

2 Comparison of major urban centres

2.1 Background on major urban centres comparison data

This chapter provides comparative tables and figures about a selection of key indicators (water resources, pricing, environment, finance, and customer) for major urban centres, each of which generally corresponds to a capital city and its environs. The exception is South East Queensland, which includes Brisbane as well as Logan, Redlands, and the Gold Coast. The tables and figures are compiled using data supplied by the utilities detailed in Table 2.1. Any exceptions are indicated in the notes provided for each table.

Because utilities' structures vary, the figures in this chapter should be treated with some caution and be read in conjunction with the notes accompanying the tables. For example, to provide figures that represent Sydney, Melbourne, and South East Queensland, it is at times necessary to aggregate the numbers for both bulk and retail utilities servicing those areas. Notes on the methods used to derive figures are provided for each table.

It should be noted that historical values for all financial indicators have been adjusted using consumer price index (CPI) data to facilitate comparison in real terms.

Table 2.1 Data source for major urban centre capital city analysis

Major urban centre	Utility data
Perth	WC (Perth)
Adelaide	SA Water Corporation (Adelaide)
Canberra	Icon Water
South East Queensland	Seqwater (B), Queensland Urban Utilities, Unitywater, Gold Coast, Redland, and Logan
Sydney	Water NSW (B), Sydney Water
Melbourne	Melbourne Water (B), City West Water, South East Water, Yarra Valley Water
Hobart	No data—TasWater services this area; however performance data is available only on an aggregated basis for the entire State of Tasmania.
Darwin	P&W (Darwin)

2.2 Water Resources

2.2.1 W1, W2, W3.1, W4—Volume of water sources

The total volume of water sourced from surface water, groundwater, desalination, and recycled water in each city is shown in Table 2.2 and is represented by the indicators W1, W2, W3.1, and W4. There was an increase in the total volume of water sourced in all major urban centres for the 2015–16 period, with Darwin being the only exception, reporting a decrease of 5 per cent (Table 2.2).

The majority of major urban centres' surface water use increased in the 2015–16 year (2 per cent to 18 per cent) with two exceptions, Darwin (6 per cent decrease) and Perth (58 per cent decrease). The significant reduction in surface water use for Perth can be attributed to the reduced surface water inflows into Perth's water sources. This necessitated the need to take a higher proportion from groundwater and desalinated water (Table 2.2). This is in contrast to the Adelaide region, which reported a 66 per cent decrease in desalinated water supplemented by an 18 per cent increase in surface water.

The volume of recycled water sourced increased in 2015–16 in Sydney, Melbourne, South East Queensland, and Perth. Similar to previous reporting years, groundwater was only sourced in South East Queensland, Perth, and Darwin.

Table 2.2 Volume of water sourced from surface water, groundwater, desalinated sea water, and recycled water in each major urban centre

Major urban centre	Surface water (W1)		Groundwater (W2)		Desalination (W3.1)		Recycled water (W4)		Total	
	2014–15	2015–16	2014–15	2015–16	2014–15	2015–16	2014–15	2015–16	2014–15	2015–16
Sydney	516,041	534,642	0	0	0	0	38,280	38,465	554,321	573,107
Melbourne	401,899	432,886	0	0	0	0	13,059	16,717	414,958	449,603
South East Queensland	284,202	289,524	9,218	8,730	1,161	1,524	16,259	16,739	310,840	316,517
Perth	47,519	20,100	122,127	136,879	119,457	138,645	7,564	8,633	296,667	304,257
Adelaide	122,634	144,346	0	0	22,725	7,686	5,054	4,373	150,413	156,405
Canberra	47,114	50,403	0	0	0	0	4,352	4,056	51,466	54,459
Darwin	40,530	38,034	5,139	5,758	0	0	492	80	46,161	43,872

Table notes

Sydney surface water includes the total volume of Sydney Water's surface water and the water it received from bulk suppliers (W5).

Melbourne's surface water is that sourced from Melbourne Water while its recycled water is the total sourced by Melbourne Water and the three retailers (Yarra Valley Water, South East Water, and City West Water).

The volume of South East Queensland surface water, groundwater, and desalinated water is derived from Seqwater.

The volume of South East Queensland recycled water is the total derived from Seqwater and the retailers (Qld Urban Utilities, Unitywater, Gold Coast, Redland, and Logan).

