



Recycling and waste in Queensland

2019



Queensland
Government



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Introduction

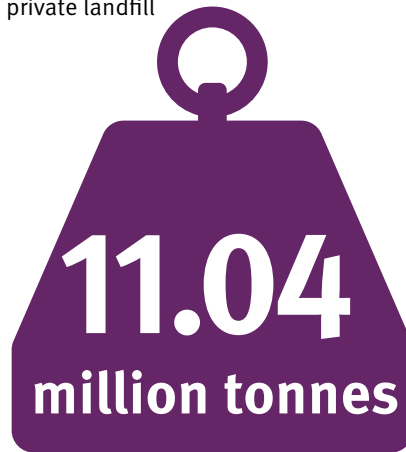
This report presents data on, and trends in, waste recovery and disposal in Queensland during the 2018–19 financial year.

The *Waste Reduction and Recycling Act 2011* places mandatory annual reporting requirements on reporting entities. The data in this report was derived from surveys submitted by 423 reporting entities, including local governments, state government departments, private landfill

operators, recyclers, organic processors, waste transporters, and operators of transfer stations, incinerators, and industrial and mining monofills.

More information about Queensland's waste management and resource recovery programs, policies and initiatives is available at www.qld.gov.au/wasterecovery.

In 2018–19 ...



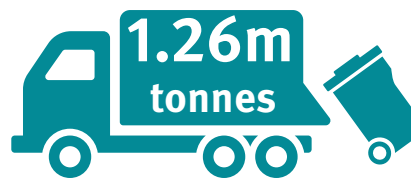
of headline wastes reported
(a 1.3% increase from previous year)



Local governments sent
310,000 tonnes



of paper and packaging to recyclers



of mixed domestic waste picked up by
weekly council kerbside collection

Organic processors converted
1.33 million tonnes



into products such as soil,
potting mixes and mulches

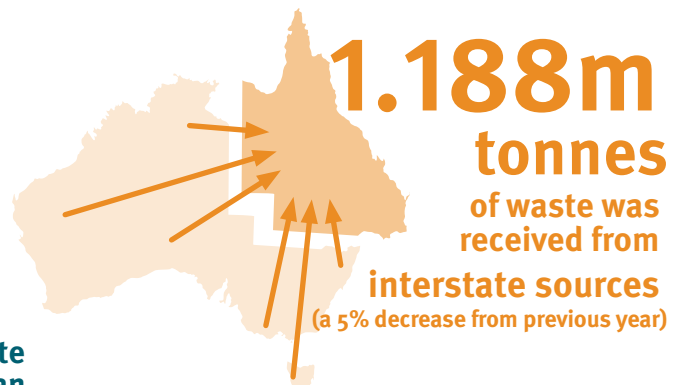
It cost local governments

\$25.3m

to clean up **4,700**
tonnes



of litter and illegally dumped waste while state
government departments spent \$5.8m to clean
up 1,700 tonnes



Key findings for 2018–19

Headline wastes

- A total of 11.04 million tonnes of headline wastes (municipal; commercial and industrial; construction and demolition) were generated—an increase of 143,000 tonnes (1.3%) from 2017–18.
- The 1.3% increase in the generation of headline wastes was comparable to Queensland’s population growth of 1.7%¹ and its economic growth (state final demand of 1.1%) during the same period.²
- The overall recovery rate increased by 3.3% from 45.4% in 2017–18 to 48.7% in 2018–19.
- Recovery rates for the headline waste streams were:
 - » 28.4% for municipal solid waste
 - » 49.8% for commercial and industrial waste
 - » 58.0% for construction and demolition waste.
- Private sector waste facilities (landfills, monofills and incinerators) handled 58% of the headline wastes sent for disposal—a 2% decrease from 2017–18. Of this waste, private sector landfills reported disposing of:
 - » 20% of the municipal solid waste
 - » 53% of the commercial and industrial waste
 - » 94% of the construction and demolition waste.

Local governments

In 2018–19:

- Weekly red bin lid kerbside services collected 1.26 million tonnes of domestic waste from 1,941,000 households—a 4.6% decrease per capita from 2017–18 and a 15% decrease per capita since 2009–10.
- Thirty-three councils provided a regular (yellow bin lid) kerbside collection service for paper and packaging materials to 1,775,000 households—a 3.1% increase from 2017–18.
- Councils sent 310,000 tonnes of paper and packaging for recovery—a 10.4% decrease per capita from 2017–18 and a 9.9% decrease per capita since 2009–10.
- Nine councils provided 240,000 Queensland households with a regular green waste (green bin lid) kerbside collection service—an increase of 20,000 households from 2017–18.
- Green bin lid services collected 61,000 tonnes of garden and food organic wastes—a 2.6% decrease per capita from 2017–18 and an 87% increase per capita since 2012–13.

- Local government diverted 2,770,000 tonnes of waste from disposal, including 1,415,000 tonnes of headline wastes (such as paper and packaging, and green waste) and 1,356,000 tonnes of other wastes (such as biosolids, batteries and clean earthen material).
- 16,900 tonnes of waste were diverted from landfill through the operation of ‘tip shops’.
- 4,700 tonnes of litter and illegally dumped waste were cleaned up at a cost of \$25.3 million.

Materials recovered

In 2018–19:

- A total of 5,372,000 tonnes of headline wastes were diverted from landfill disposal—an 8.6% increase from 2017–18.
- Close to 676,000 tonnes of segregated green waste was recovered, of which 55% was from domestic sources and the remainder from commercial sources.
- Organic processors converted 1.33 million tonnes of inputs (such as green waste, timber, sawmill residues, biosolids, manure, grease trap waste, abattoir waste, drilling mud and ash) into products such as soil conditioners, manufactured soil, potting mixes and mulches.
- Approximately 944,000 tonnes of ash (16.3% of the 5.8 million tonnes reported) was recovered.
- 122,000 tonnes of waste (including green waste, timber, tyres, mineral oil and chemicals) was sent to energy recovery.

Movement of wastes

- Of the materials recovered in 2018–19:
 - » 80% were processed in Queensland
 - » 4% of diverted materials were sent interstate for further processing
 - » 16% of diverted materials were sent overseas for further processing
 - » Typically the recovered organics and building materials were fully processed in Queensland, while the majority of the paper, cardboard, batteries, e-waste, ferrous and non-ferrous metals diverted from disposal were exported from Queensland for further processing.
- Over 1,181,000 tonnes of waste was received from interstate sources by reporting entities in Queensland—a 5.4% decrease from the 1,248,000 tonnes reported in 2017–18.

1. ABS 3218.0 Regional Population Growth, Australia, 27 March 2019 <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3218.02017-18>

2. ABS State Details, June quarter 2019 <https://www.qgso.qld.gov.au/issues/3386/national-accounts-state-details-201906.pdf>

1. Summary account of municipal solid waste, commercial and industrial waste and construction and demolition waste generated in 2018–19

This section reports on the headline waste streams: municipal solid waste; commercial and industrial waste; and construction and demolition waste. These are general wastes arising from everyday household and business activities.

Reporting entities handled 11,035,000 tonnes of headline waste during the reporting period (Figure 1.1). This was 143,000 tonnes more than the total reported in 2017–18.

A total of 5,665,000 tonnes was disposed of, and 5,370,000 tonnes was sent to recovery. The overall recovery rate for headline waste was 48.7%—an increase of 3.3% from the 45.4% achieved in 2017–18.

1.1 Municipal solid waste

In 2018–19 approximately 731,000 tonnes (or 28.4%) of the reported 2.6 million tonnes of municipal solid waste was recovered. This was a decrease from the 32.4% recovery rate reported in 2017–18. This reduction is due to a 28,000 tonne increase in the amount sent to landfill and a 140,000 tonne decrease in the amount recovered (mostly due to a decline in the amount of domestic green waste received by councils).

Local government reported the clean-up and management of 4,700 tonnes of litter and illegally dumped waste at a cost of \$25.3 million—a decrease from the 6,000 tonnes reported in 2017–18. Sixty-five councils provided data on the top five types of litter and illegally dumped waste collected. The most frequently reported litter items by councils were: drink containers (reported by 63% of councils), food packets and wrappers (58%), paper (33%), cigarette butts and packaging (29%) and plastic bags and packaging. The most frequently reported illegally dumped items by councils were: tyres (70%), household waste (51%), green waste (40%), construction and demolition waste (37%), white goods (30%), motor vehicles and parts (29%) and mattresses (25%).

1.2 Commercial and industrial waste

Approximately 1.6 million tonnes (or 49.8%) of the 3.2 million tonnes of commercial and industrial waste reported was recovered. This is an improvement on the 47.3% recovery rate reported in 2017–18.

Scrap metal, paper and packaging materials and green waste were the main materials recovered (Table 1.1).

1.3 Construction and demolition waste

Approximately 3.0 million tonnes (or 58.0%) of the 5.2 million tonnes of construction and demolition waste reported was recovered. This is an increase from the 50.8% reported in 2017–18.

In 2018–19, the total amount of construction and demolition waste reported decreased by 37,000 tonnes

from 2017–18. This included a 170,000 tonne decrease in the amount received from interstate sources.

Concrete was the main material recovered (Table 1.2).

