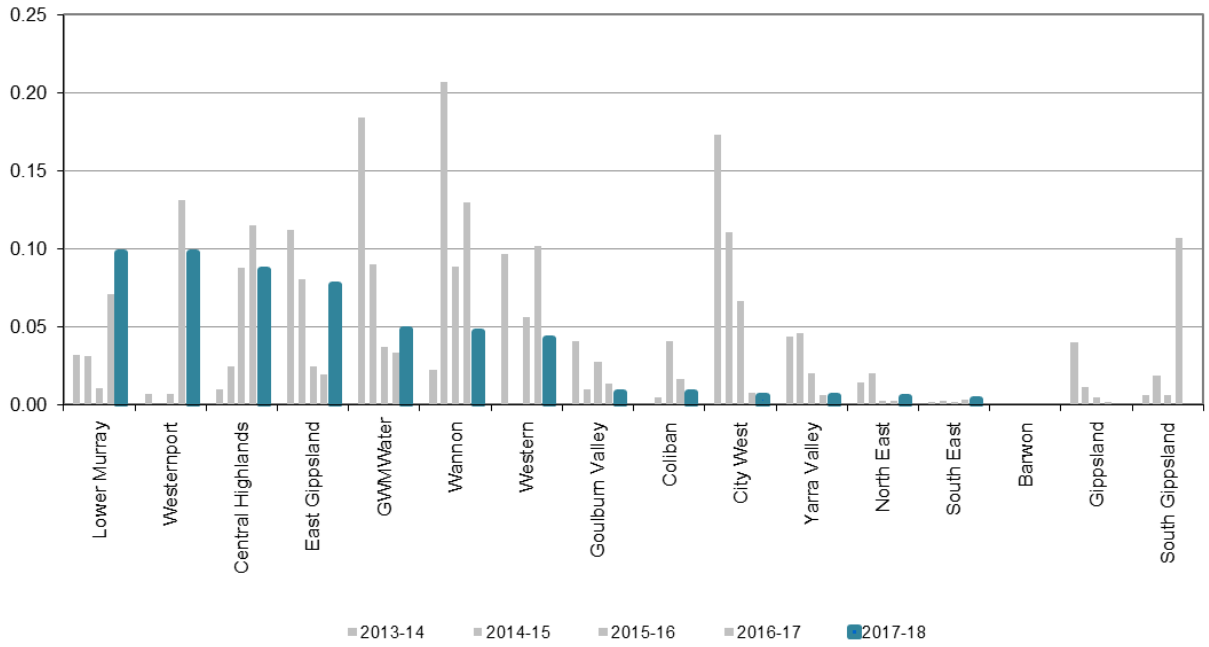
Key observations

- In total, 4,856 residential customers had their water supply restricted for non-payment of water bills in 2017-18, up from 4,568 in 2016-17.
- Measured in terms of restrictions per 100 customers, restrictions remained relatively stable in metropolitan Melbourne. By contrast, the rate of restrictions rose in regional areas, from 0.24 per 100 customers to 0.28, driven mostly by Central Highlands Water.
- Central Highlands Water, City West Water and Lower Murray Water reported relatively large increases in the rate of restrictions.
  - Central Highlands Water recorded a seven fold increase this year, arising from its focus on reducing the backlog of debtors. External contractor assistance was sought to perform the restrictions due to occupational, health and safety issues that were encountered. Central Highlands Water advised the backlog has been cleared and anticipates the number of restrictions will return to previous levels in 2018-19.
  - City West Water reported a 181 per cent increase because it has continued to apply a restrictions process, rather than its long-standing policy for only legal action (see Figure 3.9). The activity has enhanced City West Water's contact rate with its customers and enabled it to provide a range of options for customers experiencing payment difficulties before needing to install a restriction device.
  - Lower Murray Water recorded a 152 per cent increase after a review identified that a number of customers with long term outstanding debts were not meeting the requirements of alternative payment arrangements.
- Western Water, Gippsland Water and South Gippsland Water reported large decreases in restrictions.
  - Western Water recorded an 89 per cent decrease because it has halted its payment management processes until occupational, health and safety risks are addressed.
  - Gippsland Water recorded a 57 per cent decrease because it increased the allowable level of outstanding debt before taking action. Gippsland Water advised that it has placed a stronger emphasis on supporting those most vulnerable in their community through its hardship program.

– South Gippsland Water reported a 53 per cent decrease as it had allocated more resources for the administration of its debt collection processes. This allowed South Gippsland Water to assist more customers to meet their financial obligations prior to restriction.

Figure 3.10 Legal actions for non-payment of bills

Residential, per 100 customers



Snapshot (residential legal actions, per 100 customers)

State-wide average		**-31.5%**	**Metro average**		**-23.0%**	**Regional average**		**-35.7%**
2017-18	0.01	↓	2017-18	0.01	↓	2017-18	0.03	↓
2016-17	0.02		2016-17	0.01		2016-17	0.04	

Key observations

- Westernport Water reported the highest rate of 0.10 legal actions per 100 customers. Westernport Water advised it had increased its focus on debt collection activity in 2016-17, following limited activity in previous years.
- South Gippsland Water reported no legal actions in 2017-18 after a significant increase in 2016-17. South Gippsland Water advised that it has allocated more resources for the administration of its debt collection processes and therefore legal action was avoided.
- Wannon Water reported a decrease in legal actions of 64 per cent. Wannon Water advised that it has improved the support it provides customers in hardship and simplified some payment processes.

- Western Water reported a decrease in legal actions of 59 per cent. Western Water advised that it has halted its payment management processes as mentioned under Figure 3.9.
- The average level of debt at the time of legal action ranged from $871 (North East Water) to $4,270 (Westernport Water), with a state-wide average of $2,561 in 2017-18. This data is available in our data summary.

4. How do water businesses respond to their customers?

This chapter explores how water businesses manage enquiries to their call centres. We also examine the most common areas for complaints made to water businesses and when customers take their complaints to the ombudsman.

Our Customer Service Code places obligations on businesses for responding to enquiries or complaints and providing appropriate service. These obligations include having policies, practices and procedures for handling customers' complaints and disputes, and providing certain information to customers on request. Specific details can be found in each water business's Customer Charter, which is available on its website.

4.1. 2017-18 at a glance

The service delivery of water business call centres was consistent with other sectors.

Customers connected to call centre operators slower than last year as businesses focused on the customer experience rather than call connect times.

The number of complaints made to water businesses decreased from 2016-17.

Fewer complaints were made to the Energy and Water Ombudsman (Victoria) about water businesses than in 2016-17.

4.2. Responsiveness of call centres

We asked Customer Service Benchmarking Australia (CSBA) to independently benchmark the call centre performance of Victorian water businesses. Posing as genuine customers with general enquiries, trained CSBA mystery shoppers contacted the water businesses' call centre agents via the account line (as opposed to the fault line) and scored each interaction.

From 2017-18, we have adopted CSBA's new SenseCX approach for scoring the key aspects of the customer experience during a telephone call:

Engage → Introduce → Clarify → Resolve → Close

The scoring approach measures performance in these key aspects across the three pillars:

Success

The degree to which the customer is able to accomplish their goals.

Customers want to get what they came for and move on. They need to be understood and provided with a no-fuss resolution.

Ease

The effort the customer has to expend to accomplish their goals.

The interaction must be easy. The agent should actively guide the customer through a clear process towards resolution.

Sentiment

How the experience and interaction makes the customer feel.

Customers want to be treated as an individual, not just another transaction in the agent's day.

The SenseCX approach not only provides a benchmark comparative score, but helps businesses identify specific areas where they can improve the customer experience. The score is the percentage of total points achieved out of the total points available for each pillar.

As this was the first year of the new program, the reported figure for each participating business and each business sector establishes a baseline for future reporting. Overall the Victorian water sector achieved a score of 52 per cent, which is comparable to the median scores of Utilities and other sectors. Figure 4.1 outlines the median scores for each of the sectors, which all fall within a narrow 5 percentage point range.

Figure 4.1 Victorian water sector compared to other Australian sectors – 2017-18

Median score under SenseCX

Sector	Median score
Automotive	54%
Financial Services	53%
All Utilities	52%
Australian Water Sector	52%
Victorian Regional Water Sector	**52%**
Education	52%
Victorian Metropolitan Water Sector	**51%**
Communications	50%
Government	49%

Source: CSBA

The Victorian water businesses performed strongly on both the sentiment and success pillars, with an average score of 61 per cent of available points for each pillar. Businesses have room to improve on the third pillar – ease – with an average score of 32 per cent. We note that other sectors also tended towards weaker performance in this area.

Across 2017-18 Coliban Water maintained the best performance, reflecting its work with CSBA to improve its customer interaction, while the most improved businesses were Barwon Water and Westernport Water.

Results indicated that business call centres were highly knowledgeable and skilled in resolving everyday general enquiries. A focus on some small ease-related measures will help to boost scores in 2018-19.

Figure 4.2 Victorian water business rankings

Overall benchmark score and each pillar under SenseCX

Rank	Water business	Score	Ease	Sentiment	Success
1	Coliban Water	62.3%	45.2	69.4	71.1
2	Western Water	54.3%	34.8	61.4	65.0
2	East Gippsland Water	54.3%	38.6	61.7	61.6
4	Wannon Water	52.7%	31.5	64.8	61.1
5	South East Water	52.5%	32.8	67.8	57.6
6	North East Water	52.2%	31.4	59.7	63.5
7	Barwon Water	52.0%	30.9	60.8	62.6
8	Goulburn Valley Water	51.0%	29.8	59.3	62.0
9	Gippsland Water	50.8%	29.6	59.3	61.9
10	Westernport Water	50.5%	33.1	61.3	56.9
10	Yarra Valley Water	50.5%	30.7	60.2	59.5
12	Central Highlands Water	49.7%	28.5	58.9	60.2
13	GWMWater	49.4%	29.4	61.0	57.3
14	City West Water	49.2%	30.9	58.7	57.2
15	South Gippsland Water	48.4%	29.7	56.4	57.7
16	Lower Murray Water	46.5%	25.5	55.0	57.3
Victorian Water Sector (average)		**51.6%**	**32.0**	**61.0**	**60.8**

Source: CSBA

Want more information?

