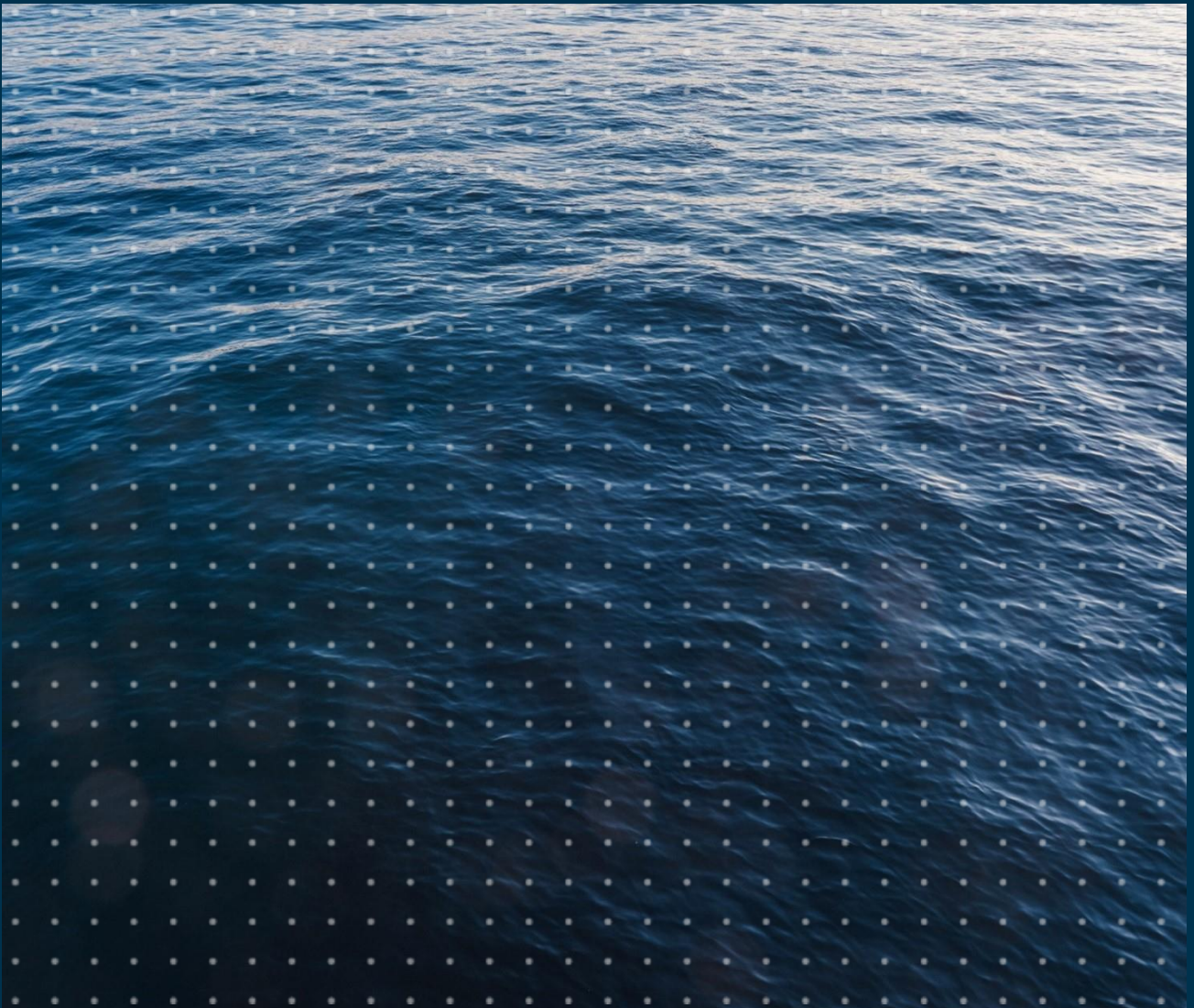




Environment Protection Authority

NSW Local Government Waste and Resource Recovery Data Report 2022-23

As reported by NSW councils



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About this report

This section covers how data has been treated and presented as well as data limitations.