Table 1.1: Commercial and industrial waste materials recovered during 2018–19

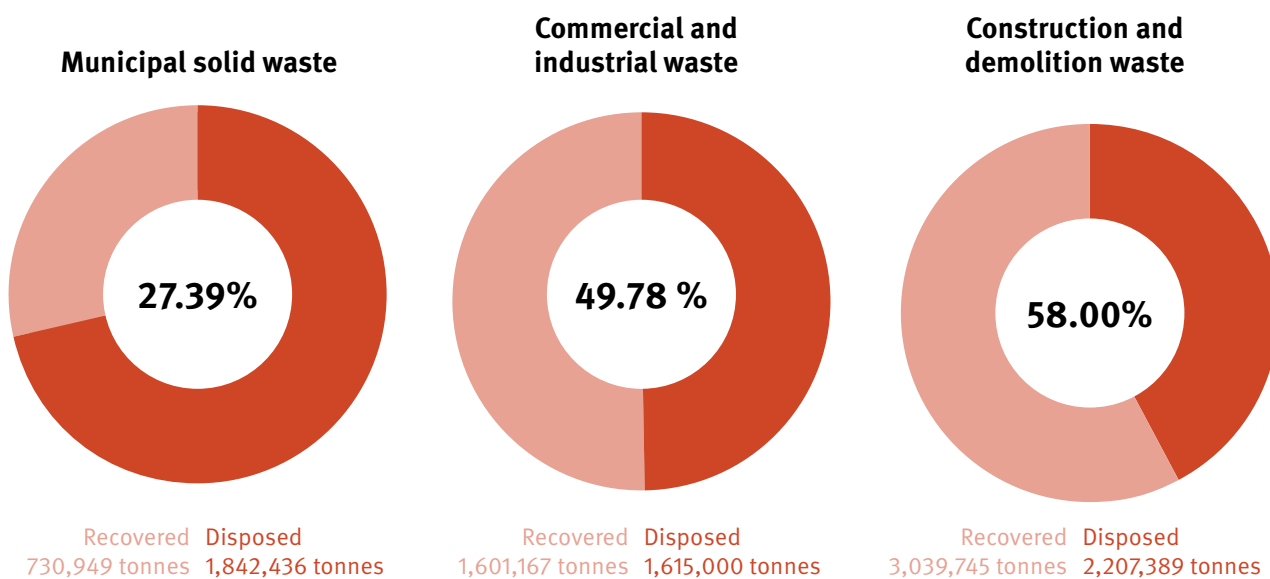
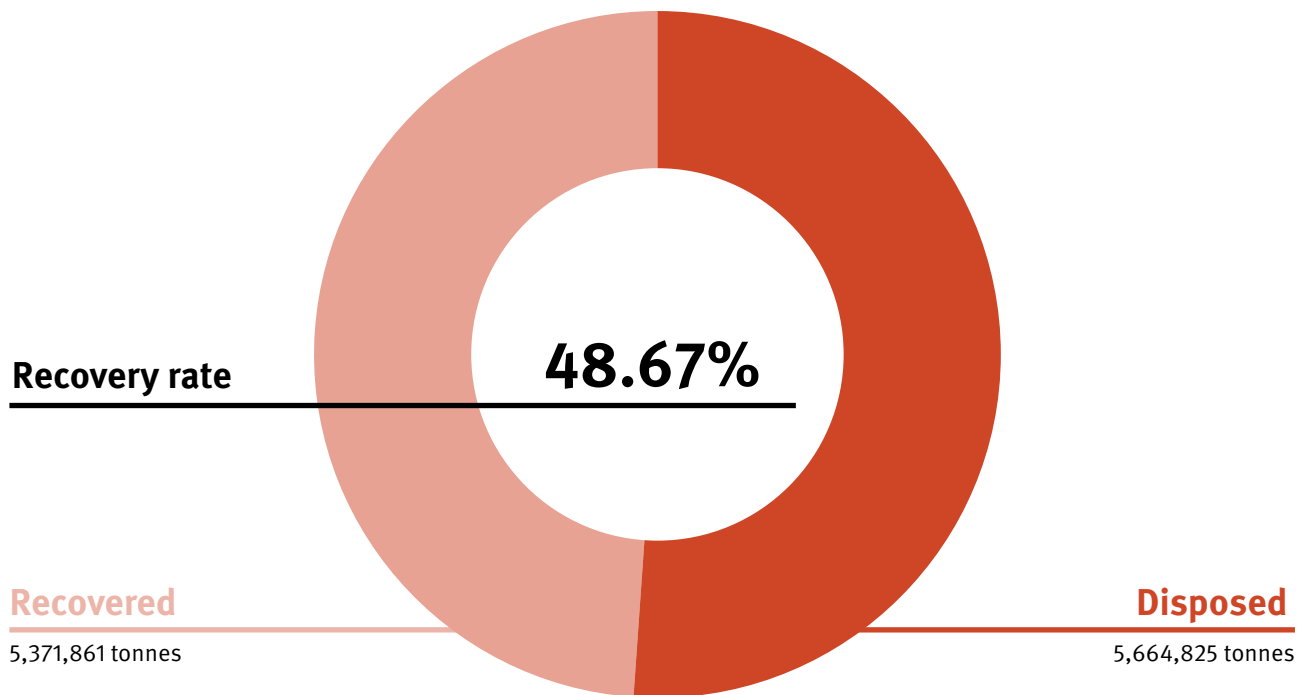
Material	Amount recovered (tonnes)
Paper and packaging	392,040
Non-packaging glass	6,548
Non-packaging plastic	14,243
Ferrous scrap metal	498,618
Non-ferrous scrap metal	60,302
Timber	114,837
Green waste	302,678
Cotton gin trash	8,447
Food waste	49,327
Drilling mud	99,479
Tyres	51,676
Other rubber	91
Other mixed waste	2,883

Table 1.2: Construction and demolition waste materials recovered during 2018–19

Material	Amount recovered (tonnes)
Concrete	1,927,501
Asphalt	438,221
Bricks and tiles	73,278
Fibre cement	17,804
Plasterboard	7,331
Timber	28,848
Non-packaging glass	6,548
Non-packaging plastic	1,583
Ferrous scrap metal	357,193
Non-ferrous scrap metal	15,981
Other C&D NEC*	165,457

*not elsewhere classified

Figure 1.1: Headline wastes generated and recovery rates in Queensland during 2018–19



2. Selected trends for headline waste streams

This section reviews the management of selected headline waste streams using a series of graphs to illustrate 10 to 12-year trends.

2.1 Kerbside domestic bin services

In 2018–19, local governments provided kerbside bin collection services:

- for domestic waste (red bin lid) to 1,941,000 households
- for recovering paper and packaging materials (yellow bin lid) to 1,775,000 households
- for recovering green waste (green bin lid) to 240,000 households.

In Queensland, 91.5% of households with a red bin lid service also had a yellow bin lid service, while 12.4% also had a green bin lid service. In 2018–19, 50,000 households had no kerbside bin collection service.

The numbers of waste, and paper and packaging bin services have mostly kept pace with population growth in Queensland during the period 2009–10 to 2018–19, averaging 386 and 336 services per thousand people for red and yellow bin lid services respectively (Figure 2.1).

However, the number of green bin lid services has increased from seven services per thousand people (28,500) in 2008–09 to 48 services per thousand people (240,000) in 2018–19. In addition, Ipswich City Council collects food waste through its green bin lid service. A breakdown of local government bin services (by region) is available in Appendix 1.

Compared with 2017–18, local governments recorded:

- a 37,000 tonne (3.0%) decrease in the amount of domestic waste (red bin lid) sent to landfill
- a 1,600 tonne (2.9%) decrease in the amount of domestic waste (red bin lid) sent to an alternative waste treatment facility for recovery³
- a 30,000 tonne (8.9%) decrease in the amount of paper and packaging sent for recovery
- a 600 tonne (1.0%) decrease in the amount of green waste (green bin lid) collected.

The reductions in the amounts of waste arising from the red and yellow bin lid collections are likely linked to the commencement of the container refund scheme on 1 November 2018.

During 2018–19, local governments collected:

- an average of 648 kg of domestic waste per red bin lid service (a 5% decrease from 685 kg in 2017–18)
- 175kg of paper and packaging materials per yellow bin lid service (a 12% decrease from 197 kg in 2017–18)
- 253kg of green waste per green bin lid service (a 9% decrease from 279kg in 2017–18).

Figure 2.2 shows the trends in the management of wastes collected by local governments from households. The amounts sent for recovery were greater than the amounts actually recovered due to the generation of residuals in the recovery process.

Between 2009–10 and 2018–19:

- the amount of domestic waste (red bin lid) decreased by 1.8% from 1,281,000 tonnes in 2009–10 to 1,257,000 tonnes in 2018–19
- the amount of red bin lid waste collected decreased by 15.2% on a per capita basis
- the amount of yellow and green bin lid material collected increased by 24.7% from 297,000 tonnes in 2009–10 to 371,000 tonnes in 2018–19
- the amount of yellow and green bin lid material collected increased by 7.8% on a per capita basis.

3. In the Cairns region, waste from some of the domestic, red bin lid services is not sent direct to landfill but is sent to an alternative waste treatment facility for recovery of the organic fraction of the waste. The non-recoverable residuals from this process are sent to landfill.

Figure 2.1: Trends in the provision of kerbside bin services by local governments (2008–19)

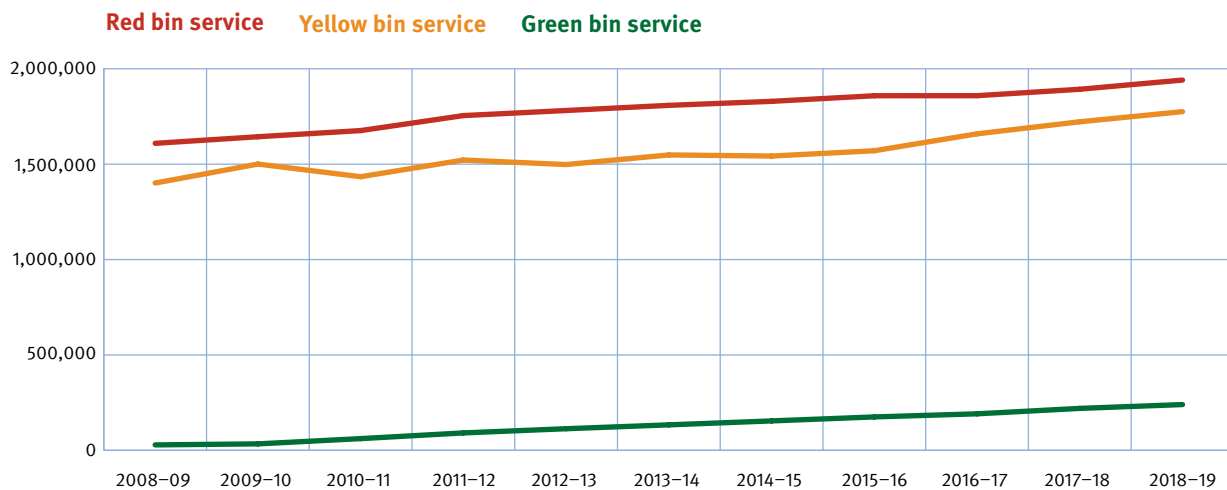
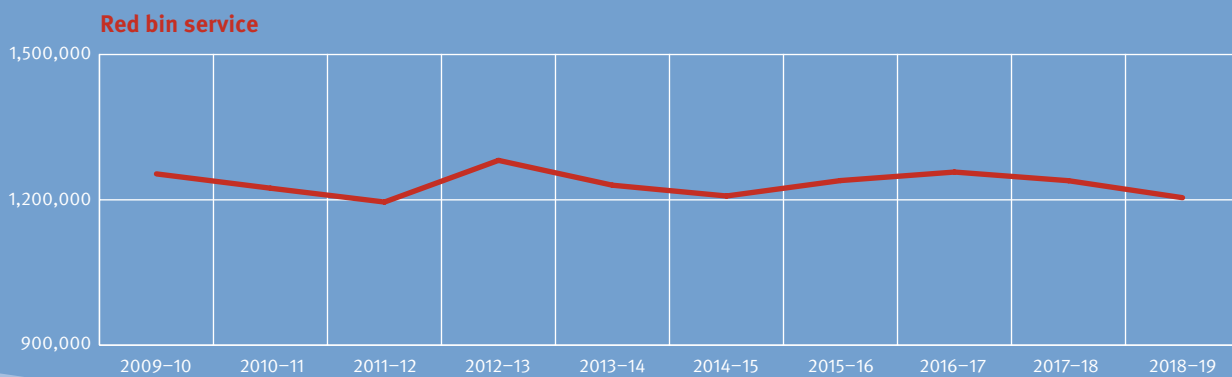
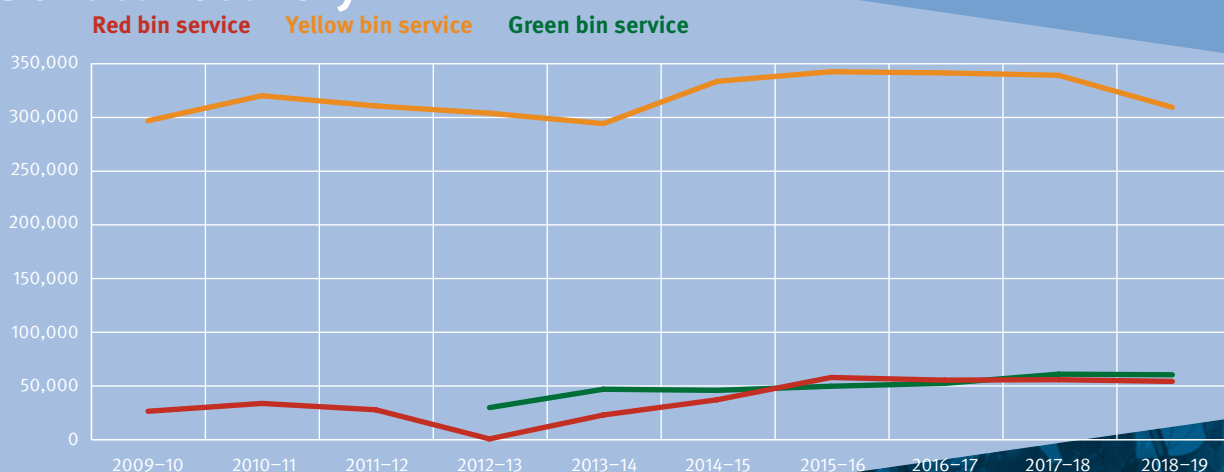