For more information, see our data summary which contains the data that forms the basis for our tables and charts available at https://www.esc.vic.gov.au/water/water-sector-performance-and-reporting/water-performance-reports

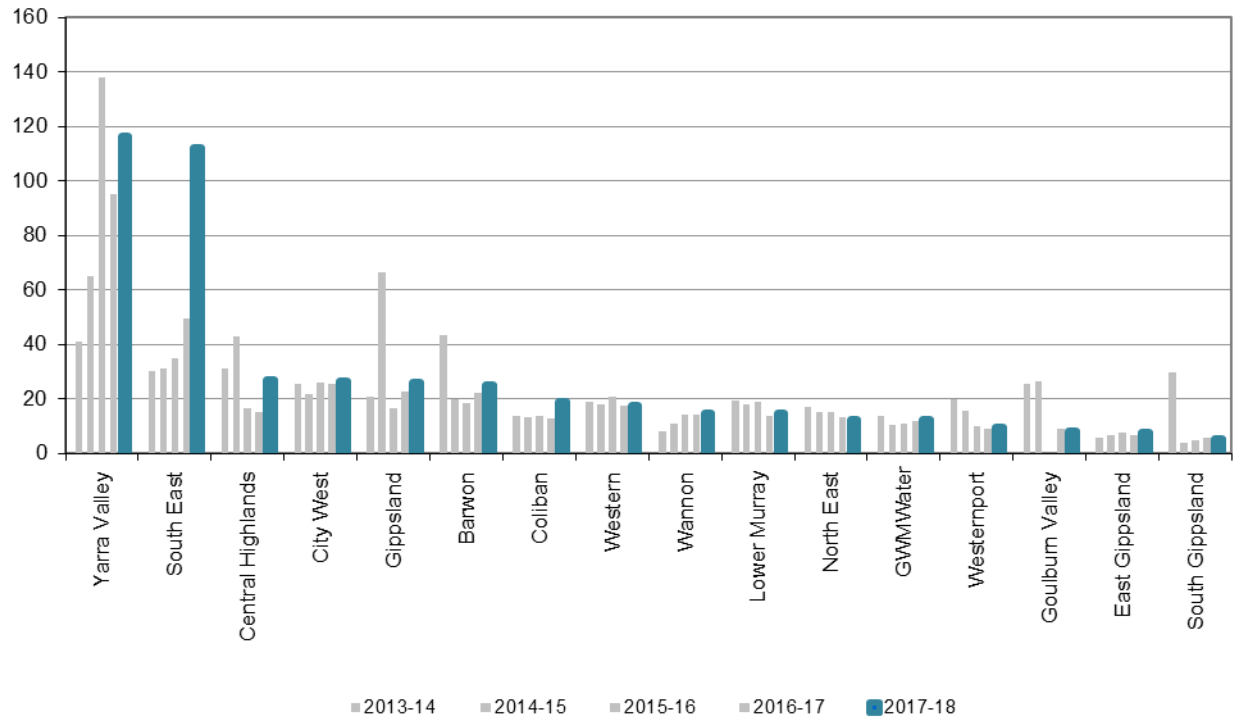
4.3. Average connect time to reach call centres

Water businesses monitor the time taken for customers to connect to an operator at their call centres, excluding time spent navigating automated interactive voice response (IVR) systems.

Businesses may use IVR systems to answer calls and allow customers to select the appropriate customer service area. This approach generally increases the time taken to connect to an operator (sometimes IVR can double the connect time), 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.

Figure 4.3 Average time taken to connect to call centres

Seconds, account and fault lines excluding IVR system times



Note: Goulburn Valley Water was unable to provide call data for 2015-16, and the first quarter of 2016-17.

Snapshot (average connect time, seconds)

State-wide average		38.2%	Metro average		43.7%	Regional average		15.4%
2017-18	67		2017-18	88		2017-18	18	
2016-17	49		2016-17	61		2016-17	16	

Key observations

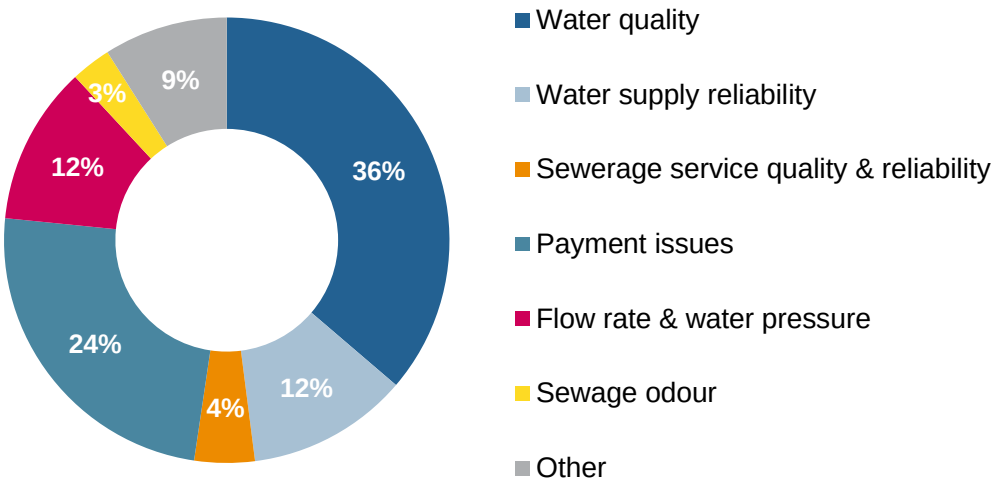
- The state-wide 38 per cent increase in average connect times was driven by increases in call connect time from 12 businesses. The largest increases were from South East Water, Central Highlands Water and Coliban Water.
  - South East Water had a 126 per cent increase in the average time to connect to an operator, up from 50 seconds in 2016-17 to 112 seconds, the second longest wait time this year. South East Water advised that its focus on customer experience, satisfaction and first contact resolution during 2017-18 resulted in a significant increase in the average time taken to handle enquiries, which consequently increased the average wait time to connect a call.
  - Central Highlands Water advised there has been a conscious shift towards improving customer experience through a number of actions that allow customer contact staff longer to finish processing actions relating to their last call, before presenting their next call.
  - Coliban Water advised that an external communication fault in May and June 2018 resulted in a loss of service and a negative impact on call response times. In addition, Coliban Water experienced unanticipated customer service team staff shortages from April to June 2018. These factors together resulted in the significant increase to call connect times.
  - Yarra Valley Water, with the highest average connect time for the third straight year, also had a 22 per cent increase to 116 seconds after an improvement in 2016-17. Yarra Valley Water advised that its strategy is to achieve first call resolution – this has increased its average call time, impacting on the average wait time to connect to an operator. Connect time increased in 2017-18 primarily due to an unexpected increase in the number of water fault calls due to an extended dry period from March to June. This required staff to be dedicated to faults calls, thus creating a longer wait time for customers with an account query. In 2018-19, Yarra Valley Water has implemented changes to separate account and fault calls to improve both its response and resolution of customer contacts.
- By contrast, 10 businesses have average connect times less than 20 seconds, with each business being relatively steady over recent years.

4.4. Complaints made to water businesses

Customer complaints can indicate dissatisfaction with the services provided by water businesses.[7] If a business cannot resolve a complaint directly with the customer, the customer may refer the matter to the Energy and Water Ombudsman (Victoria) for further investigation (see next section).

Figure 4.4 Complaints by category in 2017-18

Total complaints made to water businesses



In 2017-18, a total of 17,029 complaints were made to water businesses across Victoria, up 4 per cent from 16,411 complaints in 2016-17. Water quality complaints represented 36 per cent of the total state-wide complaints (water quality complaints also represented 36 per cent in 2016-17).

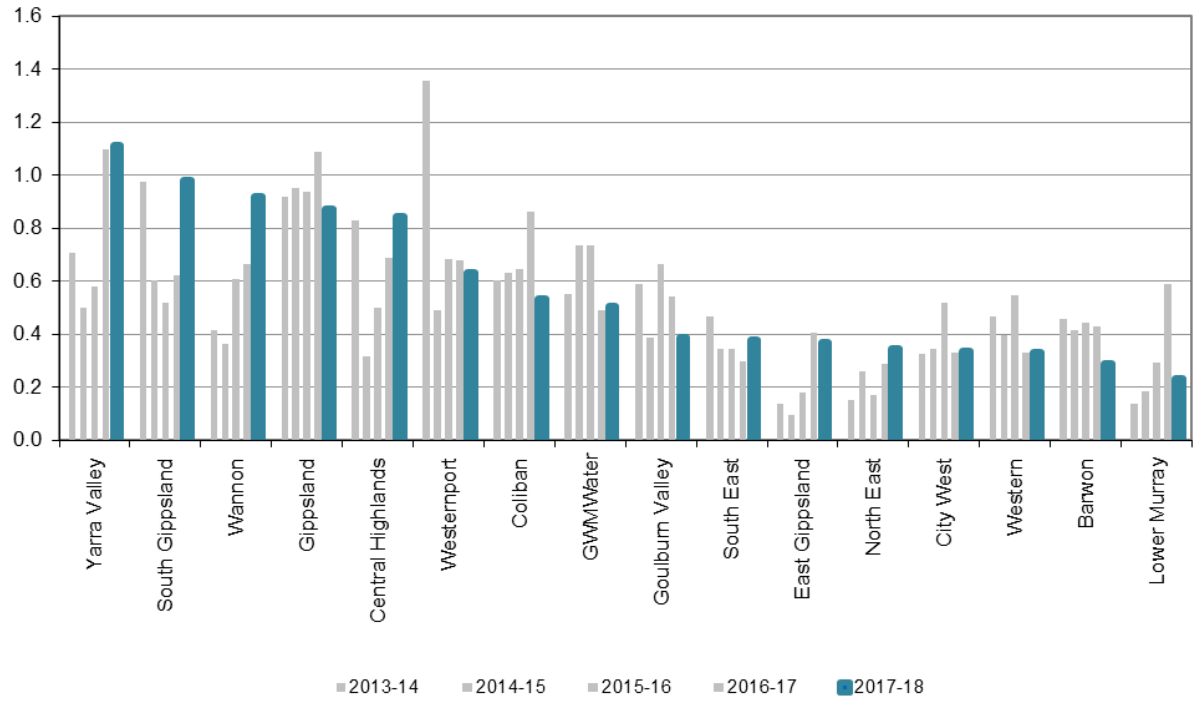
Eleven businesses reported water quality as the category with the most complaints. Of the remaining five businesses, City West Water, Westernport Water and Yarra Valley Water reported the most complaints in the payment issues category, complaints to Central Highlands Water mostly related to water flowrate and pressure, and Barwon Water reported the most complaints in the 'other' category.