2.2.2 W12—Average annual residential water supplied

This indicator represents the average annual volume of residential water supplied to customers in each major urban centre. The average annual residential water supplied per property remained consistent with previous reporting years in each urban region. There were slight increases in Canberra (4 per cent) and Melbourne (3 per cent), whereas Darwin reported a 4 per cent decrease (Table 2.3). An increase of 11 per cent in the annual residential water supplied was reported in the Adelaide region.

Results discussed in Chapter 3 indicate that there is a greater number of utilities reporting an increase in W12 during the 2015–16 reporting year. This trend could be attributed to an increase in above average temperatures in the area during the reporting year.

For more details on average water supplied to customers by each urban utility in Australia, refer to Chapter 3.

Table 2.3 W12—Average annual residential water supplied (kL/property), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Adelaide	179	193	183	186	206	11
Canberra	180	199	203	188	195	4
Melbourne	142	152	150	149	154	3
Sydney	193	198	206	201	201	0
South East Queensland	146 ^a	156 ^a	164 ^a	160	159	-1
Perth	250	249	254	244	240	-2
Darwin	471	454	407	409	405	-4
Hobart ^b						

Table notes

^a Redland didn't report against this indicator between 2011–12 and 2013–14.

^b No data available for Hobart—TasWater services this area: however, performance data is only available on an aggregated basis for the entire State of Tasmania.

The figures exclude bulk utilities because they do not supply to customers.

Melbourne and South East Queensland figures are the weighted averages for their respective retailers (i.e. W8/C2—Total connected residential properties: water supply).

2.2.3 W26—Total recycled water supplied

This indicator represents the total volume of recycled water supplied to customers, aggregated for the major urban centres. There were increases in all regions with the exception of Darwin, Perth and Melbourne, where total recycled water supplied decreased by 83.7 per cent, 8.4 per cent and 4.2 per cent respectively. Increases in total recycled water supplied ranged from 0.6 per cent in Sydney to 7.8 per cent in South East Queensland. Darwin's decrease is due to operational issues at the water treatment plant.

For more detail on recycled water supplied to customers by each urban utility in Australia, refer to Chapter 3.

Table 2.4 W26—Total recycled water supplied (ML), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Sydney	45,929	46,951	46,943	43,075	43,342	0.6
Melbourne	38,100	29,734	27,890	36,428	34,892	-4.2
Adelaide	22,714	28,393	25,515	29,177	28,481	2.4
South East Queensland	11,432 ^a	23,136 ^b	23,082	18,774 ^c	19,935	7.8
Perth	10,370	10,272	10,029	9,354	8,633	-8.4
Canberra	4,607	4,416	4,372	4,352	4,059	6.7
Darwin	376	499	347	492	80	-83.7
Hobart ^d						

Table notes

^a Includes only Queensland Urban Utilities and UnityWater.

^b Gold Coast, Logan and Seqwater were included.

^c Redland was included for the first time. Seqwater is not reported in 2014–15; therefore the percentage change for South East Queensland does not provide a direct comparison between the 2014–15 and 2015–16 years.

^d No data available—TasWater services this area; however, performance data is only available on an aggregated basis for the entire State of Tasmania.

Melbourne and South East Queensland figures for W26 are the aggregated figures for the bulk water suppliers and utilities.

2.3 Pricing

2.3.1 P8—Typical residential bill

This indicator reports the typical residential bill received by customers in each major urban centre, including water and sewerage services. Typical residential bills for water and sewerage are presented in Table 2.5.

Similar to previous reporting years, the typical residential bill was lowest in Melbourne and highest in Darwin. The change in water and sewerage bills for the major urban centres between the 2014–15 and the 2015–16 reporting period was minimal (ranging between -0.8 per cent and 2 per cent). The Melbourne region was the only exception where typical bills increased by 3.5 per cent.

For more detail on the typical bills charged by each urban utility in Australia, refer to Chapter 4.

Table 2.5 P8—Typical residential bill, P3 water and P6 sewerage combined (\$), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Darwin	1,536	1,882	1,840	1,898	1,882	-0.8
South East Queensland	1,192 ^a	1,291	1,319	1,394 ^b	1,386	-0.5
Perth	1,221	1,277	1,327	1,354	1,370	1.1
Adelaide	1,243	1,443	1,299	1,343	1,370	2.0
Sydney	1,181	1,177	1,178	1,172	1,169	-0.3
Canberra	1,162	1,244	1,134	1,112	1,133	1.9
Melbourne	924	938	1,122	992	1,028	3.5
Hobart ^c						

Table notes

^a Gold Coast and Logan did not report against the indicator for that specific year.