Councils' provision of data

The Waste and Resource Recovery survey (WaRR) is an annual data collection tool for NSW councils to enter their waste and recycling services information. For the 2022-23 reporting year, 126 NSW councils entered data into the online survey and two councils advised the EPA to use previous year's figures for the survey. Therefore, this report considers data from 2022-23 (126 councils) and 2021-22 (2 councils) resulting in reporting data from 128 NSW councils.

All council data provided in the survey is voluntary and has been treated at face value. The EPA has compiled this report in good faith, exercising all due care and attention. The EPA has not independently verified any of the data provided by councils.

In some cases, councils did not provide an answer to some questions, even though an activity was happening in their area, so a council's *no answer* has been registered as a *nil count*. This may have happened as: a council did not measure or calculate individual or all metrics within the 2022-23 period; a contractor performed a service and did not collect metrics or metrics were unavailable to a council from a contractor; or a council used a different metric than the EPA to measure an aspect of waste.

For these reasons the detailed data, averages and totals in this report are based on participating council responses for each question, including the two councils using 2021-22 data and must be treated as estimates only.

Data cleaning

The figures in this report are based on the responses of councils that participated in the 2022-23 round of the WaRR survey or the previous round in 2021-22. No data sources external to the WaRR data report survey have been included in the report, except for specific data provided by the NSW container deposit scheme for eligible containers returned in each local government area (LGA) via the network of collection points.

Data cleaning involved comparing the 2022-23 data with the 2021-22 data to identify large differences and missing data. Obvious typographical errors were corrected using common sense, for example, where 21,000 was entered but 2,100 was the previous year's entry, the previous year's entry was taken as true. Where there were data discrepancies without an obvious reason, councils were approached to clarify the information. Of 42 councils that were approached, 36 provided updates for one or more identified issues. Some councils identified extra data issues.

Levy areas

The former extended regional area and Sydney metropolitan area are now collectively known as the metropolitan levy area as set out in the NSW *Protection of the Environment Operations (Waste) Regulation 2014*.

This report has been updated to reflect the current levied areas. To achieve this, the average of the extended regional area and Sydney metropolitan area values have been used to estimate metropolitan levy area values before 2022-23. For example, if the recycling rate for extended regional area was 52% and the rate for the Sydney metropolitan area was 48%, the metropolitan levy area rate has been estimated at 50%. This only applies to metropolitan levy area values before 2022-23 and values for the current reference period have been calculated based on the current levied areas.

Historical comparisons

Data is self-reported by councils. While the EPA makes a time series available, any comparisons over time should be made with caution. In line with the current period, figures from previous years should also be treated as estimates and users of the data should take steps to validate as necessary for their purpose.

Data rounding

Numbers within this report have been rounded to the nearest whole number, simply because using decimals implies a degree of measurement accuracy that does not exist with the data on which the report is based. Because data is rounded to whole numbers, monthly and yearly totals in tables may not match. Also, the sum of individual cells within tables may not match table column or table row totals.

Household averages

The household averages are based on the number of serviced households within a local government area. The per person averages are based on the total populations in local government areas with kerbside recycling.

Other council waste

Unless specifically mentioned, totals reported do not include *other* types of council waste. Some councils indicated that *other* types of council waste included items such as commercial waste, council parks and gardens and gutter waste.

Calculation of container deposit scheme figures

Container deposit scheme figures in this report are derived from data provided by the scheme network operator for each LGA and type of material, using a conversion factor for the number of containers per tonne. The method used to convert the number of containers redeemed is updated every six months. For the current method or that used in 2022-23 refer to <https://www.exchange4change.com.au/who-we-are/publications-and-reports.html>

The EPA's reported figure for the container deposit scheme includes containers collected from the Return and Earn network of reverse vending machines, reverse vending centres, automated depots, over the counter sites and donation stations. Container deposit scheme eligible containers processed by materials recovery facilities on behalf of Return and Earn are included in "Kerbside Dry Recyclables" under section 3.1 of this report.