Figure 2.2 Trends in the disposal and recovery of domestic waste picked up by kerbside collections in Queensland (2009–19)

Sent to landfill



Sent to recovery



2.2 Segregated green waste and other domestic waste

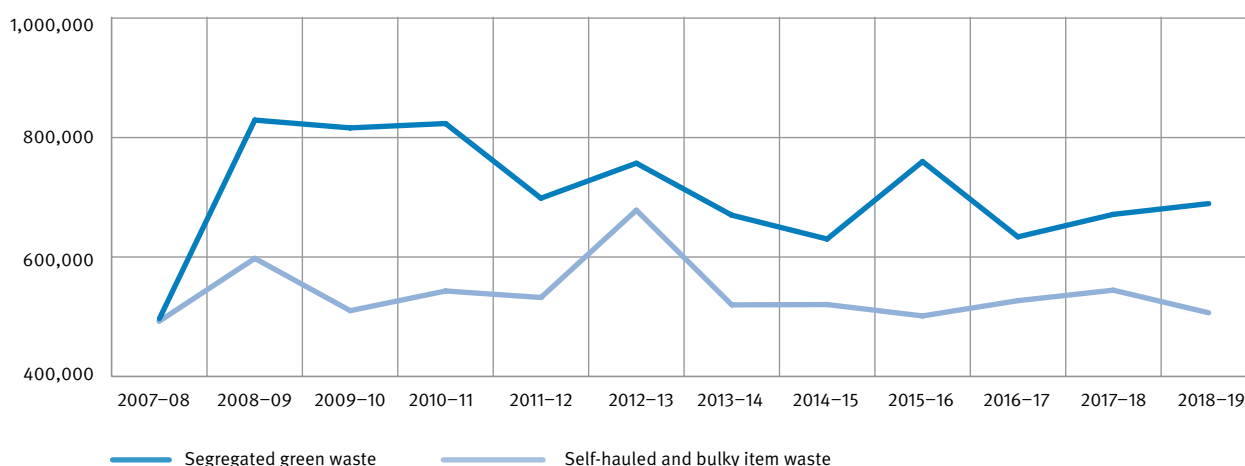
In 2018–19, 690,000 tonnes of segregated green waste was reported. This was an increase of 18,000 tonnes (2.7%) from 2018–19 (Figure 2.3).

Green waste is generated from both domestic and commercial sources. Of the green waste recovered, 55% was received from domestic sources and is classified as municipal solid waste, with the remainder classified as commercial and industrial waste.

The 506,000 tonnes of domestic waste self-hauled by residents to council facilities or picked up by bulky item kerbside collections was similar to amounts reported in previous years (Figure 2.3).



Figure 2.3: Trends in the amounts of segregated and other domestic self-hauled and bulky item waste in Queensland (2007–19)

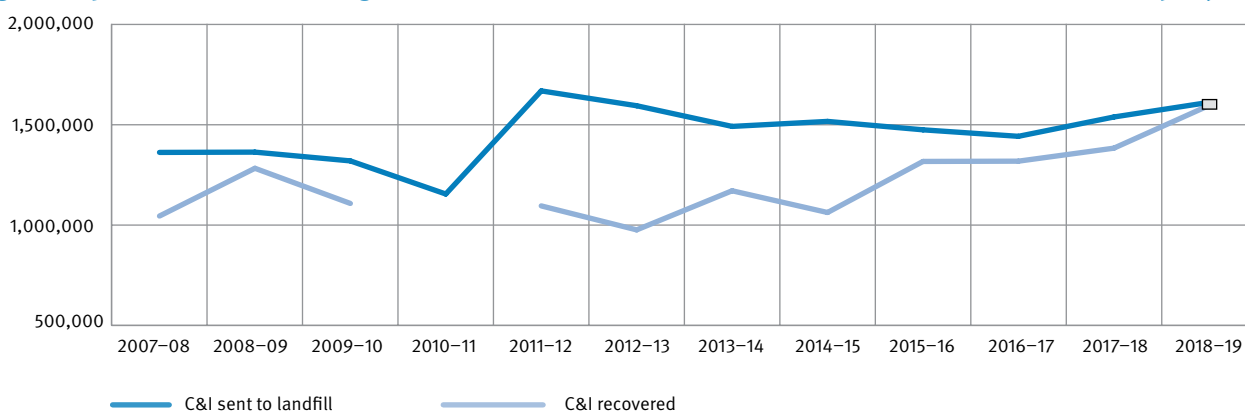


2.3 Commercial and industrial waste

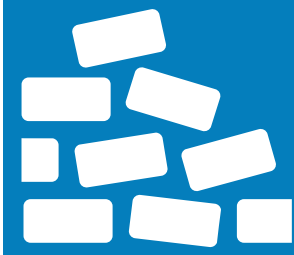
In 2018–19, 1,615,000 tonnes of commercial and industrial (C&I) waste was sent for disposal. This was a 74,000 tonne (4.8%) increase from 2017–18 and was 167,000 tonnes more than the 2008–18 average of 1,449,000 tonnes (Figure 2.4).

The 1,601,000 tonnes recovered in 2018–19 was a 217,000 tonne (15.6%) increase from 2017–18 and was 426,000 tonnes more than the 2008–18 average of 1,175,000 tonnes.

Figure 2.4: Trends in the management of commercial and industrial waste in Queensland (2007–19)



*Due to significant data gaps it was not possible to provide recovered figures for 2010–11

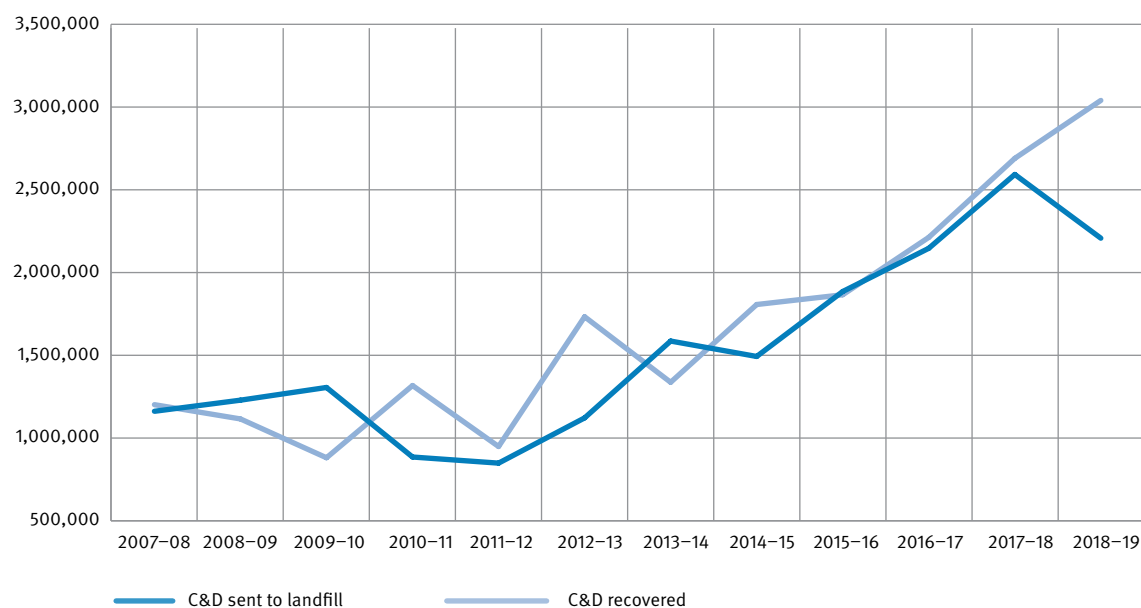


2.4 Construction and demolition waste

The trend shows an increase in amounts disposed for construction and demolition (C&D) waste until 2018–19 (Figure 2.5) which then reduced in volume. The 2,207,000 tonnes sent to landfill was a 385,000 tonne (15%) decrease from 2017–18. A contributing factor was a 170,000 tonne decrease in the amount of construction and demolition waste received from interstate, which decreased from 1,034,000 tonnes in 2017–18 to 864,000 tonnes in 2018–19.

The 3,040,000 tonnes of construction and demolition waste recovered in 2018–19 was a 350,000 tonne (13%) increase from 2017–18. This included increases in the amounts of concrete, asphalt and ferrous metal recovered.

Figure 2.5: Trends in the management of construction and demolition waste in Queensland (2007–19)



3. Headline waste disposal by region

This section reports on the disposal of headline waste streams⁴ through landfill or incineration in 2018–19. Of the 5,665,000 tonnes of headline waste disposed in Queensland, 57.9% went to privately-owned landfills, 41.6% to local government facilities and the remainder were incinerated, or disposed of in industrial and mining monofills. Private landfills received 20% of the municipal solid waste, 53% of the commercial and industrial waste and 93% of the construction and demolition waste disposed in 2018–19.

In 2018–19, 2,354,000 tonnes of waste was disposed in local government landfills, and 3,282,000 tonnes of waste was disposed in private landfills. This is a 25,000 tonne (1.1%) decrease for local government landfills and a 265,000 tonne (8.1%) decrease for private landfills from 2017–18.

The main changes to the waste received by private landfill include:

- a 99,000 tonne increase in the amount of municipal solid waste received
- a 36,000 tonne increase in the amount of commercial and industrial waste received
- a 407,000 tonne decrease in the amount of construction and demolition waste received.

Most of the waste disposed in private facilities were sent to landfills in South East Queensland.

Figure 3.1 shows the amounts of the headline waste streams disposed in each region during 2018–19. Landfills in South East Queensland received 66% of the municipal solid waste, 73% of the commercial and industrial waste and 91% of the construction and demolition waste sent for disposal.

