

2 Major urban centres

This chapter provides comparative tables and figures for a selection of key indicators for major urban centres.

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), Urban Utilities, Unitywater, City of Gold Coast, Redland City Council, and 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—TasWater 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 (ML) of total water sourced from surface water (W1), groundwater (W2), desalinated marine water (W3.1), and recycled water (W26) for each city.

Nationally, total water sourced for major urban centres decreased by 1 per cent between 2018–19 and 2019–20. However, Perth reported a 6 per cent increase in water sourced by volume, Canberra reported a 5 per cent increase and South East Queensland reported a 4 per cent increase.

Perth remains the largest supplier of groundwater (135,517 ML) and desalinated marine water (140,048 ML) to an urban centre. Sydney sourced the highest volume of recycled water (46,919 ML) followed by Melbourne (42,877 ML), which sourced the highest volume in 2018–19.

All capital cities with desalination plants significantly increased the volume of supply from those plants from 2018–19 to 2019–20. Adelaide's increase occurred due to the Australian Government's Water for Fodder Program (<https://www.agriculture.gov.au/water/mdb/programs/basin-wide/water-for-fodder>), which helped farmers maintain their breeding stock during the drought. Sydney's increase was related to drier conditions and reduced availability of surface water. Higher desalinated marine water volumes in Melbourne were because of the Victorian Minister for Water's order for supply of 125GL of desalinated water. Some of the order was delivered in June of the previous financial year (2018–19) as the contract allows delivery of water to begin early when the size of the order is larger than the previous year's order.

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

Major urban centre	Surface water (W1)		Groundwater (W2)		Desalinated marine water (W3.1)		Recycled water (W26)		Total	
	2018–19	2019–20	2018–19	2019–20	2018–19	2019–20	2018–19	2019–20	2018–19	2019–20
Adelaide	167,494	127,905	0	0	4,815	40,001	30,533	23,803	202,928	191,709
Canberra	52,914	55,331	0	0	0	0	60	75	52,974	55,406
Darwin	38,364	40,663	4,860	2,794	0	0	488	0	43,712	43,457
Melbourne ^a	438,511	330,095	0	0	22,374	119,471	45,535	42,877	506,420	492,443
Perth	74,014 ^b	17,424 ^b	122,317	135,517	89,295	140,048	9,817	20,681	295,443	313,670
South East Queensland ^c	353,324	365,315	17,594	14,842	6,438	13,805	15,445	14,874	392,801	408,836
Sydney	563,283 ^d	476,605 ^d	0	0	7,793	71,147	44,021	46,919	615,096	585,671

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 Perth's surface water volume reflects the Water Corporation transferring water into surface water storages. In 2019–20, the Water Corporation diverted 101,929 ML from surface water and returned 84,505 ML.

^c 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 (Urban Utilities, Unitywater, City of Gold Coast and Redland City Councils).

^d Sydney's surface water is the total of the water received by Sydney Water Corporation from WaterNSW and water it sources directly.

2.1.2 Average volume of residential water supplied per property—W12

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

The volume of residential water supplied decreased from 2018–19 to 2019–20 for most major urban centres. The exceptions were Perth and South East Queensland, which increased by 4 per cent and 3 per cent respectively due to below-average rainfall and very high temperatures during the reporting year.

Sydney reported a decrease of 5 per cent in residential water supplied from 2018–19. The average annual residential water volume supplied per property in 2019–20 was the lowest for Sydney in the last 5 years. See Section 3.1 for annual residential water supplied by all utilities.

Table 2.3 Average volume of residential water supplied per property (kL/property).

Major urban centre ^a	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	206	171	195	202	198	-2
Canberra	196	190	197	204	202	-1
Darwin	405	361	368	380	373	-2
Melbourne ^b	154	149	148	151	148	-2
Perth	240	223	219	219	227	4
South East Queensland ^b	159	158	155	158	162	3
Sydney	201	206	215	199	189	-5

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—Total volume of water supplied to residential customers/C2—Number of connected residential properties: water supply).

2.1.3 Total volume of recycled water supplied—W26

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

Total recycled water supply across the major urban centres increased by 2 per cent from 2018–19 following an increase of 10 per cent from 2017–18 to 2018–19. Large increases in recycled water production were reported for Perth while Sydney reported the highest volume of total recycled water supplied across all major cities. Darwin did not supply any recycled water to customers in this reporting year.