This reporting method differs from the *Return and Earn Annual Report*, where the total tonnage for Return and Earn includes both container deposit scheme network volumes and eligible containers processed by materials recovery facilities on behalf of Return and Earn.

Calculation of recycling rate

The recycling rates provided within this report are estimates calculated by the EPA based on data provided by councils for domestic waste only. It is not reflective of commercial activity within a local government area. It is not directly comparable to other rates including NSW waste performance data or national waste reporting as the data sources differ.

Dry recycling contamination data

In previous years, the EPA produced a contamination factor for dry recycling using data from voluntary audits conducted by councils. This contamination factor was applied to the recycling figures in the data cleaning stage to account for non-recyclables collected in the council recycling stream. The contamination factor was not included in the published reports, but the tonnes

reported as recycled were adjusted for contamination before publication. For 2022-23, a contamination factor has not been applied to the tonnes reported as recycled. This decision was made because there were challenges in ensuring continuity and consistency in the voluntary council audits, which are outside the scope of the EPA. The variability of these audits has made it difficult to maintain a reliable contamination factor. Because of this, the recycling figures in this report do not include contamination.

Alternative waste treatment

This report presents data collected from councils on tonnes of residual waste being sent to and processed at alternative waste treatment facilities. In this report, the difference between residual waste sent to these facilities and the amount of residual waste reported as disposed from the facility will be described as recovered.

There is a perception that the Mixed Waste Organic Output (MWOO) from alternative waste treatment facilities is recovered. However, mixed waste organic output from alternative waste treatment facilities is primarily disposed of in landfill or used as daily cover on landfill. Any waste material such as MWOO that is disposed of in landfill or used as daily cover is not considered by the EPA to have been recovered.

Recovery calculated from alternative waste treatment facility tonnes has been included in both the 2022-23 WaRR report and the accompanying dataset (Appendix 3). However, to better align with the above position, future reports will not consider waste being sent to alternative waste treatment facilities in the recovery calculations. Waste collected in the kerbside red residual bin will be considered disposed of in landfill.

This change will carry forward until new information is presented on this matter.

Appendices

Appendix 1 includes a full glossary of terms.

Appendix 2 includes tables showing numeric detail for figures within the report.

Appendix 3 includes directions to an Excel workbook used to generate tables and figures within the report.

1. Overview

1.1. A snapshot of local and State-wide waste management

The NSW Local Government Waste and Resource Recovery (WaRR) Data Report 2022–23 is based on voluntary annual survey responses from 128 NSW councils.

This report captures data about domestic waste generation and recycling at the municipal level within NSW and complements other data resources to provide insight into waste and recycling by local government area and to inform strategies and decisions made by government, regional organisations, and industry.

The EPA has compiled this report in good faith, exercising all due care and attention. No representation is made about the accuracy, completeness, or suitability of the information in this publication for any particular purpose. The EPA shall not be liable for any damage which may happen to any person or organisation taking action or not on the basis of this publication. Readers should seek appropriate advice when applying the information to their specific needs.

It is worth noting that the WaRR dataset is different to the data used in the Waste and Resource Reporting Portal (WARRP) and is not comparable with any NSW data captured in the national waste reports.

1.2. Part of a larger environmental program

This data builds on the success of *Waste Less, Recycle More Strategy (2014-2021)* and supports the *NSW Waste and Sustainable Materials Strategy 2041 (WaSM Strategy)* released in June 2021.

The WaSM Strategy aims to change how the NSW economy produces, consumes, and recycles products and materials, and sets out a vision for transitioning to a circular economy over the next 20 years.

