

2 Major urban centres

This chapter provides comparative tables and figures for a selection of key indicators for major urban centres, aligned with a capital city and the surrounding area.

The figures and tables are compiled using data supplied by the utilities detailed in Table 2.1.

Utilities' structures vary, and the figures in this chapter should be treated with some caution and read in conjunction with the notes for each of the tables. For example, to provide figures which represent Sydney, Melbourne, and South East Queensland, it may be necessary to aggregate the numbers for both bulk water authorities and utilities servicing those areas. The historical values for all financial indicators have been adjusted using consumer price index (CPI) data to facilitate comparisons in real terms.

Table 2.1 Data sources for capital city analyses.

Major urban centre	Utility (B denotes bulk supplier)
Perth	Water Corporation – Perth
Adelaide	SA Water Corporation
Canberra	Icon Water Limited
South East Queensland	Queensland Bulk Water Supply Authority (Seqwater) (B), Queensland Urban Utilities, Unitywater, City of Gold Coast, Redland City Council, Logan City Council
Sydney	WaterNSW (B), Sydney Water Corporation
Melbourne	Melbourne Water (B), City West Water, South East Water Ltd, Yarra Valley Water Corporation
Hobart	No data – Tasmania Water and Sewerage Corporation services this area; performance data are available only on an aggregated basis for the entire State of Tasmania
Darwin	Power and Water – Darwin

2.1 Water resources

2.1.1 Volume of water sources—W1, W2, W3.1, W26

Table 2.2 presents the volume of water sourced from surface water (W1), groundwater (W2), desalination (W3.1), and recycled water (W26) for each city.

Nationally, total water sourced was steady between 2017–18 and 2018–19. South East Queensland reported the largest increase (11 per cent) by volume, followed closely by Adelaide with an increase of 8 per cent.

Perth is still the largest supplier of groundwater (122,317 ML) and desalination water (89,295 ML) to the urban centre. Melbourne sourced the highest volume of recycled water of 45,535 ML, just higher than Sydney.

Sydney, Melbourne, Adelaide and South East Queensland increased the volume of supply from desalination plants from 2017–18 to 2018–19. Perth scaled back the production of desalination water due to higher surface water availability.

Table 2.2 Volume of water sourced in each urban centre (ML).

Major urban centre	Surface water (W1)		Groundwater (W2)		Desalination (W3.1)		Recycled water (W26)		Total	
	2017–18	2018–19	2017–18	2018–19	2017–18	2018–19	2017–18	2018–19	2017–18	2018–19
Sydney	607,174 ^c	563,283 ^c	0	0	0	7,793	42,833	44,021	650,007	615,097
Melbourne ^a	448,864	438,511	0	0	14,972	22,374	38,147	45,535	501,983	506,420
South East Queensland ^b	325,370	353,324	13,368	17,594	2,803	6,438	13,036	15,445	354,597	392,801
Perth	1,135 ^d	74,014 ^d	131,948	122,317	148,905	89,295	12,100	9,817	294,088	295,443
Adelaide	157,309	167,500	0	0	4,268	4,901	26,564	30,533	188,141	202,934
Canberra	52,157	52,914	0	0	0	0	77	60	52,234	52,974
Darwin	38,292	38,364	4,449	4,860	0	0	451	488	43,192	43,712

Table notes

^a Melbourne’s surface water is sourced from Melbourne Water and South East Water, while its recycled water is sourced from Melbourne Water and the three retailers (Yarra Valley Water, South East Water, and City West Water). Western Water is not included in the Melbourne major urban centre.

^b The volume of South East Queensland’s surface water, groundwater, and desalinated water is sourced from Seqwater. The volume of South East Queensland’s recycled water is sourced from Seqwater and the retailers (Qld Urban Utilities, Unitywater, and Gold Coast and Redland city councils).

^c Sydney’s surface water (W1) is the total of WaterNSW (bulk water supplier) diverted for Sydney.

^d Perth’s surface water (W1) volume reflects Water Corporation transferring water into surface water storages. In 2018–19, Water Corporation diverted 107,811 ML from surface water (W1) and returned 33,797 ML.

2.1.2 Average annual residential water supplied—W12

Table 2.3 reports the average volume (kL/property) of residential water supplied to customers in each major urban centre.

The volume of residential water supplied increased from 2017–18 to 2018–19 for all major urban centres except for Perth, which had no change, and Sydney, which reported a decrease.

See Section 3.1 for annual residential water supplied by all utilities.

Table 2.3 Average annual residential water supplied (kL/property).

Major urban centre ^a	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	186	206	171	195	202	4
Canberra	188	196	190	197	204	4
Darwin	409	405	361	368	380	3
Melbourne ^b	149	154	149	148	151	2
Perth	244	240	223	219	219	0
South East Queensland ^b	160	159	158	155	158	2
Sydney	201	201	206	215	199	-7

Table notes

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

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

2.1.3 Total recycled water supplied—W26

Table 2.4 reports the total volume of recycled water supplied to customers, aggregated for the major urban centres (W26). Unlike W4 (volume of water sourced from recycling plants), W26 includes all recycled water supplied to various uses.