Figure 4.5 shows the complaint rate for each water business.

[7] 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)

Figure 4.5 Complaints made to water businesses

Per 100 customers



Snapshot (total complaints, per 100 customers)

State-wide average		1.3%	Metro average		6.0%	Regional average		-12.6%
2017-18	0.62		2017-18	0.66		2017-18	0.52	
2016-17	0.61		2016-17	0.62		2016-17	0.59	

Key observations

- The average customer complaint rate in 2017-18 was 0.62 complaints per 100 customers, up slightly from a complaint rate of 0.61 in 2016-17. The overall increase was due mainly to a sizeable increase in South East Water's reported water quality complaints for colour, because it has now included enquiries about water quality as a complaint, consistent with our definition, which it had not done in previous reporting.
- Meanwhile the regional water businesses recorded a relatively large decrease in complaints, with complaint rates at Lower Murray Water, Coliban Water and Barwon Water down by a third or more. Four other businesses also recorded decreases in their complaint rate.

  - Lower Murray Water advised it received less water quality complaints due to river water quality returning to near normal conditions after the black water event from last year.[8] In addition, Lower Murray Water advised that sewage odour complaints fell because it has undertaken works to rectify ongoing odour complaints at specific sites.
  - Coliban Water advised that its high 2016-17 complaint rate was influenced by water quality incidents in Echuca and Heathcote. It fell this year because there were no major incidents reported in 2017-18. Coliban Water also advised that the decrease in payment issue complaints was due to minimal price increases and increased support for customers in hardship.
  - Barwon Water advised that its significant decrease in total complaints was primarily attributed to an additional upgrade to the Moorabool Water Treatment Plant, leading to a further reduction in seasonal organic taste and odour compounds in the treated water. It also enhanced its communication and engagement with customers about seasonal source water changes, and experienced a reduction in colour complaints since no widespread dirty water events occurred in 2017-18.

- South Gippsland Water had the largest increase in complaint rate of 57 per cent. Wannon Water also saw its complaint rate increase by more than a third.
  - South Gippsland Water advised it had received more water quality complaints because of increased manganese levels experienced in a number of water supply systems, as well as algal blooms due to warm, dry conditions (see Section 6.4).
  - Wannon Water advised that water quality complaints for taste and smell were abnormally high, with 66 complaints in March following a seasonal algal outbreak in the Warrnambool raw water storages. The water was safe to drink and Wannon Water changed over the supply to the treatment plant, which improved taste and odour over the ensuing days.

Want more information?

For more detail on complaints made to water businesses regarding water quality, see Chapter 6.

Our website explains options customers can pursue if they are unhappy with a response from their water business, visit www.esc.vic.gov.au/water/information-water-consumers.

[8] 'Blackwater events occur when returning floodwater contains elevated levels of dissolved organic carbon … The black appearance of the water is due to the release of carbon compounds (including tannins) as the organic matter decays – similar to the process of adding water to tea leaves.'
'Blackwater', Murray-Darling Basin Authority, accessed 20 February 2017, https://www.mdba.gov.au/managing-water/water-quality/blackwater

4.5. Complaints to the Energy and Water Ombudsman (Victoria)

EWOV has a role 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. The 2017-18 results for the Victorian water sector are summarised in Table 4.2.

Customers should always first contact their water business to resolve their dispute before contacting EWOV. EWOV's website has a number of resources including fact sheets on common customer concerns, and case studies of actual customer disputes that EWOV has helped to resolve. Residential and non-residential customers can visit www.ewov.com.au or call 1800 500 509, phone lines are open between 8.30 am and 5.00 pm Monday to Friday.

Key observations

- In 2017-18, EWOV received 1,707 complaints about the metropolitan and regional urban water businesses, down 11 per cent from 1,916 complaints in 2016-17.
- Consistent with prior years, City West Water had a higher proportion of complaints-to-sector share for metropolitan Melbourne compared to South East Water and Yarra Valley Water. That is, 30 per cent of all complaints for metropolitan Melbourne related to City West Water, but it only services 22 per cent of the metropolitan customers.
- For regional Victoria, Westernport Water had the highest numbers of complaints to EWOV relative to its sector share, with 6 per cent of complaints while only servicing 2 per cent of regional customers.
- Both Barwon Water and Goulburn Valley Water had the lowest number of complaints to EWOV relative to their sector share, with a complaint share less than half their sector share of regional customers.
- Many complaints are made to EWOV without the customer first speaking with their water business, and EWOV will first advise the customer to try calling their water business. Twenty-two per cent of complaints made to EWOV were resolved this way, with no further assistance from EWOV needed. EWOV helped to resolve 66 per cent of complaints by referring customers to a higher level complaint resolution officer at the water business. The remaining 11 per cent of complaints required greater assistance from EWOV to investigate and resolve the issue with the customer and water business.

Table 4.2 Complaints about water businesses received by EWOV

Data provided by EWOV

Water business	Total complaints 2017-18	%	Change from 2016-17	Business's sector share	Complaints to sector share
Melbourne Water	23		-21	-	
City West	388	30%	-81	22%	1.33
South East	424	33%	-24	38%	0.86
Yarra Valley	492	38%	-66	40%	0.94
Total - Metropolitan	**1304**	**100%**	**-171**	**100%**	
Barwon	37	10%	-18	22%	0.43
Central Highlands	50	13%	-7	10%	1.34
Coliban	78	21%	+25	11%	1.95
East Gippsland	9	2%	0	3%	0.74
Gippsland	28	7%	-2	10%	0.75
Goulburn Valley	13	3%	-14	8%	0.43
GWMWater	13	3%	-5	4%	0.82
Lower Murray	11	3%	0	5%	0.63
North East	26	7%	+3	7%	0.96
South Gippsland	8	2%	-3	3%	0.80
Wannon	28	7%	-7	6%	1.31
Western	55	14%	0	10%	1.52
Westernport	24	6%	+11	2%	2.65
Total - Regional	**380**	**100%**	**-17**	**100%**	
Total - Victoria	**1707**		**-209**		

'Complaints to sector share' compares the proportion of complaints to the proportion of customers for each water business in metropolitan or regional Victoria. A value higher than 1 indicates a water business is receiving more complaints that its sector share, while a number less than 1 indicates a business is receiving less than its sector share.

5. How reliable are the water and sewer networks?

This chapter looks at reliability of the water and sewer networks, by exploring how often customers are without a water supply and how often sewer blockages and spills impact customers. Our measures only consider the pipe network and pumps under the control of the water businesses, and exclude the private property connections managed by customers.

5.1. 2017-18 at a glance

Water networks were reliable. Across the state, there was a slight reduction in average customer minutes off supply.

Sewer service reliability was improved across the state.

The average rates of sewer blockages, sewer spills and spills to customer properties all decreased significantly in both metropolitan Melbourne and regional Victoria.

5.2. Water service – minutes off supply

Minutes off supply is a measure of how many minutes on average a customer for each water business was without their water supply during a year. This measure only looks at interruptions to water mains, and excludes smaller ancillary pipelines or private connections.

Various factors affect average minutes off supply, including the number of interruptions, the duration of each interruption and the number of customers affected by each interruption. Whether interruptions are planned or unplanned also gives insight into the stability and reliability of the network.

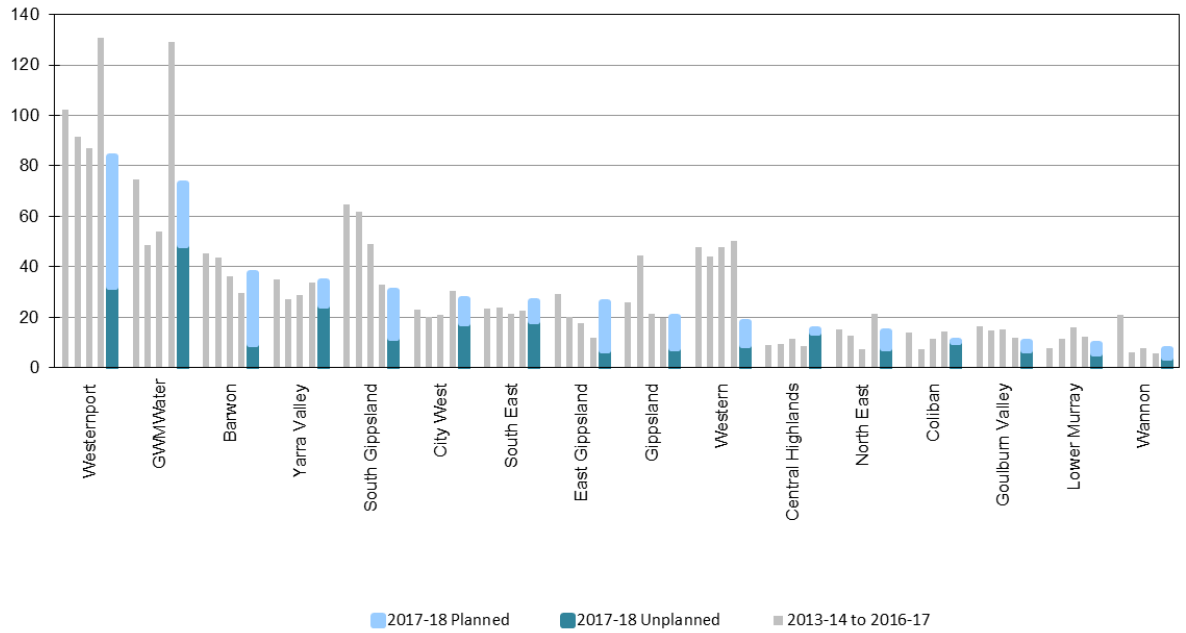
Types of interruptions – planned and unplanned

A planned interruption occurs when a customer has received at least two days' notice of an interruption to their water service. An unplanned interruption occurs when this notice was not given or the duration of a planned interruption exceeded the time estimated.