The *WaSM Strategy – Stage 1: 2021-2027* includes the following targets and priorities for waste:

- reduce total waste generated by 10% per person by 2030
- have an 80% average recovery rate from all waste streams by 2030
- halve the amount of organic waste sent to landfill by 2030
- net zero emissions from organic waste by 2030
- litter reduction target of 60% by 2030
- plastic litter reduction target of 30% by 2025
- triple the plastics recycling rate by 2030
- phase out problematic and unnecessary plastics by 2025
- significantly increase the use of recycled content by governments and industry
- reduce illegal dumping

The *WaSM Strategy – Stage 1: 2021-2027* is backed by \$356 million in funding over five years to deliver priority programs and policy reforms. The EPA *Waste Delivery Plan* outlines how the EPA will work with our partners to deliver on our strategic waste priorities outlined in the WaSM Strategy.

1.3. Waste collection and diversion from landfill

To meet WaSM Strategy targets, councils are encouraged to reduce waste collection and increase diversion from landfill. Results for each council that participated in the 2022-23 year of EPA data collection are in the download available through Appendix 3 of this report.

Waste collected by NSW councils in 2022–23

Based on the 2022-23 survey responses, councils collected 3,856,231 tonnes of domestic waste from NSW households, comprising:

- 2,218,228 tonnes of residual waste
- 794,382 tonnes of recycling (including 127,749 tonnes reported from the container deposit scheme).
- 843,622 tonnes of organic waste.

The domestic waste that councils collect is defined as material collected through kerbside bins, clean up and resident drop-off services and includes material from the container deposit scheme. For the 2022-23 WARR Data Report, contamination of recyclables is not included in the calculations.

The 2022-23 total domestic tonnes collected is a decline of 6% from 2021-22 when it was reported as 4,092,006 tonnes.

Amounts collected from kerbside

NSW councils offer various combinations of kerbside collection services for residual waste, recycling, garden organics (GO) and food organics and garden organics (FOGO). Not all councils offer all collection services and not all councils answered all relevant questions. For those areas that have these services, the average household presents the following waste streams for kerbside collection on a weekly basis:

- 11 kg/hh/wk of residual waste
- 4 kg/hh/wk of dry recyclables
- 6 kg/hh/wk of garden organics
- 7 kg/hh/wk of food and garden organics.

Figure 1 shows the NSW average kerbside collection of domestic waste as reported by the 126 councils. The average domestic waste collected is 28 kg per household per week.

Figure 1 2022-23 weekly collection from domestic services by levy area (kg/hh/week)