Total recycled water supply across the major urban centres increased by 10 per cent from the previous year, following an increase of 11 per cent from 2016–17 to 2017–18. Large increases in recycled water production were reported for Adelaide, Melbourne and South East Queensland.

See Section 3.2 for recycled water supplied by all utilities.

Table 2.4 Total recycled water supplied (ML).

Major urban centre	2014–15 ^a	2015–16 ^a	2016–17 ^a	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	29,177	28,481	21,316	26,564	30,533	15
Canberra	4,352	4,053	4,404	77	60	-22
Darwin	492	80	541	451	488	8
Melbourne ^b	36,428	34,892	32,442	38,147	45,535	19
Perth	9,354	10,212	9,568	12,100	9,817	-19
South East Queensland ^b	18,774 ^c	19,822 ^c	14,755	13,056	15,445	18
Sydney	43,075	43,342	38,340	42,833	44,021	3

Table notes

^a Data for 2016–17 and earlier years are sourced from the 2016–17 published NPR, as the definition of W26 has changed from 2017–18.

^b Melbourne and South East Queensland figures for W26 are the aggregated figures for the bulk utility and the retailers.

^c Seqwater did not report against this indicator in 2014–15 and 2015–16.

2.2 Pricing

2.2.1 Typical residential bill—P8

Table 2.5 reports the typical residential bill for water supply and sewerage in each major urban centre.

Changes in typical residential bills across the major urban centres range from a decrease of 4.0 per cent in Canberra to an increase of 3.9 per cent in Perth from 2017–18 levels. Large decreases were experienced in Canberra (4.0 per cent), Sydney (3.8 per cent), and Melbourne (2.7 per cent). The decreases in Canberra and Sydney are attributed to the above-average rainfall conditions experienced during the summer months, while Melbourne's decrease was attributed to above-average rainfall in November–December 2018.

The typical residential bill for customers in Perth increased by 3.9 per cent. This was due to an increase in water charges of 2.5 per cent and an increase of water consumption during periods of low rainfall in September 2018 and May 2019; some coastal areas experienced their driest May on record.

Customers in Melbourne continued to have the lowest typical residential bill across all regions, while those in Darwin had the highest, continuing the pattern seen in previous years.

See Section 4.1 for the typical bills charged by all utilities.

Table 2.5 Typical residential bill: water supply and sewerage (\$).

Major urban centre ^a	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	1,416	1,444	1,207	1,292	1,316	1.9
Canberra	1,172	1,194	1,177	1,188	1,141	-4.0
Darwin	1,999	1,983	1,861	1,850	1,862	0.6
Melbourne ^b	1,046	1,083	1,039	1,033	1,005	-2.7
Perth	1,427	1,444	1,436	1,489	1,547	3.9
South East Queensland ^b	1,397	1,461	1,459	1,424	1,430	0.4
Sydney	1,235	1,232	1,124	1,146	1,103	-3.8

Table notes

^a The figures exclude bulk utilities as they do not supply to customers.

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

2.3 Environment

2.3.1 Total net greenhouse gas emissions—E12

The contribution of the utilities’ operations to greenhouse gas (GHG) emissions, aggregated by major urban centre, is reported in Table 2.6.

Total net GHG emissions fluctuated widely across major urban centres. Emissions increased for most of the regions, with the highest increase in emissions (52 per cent) reported for Adelaide. Perth reported a large decrease of 32 per cent due to their reduced use of desalination plants, but continued to have the highest total net greenhouse gas emissions of 510 net tonnes CO₂ equivalent per 1,000 properties.

Adelaide’s 52 per cent increase was a result of the extra demands caused by the drier summer and winter, which required more pumping than in previous periods.

Canberra also experienced increased emissions due to increased pumping. The increased dry conditions required pumping of water instead of relying on gravity-fed water supply systems, which have been depleted.

See Section 8.1 for total net greenhouse gas emissions by all utilities.

Table 2.6 Total net greenhouse gas emissions (net tonnes CO₂ equivalent per 1,000 properties).

Major urban centre	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	299	421	250	285	434	52
Canberra	257	255	242	268	363	35
Darwin	165	154	179	229	215	-6
Melbourne ^a	215	291	268	243	249	2
Perth	738	817	828	754	510	-32
South East Queensland ^{b d}				179 ^c	200	12
Sydney	84	145	176	173	180	4

Table notes

^a Melbourne figures are the weighted average of the three retailers (i.e. E12/C4—Total connected properties). Melbourne Water’s emissions are expressed on a per-connection basis.

^b South East Queensland figures are the weighted average of the retailers (i.e. E12/C4—Total connected properties).

^c Gold Coast did not report against this indicator in 2017–18.

^d No data were available for South East Queensland before 2016–17.

2.4 Finance

2.4.1 Combined operating cost of water supply and sewerage—F13

Table 2.7 reports the combined operating cost of the utilities' water and sewerage operations, aggregated by urban centre.