See Section 3.2 for recycled water supplied by all utilities.

Table 2.4 Total volume of recycled water supplied (ML).

Major urban centre	2015–16 ^a	2016–17 ^a	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	28,481	21,316	26,564	30,533	23,803	-22
Canberra	4,053	4,404	77	60	75	25
Darwin	80	541	451	488	0	-100
Melbourne ^b	34,892	32,442	38,147	45,535	42,877	-6
Perth	10,212	9,568	12,100	9,817	20,681	111
South East Queensland ^b	19,822 ^c	14,755	13,056	15,445	14,874	-4
Sydney	43,342	38,340	42,833	44,020	46,919	7

Table notes

^a Data for 2016–17 and earlier years are sourced from the 2016–17 published NPR, as the definition of W26 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 and Redland City Council did not report against this indicator in 2015–16.

2.2 Pricing

2.2.1 Total typical residential bill—P8

Table 2.5 reports the total typical residential bill (\$) for water supply and wastewater in each major urban centre.

Changes in typical residential bills across the major urban centres range from an increase of 2.7 per cent in South East Queensland and 2.5 per cent in Perth, to a decrease of 1.6 per cent in Darwin and 1.4 per cent in Adelaide from 2018–19 levels.

The higher typical residential bills in South East Queensland and Perth were due to an increase in water charges resulting from increased water consumption as an outcome of the below-average rainfall and very high temperatures experienced during the reporting year. 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 Total typical residential bill (\$).

Major urban centre ^a	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	1,463	1,223	1,309	1,333	1,315	-1.4
Canberra	1,210	1,193	1,204	1,156	1,170	1.2
Darwin	2,010	1,886	1,875	1,887	1,857	-1.6
Melbourne ^b	1,097	1,053	1,047	1,018	1,011	-0.7
Perth	1,463	1,455	1,509	1,567	1,606	2.5
South East Queensland ^b	1,405	1,478	1,443	1,449	1,488	2.7
Sydney	1,248	1,139	1,161	1,117	1,123	0.5

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—Typical residential bill: water supply/C2—Number of connected residential properties: water supply and P6—Typical residential bill: wastewater/C6—Number of connected residential properties: wastewater).

2.3 Environment

2.3.1 Total net greenhouse gas emissions per 1,000 properties—E12

The contribution of the utilities' operations to greenhouse gas (GHG) emissions (t CO₂ equivalent/1,000 properties), aggregated by major urban centre, is reported in Table 2.6.

Total net GHG emissions fluctuated widely across major urban centres. Emissions decreased for most of the major cities. The highest decrease in emissions (52 per cent) was reported for Adelaide, but this followed a 52 per cent increase for Adelaide in the previous reporting year.

The reduction in emissions in Adelaide was associated with decreased fuel and imported electricity use and a decrease in South Australia's grid electricity emissions factor.

Perth reported the highest net greenhouse gas emissions per 1,000 properties and the highest percentage increase (37 per cent) from last year across major urban centres. The large increase was due to a greater volume of water supplied from desalination plants and an increase in electricity usage at a major wastewater treatment plant.

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

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

Major urban centre	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	421	250	285	434	207	-52
Canberra	255	242	268	363	331	-9
Darwin	154	179	229	215	213	-1
Melbourne ^a	291	268	243	249	278	12
Perth	817	828	754	510	701	37
South East Queensland ^{b d}			179 ^c	200	204	2
Sydney	145	176	173	180	175	-3

Table notes

^a Melbourne figures are the weighted average of the three retailers (E12—Total net greenhouse gas emissions per 1,000 properties/C4—Total connected properties) and Melbourne Water. Melbourne Water's emissions calculated based on the total connected properties of the three retailers.

^b South East Queensland figures are the weighted average of the retailers (E12—Total net greenhouse gas emissions per 1,000 properties/C4—Total connected properties).

^c City of 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 per property: water supply and wastewater—F13

Table 2.7 reports the combined operating cost (\$/property) of the utilities' water and sewerage operations, aggregated by major urban centre.

In real terms, combined operating costs per property increased for four of the major urban centres, with Darwin reporting the highest increase (33 per cent) in combined operating costs of water and sewerage services. Darwin's increase was due to increased operating expenditure for water supply because of changes in corporate overheads and Covid-19 costs incurred in the financial year.