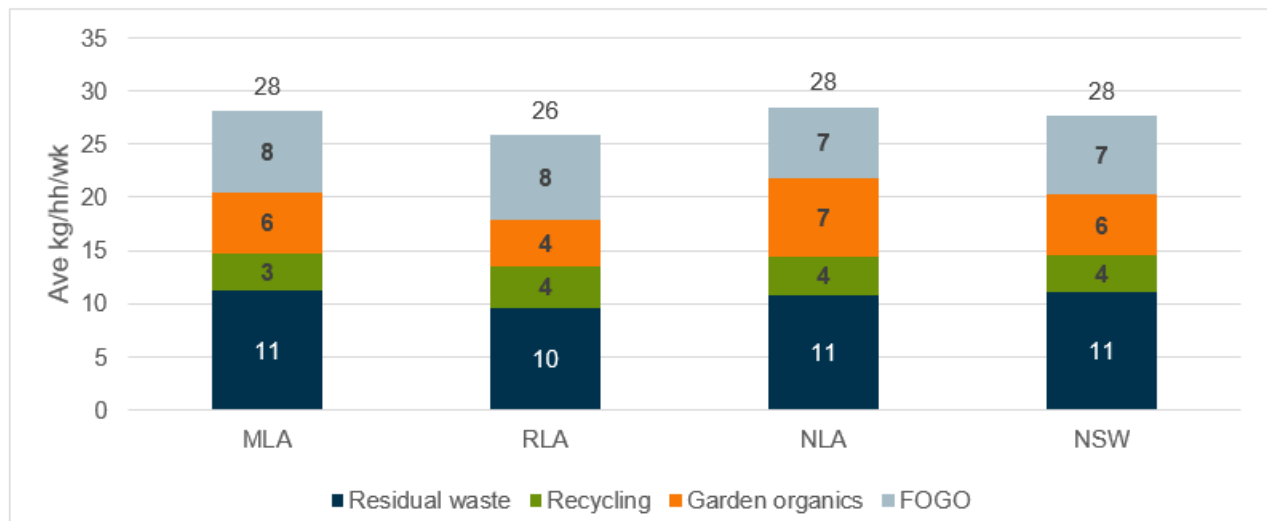
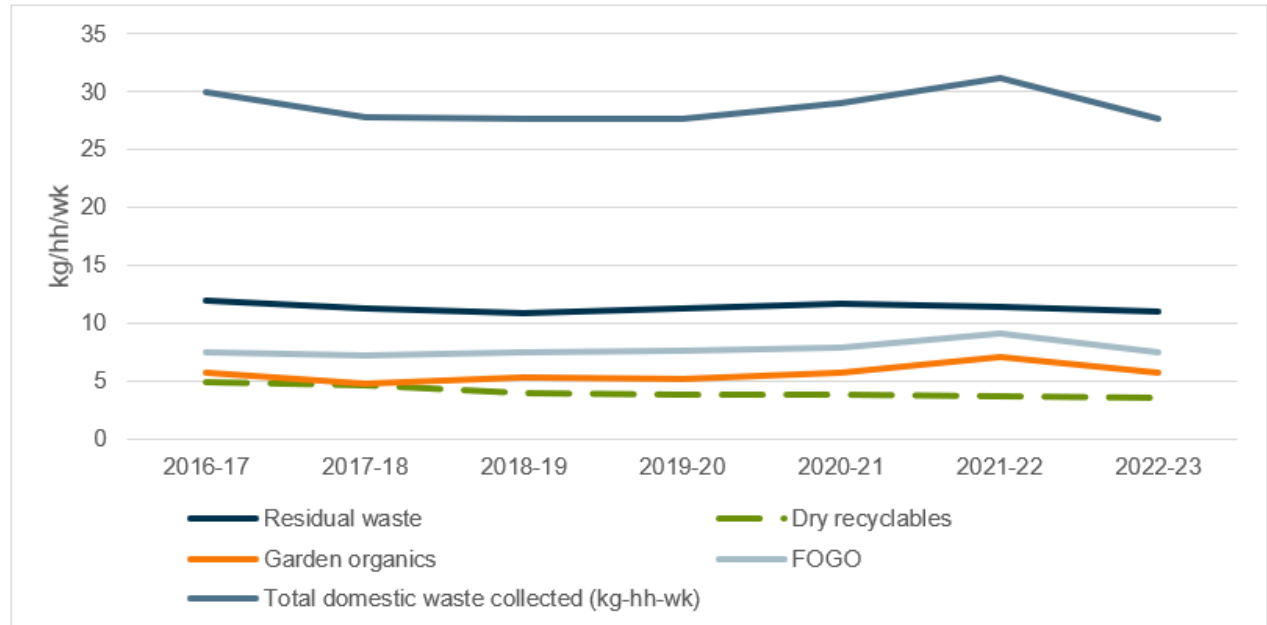


Figure 2 shows the total average household waste collected weekly (kg/hh/wk) from 2016-17 to 2022-23. It indicates that the total average household waste has declined slightly since 2021-22, mostly in terms of GO and FOGO. Averages for residual waste and dry recyclables have remained stable. It is important to note that not all households access all of these collection services.

Figure 2 NSW average household waste collected weekly from households with kerbside bin service by type of waste and financial year (kg/hh/wk)



Note: Tabular data is shown in Appendix 2, Table 16.

Total waste types from all council services

Table 1 shows the totals for domestic waste, recyclables and organics reported from all council services. The figures for waste collected per household and per capita per week are based on total

households and population regardless of service¹. Waste collected figures are calculated by taking the total waste figures and dividing them by the total population and total number of households.