In real terms, combined operating costs increased for four of the major urban centres, with Sydney reporting the highest increase (7 per cent) in combined operating costs of water and sewerage services. Three of the major urban centres reported decreases when compared to 2017–18, with Perth reporting the highest decrease (10 per cent).

See Section 5.3 for combined operating cost for all utilities.

Table 2.7 Combined operating cost: water supply and sewerage (\$/property).

Major urban centre ^a	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	591	607	563	556	584	5
Canberra ^b	815	966	1,015	1,012	985	-3
Darwin ^c		1,181	995	935	886	-5
Melbourne	971	1,019	932	905	913	1
Perth	618	629	608	610	547	-10
South East Queensland	1,110	1,142	1,147	1,131	1,167	3
Sydney ^d	709	725	696	675	720	7

Table notes

^a Data for 2017–18 and later are equal to F13; for earlier years the data are equal to F11+F12.

^b Canberra figures for the 2015–16 and 2016–17 years include a water abstraction charge and a utilities network facility tax.

^c Power and Water – Darwin did not report against this indicator in 2014–15.

^d Sydney figures are for Sydney Water and include the bulk water purchases from WaterNSW.

2.4.2 Total capital expenditure for water supply and sewerage—F16

Table 2.8 reports the combined capital expenditure related to the utilities' water and sewerage operations, aggregated by major urban centre.

Most major urban centres reported an increase in their total capital expenditure for water and sewerage services. The exceptions were Canberra and Perth, which reported decreases of 1 per cent and 4 per cent, respectively. Sydney reported a significant increase (41 per cent) in capital expenditure from the previous year, and now has the highest total capital expenditure of all major centres.

See Section 5.1 for combined capital expenditure for all utilities.

Table 2.8 Total capital expenditure: water supply and sewerage (\$000s).

Major urban centre	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	162,520	192,486	275,753	213,276	281,841	32
Canberra	52,281	88,191	95,134	89,339	88,138	-1
Darwin ^a		51,160	23,047	46,248	33,482	-28
Melbourne ^b	733,023	766,411	820,565	890,817	970,422	9
Perth	375,768	309,692	450,828	480,897	461,199	-4
South East Queensland ^b	520,958	511,998	583,536	604,729	687,820	14
Sydney ^b	685,535	699,717	671,680	822,466	1,160,104	41

Table notes

^a P&W (Darwin) did not report against this indicator in 2014–15.

^b Melbourne, South East Queensland, and Sydney figures are the aggregate for the bulk utility and the respective retailers.

2.5 Customers

2.5.1 Total water and sewerage complaints—C13

Table 2.9 reports the total number of complaints received by utilities for water and sewerage services, aggregated by major urban centre.

Four out of the seven major urban centres have experienced improved customer satisfaction (based on complaints as an indicator of satisfaction) with a decrease in the number of complaints they received in 2018–19. Perth had the largest decrease of 33 per cent followed by Canberra with 24 per cent.

Melbourne, Sydney, and South East Queensland were the only major urban centres that experienced increases in complaints. Darwin still has the highest total complaints but since the introduction of smart water meters, which helped to reduce water loss and excessive usage charges, complaints have decreased.

Perth has the lowest level of complaints of all the major urban centres with 0.8 per 1,000 properties.

See Section 6.2 for water and sewerage complaints for all utilities.

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

Major urban centre	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide		1.6	2.5	2.5	2.1	-16
Canberra	4.3	3.8	4.3	3.7	2.8	-24
Darwin	39.5	86.2	85.1	68.4	60.4	-12
Melbourne	4.1	4.8	6.3	6.2	6.9	12
Perth	0.8	0.8	0.8	1.2	0.8	-33
South East Queensland ^a	3.6	4.3	4.7	5.2	5.3	3
Sydney	2.7	2.6	2.1	2.2	2.4	9

Table note

^a Logan City Council did not report against this indicator before 2017–18.

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

Table 2.10 reports the average duration of unplanned interruptions to water supply in a utility's operation, aggregated by major urban centre.

Canberra and Adelaide were the only two major urban centres that had an increase in the average duration of unplanned interruptions for water, at 8 per cent and 3 per cent, respectively. Adelaide continued experiencing the highest average duration of unplanned interruption (243 minutes) while Melbourne consistently had the shortest (95 minutes).

See Section 6.1 for unplanned interruption to water supply for all utilities.

Table 2.10 Average duration of an unplanned interruption: water (minutes).

Major urban centre	2014–15	2015–16	2016–17	2017–18	2018–19	Change from 2017–18 (%)
Adelaide	165	189	195	237	243	3
Canberra	120	135	135	125	135	8
Darwin ^a	94					
Melbourne	99	106	106	101	95	-6
Perth	96	108	103	112	103	-8
South East Queensland	94	128	144	125	124	-1
Sydney	147	136	133	155	143	-8

Table note

^a No data are available for Darwin after year 2014–15.