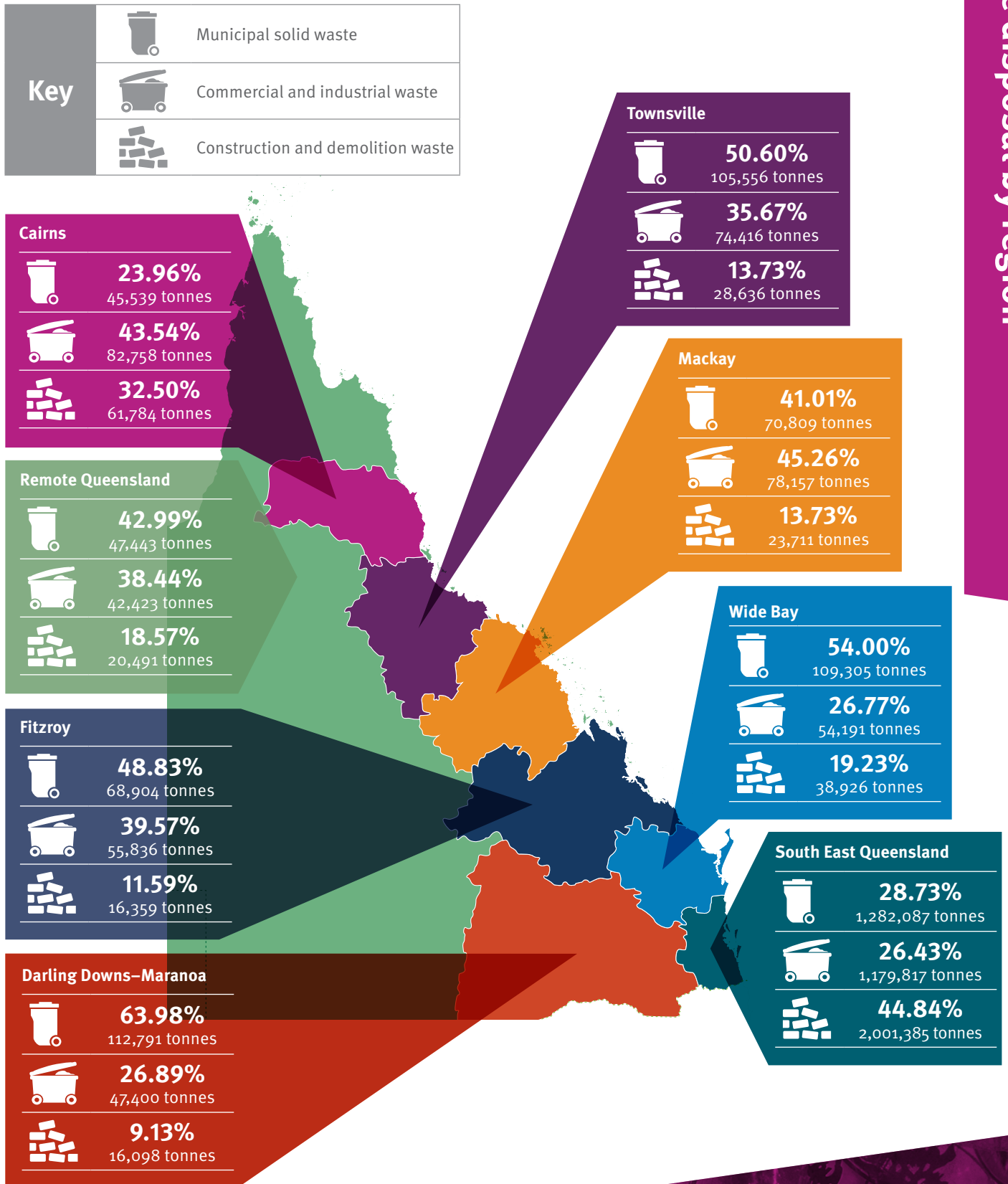
The pattern of disposal in South East Queensland is different to that in the rest of the state (Figure 3.1). For example, while construction and demolition waste was the largest source stream in South East Queensland, it was generally the smallest stream in other regions. Municipal solid waste made up 29% of the waste sent to landfill in South East Queensland compared with an average of 47% in non-metropolitan Queensland.

The pattern in the Cairns region was anomalous because a number of councils sent putrescible waste to an alternative waste treatment plant for processing. As a result, municipal solid waste only made up 24% of the waste sent to landfill in that region.

As the residual waste from that process is classified as commercial and industrial waste, this source stream made up 44% of waste sent to landfill in the Cairns region (compared to an average of 29% for the state).

4. Headline wastes exclude ash, red mud, primary production wastes, contaminated soil, acid sulfate soil, clean earthen material, biosolids, and other regulated wastes

Figure 3.1: Amounts of headline waste sent to landfill or incinerated in Queensland by region in 2018–19



4. Waste recovery in Queensland

This section reports on materials that were diverted from disposal through a variety of means, including recycling, organic processing and energy recovery.

4.1 Local government activity

Local government was the main collection point for domestic waste and for waste generated outside of South East Queensland. In 2018–19, local government diverted 1.41 million tonnes of headline waste (37.5% of the 3.8 million tonnes received) from disposal.

4.1.1 Paper and packaging materials

Local government administers the domestic collection process for paper and packaging through the provision of 1,775,000 yellow bin lid kerbside collection services in urban areas and the provision of 3,792 public place recycling bins/drop-off points across the state.

In total, local government sent 310,000 tonnes of paper and packaging (cardboard and glass, plastic, steel and aluminium containers) for recovery in 2018–19 (down from 340,000 tonnes in 2017–18). Almost all of this material was forwarded to private sector recyclers for processing. The exceptions were small amounts of glass, paper and cardboard recovered and used locally by councils.

The 177,000 tonnes of paper and cardboard sent for recovery was a 6,000 tonne decrease compared to the previous year. The 98,000 tonnes of packaging glass sent for recovery was a 21,000 tonne decrease and marked the end of a five-year rising trend (Figure 4.1).

The 2,900 tonnes of aluminium containers recovered was a 28% decrease from 2017–18, ending a seven-year rising trend. The 27,700 tonnes of packaging plastics recovered was a 1,200 tonne decrease (4.2%) compared to 2017–18. Similarly, the 5,200 tonnes of steel containers recovered was a 750 tonne (12%) decrease from 2017–18 (Figure 4.2).

Population growth has a direct impact on the amount of waste generated. Figure 4.2 provides an indexed comparison of the changes in collections for individual paper and packaging materials with that of the domestic waste (red bin lid) collection on a per capita basis.

In summary:

- The 251kg per capita of domestic (red bin lid) waste collected in 2018–19 was a decrease of 4.6% from 2017–18 and a 15.2% decrease from 2009–10.
- The 35.4kg per capita of paper and cardboard sent for recovery was a decrease of 4.9% from 2017–18 and a 12.6% decrease from 2009–10.
- The 19.6kg per capita of packaging glass sent for recovery was a decrease of 19.1% from 2017–18 and a decrease of 14% from 2009–10.
- The 5.3kg per capita of packaging plastic sent for recovery was a decrease of 6.1% from 2017–18 and an increase of 52% from 2009–10.

- The 1.04kg per capita of steel cans sent for recovery was a decrease of 14% from 2017–18 and a decrease of 18% from 2009–10.
- The 0.58kg per capita of aluminium cans sent for recovery was a decrease of 27.0% from 2017–18 and a decrease of 15% since 2009–10.

The introduction of the container refund scheme has been a significant contributor to the reductions in the amounts of plastics, glass and aluminium cans sent to recovery by local governments during 2018–19.

Local governments in South East Queensland cover 71.8% of the state's population and generated 74.4% of the paper and packaging sent for recycling by the sector in 2018–19 (Table 4.1). This region had disproportionately large shares of the packaging glass (79.9%) and packaging plastics (80.4%) segments. In contrast, Cairns and Remote Queensland had comparatively large shares of aluminium cans sent for recovery, due in some part to transport costs.

4.1.2 Other materials

Other wastes sent for recovery by local governments in 2018–19 included:

- 483,250 tonnes of green waste
- 12,500 tonnes of timber
- 3,700 tonnes of e-waste
- 88,900 tonnes of other ferrous metal
- 6,500 tonnes of other non-ferrous metal
- 210,300 tonnes of concrete
- 215,800 tonnes of asphalt
- 16,900 tonnes of tip shop items.

Local governments played an important role in the collection and management of green waste, handling 71% of the total reported in 2018–19.

While local governments sent all of the e-waste to recyclers for processing, they typically processed all the concrete and asphalt received.

Table 4.2 provides a regional breakdown of selected wastes sent for recovery by local governments. South East Queensland recovered the largest amounts, particularly for concrete and asphalt, with 75% and 94% of the state totals collected.

Green waste was the largest material by weight recovered by councils in all regions except Remote Queensland, where ferrous metal was the largest. Concrete was typically the second or third largest material recovered.

Figure 4.1: Trends in the amounts of paper and packaging sent for recycling by local governments from 2003 to 2019 (tonnes)

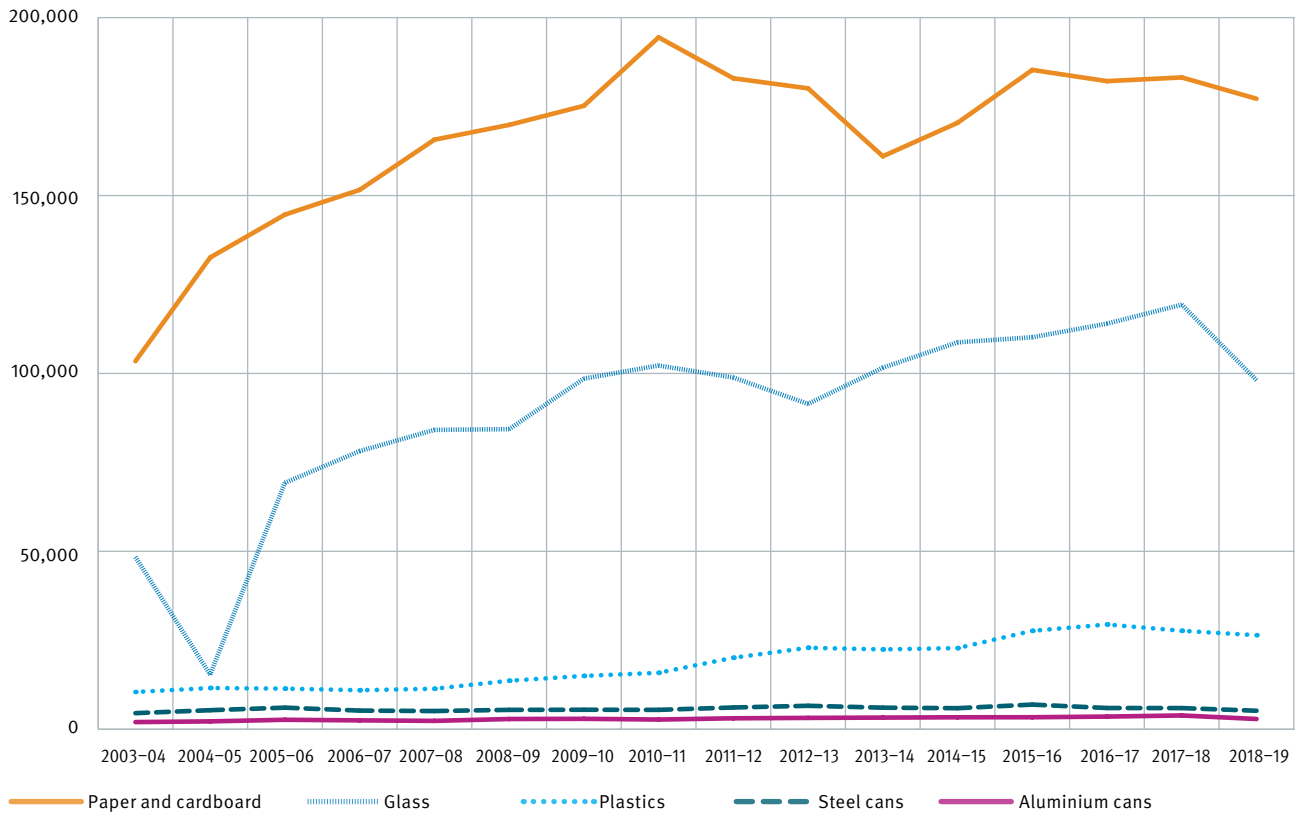


Figure 4.2: Normalised per capita rates for paper and packaging sent for recovery versus domestic kerbside waste collected by local governments (2009-10 = 1.00)