Table 1 Total domestic waste collected by councils in NSW, 2022–23

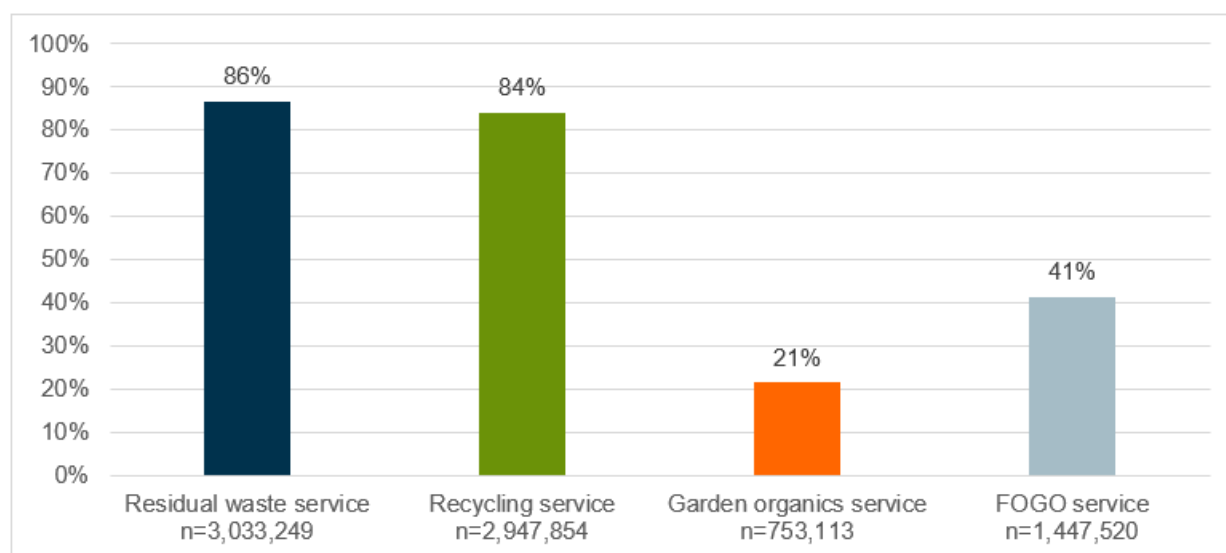
Waste type	Collected (tonnes)	Recovered (tonnes)	Disposed (tonnes)	Recycling rate (% of collected)	Total collected (kg/hh/wk)	Total collected (kg/pp/wk)
Residual waste	2,218,228	277,706	1,940,522	13%	12	5
Recyclables	794,382	738,702	55,680	93%	4	2
Organics	843,622	816,547	27,075	97%	5	2
Total	3,856,231	1,832,955	2,023,276	48%	20	9

Note: Due to rounding, the total is not the same as the sum of the component figures. Kg/hh/wk. (kilograms per household per week) and kg/pp/wk. (kilograms per person per week) are based on total households and total population, regardless of which services are available to them.

Provision of kerbside household waste services

Based on the survey results, 86% of councils indicated that they provided a residual waste service to households and a similar proportion (84%) provided a household recycling service. A total of 21% indicated that they provided a garden organics only service while 41% indicated that they provided a FOGO service.² Refer to Figure 3 below.

Figure 3 Provision of council kerbside household services in NSW



Note: Percentage based on total number of households in NSW, n= 3,512,643

¹ Population and household data was sourced from ABS Regional population data, 2022-23, 3218.0

² Proportions are based on council supplied data, not all councils answered all questions related to kerbside waste collection.

Some households, particularly those in multi-unit dwellings, are serviced by private contractors. Councils are unable to provide data on the amount of waste collected for those households. The number of households affected and reported on may vary from year to year.

1.4. Resource recovery

In 2022–23 around 1,832,955 tonnes of material was recovered from domestic kerbside, clean-up and drop-off services. The composition of material recovered, and totals, comprised:

- 738,702 tonnes of dry recyclables, including the container deposit scheme
- 816,547 tonnes of organics
- 277,706 tonnes of material recovered from residual waste.