^b Redland reported for the first time in 2014–15; therefore the percentage change for South East Queensland does not provide a direct comparison between 2014–15 and 2015–16 years.

^c No data available for Hobart—TasWater services this area; however, performance data is only available on an aggregated basis for the entire State of Tasmania.

Melbourne and South East Queensland figures are the weighted average of the retail utilities (that is, P3/C2—Connected residential properties: water supply and P6/C6—Connected residential properties: sewerage).

The figures exclude bulk water suppliers as they do not supply to customers.

2.4 Environment

2.4.1 E12—Total net greenhouse gas emissions

This indicator reports the contribution of the utilities' operations to greenhouse gas (GHG) emissions, aggregated here by major urban area. There were significant increases in total net GHG between reporting periods in all regions with the exception of South East Queensland and Canberra. The Sydney region reported the largest increase in total net GHG emissions from the 2014–15 reporting period to 2015–16 (72 per cent) but still remains the lowest emitter compared against the other major urban centres. This increase may be attributed in part to an increase in construction and demolition waste sent to landfill by Sydney Water Corporation contractors (Sydney Water 2016).

Total net GHG emissions also increased significantly in the Adelaide and Melbourne regions: 41 per cent and 35 per cent respectively.

For more detail on GHG emissions from each urban utility in Australia, refer to Chapter 8.

Table 2.6 E12—Total net greenhouse gas emissions (net tonnes CO₂ equivalents per 1,000 connected water properties), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Perth	647	663	731	738	817	11
Adelaide	328	422	258	299	421	41
Melbourne	239	253	229	215	291	35
Canberra	313	288	260	257	255	-1
Sydney	72	85	85	84	144	72
Darwin	208	219	205	165		
South East Queensland						
Hobart						

Table notes

Melbourne figures are the weighted average of the three retailers (that is E12/C4—Total connected properties) plus Melbourne Water's emissions, expressed on a per-connection basis.

Adelaide figures for the 2013–14 year based on data for the entire State of South Australia operated by SA Water Corporation. The 2014–15 year includes Adelaide-specific data.

No data was available for South East Queensland.

No data available for Hobart—TasWater services this area; however, performance data is only available on an aggregated basis for the entire State of Tasmania.

2.5 Finance

2.5.1 F13—Combined operating cost of water and sewerage

This indicator reports the combined operating cost of the utilities' water and sewerage operations, aggregated here by major urban centre (Table 2.7). There were minimal changes in the combined water and sewerage costs during the 2015–16 reporting period.

For more detail on operating cost of each urban utility in Australia, refer to Chapter 5.

Table 2.7 F13—Combined operating cost: water and sewerage (\$/property), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Darwin	1,134	1,162	1,036		1,122	
South East Queensland ^a	925	1,014	1,098	1,109	1,084	-2
Melbourne	809	772	1,035	922	967	5
Canberra	851	821	763	774	917 ^c	18 ^c
Sydney ^b	666	696	686	673	689	2
Perth	552	587	604	587	597	2
Adelaide	503	640	608	560	576	4
Hobart ^d						

Table notes

^a Gold Coast and Logan did not report against this indicator in 2011–12. Redland did not report against this indicator for 2011–12 and 2013–14.

^b Sydney figures are for Sydney Water. Sydney Water's operating costs include the bulk water purchases, including those of Water NSW.

^c Canberra figures for the 2015–16 year includes a water abstraction charge and a utilities network facility tax. If the combined operating cost per property excluded these charges, the costs would have been \$704 per property, which would have resulted in a 8 per cent decrease since 2014–15.

^d No data available for Hobart—TasWater services this area; however, performance data is only available on an aggregated basis for this entire State of Tasmania.

2.5.2 F16—Total capital expenditure for water and sewerage

This indicator reports the combined capital expenditure related to the utilities' water and sewerage operations, aggregated here by major urban centre. Total capital expenditure for water and sewerage has changed significantly between the 2014–15 and 2015–16 reporting periods in the Canberra and Perth regions. The increase of 69 per cent in the Canberra region reflects the expanding and renewing of water and sewerage networks (Icon 2015). Total capital expenditure decreased by 18 per cent in the Perth region between the reporting periods. There was minimal change between reporting years in the Sydney and South East Queensland regions (Table 2.8).

For more detail on the capital expenditure of each urban utility in Australia, refer to Chapter 5.