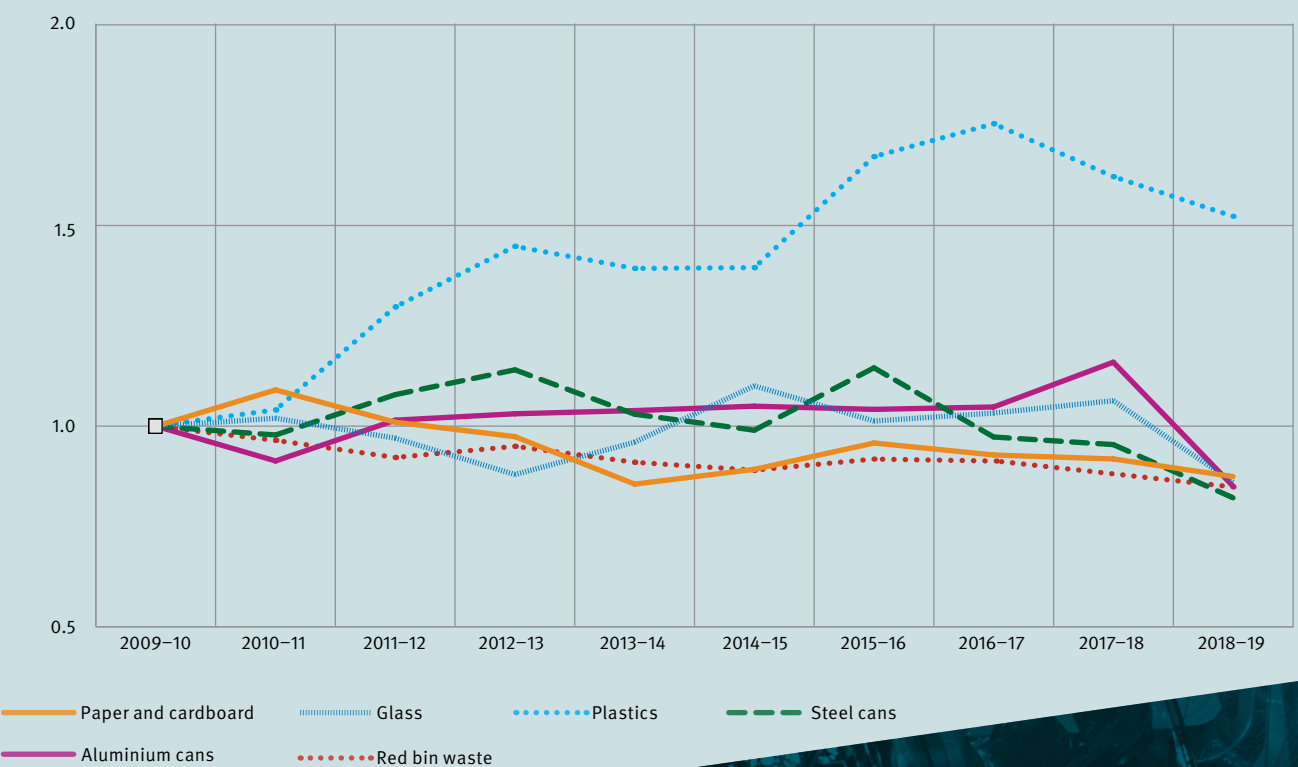


Table 4.1: Paper and packaging collected by local governments and sent for recovery in 2018–19 by region (tonnes)
















 Region	 Paper and cardboard	 Packaging glass	 Packaging plastics	 Steel cans	 Aluminum cans	Regional total
South East Queensland	125,226	78,436	21,241	3,614	1,883	230,401
Darling Downs–Maranoa	7,609	5,026	1,126	253	160	14,174
Wide Bay	15,979	1,814	1,131	453	193	19,570
Fitzroy	5,691	3,882	836	258	106	10,774
Mackay	11,054	3,221	560	246	201	15,283
Townsville	5,682	3,457	817	344	141	10,441
Cairns	5,949	2,271	712	34	198	9,164
Remote Queensland	12	5	1	0	2	21
Subtotal	177,202	98,112	26,424	5,202	2,884	309,828

Table 4.2: Amounts of other selected wastes sent for recovery by local governments in 2018–19 by region (tonnes)

 Region	 Green waste	 Timber	 Concrete	 Asphalt	 Ferrous metal	 Non-ferrous metal	 E-waste	 Tip shop sales
South East Queensland	301,173	8,751	157,699	202,323	48,161	1,958	2,405	9,068
Darling Downs–Maranoa	28,538	1,192	4,737	0	5,876	47	169	928
Wide Bay	51,897	1,748	11,521	1,585	8,703	1,827	381	1,491
Fitzroy	24,792	770	14,088	5,211	7,114	346	153	147
Mackay	9,619	0	3,156	1,000	3,430	0	132	4,169
Townsville	32,380	9	16,992	5,635	3,699	0	213	306
Cairns	33,866	10	1,189	0	8,700	136	205	838
Remote Queensland	984	52	874	0	3,539	281	21	0
Subtotal	483,250	12,530	210,256	215,755	89,223	4,594	3,678	16,947

* The flow of packaging glass during 2018–19 was disrupted by a technical issue at a major reprocessing facility and by residents accumulating containers following the commencement of the container refund scheme.

4.2 Organic processors

The 67 entities responding to the 2018–19 organic processing survey collectively processed:

- 355,400 tonnes of green waste
- 188,00 tonnes of forestry and sawmill residuals
- 36,000 tonnes of agricultural residuals
- 20,500 tonnes of drilling mud
- 87,600 tonnes of timber, wood and sawdust
- 8,400 tonnes of cotton gin trash
- 62,200 tonnes of abattoir waste
- 184,900 tonnes of manure
- 75,600 tonnes of biosolids (dry solids equivalent)
- 123,000 tonnes of grease trap waste and other organic sludges
- 10,800 tonnes of food waste
- 33,400 tonnes of food processing waste
- 20,400 tonnes of ash.

These organic processors collectively produced:

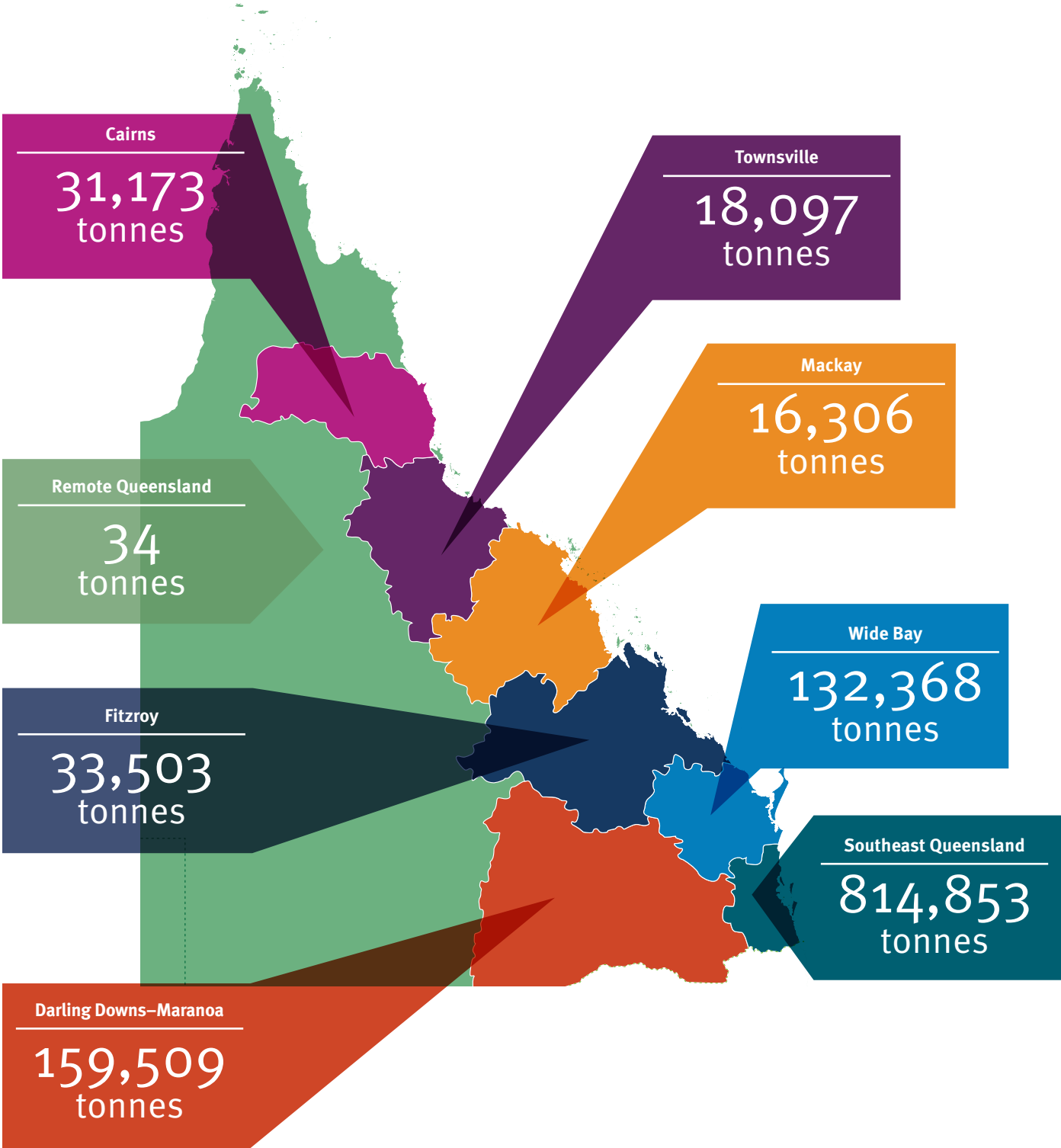
- 907,800 tonnes of manufactured soil
- 287,600 tonnes of soil conditioner
- 128,500 tonnes of potting mix
- 35,800 tonnes of organic fertiliser
- 201,300 tonnes of mulch
- 67,700 tonnes of direct land application
- 137,200 tonnes of composted manure
- 14,600 tonnes of playground surfacing
- 51,500 tonnes of other products.

Organic wastes were typically processed locally, in the region where they were produced (Table 4.3). South East Queensland processed the largest amounts of most materials.

Table 4.3: Selected wastes processed by organic processors in 2018–19 by region (tonnes)

Waste material	Region								Organic processor subtotal
	SE Qld	Darling Downs–Maranoa	Wide Bay	Fitzroy	Mackay	Townsville	Cairns	Remote Qld	
Timber, wood and sawdust	41,399	8,957	32,034	14	1,386	2,400	1,438	0	87,628
Green waste	300,464	7,822	13,986	6,013	9,407	5,600	12,146	0	355,439
Forestry residuals	158,840	1,565	27,624	0	0	0	0	0	188,029
Agricultural residuals	3,240	40	30,500	0	0	240	1,567	0	35,587
Manure	53,944	103,390	22,589	54	0	1,188	3,705	0	184,870
Abattoir waste	38,464	11,928	3,676	5,409	2,736	0	0	0	62,213
Cotton gin trash	0	3,500	0	4,947	0	0	0	0	8,447
Waste food	8,724	0	0	95	0	147	1,880	0	10,845
Food processing waste	32,693	88	600	0	0	0	0	0	33,381
Biosolids (DSE)	58,780	3,220	1,019	15	1,543	2,727	8,243	34	75,581
Grease trap & other organic sludges	102,490	3,455	0	12,330	0	2,538	2,194	0	123,007
Ash	14,630	714	340	3,637	912	104	0	0	20,337
Drilling mud	1,184	14,830	0	990	322	3,153	0	0	20,479
Regional subtotal	814,853	159,509	132,368	33,503	16,306	18,097	31,173	34	1,205,843

Figure 4.3: Regional subtotals of selected wastes handled by organic processors during 2018–19



4.3 Overall recovery of materials

Many of the waste materials diverted from disposal are transferred between agents within the waste and recycling sector. For example, skip bin operators may deposit materials at council transfer stations; councils may forward material to recyclers; and organic processors and recyclers may forward materials to other recyclers for further processing (in Australia or overseas). Table 4.4 provides an overall summary of materials recovered in 2018–19, distinguishing between material and energy recovery, as well as the last reported destination of the materials (Queensland, interstate or overseas).