The duration of supply interruptions 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.

Figure 5.1 Average minutes off water supply

Minutes per customer



Snapshot (minutes off supply, minutes per customer)

State-wide average		-2.3%	Metro average		2.9%	Regional average		-16.7%
2017-18	28	▼	2017-18	30	▲	2017-18	24	▼
2016-17	29		2016-17	29		2016-17	29	

Key observations

- Across Victoria, the average minutes off supply decreased slightly by 2.3 per cent or approximately 40 seconds, driven by a decrease of 16.7 per cent or approximately 4.8 minutes in regional Victoria. Across metropolitan Melbourne, the average minutes off supply increased

slightly by 2.9 per cent or approximately 50 seconds. This reduction follows an overall increase of 17 per cent last year.

- Six businesses recorded average minutes off supply for their customers of 15 minutes or less. These businesses were Wannon Water (7.6 minutes), Lower Murray Water (9.6 minutes), Coliban Water (10.2 minutes), Goulburn Valley Water (10.5 minutes), North East Water (14.4 minutes) and Central Highlands Water (15.1 minutes).
- Three water businesses had average minutes off supply that increased by over 30 per cent in 2017-18: East Gippsland Water, Central Highlands Water and Wannon Water.
  - East Gippsland Water's average increased from 12.1 minutes in 2016-17 to 26.1 minutes in 2017-18, which it attributed to an increase in unplanned interruptions caused by third parties. It advised that it has identified key system improvements to increase reliability and service to customers, which will minimise interruptions to customers.
  - Central Highlands Water's average increased from 8.5 minutes in 2016-17 to 15.1 minutes in 2017-18. Central Highlands Water attributed the increase to an extended dry period over summer and autumn, leading to a significant increase in the rate of leaks and bursts.
  - Wannon Water advised that its increase in average minutes off supply from 5.8 minutes in 2016-17 to 7.6 minutes in 2017-18 (still the shortest of all businesses) was due to seventeen cases of planned water customer interruptions with extended repair times, due to the nature of works required.
- Western Water had the largest reduction in average minutes off supply, decreasing from 50.5 minutes in 2016-17 to 17.9 minutes in 2017-18, with significant reductions for both planned and unplanned interruptions (17 minutes and 15 minutes respectively). Western Water noted that it had improved pre-planning and pre-work prior to planned interruptions, while the average duration of unplanned interruptions reverted to historical levels after a major burst in Sunbury in 2016-17.
- GWMWater also saw a large reduction in average minutes off supply, decreasing from 129.1 minutes in 2016-17 to 72.8 minutes in 2017-18. This was primarily due to a return to more historical figures in 2017-18 following an exceptionally high figure in 2016-17 due to planned works in Ararat affecting a large number of customers. GWMWater did report a significant increase of 12 minutes for unplanned minutes off supply in 2017-18, resulting from two unplanned whole-of-town outages.

5.3. Sewerage service – sewer blockages

Sewer networks consist of:

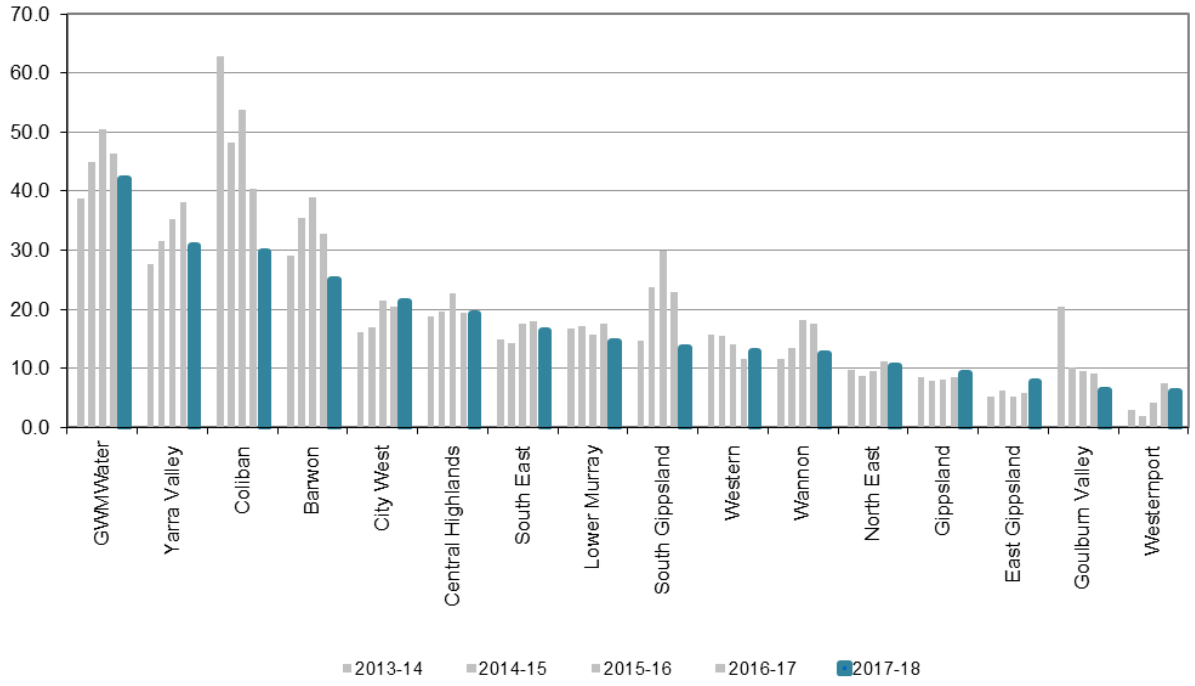
- trunk and reticulation mains (core infrastructure involving large pipes and pumps to transfer sewage to treatment facilities)

- house connection branches and property drains (ancillary smaller infrastructure that transfers sewage from customers to the sewer mains)
- private connections from customers to connection branches or property drains (faults in these are the responsibility of customers).

A sewer blockage is a partial or total obstruction of a sewer main that impedes sewage flow, and does not include blockages in the ancillary infrastructure or private connections.

Figure 5.2 Sewer blockages

Blockages per 100 kilometres of sewer main



Snapshot (Sewer blockages, per 100 kilometres)

State-wide average		**-14.7%**	**Metro average**		**-13.2%**	**Regional average**		**-17.6%**
2017-18	20.9	↓	2017-18	23.1	↓	2017-18	17.4	↓
2016-17	24.5		2016-17	26.6		2016-17	21.1	

Key observations

- The rate of sewer blockages improved across both metropolitan and regional Victoria, with the overall rate across Victoria decreasing by 15 per cent to 20.9 sewer blockages per 100 kilometres in 2017-18, from 24.5 blockages in 2016-17. Most businesses reported a reduction in blockage rate this year.

  - Coliban Water and South Gippsland Water have continued to make significant improvements through their preventative and predictive maintenance programs, reporting back-to-back decreases of over 20 per cent in the last two years. Of particular note, Coliban Water, which had the highest blockage rate for many years, has more than halved this rate over the past five years.
  - Across regional Victoria, Goulburn Valley Water, Wannon Water, Barwon Water and Westernport also saw decreases of 20 per cent or more in 2017-18.
  - In metropolitan Victoria, Yarra Valley Water saw the largest decrease, of 19 per cent. Yarra Valley Water advised that this was due to their high proportion of tree root related blockages, and the reduction in blockage rates during dryer weather relative to a wet period (as was experienced in 2016-17).

- GWMWater again reported the highest sewer main blockage rate, however it continues to improve, reporting a decrease of 9 per cent (following an 8 per cent decrease in the previous year). GWMWater advised that reduced blockage rates were achieved during 2017-18 despite reduced rainfall (which has historically seen an increase to blockage rates due to tree root intrusions). GWMWater has attributed this to improved strategies and targeted works, and stated that ongoing maintenance and renewal programs will continue to target highest risks.

5.4. Sewerage service – containment of sewer spills

Spills are a failure to contain sewage within the core sewer infrastructure. The severity of sewer spills is broken into two priority levels.