Three of the major urban centres reported decreases from 2018–19 to 2019–20, with Adelaide reporting the highest decrease (9 per cent).

See Section 5.3 for combined operating cost for all utilities.

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

Major urban centre ^a	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	615	570	563	592	537	-9
Canberra ^b	979	1,029	1,026	998	950	-5
Darwin	1,198	1,010	948	898	1,196	33
Melbourne	1,033	945	917	925	920	-1
Perth	638	616	618	555	621	12
South East Queensland	1,112	1,163	1,145	1,182	1,214	3
Sydney ^c	735	706	684	729	731	0.3

Table notes

^a Data for 2017–18 and later are equal to F13; for earlier years the data are equal to F11—Operating cost per property: water supply plus F12—Operating cost per property: wastewater.

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

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

2.4.2 Total capital expenditure: water supply and wastewater—F16

Table 2.8 reports the combined capital expenditure (\$000s) related to the utilities' water and sewerage operations, aggregated by major urban centre.

The sum of total capital expenditure for water supply and wastewater across all capital cities increased slightly from 2018–19 to 2019–20 with four major urban centres reporting an increase in their total capital expenditure. Sydney, Perth and Darwin reported a decrease in capital expenditure from the previous year; Darwin reported the highest decrease (40 per cent) due to a decrease in scheduled projects in water and wastewater for the financial year.

See Section 5.1 for combined capital expenditure for all utilities.

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

Major urban centre	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	195,058	279,437	216,126	285,607	340,085	19
Canberra	89,370	96,405	90,533	89,316	102,163	14
Darwin	51,844	23,355	46,866	33,929	20,470	-40
Melbourne ^a	776,653	831,530	902,721	983,389	1,033,797	5
Perth	313,830	456,853	487,324	467,362	398,730	-15
South East Queensland ^a	518,840	591,335	612,809	697,021	823,750	18
Sydney ^a	709,067	680,655	833,456	1,175,807	1,014,546	-14

Table notes

^a 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 per 1,000 properties—C13

Table 2.9 reports the total number of complaints per 1,000 properties received by utilities for water and sewerage services, aggregated by major urban centre.

Two out of the seven major urban centres experienced improved customer satisfaction (based on complaints as an indicator of satisfaction) with a decrease in the number of complaints received in 2019–20. Darwin had the largest decrease (16 per cent) followed by Sydney (13 per cent).

Adelaide, Canberra and South East Queensland were the major urban centres that experienced an increase in complaints.

Perth, with the lowest level of complaints of all the major urban centres, remained steady on 0.8 total water and sewerage complaints per 1,000 properties.

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

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

Major urban centre	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	1.6	2.5	2.5	2.1	2.2	5
Canberra	3.8	4.3	3.7	2.8	3.4	21
Darwin	86.2	85.1	68.4	60.4	50.9	-16
Melbourne	4.8	6.3	6.2	6.9	6.9	0
Perth	0.8	0.8	1.2	0.8	0.8	0
South East Queensland ^a	4.1	4.7	5.2	5.3	5.7	8
Sydney	2.6	2.1	2.2	2.4	2.1 ^b	-13

Table notes

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

^b During 2019–20 Sydney Water changed the way it captured and reported complaints, using a single source for the 'Account' category to improve complaint reporting. They now only count complaints based on customer contact whereas previously they included billing adjustments as a deemed complaint.

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

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

Adelaide and South East Queensland were the only two major urban centres that had a decrease in the average duration of unplanned interruptions to water supply, at 16 per cent and 4 per cent respectively. Adelaide continued experiencing the highest average duration of unplanned interruption (204 minutes) while Melbourne consistently had the shortest (101 minutes).

Sydney reported the highest increase in the average duration of unplanned interruptions for water (31 per cent). This increase in duration resulted from hot and dry weather conditions leading to an increase in the number of breaks in large mains that have been complex to repair and difficult to arrange alternative water supply.

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

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

Major urban centre	2015–16	2016–17	2017–18	2018–19	2019–20	Change from 2018–19 (%)
Adelaide	189	195	237	243	204	-16
Canberra	135	135	125	135	136	1
Melbourne	106	106	101	95	101	7
Perth	108	103	112	103	111	8
South East Queensland	89	144	125	124	119	-4
Sydney	136	133	155	143	187	31

Table notes

No data are available for Darwin.