Of the 7,077,000 tonnes of materials documented in Table 4.4, 80% were either fully recovered in Queensland or sent to another entity in Queensland, 4% were sent interstate and 16% were sent overseas. Typically, building materials and organic wastes were recovered in Queensland, while the majority of ferrous and nonferrous metals, lead acid batteries, e-waste, paper, cardboard and plastics were sent either interstate or overseas for recovery.

Close to 122,500 tonnes of the tracked materials were sent for energy recovery in Queensland, interstate and overseas.

This number includes 27% of the timber, 6% of the green waste, 7% of the mineral oil, 61% of the tyres and 53% of the paint, solvents and chemicals reported.

Compared with the previous reporting period:

- Concrete recovered increased by 76,000 tonnes (4%) to 1,928,000 tonnes
- Asphalt recovered increased by 78,000 tonnes (22%) to 438,000 tonnes
- Ferrous metal (excluding steel cans) recovered increased by 184,000 tonnes (26%) to 893,000 tonnes
- Non-ferrous metal (excluding aluminium cans) recovered increased by 1,700 tonnes (2%) to 79,900 tonnes
- Packaging glass recovered decreased by 24,000 tonnes (28%) to 64,000 tonnes[†]
- Cardboard recovered increased by 35,000 tonnes (13%) to 301,000 tonnes
- Mineral oil recovered increased by 8,500 tonnes (10%) to 94,500 tonnes
- Fly ash recovered decreased by 2,000 tonnes (0.2%) to 943,000 tonnes.

Table 4.4: Recovery methods and destinations for selected materials recovered by reporting entities in Queensland during 2018–19 (tonnes)

Material	Quantity recovered or sent for recovery in Queensland*	Quantity combusted for energy recovery in Queensland	Quantity sent interstate for further processing	Quantity sent interstate for energy recovery	Quantity sent overseas for further processing	Quantity sent overseas for energy recovery	Total reported in 2018–19	Change from 2017–18 to 2018–19
Packaging glass	64,118						64,118	-24,412
Non packaging glass	12,954		36		105		13,095	-1,644
Paper	121,982		44,657		99,708		266,347	22,070
Cardboard	98,748		97,218		104,603		300,569	35,267
PET plastic (1)	318		37		7,121		7,476	
HDPE plastic (2)	11,260				4,185		15,445	
PVC plastic (3)			16				16	
LDPE plastic (4)	3,271				7,271		10,542	
PP plastic (5)	2,262		1,000		23		3,285	
PS plastic (6)	325				76		401	
Other/mixed plastic	313		549		8,354		9,216	
Steel cans			396		2,218		2,614	-1,823
Other ferrous metals	10,174		138,204		744,605		892,983	183,668
Aluminium cans	247		120		7,319		7,686	1,572
Other non-ferrous metals	21		2,314		77,570		79,905	1,680
Lead acid batteries	16,335		15,183				31,518	205
Other batteries	66		133				199	-25
E-waste NEC**	133		865		202		1,200	-885
Catalysts	33		74				107	19
Concrete	1,927,501						1,927,501	74,607
Asphalt	438,221						438,221	78,075
Bricks and tiles	73,278						73,278	-10,893

[†] The flow of packaging glass during 2018-19 was disrupted by a technical issue at a major reprocessing facility and by residents accumulating containers following the commencement of the container refund scheme.

Material	Quantity recovered or sent for recovery in Queensland*	Quantity combusted for energy recovery in Queensland	Quantity sent interstate for further processing	Quantity sent interstate for energy recovery	Quantity sent overseas for further processing	Quantity sent overseas for energy recovery	Total reported in 2018–19	Change from 2017–18 to 2018–19
Plasterboard	7,331						7,331	
Fibre cement	17,804						17,804	
Timber, sawdust	105,038	38,647					143,685	-50,647
Green waste	632,574	43,466					676,040	14,817
Forestry and sawmill residuals	164,664						164,664	-23,669
Agricultural residuals	35,587						35,587	-12,420
Manure	184,871						184,871	-3,221
Abattoir waste	62,213						62,213	16,008
Cotton gin trash	8,447						8,447	2,767
Vegetable oil	14,142		1,005		5,630		20,777	-3,595
Waste food	49,327						49,327	-16,718
Food processing waste	34,879						34,879	4,222
Mineral oil	84,815	6,413	2,558	274	443		94,503	8,498
Biosolids (DSE)	77,620						77,620	-3,419
Grease trap waste & sludges	123,007						123,007	18,838
Oily water	16,953						16,953	3,365
Fly Ash	942,534						942,534	-2,068
Bottom/other ash	97,407						97,407	-26,567
Red mud	250						250	250
Drilling mud	99,479						99,479	-314
Foundry sand	500						500	
Tyres	16,789		1,006		2,590	31,290	51,675	-14,345
Other rubber	91						91	91
Paint, solvents and chemicals	243	2,393	1,847				4,483	-701
Tip shop	16,947						16,947	1,824
Destination subtotal	5,573,316	90,919	307,218	274	1,072,023	31,290	7,076,796	239,420

* Recovered in Queensland means the material was either fully recovered by the reporting entity or was sent to another (non-reporting) operator in Queensland for further processing. It is possible that materials last tracked to a Queensland site were subsequently sent interstate or overseas.

** Residual amount not reported elsewhere (such as ferrous metal, non-ferrous metal, non-packaging glass, non-packaging plastic).

4.4 Recycling residuals

Recycling residuals are materials passing through a recovery process that are sent to disposal (typically landfill). Reasons for the non-recovery of materials include contamination, process breakdowns, technical issues, lack of demand for the recovered materials or financial (cost) issues.

For example, contamination is a significant problem for local government kerbside recycling programs. The contamination rates reported by councils for yellow bin lid collections in 2018–19 ranged from 5% to 49% (average 17%). The contamination rates for the much smaller green bin lid collections (which are predominantly opt-in rather than compulsory) were much lower, ranging from 0.5% to 5% (average 2%).

Entities completing the recycling and organic processing data collections were surveyed about recycling residuals. As some entities did not provide data, the reported figure of 576,000 tonnes is an undercount. Some liquid residuals, such as oily water, were disposed to sewer as trade waste and not included in the landfill data.

Recyclers processing construction and demolition waste reported 177,000 tonnes of residuals; oil and chemical recyclers reported 171,000 tonnes; metal recyclers reported 92,000 tonnes; organic processors reported 70,000 tonnes; paper and packaging recyclers reported 55,000 tonnes; and tyre recyclers reported 6,000 tonnes. If not further recovered, these residuals were sent for disposal.

5. Other data and trends

This section reports on data and trends from other waste streams and cross border movements as well as mandatory government planning for waste minimisation.

5.1 Other waste streams

Data on other (non-headline) wastes generated during 2018–19 are shown in Table 5.1. Some of these streams (such as asbestos) had zero recovery, while others (such as biosolids) had very high rates of recovery.

The 5,903,000 tonnes of ash generated in 2018–19 was a 9,000 tonne (0.2%) increase from 2017–18 and was approximately 367,000 tonnes more than the 11-year average of 5,537,000 tonnes (Figure 5.1).

The 1,040,000 tonnes of ash recovered in 2018–19 was above the 11-year average of 910,000 tonnes, and the recovery rate of 17.6% was also above the 11-year average of 16.5%. Although it was lower than the peak recovery rate of 19.4% achieved in 2013–14.

5.2 Cross-border movements of waste

During 2018–19, wastes moved both within and outside of Queensland, into other states or overseas.

Table 4.4 shows that 307,000 tonnes of the materials were sent interstate for recovery, while 1,103,000 tonnes were sent overseas.

There are increasing trends for the amounts of aluminium cans, ferrous metal and tyres sent overseas, and declining trends for the amounts of paper and steel cans exported. The declining trend for cardboard ended in 2018-19, while there are no clear trends for plastics, vegetable oil and mineral oil.

In the case of plastics, PET, LDPE and mixed plastics tend to be exported, while HDPE, PP and PS plastics are more likely to be recycled in Australia.

Table 5.2 lists the amounts of selected materials sent overseas for recovery from Queensland from 2016 to 2019.

Domestically, the 1,188,000 tonnes of waste received from interstate sources in 2018–19 was a 60,000 tonne (4.8%) decrease from 1,248,000 tonnes in 2017–18. Over 89% of the interstate waste was reported by private landfills, 10% was reported by recyclers and 1% by local governments and waste handlers.

The waste coming from interstate included:

- 67,000 tonnes of municipal solid waste
- 57,000 tonnes of commercial and industrial waste
- 855,000 tonnes of construction and demolition waste
- 151,000 tonnes of contaminated soil
- 55,000 tonnes of regulated waste, and
- 2,800 tonnes of clean earth.

Compared with 2017–18, the amount of municipal solid waste increased by 25,000 tonnes (58%); the amount of commercial and industrial waste increased by 28,000 tonnes (100%); the amount of construction and demolition waste decreased by 179,000 tonnes (17%); the amount of contaminated soil increased by 50,000 tonnes (47%) and the amount of regulated waste increased by 14,000 tonnes (33%) (Figure 5.3).

Table 5.1: Other (non-headline) wastes generated in Queensland during 2018–19

Waste stream	Amount generated (tonnes)	Amount disposed of (tonnes)	Amount recovered (tonnes)	Recovery rate
Asbestos	89,994	89,994	0	0.00%
Biosolids (dry solids equivalent)	85,408	7,788	77,620	90.88%
Contaminated soil	848,465	834,373	14,092	1.66%
Potential/acid sulphate soil	82,885	17,952	64,933	78.34%
Fly ash	5,184,142	4,241,608	942,534	18.18%
Bottom/other ash	719,349	621,942	97,407	13.54%
Red mud	5,839,735	5,839,485	250	< 0.01%

Figure 5.1: Amounts of ash sent to landfill and recovered in Queensland during 2007–19 (tonnes)