Priority 1: a major sewage spill that involves any of the following:

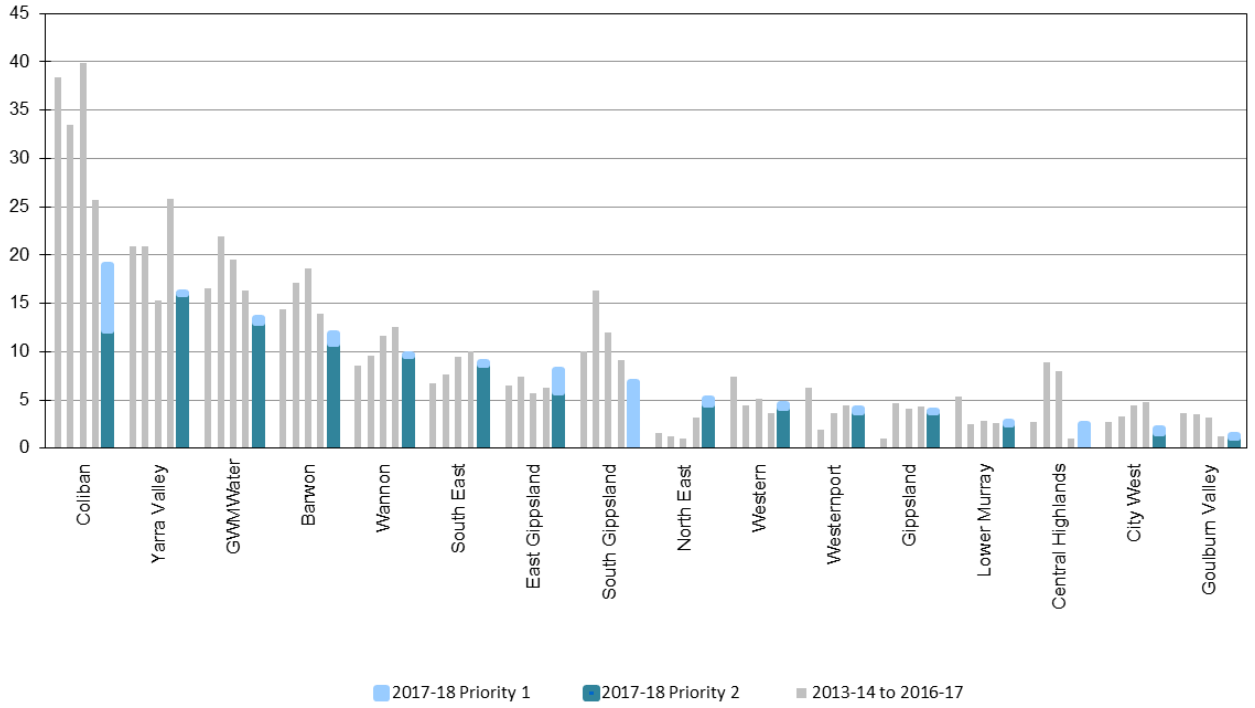
- a public health concern
- significant damage to property
- a discharge to a sensitive receiving environment
- a discharge from a sewer pipe that is 300 millimetres (or greater) in diameter, or the flow is greater than 80 litres per minute.

Priority 2: any minor failure to contain sewage within the sewerage network and any spill affecting several users that results in either:

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

Figure 5.3 Sewer spills

Spills per 100 kilometres of sewer main



Snapshot (Sewer spills, per 100 kilometres)

State-wide average		-26.6%	Metro average		-31.8%	Regional average		-13.0%
2017-18	9.6		2017-18	10.6		2017-18	8.0	
2016-17	13.0		2016-17	15.6		2016-17	9.2	

Key observations

Priority 1 spills

- Most water businesses reported no more than a single priority 1 sewer spill per 100 kilometres of sewer main, with the exception of four (up from three in 2016-17): Coliban Water, South Gippsland Water, Central Highlands Water and East Gippsland Water.
  - South Gippsland Water classifies all sewer spills as priority 1, as it considers any spill potentially poses a health concern. It reported a significant decrease to 6.8 sewer spills per 100 kilometres of sewer main in 2017-18, down from 9.2 spills in 2016-17.
  - Coliban Water reported the second highest number of priority 1 sewer spills, but has continued to improve in this area, reporting 6.7 sewer spills per 100 kilometres of sewer main in 2017-18, down from 8.4 spills in 2016-17 and 29.5 spills in 2015-16.
  - Central Highlands Water, which also classifies all sewer spills as priority 1, reported the largest increase in sewer spill rate this year, from 1.0 spills per 100 kilometres of sewer main

in 2016-17 to 2.5 spills in 2017-18, but still well below its figure of 8.0 spills in 2015-16. Central Highlands Water has attributed its large variations from year to year to rainfall and climate variability. We note that Central Highlands Water is also building capability to capture and report spills from branches more reliably.

– East Gippsland Water's priority 1 spill rate was steady in 2017-18, increasing slightly from to 2.2 to 2.3 sewer spills per 100 kilometres of sewer main.

Priority 2 spills

- North East Water reported the largest increase in priority 2 spills per 100 kilometres of sewer main, increasing by 61 per cent from 2.8 spills in 2016-17 to 4.5 spills in 2018-19. This followed a significant increase in the previous year. North East Water advised that it's back-to-back increases in both priority 1 and priority 2 spillages is largely caused by tree root intrusion due to ongoing drier conditions, and it is committed to a targeted maintenance program to address the increase in blockages and spillages.
- City West Water reported the largest decrease in its priority 2 spill rate, decreasing by 57 per cent from 3.8 spills per 100 kilometres of sewer main in 2016-17 to 1.6 spills in 2017-18. City West Water noted that it introduced a new works management system in 2017-18, requiring a new method of entering data and potentially contributing to the performance result. City West Water is investigating whether spills are being correctly identified and entered into the system.

Containing spills within five hours

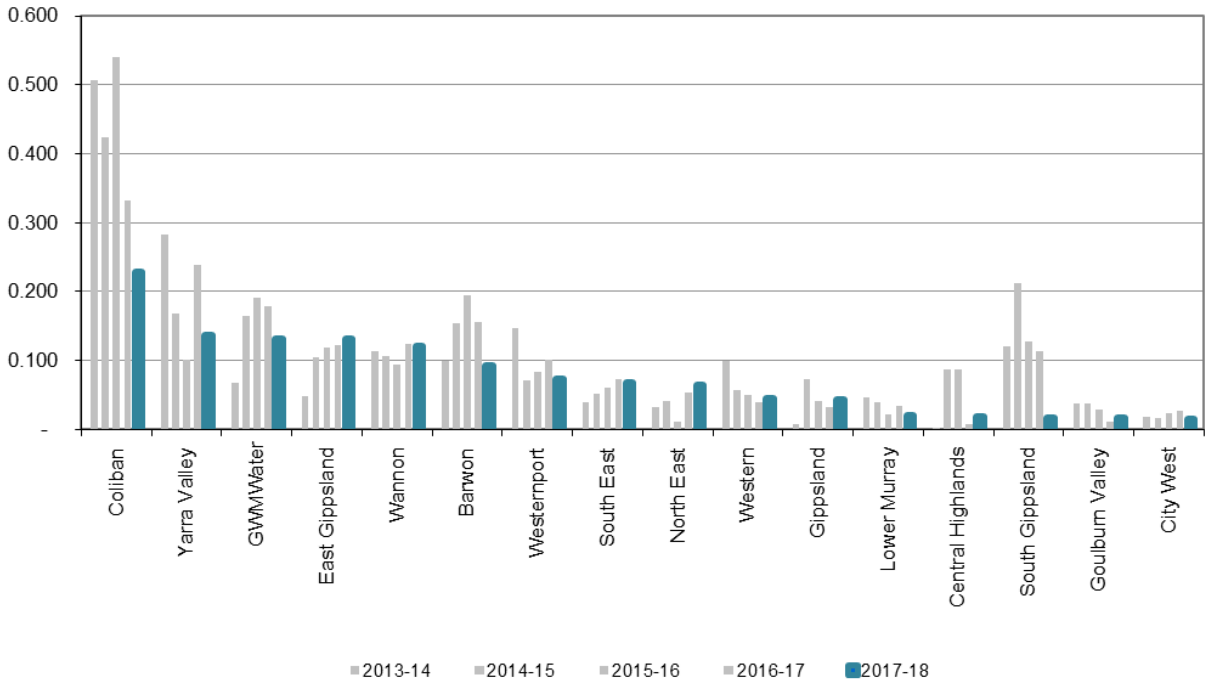
- Nine businesses contained 100 per cent of sewer spills within five hours in 2018-19 (down from 13 businesses last year), while Yarra Valley Water reported an increase from 95.2 per cent in 2016-17 to 98.1 per cent in 2017-18. The percentage of spills contained within five hours for the remaining six businesses was:
  - Barwon Water — 99.7 per cent, down from 100 per cent in 2016-17
  - Central Highlands Water — 97.2 per cent, down from 100 per cent in 2016-17
  - Goulburn Valley Water — 94.1 per cent, down from 100 per cent in 2016-17
  - GWMWater — 96.8 per cent, down from 99.1 per cent in 2016-17
  - Wannon Water — 96.7 per cent, down from 99.2 per cent in 2016-17
  - Western Water — 98.4 per cent, down from 100 per cent in 2016-17.

5.5. Sewerage service – spills to customer properties

Another measure of sewerage reliability is the number of spills that allowed sewage to discharge onto a customer's property.

Figure 5.4 Sewer spills to customer properties

Spills per 100 customers



Snapshot (Customer property sewer spills, per 100 customers)

State-wide average		-32.7%	Metro average		-34.8%	Regional average		-25.4%
2017-18	0.08	↓	2017-18	0.08	↓	2017-18	0.08	↓
2016-17	0.12		2016-17	0.13		2016-17	0.11	

Key observations

- The rate of sewer spills to customer property decreased across the state in 2017-18, consistent with a drier year.
  - The average metropolitan Melbourne rate decreased by 35 per cent in 2017-18, driven mainly by a significant decrease for Yarra Valley Water after a large spike in 2016-17.
  - The regional average decreased by 25 per cent, with South Gippsland Water, Lower Murray Water, Barwon Water, Coliban Water, Westernport Water and GWMWater all reporting decreases larger than 25 per cent.

- South Gippsland Water reported the largest decrease in customer property spill rate, decreasing by 85 per cent from 0.11 in 2016-17 to 0.02 in 2017-18. South Gippsland Water has attributed this to improved preventative maintenance.
- While Coliban Water again reported the highest customer property spill rate of 0.23, it reported a significant decrease for the second year in a row, decreasing by 31 per cent from 0.33 in 2016-17, and 0.54 in 2015-16. We note the continuing improvement by Coliban Water through its preventative maintenance program.
- Central Highlands Water reported a significant increase in rate of sewer spills to customer property, increasing by 170 per cent. Central Highlands Water has advised that this is a reversion to trend, following the volatile results over the previous years.

6. How safe is our drinking water?

This chapter looks at the quality of drinking water from the perspective of community health and wellbeing. Microbiological water quality (the presence of *E. coli*) is the most important indicator from a public health perspective. The other key indicator is turbidity, which measures cloudiness caused by fine suspended particles.

We also examine the complaints about water quality made by customers to their water businesses.

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 2015, both administered by the Department of Health and Human Services.