Table 2.8 F16—Total capital expenditure for water and sewerage (\$000), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Melbourne	95,4428	74,5657	618,147	695,741	727,294	5
Sydney	80,2603	72,3323	637,967	650,669	664,003	2
South East Queensland ^a	100,2540	66,2319	524,774	494,463	485,865	-2
Perth	55,7408	51,1430	266,143	356,657	293,885	-18
Adelaide	54,6411	34,1353	190,388	154,102	182,661	19
Canberra	23,3861	14,5285	60,210	49,622	83,690	69
Darwin	58,840	65,657	25,953		48,549	
Hobart ^b						

Table notes

^a Gold Coast and Logan did not report against this indicator in 2011–12. Redland did not report against this indicator during 2011–12 to 2013–14.

Melbourne, Sydney, and South East Queensland figures are the aggregate for the bulk water suppliers and the respective utilities.

^b No data available for Hobart—TasWater services this area; however, performance data is only available on an aggregated basis for the entire State of Tasmania.

2.6 Customer

2.6.1 C13—Total water and sewerage complaints

This indicator reports the combined water and sewerage complaints received by the utilities, aggregated here by major urban centre. During the 2015–16 reporting period total, water and sewerage complaints increased in the South East Queensland, Melbourne and, most notably, Darwin (Table 2.9), which received a 67 per cent increase from 2014–15 due to complaints about water meter leaks and meter blockage issues. In contrast, complaints decreased in Canberra (11 per cent), Sydney (5 per cent), and Perth (2 per cent).

For more detail on customer complaints received by each urban utility in Australia, refer to Chapter 6.

Table 2.9 C13—Total water and sewerage complaints (per 1,000 properties)

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Darwin	72.7	37.5	49.9	39.5	66	67
Melbourne	6.3	7.4	5.3	4.1	4.8	17
South East Queensland	4.0 ^a	2.1 ^a	6.6 ^b	3.8 ^c	4.3 ^c	13
Canberra	5.0	4.8	4.0	4.3	3.8	-11
Sydney	3.5	3.9	3.2	2.7	2.6	-5
Adelaide	1.5	2.4			1.6	
Perth	9.5	0.6	1.0	0.8	0.8	-2
Hobart ^d						

Table notes

^a 2011–12 and 2012–13 includes Queensland Urban Utilities.

^b 2013–14 includes Queensland Urban Utilities, Gold Coast City Council, and Unity Water.

^c 2014–15 and 2015–16 includes data from Queensland Urban Utilities, Gold Coast City Council, Unity Water and Redland.

^d No data available for Hobart—TasWater services this area; however, performance data is only available on an aggregated basis for this entire State of Tasmania.

2.6.2 C15—Average duration of an unplanned interruption to water supply

This indicator reports the average duration of unplanned interruptions to water supply in a utility's operation, aggregated here by major urban centre. The average duration of unplanned interruptions to the supply of water to customers increased in the majority of major urban centres with the exception of Sydney, which reported a 7.5 per cent decrease. The largest increase was reported in South East Queensland (27.4 per cent) equating to a duration of 128 minutes of unplanned interruptions. Canberra and Perth reported similar increases in unplanned interruptions of 12.9 per cent and 12.4 per cent respectively.

Sydney was the only region to report a decrease in average duration; however, at 136 minutes, this is the second longest duration when compared with other major urban centres. Adelaide reported the longest duration at 189 minutes. The smallest increase in the duration of unplanned interruptions was reported in Melbourne, an increase of 6.4 per cent, equal to seven minutes (Table 2.10).

For more detail on interruptions to water supply reported by each urban utility in Australia, refer to Chapter 6.

Table 2.10 C15—Average duration of an unplanned interruption—water (minutes), 2011–12 to 2015–16

Major urban centre	2011–12	2012–13	2013–14	2014–15	2015–16	Change from 2014–15 %
Adelaide	201	158	153	165	189	14.5
Sydney	155	153	151	147	136	-7.5
Canberra	119	148	104	120	135	12.9
South East Queensland	104 ^a	99 ^a	104 ^b	100 ^b	128 ^c	27.4
Perth	118	130	117	96	108	12.4
Melbourne	102	103	99	99	106	6.4
Darwin	72			94		
Hobart ^d						

Table notes

^a 2011–12 and 2012–13 includes only Queensland Urban Utilities.

^b 2013–14 and 2014–15 includes Queensland Urban Utilities, Gold Coast Council and Logan City Council.

^c 2015–16 includes Queensland Urban Utilities, Gold Coast Council, Unity Water, Logan City Council, and Redland City Council.

^d No data available for Hobart—TasWater services this area; however, performance data is only available on an aggregated basis for this entire State of Tasmania.