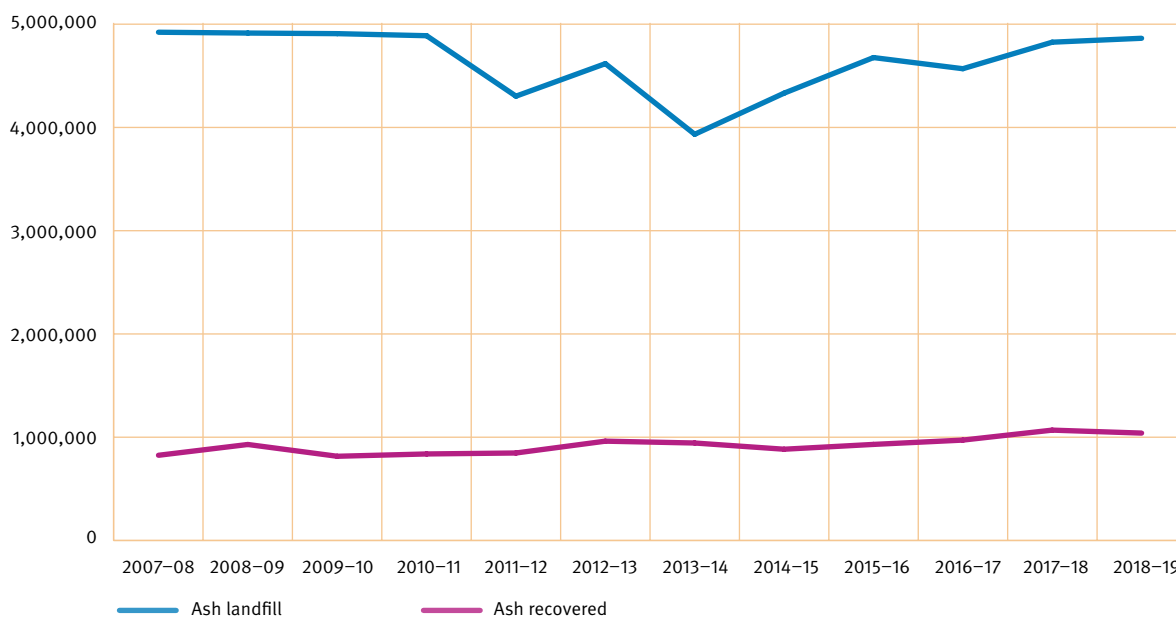
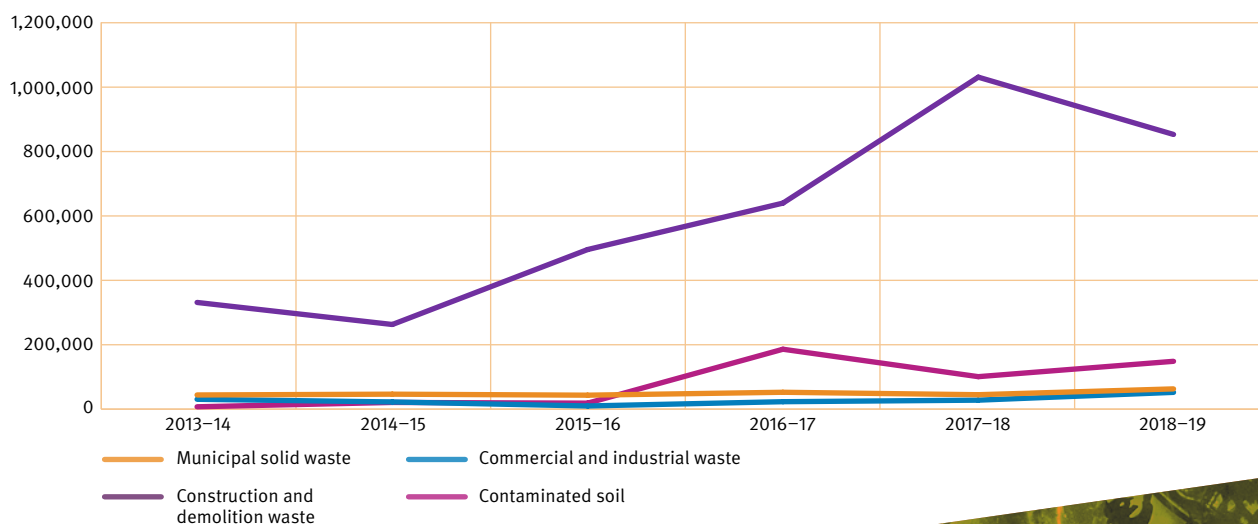


Table 5.2: Four-year trends in the amounts of materials sent overseas for recovery

Material	2016	2017	2018	2019
Paper	143,894	138,565	111,495	99,708
Cardboard	136,501	88,332	73,903	104,603
Plastics	28,916	21,322	26,814	27,030
Steel cans	6,145	3,201	2,302	2,218
Other ferrous metal	403,283	550,892	534,495	744,605
Aluminium cans	3,745	5,144	5,549	7,319
Other non-ferrous metal	57,109	77,606	75,409	77,570
Vegetable oil	2,077	5,970	4,876	5,630
Mineral oil	9,219	3,623	21,549	443
Tyres	9,853	19,713	24,500	33,880

Figure 5.3: Six-year trend in wastes received by Queensland waste operators from interstate sources



5.3 Waste management by government departments

In the course of discharging their functions, state government departments and associated entities generate a variety of wastes. For most departments, these include office wastes such as paper and packaging materials, food and other organic wastes. In addition, some departments generate motor vehicle wastes, construction and demolition wastes, and collect litter and illegally dumped waste.

In order to reduce the amount of waste generated, government departments reduce paper consumption (by reducing printing), undertake bulk ordering or use bulk containers, purchase and maintain durable products, reuse surplus/aging equipment, minimise the use of disposable products, use items before they deteriorate, and provide staff education.

In the process of diverting waste from disposal, state government bodies may provide collection points for paper and packaging materials, food organics, batteries and e-waste. They may facilitate stationery reuse, furniture and equipment reuse and recovery, mineral oil and tyre recycling and the recovery of construction and demolition wastes. They may also undertake staff education and information sharing, and include waste recovery in contract arrangements.

To support industry, state entities may source and use recycled office paper, crumb rubber materials and recycled concrete. They may purchase used/refurbished furniture and equipment, as well as furniture and durable products incorporating recycled materials (such as park benches made from recycled plastic). They can also require contractors to source and use recycled materials.

Table 5.3: Queensland Government department waste plans in place as at 23 November 2018

Department	Duration of plan	Availability
Department of Environment and Science	2018–2024	https://www.des.qld.gov.au/our-department/documents/des-waste-reduction-recycling-plan-2018-24.pdf
Department of Aboriginal and Torres Strait Islander Partnerships	2017–2020	https://www.datsip.qld.gov.au/resources/datsima/publications/corporate/waste-reduction-and-recycling-plan.pdf
Department of Agriculture and Fisheries	2018–2021	https://www.daf.qld.gov.au/__data/assets/pdf_file/0011/1272485/daf-waste-reduction-recycling-plan-2018-21.pdf
Department of Child Safety Youth and Women	2018–2021	https://www.communities.qld.gov.au/resources/dcsyw/about-us/right-to-information/waste-reduction-and-recycling-plan.pdf
Department of Communities, Disability Services and Seniors	2018–2021	https://www.communities.qld.gov.au/resources/dcdss/about-us/organisation/publications/waste-reduction-recycling-plan.pdf
Department of Education	2018–2021	https://qed.qld.gov.au/det-publications/strategiesandplans/Documents/waste-reduction-recycling-plan.pdf
Department of Health	2018–2020	https://www.health.qld.gov.au/__data/assets/pdf_file/0027/728181/waste-mgmt-plan.pdf
Department of Housing and Public Works	2017–2020	http://www.hpw.qld.gov.au/SiteCollectionDocuments/HPWWasteReductionAndRecyclingPlan2017-20.pdf
Department of Innovation, Tourism Industry Development and the Commonwealth Games	2018–2021	https://www.ditid.qld.gov.au/__data/assets/pdf_file/0010/1272916/ditid-waste-reduction-recycling-plan-2018-21.pdf
Department of Justice and Attorney-General	2017–2020	https://www.justice.qld.gov.au/__data/assets/pdf_file/0003/539022/waste-reduction-and-recycling-plan-2017-2020.pdf
Department of Local Government, Racing and Multicultural Affairs	2018–2021	http://www.dlgrma.qld.gov.au/resources/publication/strat-plan/waste-reduction-and-recycling-plan-2018-2021.pdf
Department of Natural Resources, Mines and Energy	2018–2021	https://www.dnrme.qld.gov.au/__data/assets/pdf_file/0004/1407784/waste-reduction-plan-18-21.pdf
Department of State Development, Infrastructure, Manufacturing and Planning	2019–2021	https://www.statedevelopment.qld.gov.au/resources/publication/waste-reduction-and-recycling-plan-2019-2021.pdf
Department of the Premier and Cabinet	2018–2021	https://www.premiers.qld.gov.au/publications/categories/plans/assets/waste-reduction-recycling-plan.pdf
Department of Transport and Main Roads	2016–2021	https://www.tmr.qld.gov.au/Community-and-environment/Environmental-management/Land/Waste-management
Public Safety Business Agency, Queensland Police Service, Queensland Fire and Emergency Services	Not stated	https://www.psba.qld.gov.au/publications/Documents/WasteReductionRecyclingPlan.pdf
Public Service Commission	2018–2021	https://www.qld.gov.au/__data/assets/pdf_file/0020/56360/PSC-Waste-Reduction-and-Recycling-Plan-2018-2021.pdf
Queensland Treasury	2018–2021	https://s3.treasury.qld.gov.au/files/QT-strategic-waste-management-plan-2018-2021.pdf

6. How this report was compiled

Local government and private sector waste and recycling entities are required by the *Waste Reduction and Recycling Act 2011* to report to the Department of Environment and Science (DES) by 31 August each year on the wastes they have managed during the preceding financial year.

DES collects the data using surveys administered through the Queensland Waste Data System.

DES validates the data as it is submitted, checking to ensure it is correctly formatted and comparable to amounts reported in previous years. Where potential issues are identified (e.g. data entered as kilograms rather than tonnes), DES contacts the respondent, and if warranted, amends the data in the system.

When the validation process has been completed, the data is compiled for analysis. Wastes are counted at the final point of disposal or recovery in the reporting chain (to avoid double-counting of wastes that are transferred between respondents).

Wastes sent to disposal are aggregated for source stream (municipal solid waste, commercial and industrial waste, construction and demolition waste) and waste type (such as clean earth, contaminated soil, acid sulfate soil, asbestos, ash, red mud, other regulated waste).

Wastes sent for recovery are aggregated by material type (such as asphalt, concrete, paper, packaging glass, non-packaging plastics, ferrous metal, green waste, mineral oil, or tyres).

Recovered materials are assigned to source streams for the purpose of calculating recovery rates:

- Green waste, paper and packaging materials, and scrap metal collected by local government from households are deemed to be municipal solid waste, as are items sold via council tip shops and domestic waste recovered by alternative waste treatment.
- Concrete, asphalt, plasterboard, bricks and tiles, as well as building-related ferrous metal, non-ferrous non-packaging metal, timber, non-packaging glass and non-packaging plastic are deemed to be construction and demolition waste.
- Food waste, cotton gin trash, tyres, other rubber, drilling mud, the remaining paper and packaging materials, green waste, timber, non-packaging plastic, and non-packaging glass are deemed to be commercial and industrial waste.

The regions used in this report are broadly aligned with the Australian Bureau of Statistics SA4⁵ regions. However, because local government areas are the fundamental building blocks for the reporting regions, this report uses local government boundaries for its regions rather than the ABS framework (where the SA4 boundaries cut through local government areas). As a result, Toowoomba Regional Council is included in the Darling Downs–Maranoa region; and Mareeba Shire Council is included in the Cairns region.

The other difference to the ABS regions is that this report uses a combined South East Queensland region. This combines elements of 12 ABS SA4 regions and largely matches the area covered by the Council of Mayors, South East Queensland (excluding Toowoomba).

5. Australian Bureau of Statistics Australian Statistical Geography Standard [https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+\(ASGS\)](https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+(ASGS))

Glossary

Alternative waste treatment includes a range of processes that convert unsorted waste streams into useful products such as compost, fuel or biogas that would otherwise be sent to landfill.

Ash is a residue resulting from the combustion of coal and other materials. It contains silica and lime, and can be used in concrete production, organic processing and waste fixation, etc. Fly ash is collected from exhaust gases while bottom ash is collected from the bottom of boilers, etc.