6.1. 2017-18 at a glance

Water businesses continue to provide safe drinking water and had high compliance with the regulations.

Water quality complaint rate increased by 3 per cent compared to 2016-17, but largely due to better classification of complaints by two businesses.

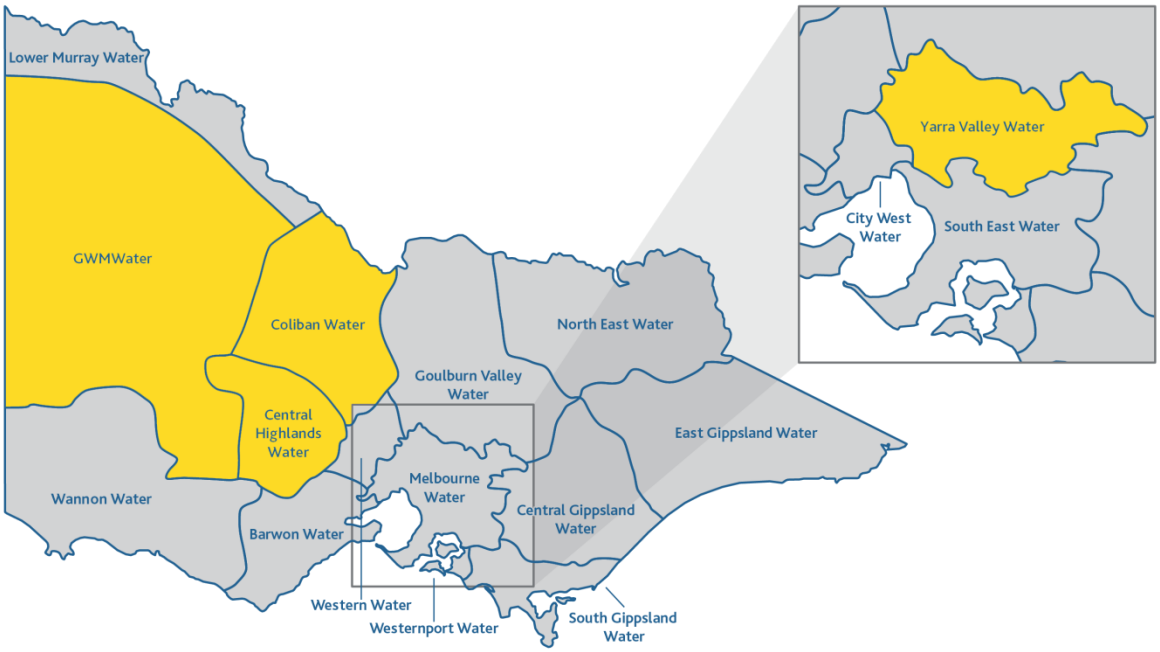
6.2. Compliance with *E. coli* regulations

The microbiological quality of drinking water is measured in terms of the number of *Escherichia 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.

The regulations require that **all** samples collected for a drinking water supply zone in any 12 month period contain no *E. coli*. Any non-compliance is measured by the proportion of customers that may be affected by the non-compliant sample for a given drinking water supply zone.

Figure 6.1 Microbiological activity (E. coli)

Percentage of customers receiving water compliant with regulations



Key: 100 per cent 99 per cent and above

Key observations

- Yarra Valley Water, GWMWater, Coliban Water and Central Highlands Water reported less than 100 per cent of customers received water at a quality that met the *E. coli* standard in 2017-18.
  - Yarra Valley Water advised that in 2017-18, it met the requirements for *E.coli* except for one sample taken from a customer tap in the Emerald system, supplying water to 5,502 customers (0.7 per cent). Subsequent samples were taken from the affected customer tap and other nearby taps in the area immediately after the detection, and following corrective actions, but no *E.coli* was detected in these samples. Corrective actions included flushing; inspection of the roof of Melbourne Water's Johns Hill Reservoir, and confirming that Melbourne Water's water treatment plant and maintenance work in the vicinity did not contribute to the event.
  - GWMWater advised that there was one *E.coli* exceedance in this reporting period in Lake Bolac, affecting 326 customers (0.6 per cent). The cause of the non-compliance was a low chloramine residual at the end of the water supply main. Flushing and resampling was conducted. The chloramine dosing at the Willaura Water Treatment Plant has since been increased, and management of the turnover of water in storage tanks has been improved to ensure sufficient chloramine residual at Lake Bolac.

  - Coliban Water advised that it recorded one positive *E.coli* result in June 2018 from the treated water tank in Newstead (Castlemaine system), which supplies 386 customers (0.5 per cent). The tank was drained and refilled with fresh water and chlorine solution to disinfect the water. Additionally, the Newstead water mains network was flushed to remove potentially contaminated water and to improve the chlorine residual.
  - Central Highlands Water advised that it recorded a single positive *E. coli* result from a potable water tank sample in March 2018. This supply system in Woodmans Hill supplies 215 customers (0.3 per cent). The tank was immediately isolated from customer supply. Investigation did not indicate any customer impact, with the nature of that distribution system meaning affected water from the tank is unlikely to have reached customer taps. Damage to the tank from a fallen tree was identified and rectified and an internal inspection completed with a few small holes from missing roofing screws sealed. A disinfection spot dosing program was also implemented as an additional safety measure.

- In its 2016-17 reporting, Barwon Water reported that 100 per cent of its customers received water that met the *E. coli* standard that year, and we reflected this in our 2016-17 report. However, the Department of Health and Human Services received documents from Barwon Water in December 2017 (after data had already been collected for our 2016-17 report) reporting an *E. coli* detection in April 2017 in the Batesford locality, on a system supplying 179 Barwon Water customers. Stormwater ingress into the tank was established as the cause of the contamination. Initially the tank was dosed with chlorine and the network was monitored. From the results of detailed inspections of the tank it was decided to permanently take the tank offline and it has since been physically isolated from the system. Barwon Water reported no non-compliances in 2017-18.

6.3. Compliance with turbidity regulations

Turbidity in water is caused by the presence of fine suspended particles of clay and silt, algae or 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 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. Any non-compliance is measured by the proportion of customers that may be affected by the non-compliant sample for a given drinking water supply zone.

Key observations

- All water businesses reported 100 per cent compliance with turbidity standards in 2017-18. This was an improvement from 2016-17, when Barwon Water and North East Water recorded 99.9 per cent and 99.8 per cent compliance respectively.

Want more information?

For more information see the Department of Health and Human Services drinking water quality annual reports which summarise Victoria's drinking water quality performance every financial year, at https://www2.health.vic.gov.au/public-health/water/drinking-water-in-victoria/drinking-water-quality-annual-report

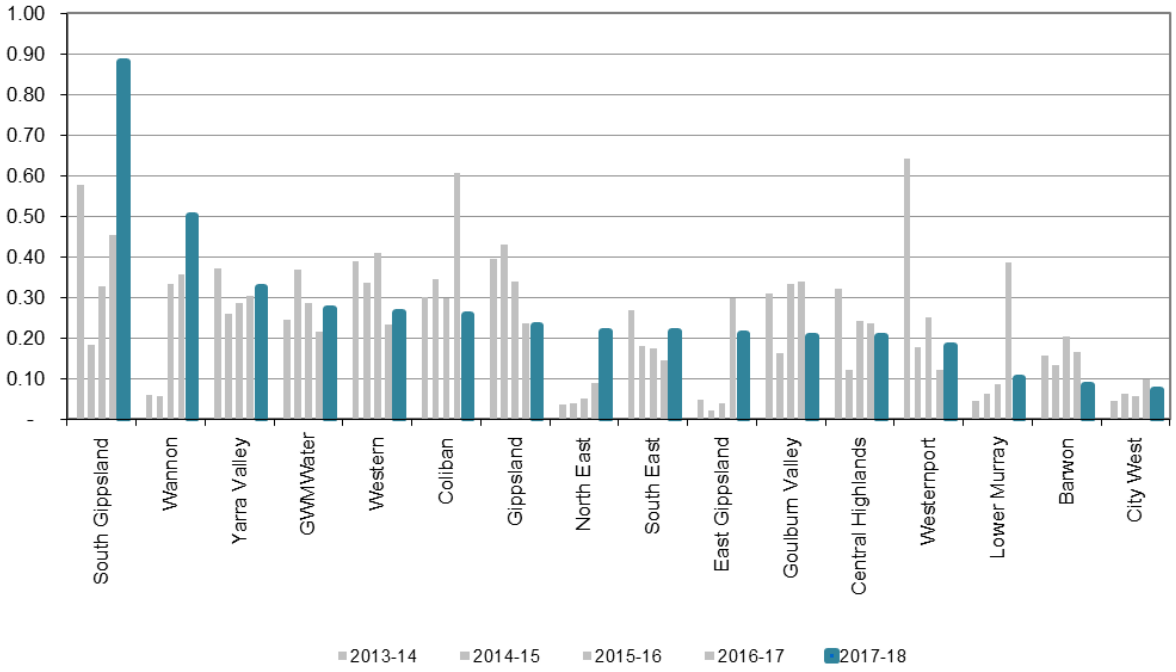
6.4. Water quality complaints made to water businesses

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

We discuss the results for all complaint categories in Section 4.4.

Figure 6.2 Water quality complaints made to water businesses

Per 100 customers



Snapshot (water quality complaints, per 100 customers)

State-wide average		3.4%	Metro average		14.1%	Regional average		-18.2%
2017-18	0.23		2017-18	0.23		2017-18	0.23	
2016-17	0.22		2016-17	0.20		2016-17	0.28	

Key observations

- The 2017-18 state-wide average rate of water quality complaints was 0.23 per 100 customers, up from 0.22 in 2016-17. This equates to 6,175 customers making complaints from 2.7 million Victorian customers.
- Eight of the 16 businesses reported decreases in their overall water quality complaint rate from 2016-17.
- North East Water recorded the largest increase in its water quality complaint rate to 0.22 per 100 customers in 2017-18 from 0.09 in 2016-17. North East Water advised this increase was due to revising how it categorised feedback and complaints in response to findings from the 2016-17 audit. This has resulted in a higher number of customer contacts regarding water quality now being classified as a complaint. As a consequence of this change, North East Water's water quality complaint rate has shifted from being one of the lowest, to being consistent with other businesses in the middle of the range.
- Similarly, South East Water also reported a significant increase of almost 50 per cent due to changed reporting to now include all enquiries about water colour, consistent with our quality complaint definition. This change in reporting by South East Water accounts for the large increase in complaint rate for the metro water businesses, and the overall statewide increase.
- South Gippsland Water recorded a large increase in its water quality complaint rate to 0.88 per 100 customers in 2017-18 (the highest water quality complaint rate) from 0.45 in 2016-17. It advised that this was due to increased manganese levels experienced in some systems due to network build up (manganese is naturally occurring in local soils), as well as algal blooms due to warm, dry conditions. A program of air scouring in affected towns resolved the issue.
- Wannon Water recorded the second highest water quality complaint rate in 2017-18, at 0.49 per 100 customers. The increase was due to a seasonal algae outbreak in the Warrnambool raw water storages, leading to 66 complaints throughout March. Wannon Water notes that the water was safe to drink and after changing over the water supply to the treatment plant, there was an improvement in taste and odour.
- Coliban Water and Lower Murray Water both recorded large decreases in their water quality complaint rates, returning to historical trends after upsets last year.
  - Coliban Water had a large increase in complaints in 2016-17 due to high levels of manganese in its raw water supply.
  - Lower Murray Water had a higher complaint rate in 2016-17 due to a blackwater event caused by upstream flooding in the Murray River catchment, washing organic debris into the river.

Water colour was the largest water quality complaint category for all water businesses, with the exception of Wannon Water, which had more complaints for water taste/odour.

7. How are water businesses managing their environmental impact?

This chapter looks at how water businesses reuse wastewater by creating recycled water and nutrient-rich biosolids. Water businesses also report on their volume and sources of greenhouse gas emissions.

We include Melbourne Water in this chapter as it operates part of the sewerage network and treatment plants that service metropolitan Melbourne customers. Most wastewater from City West Water, South East Water and Yarra Valley Water is transferred to either the Western Treatment Plant (Werribee) or the Eastern Treatment Plant (Bangholme).

7.1. 2017-18 at a glance

Water businesses delivered more recycled water in 2017-18, following a decrease in 2016-17 when higher rainfall reduced demand.

Water businesses continue to find beneficial reuse options for biosolids and run down their stockpiles.

Water businesses produced slightly more greenhouse gas emissions in 2017-18, however per capita greenhouse gas emissions decreased.

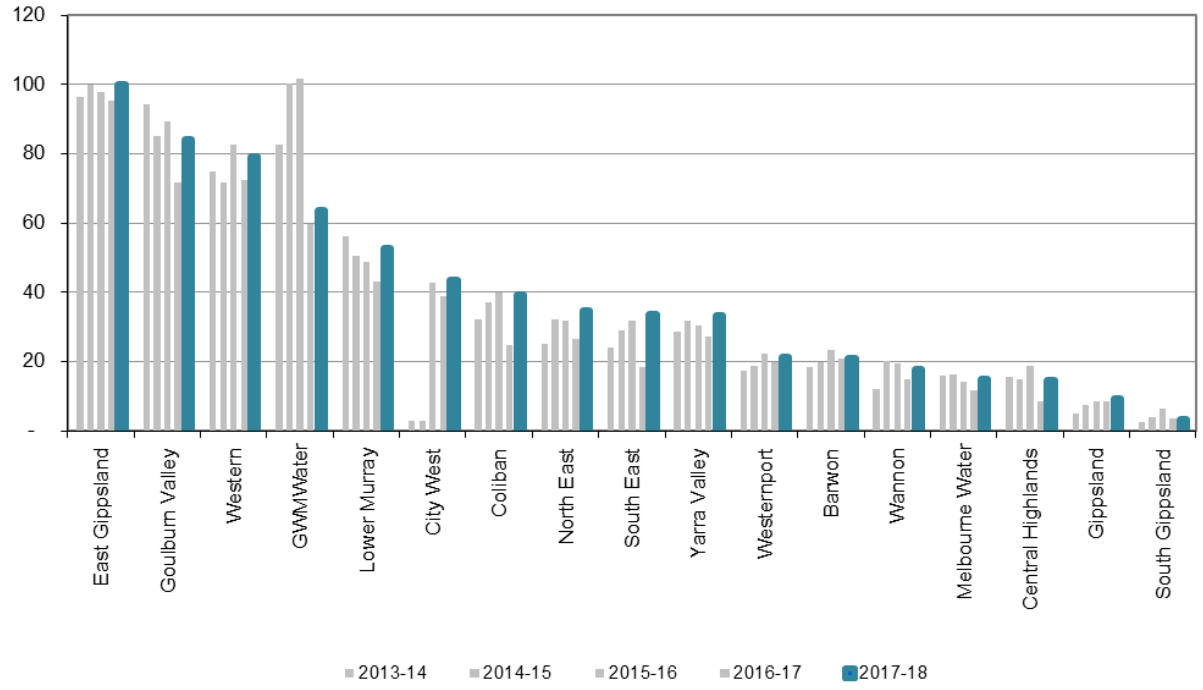
7.2. Recycled water – effluent treatment and reuse

Wastewater consists of residential and non-residential sewage, trade waste from commercial and industrial customers, and stormwater that reaches the sewer network. The wastewater treatment plants produce an effluent stream that, if unused or not recycled, is normally discharged to the environment.

Recycled water is generally used on turf farms, dairy farms, recreational lands (such as parks and golf courses) and is used in some industrial processes and for irrigation. Some businesses operate 'third pipe' recycled water supply systems to their customers, for non-potable uses such as garden watering and toilet flushing. Recycled water can also be used for beneficial environmental outcomes, such as maintaining wetlands.

Figure 7.1 Recycled water used

Recycled water used as percentage of effluent volume produced



Snapshot (recycled water, percentage of effluent produced)

State Average		24.6%	Metro Average		28.7%	Regional Average		18.0%
2017-18	21	↑	2017-18	17	↑	2017-18	34	↑
2016-17	17		2016-17	13		2016-17	28	

Key observations

- Across the state, total effluent production decreased 4 per cent from 494,277 megalitres in 2016-17 to 474,752 megalitres in 2017-18. Metropolitan and regional businesses reported decreases of 5 per cent and 1 per cent respectively. Melbourne Water produced 312,540 megalitres of effluent on behalf of the three metropolitan retailers.
- The proportion of effluent reused across the state increased from 17 per cent in 2016-17 to 21 per cent in 2017-18, with volumes reused increasing from 85,246 megalitres in 2016-17 to 102,059 megalitres in 2017-18. Melbourne Water delivered 47,038 megalitres of recycled water in 2017-18, 21 per cent more than in 2016-17.
- The decrease in effluent production and increase in recycled water demand in 2017-18 is consistent with a lower rainfall year, following a high rainfall year in 2016-17. Higher rainfall usually results in more water entering the sewer systems thereby increasing effluent volumes, while at the same time lowering the customer demand for recycled water.

- South East Water confirmed that the increase in the proportion of effluent reused in 2017-18 was due to resolving operational issues with its treatment plants which had limited the supply of recycled water in 2016-17.

7.3. Biosolids reuse

The organic sludge (biosolids) produced during wastewater treatment can be put to beneficial reuse, such as organic-rich fertiliser, rather than disposed of as a waste to landfill. Periodically, water businesses desludge lagoons or tanks where the sludge accumulates to produce biosolids.

Reporting on biosolids

We report on biosolids produced when the sludge is physically removed from lagoons or tanks. We consider a 4 year average (including 2017-18) better demonstrates a water business's management of its biosolids (see Figure 7.2), as desludging and reuse does not occur annually.

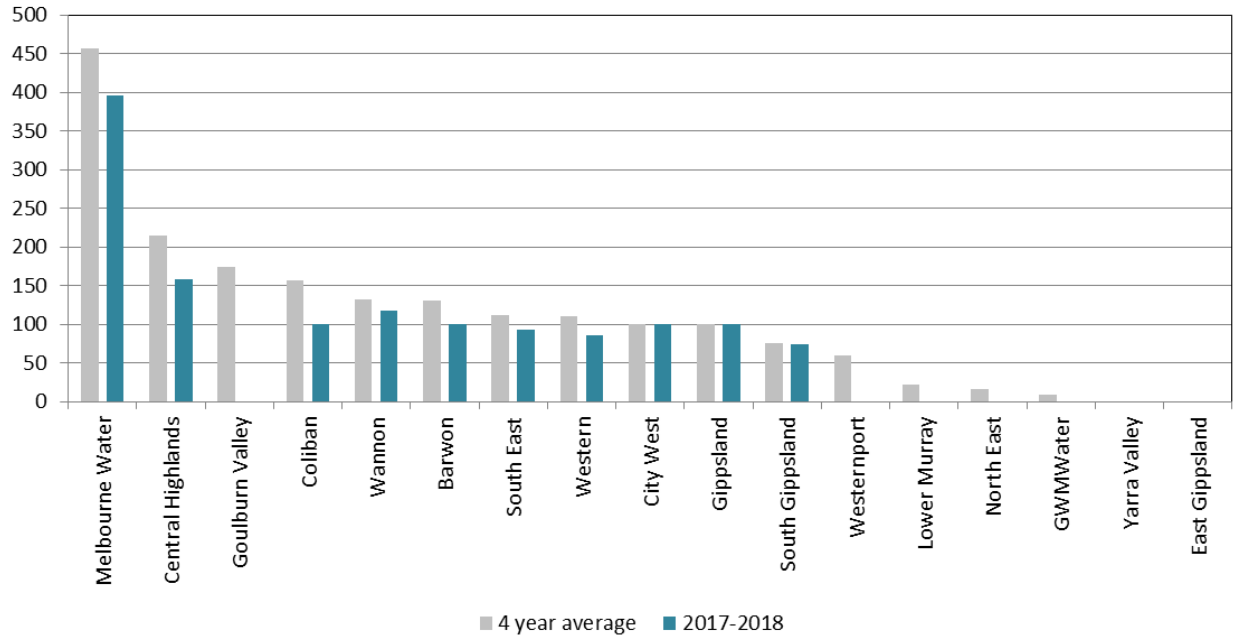
A zero reuse rate in a given year can mean a water business has not undertaken any desludging activity or it has chosen to stockpile biosolids rather than reuse them. A reuse rate above 100 per cent indicates that a business reused more biosolids than it produced. This means the business will be reducing its stockpiles of biosolids.