Biosolids are organic solids derived from biological waste water treatment processes that are in a state where they can be used as nutrients and soil conditioning agents; as a source of energy or for some other use. Sewage treatment plants are the main source of biosolids in Queensland.

Clean earth is sand, soil, loam, clay, gravel, rock or any other natural substance found in the earth that is not contaminated by waste or hazardous materials.

Commercial and industrial waste (C&I) is produced by business and commerce, and includes waste from schools, restaurants, offices, retail and wholesale businesses, and manufacturing industries. In this report, it includes green waste arising from commercial activities and is a *headline waste stream*.

Construction and demolition waste (C&D) is non-putrescible waste arising from construction or demolition activity. It may include materials such as concrete, asphalt, bricks, treated timber and steel. It is a *headline waste stream*.

Cotton gin trash is a waste by-product created in the cotton ginning process.

Disposal is the process of getting rid of wastes by landfilling or incineration without energy recovery and is the least acceptable option under the waste management and resource recovery hierarchy.

Domestic waste or household waste is waste resulting from the ordinary domestic use or occupation of a house, flat, apartment, unit, boarding house, hostel or guesthouse. It does not include waste discharged to a sewer. Domestic waste includes the material that householders place in their kerbside red, yellow and green bins, the waste they self haul to landfills and transfer stations, and council bulky item collections.

Drilling mud is a viscous fluid mixture used by the drilling industry to protect drill bits and to transport rock cuttings to the surface.

E-waste comprises waste electrical and electronic products, such as end-of-life computers, televisions, and kitchen appliances, etc.

Energy recovery involves the conversion of waste materials into usable heat, electricity or fuel through processes such as combustion, gasification, pyrolysis and anaerobic digestion.

Green waste includes grass clippings, tree, bush and shrub trimmings, branches and other similar material resulting from domestic or commercial gardening, landscaping or maintenance activities. For the purposes of this report, the green waste data referred to relates to separated material delivered directly to local government facilities and organic processors, and does not include garden waste mixed with other materials in household red lid waste bins.

Headline or general waste streams (municipal solid waste, commercial and industrial waste, and construction and demolition waste) are wastes generated from everyday household and business activities. These wastes form the basis of state and federal waste targets and reporting. This category does not include hazardous or regulated wastes.

Illegal dumping is the unlawful disposal of large volumes (greater than 200 litres) of waste.

Litter is made up of scattered items of rubbish (less than 200 litres), such as cigarette butts, discarded food wrappers and beverage containers.

Monofills are landfills or long-term storage facilities that receive only one type of solid waste (such as tyres, sewage sludge or fly ash) or receive waste from a single source (such as a power station, refinery or mining operation).

Municipal solid waste (MSW) is a combination of domestic waste and other wastes arising from council activities (such as the management of parks and gardens, and the collection of litter and illegally dumped waste). It is a *headline waste stream*.

Organic processing involves the recovery of putrescible wastes through activities such as anaerobic digestion, mulching, composting or vermiculture.

Packaging material includes paper, cardboard, glass containers, plastic containers, aluminium containers and steel containers.

Putrescible means solid waste which contains organic matter capable of being decomposed micro-organisms.

Recycling is the process of extracting materials found in waste and converting them into useful products. For example, concrete may be extracted from the construction and demolition waste stream and converted into recycled aggregate suitable for use in road base as a virgin material substitute.

Recycling residuals are the left-over materials from recovery and recycling processes that are sent for disposal.

Recovered material is waste that has been diverted from landfill. It includes material that has been recycled, reprocessed or stockpiled for future use.

Recovery rate is the proportion of a waste stream that is recovered.

Red mud is a caustic residual from the refining of bauxite into alumina.

Regulated waste includes hazardous wastes listed in Schedule 7 of the Environmental Protection Regulation 2008. This category includes asbestos, pesticides, a range of waste chemicals and chemical compounds, and other industrial wastes.

Reprocessing is the activity of using recovered materials from a waste stream as a substitute for raw material inputs. For example, end-of-life tyres may be used as a fuel feedstock to replace a fossil fuel.

Tip shops are sales outlets at waste facilities (such as local government transfer stations) for items that have been salvaged prior to landfill.

Appendix 1: Local government waste services in 2018–19

Council	Population at 30 June 2018	Number of red-lid bin services	Number of yellow-lid bin services	Number of public place recycling bins	Number of non-residential recycling services	Number of green bin services	Number of tip shops	Waste plan published on web
South East Queensland Region		3,479,852						
Brisbane City Council	1,231,605	478,995	478,995	926	1,243	97,033	2	Related doc
Gold Coast City Council	606,774	240,410	185,271	116	3,012	30,841	2	yes
Ipswich City Council	213,638	78,075	78,075	26	471	17,709	0	yes
Lockyer Valley Regional Council	41,011	15,171	15,171	8	586	0	8	yes
Logan City Council	326,615	114,501	112,238	45	585	0	1	yes
Moreton Bay Regional Council	459,585	162,381	162,381	247	5,351	0	2	yes
Noosa Shire Council	55,369	31,109	25,875	130	90	15,577	1	yes
Redland City Council	156,863	61,204	61,204	105	2,185	13,874	1	yes
Scenic Rim Regional Council	42,583	13,971	13,971	229	417	0	0	yes
Somerset Regional Council	25,887	9,213	1,806	7	37	0	4	yes
Sunshine Coast Regional Council	319,922	128,379	124,052	262	4,763	32,003	4	yes
Darling Downs Maranoa Region		253,112						
Balonne Shire Council	4,334	2,110	2,110	10	100	54	0	yes
Goondiwindi Regional Council	10,728	3,460	3,193	1	737	0	1	yes
Maranoa Regional Council	325	3,839	0	0	0	0	1	yes
Southern Downs Regional Council	35,601	11,972	11,942	160	14	0	11	yes
Toowoomba Regional Council	167,657	60,331	60,331	429	1,652	27,581	7	yes
Western Downs Regional Council	34,467	10,659	10,659	40	1,147	0	3	no
Wide Bay Burnett Region		296,849						
Bundaberg Regional Council	95,302	40,103	40,103	52	3,378	0	10	yes
Cherbourg Aboriginal Shire Council	1,315	290	290	4	12	0	0	no
Fraser Coast Regional Council	105,463	43,945	43,554	68	4,401	0	2	yes
Gympie Regional Council	51,586	22,207	22,207	37	813	0	6	yes
North Burnett Regional Council	10,628	3,176	0	12	0	0	4	no
South Burnett Regional Council	32,555	14,889	0	0	0	0	1	yes

Council	Population at 30 June 2018	Number of red-lid bin services	Number of yellow-lid bin services	Number of public place recycling bins	Number of non-residential recycling services	Number of green bin services	Number of tip shops	Waste plan published on web
Fitzroy Region 225,625								
Banana Shire Council	14,291	4,694	0	2	33	0	1	yes
Central Highlands Regional Council	28,645	9,760	9,738	10	410	0	1	yes
Gladstone Regional Council	62,979	25,253	25,253	254	1,489	0	2	no
Livingstone Shire Council	37,638	13,959	12,657	50	440	0	1	yes
Rockhampton Regional Council	81,067	32,203	32,203	67	1,714	0	3	yes
Woorabinda Aboriginal Shire Council	1,005	360	0	0	0	0	0	no
Mackay Region 172,523								
Isaac Regional Council	20,934	7,904	7,904	35	716	0	9	yes
Mackay Regional Council	116,539	47,680	47,680	105	876	0	1	yes
Whitsunday Regional Council	35,050	14,403	11,037	26	0	0	0	yes
Townsville Region 236,441								
Burdekin Shire Council	17,077	7,571	7,571	69	508	5,294	3	yes
Charters Towers Regional Council	11,850	4,063	0	0	0	0	0	yes
Hinchinbrook Shire Council	10,805	5,587	5,587	34	0	0	1	yes
Palm Island Aboriginal Shire Council	2,637	506	0	0	0	0		no
Townsville City Council	194,072	80,004	78,328	134	688	0	2	yes
Cairns Region 248,651								
Cairns Regional Council	165,525	72,401	63,968	55	109	0	1	yes
Cassowary Coast Regional Council	29,689	13,070	0	0	0	0	2	yes
Douglas Shire Council	12,257	7,402	7,402	23	543	0	3	yes
Mareeba Shire Council	12,791	6,842	0	0	0	0	0	yes
Tablelands Regional Council	25,541	12,500	12,500	8	393	0	0	no
Yarrabah Aboriginal Shire Council	2,848	468	0	0	0	0	0	no

Council	Population at 30 June 2018	Number of red-lid bin services	Number of yellow-lid bin services	Number of public place recycling bins	Number of non-residential recycling services	Number of green bin services	Number of tip shops	Waste plan published on web
Remote Queensland Region		98,163						
Aurukun Shire Council	1,382	350	0	0	0	0	0	no
Barcaldine Regional Council	2,852	1,266	0	0	0	0	0	no
Barcoo Shire Council	267	133	0	0	0	0	0	no
Blackall - Tambo Regional Council	1,863	638	0	0	0	0	0	no
Boulia Shire Council	425	151	0	8	0	0		yes
Bulloo Shire Council	330	100	0	0	0	0	0	yes
Burke Shire Council	352	120	0	0		0		yes
Carpentaria Shire Council	1,974	769	0	0	0	0	0	no
Cloncurry Shire Council	3,091	1,065	0	0	0	0	0	no
Cook Shire Council	4,445	1,266	0	10	0	0	1	yes
Croydon Shire Council	288	85	0	0	0	0	0	no
Diamantina Shire Council	292	122	0	0	0	0	2	no
Doomadgee Aboriginal Shire Council	1,507	288	0	1	0	0	0	no
Etheridge Shire Council	804	137	0	0	0	0	0	no
Flinders Shire Council	1,499	534	0	0	0	0		yes
Hope Vale Aboriginal Shire Council	1,081	293	0	0	0	0	0	no
Kowanyama Aboriginal Shire Council	977	280	0	0	0	0	0	no
Lockhart River Aboriginal Shire Council	782	144	0	0	11	0	0	no
Longreach Regional Council	3,530	1,400	0	0	0	0	0	no
Mapoon Aboriginal Shire Council	814	103	0	0	0	0	0	no
McKinlay Shire Council	22,517	287	0	0	0	0	0	no
Mornington Shire Council	1,218	350	0	0	0	0	0	no
Mount Isa City Council	18,878	6,242						yes

Council	Population at 30 June 2018	Number of red-lid bin services	Number of yellow-lid bin services	Number of public place recycling bins	Number of non-residential recycling services	Number of green bin services	Number of tip shops	Waste plan published on web
Murweh Shire Council	4,318	2,086	0	1	0	0	0	no
Napranum Aboriginal Shire Council	1,048	300	0	11	0	0	0	no
Northern Peninsula Area Regional Council	3,069	1,000	0	0	0	0	0	no
Paroo Shire Council	1,586	526	0	0	0	0	0	no
Pormpuraaw Aboriginal Shire Council	833	225	0	1	1	0	0	no
Quilpie Shire Council	790	386	0	0	0	0	0	no
Richmond Shire Council	806	315	0	0	0	0	0	yes
Torres Shire Council	3,848	1,119	0	0	0	0	0	no
Torres Strait Island Regional Council	4,994	1,199	0	0	0	0	0	no
Weipa	4,240							
Winton Shire Council	1,157	435	0	0	0	0	0	yes
Wujal Wujal Aboriginal Shire Council	306	106	0	0	0	0	0	no

* ABS 3218.0 Regional Population Growth, Australia (27 March 2019), Table 3. Estimated Resident Population, Local Government Areas, Queensland.