Error in 2016-17 performance report

In Figure 7.2 of the 2016-17 performance report, we incorrectly reported the proportion of biosolids reused due to a formula error in our data analysis. The error has since been corrected in the 2017-18 performance report. This section in last year's report should be ignored.

Figure 7.2 Proportion of biosolids reused

Percentage of biosolids reused from biosolids produced



Key observations

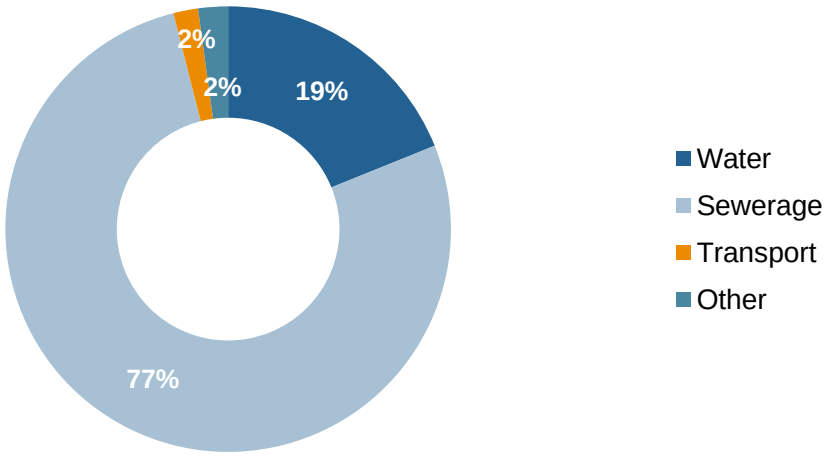
- The 2017-18 state-wide proportion of biosolids reused was 224 per cent, while the average for 2014-15 to 2017-18 was 286 per cent. This means that stockpiles continued to reduce but at a lower rate than last year.
- The water businesses reported 125,984 tonnes of biosolids produced in 2017-18, up from 102,677 tonnes in 2016-17. The biosolids mass reused decreased from 403,647 tonnes in 2016-17 to 282,564 tonnes in 2017-18, largely due to the lower quantity reported by Melbourne Water this year.
- Ten businesses have four year averages above or close to 100 per cent, indicating full reuse of biosolids over the longer term.
- Yarra Valley Water and East Gippsland Water have not reported any biosolids reuse over a four year period.
  - East Gippsland Water reuses all of its biosolids in the long term, but its lagoons are only desludged every 10 or so years.
  - Yarra Valley Water continues to investigate reuse opportunities for existing biosolids stockpiles that are financially viable. Some options have been identified for further investigation.

7.4. Greenhouse gas emissions

Net carbon dioxide equivalent (CO_2-e) emissions vary with each water business's operation. Factors impacting CO_2-e emission levels include:

- the source of water (river, dam, purchase of bulk water from another business)
- the quantity of water supplied and sewage treated
- the transportation method of networks (gravity operated versus pumped network: pumping requires electricity and generates more CO_2-e)
- geographical conditions (which influence where water or sewage needs to be pumped)
- the number of large customers and the extent of industry within the customer base.

Figure 7.3 Sources of greenhouse gas emissions for the Victorian water sector
Percentage of total emissions, excluding offsets



Across Victoria, water businesses emitted 894,209 tonnes of CO_2-e in 2017-18. Reported CO_2-e emission offsets was 39,382 tonnes, which results in net emissions of 854,826 tonnes.

Sewerage services contributed 77 per cent of water businesses' gross greenhouse gas emissions, totalling 689,847 tonnes of CO_2-e (excluding offsets). Pumping is often required to move wastewater through the network to treatment locations, the wastewater treatment process is more energy intensive than for water, and the treatment process itself also produces methane gas.

Table 7.1 Net greenhouse gas emissions

Equivalent tonnes of CO_2, including offsets

	2013-14	2014-15	2015-16	2016-17	2017-18	Per customer
Melbourne Water	339,137	477,881	432,997	438,332	453,419	0.24
City West	10,310	11,102	13,708	11,227	12,718	0.03
South East	36,645	42,326	43,556	42,098	47,300	0.07
Yarra Valley	32,708	33,255	33,762	34,083	-	0.00
Barwon	39,943	38,849	40,504	40,604	40,649	0.28
Central Highlands	16,271	16,277	29,779	15,707	15,076	0.24
Coliban	31,648	44,006	56,374	33,645	28,898	0.42
East Gippsland	8,098	7,912	8,011	8,557	8,348	0.40
Gippsland	38,246	42,706	60,964	37,549	37,881	0.59
Goulburn Valley	48,750	49,295	44,754	40,581	58,908	1.13
GWMWater	20,401	19,087	18,419	13,496	15,112	0.56
Lower Murray	17,366	17,912	20,015	19,163	21,071	0.71
North East	41,521	41,162	43,862	37,737	35,605	0.77
South Gippsland	6,872	7,411	7,385	8,347	9,249	0.54
Wannon	29,095	31,725	32,970	28,880	30,674	0.84
Western	15,217	30,646	31,900	32,226	33,282	0.54
Westernport	6,471	6,473	6,053	6,476	6,637	0.43
Statewide Total	**738,700**	**918,026**	**925,013**	**848,708**	**854,826**	**0.34**

Snapshot

State total		0.7%	**Metro total**		-2.3%	**Regional total**		5.7%
2017-18	854826		2017-18	513437		2017-18	341389	
2016-17	848708		2016-17	525740		2016-17	322968	

Key observations

- Across the state, net greenhouse gas emissions within water businesses was fairly steady, increasing by less than 1 per cent from 848,708 tonnes in 2016-17 to 854,826 tonnes in 2017-18. We note average water consumption increased by 2 per cent this year and total water customers also increased by 2.4 per cent. However, per capita greenhouse gas emissions

decreased slightly from 0.35 equivalent tonnes of CO_2 per residential customer in 2016-17 to 0.34 in 2017-18.

- The amount of CO_2-e offsets increased from 7,026 tonnes in 2016-17 to 39,382 tonnes in 2017-18, a six-fold increase due mostly to Yarra Valley Water which offset its total greenhouse emissions in 2017-18 by purchasing and surrendering Certified Emission Reduction (CER) credits. Yarra Valley Water advised that:
  - its customers expressed concern for protecting the environment during its engagement on its price submission and
  - the purchase of offsets was consistent with the Victorian Government's requirement that all water businesses pledge a pathway for net-zero emissions.
- Central Highlands Water and Coliban Water both reported significant decreases in emissions from water services. They attributed the reduced emissions to not needing the Goldfields Superpipe to pump water for most of the year.
- Goulburn Valley Water attributes its 45 per cent increase in net greenhouse gas emissions to improved accuracy of estimates, increased organic load in effluent, and the failure of a methane collection cover at its Tatura anaerobic lagoon.
- In 2016-17, Western Water reported a significant decrease in net greenhouse gas emissions due to the exclusion of emissions from the Sunbury Recycled Water Plant (SRWP), attributing these emissions to the third party operator of the facility. Western Water has since re-included these emissions in its own reporting and provided us with an updated figure for 2016-17.

8. How are water businesses managing their major projects?

We examine how water businesses are managing their major projects commitments made in their price submissions for the 2013–18 period. We track whether the projects identified are completed as planned or whether the business can explain why priorities have changed over time.

The 16 urban water businesses and Melbourne Water nominated major projects for completion in the five year pricing period from 2013–18. In total, 100 major capital projects were identified.

We track how these 100 projects have been delivered against the expected start and completion dates. We also request commentary from each of the water businesses to understand how the projects are progressing and why actual completion dates may differ from those initially expected.

Table 8.1 outlines the status of major projects for each water business at the end of 2017-18 (which is the end of the five year pricing period).

In the first year of the 2013–18 period, the state government's Fairer Water Bills review helped water businesses identify opportunities to reduce expenditure by deferring projects where possible. Businesses then passed on these cost savings to customers through lowered prices or bill rebates, so they did not recover revenue for the projects which were no longer going ahead. As a result of this review, more projects have been deferred this period than in previous periods.

A total of 61 major projects have been completed by the end of 2017-18, with another two projects still proceeding on schedule. Overall, 34 projects are either delayed or have been deferred, with many of these projects now expected to be completed in the next (2018–23) pricing period.

Want more information?

Further commentary on the estimated schedule and actual status for each water business's individual projects can be found in the supplementary paper *Status of major projects supplement: 2017-18 water performance report*.

This supplement can be found at https://www.esc.vic.gov.au/water/water-sector-performance-and-reporting/water-performance-reports.

Table 8.1 2017-18 snapshot of major projects scheduled for 2013–18

	No. major projects	Completed on time	On-schedule	Completed late	Cancelled	Deferred	Delayed
Melbourne Water	6	2		3			1
City West	4	3					1
South East	6		1	4		1	
Yarra Valley	5	1	1	1		1	1
Barwon	7	4			1	1	1
Central Highlands	7	6					1
Coliban	7	3		2		1	1
East Gippsland	4	1				2	1
Gippsland	3	2		1			
Goulburn Valley	6	2		1		3	
GWMWater	8	6		1		1	
Lower Murray	6	3				1	2
North East	5	1		2		1	1
South Gippsland	5	1		1		1	2
Wannon	7			4		2	1
Western	8			1	2	2	3
Westernport	6	3		2		1	
TOTAL	**100**	**38**	**2**	**23**	**3**	**18**	**16**

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