Dry recyclables

The EPA has determined that 127,749 tonnes were collected and recycled through the container deposit scheme in 2022–23. Note that the scheme began in December 2017.

Organics collected

In 2022-23 councils collected 716,515 tonnes of kerbside organics, comprising garden organics and FOGO. The 2022-23 total was 93,615 tonnes, down 12% from the 2021–22 total of 810,131 tonnes.

- The total kerbside organics collected was 716,515 tonnes, a decrease of 93,615 tonnes from 2021-22. In 2022-23 this consisted of 426,415 tonnes of garden organics only and 290,100 tonnes of food and garden organics collected.
- Organics were also sourced from drop-off (113,707 tonnes), clean-up collections (13,400 tonnes) and other council organics e.g., parks, gardens, gutters, etc. (43,760 tonnes).

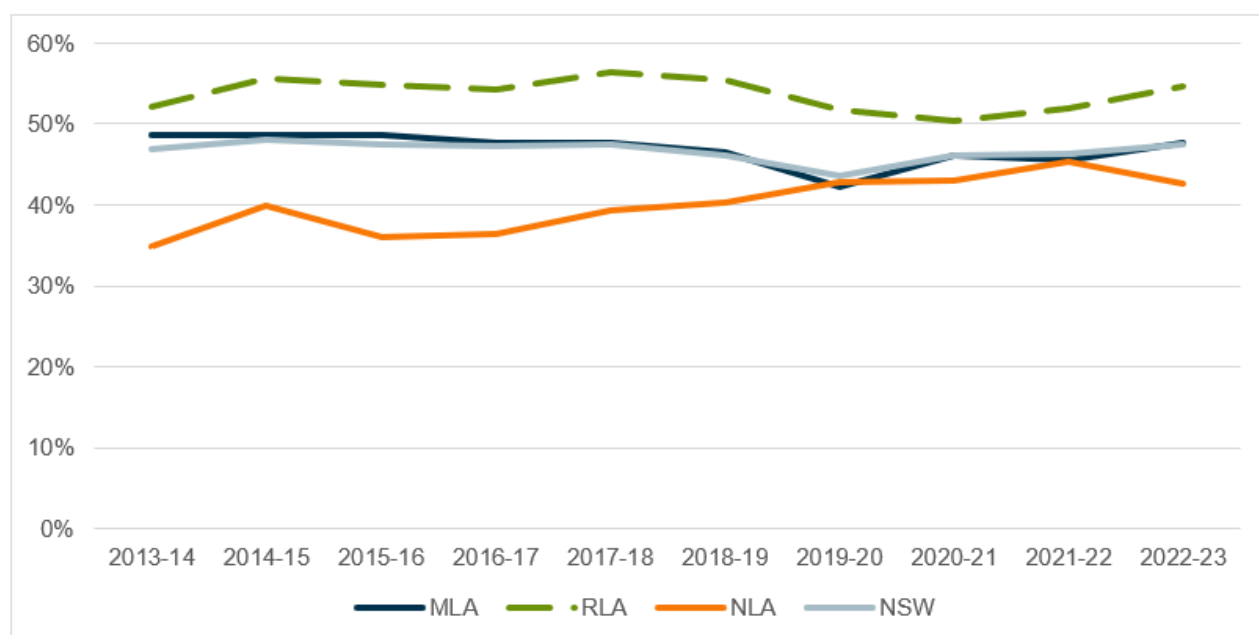
Table 2 Organics tonnes collected by method in NSW, 2022-23

Amount	Tonnes collected in 2022-23
Kerbside collected garden organics	426,415
Kerbside collected food and garden organics	290,100
Drop-off collected organics	113,707
Clean up service collected organics	13,400
Other council organics	43,760
Total organics collected in NSW	887,382

Total overall resource recovery

Figure 4 shows the overall recycling rate by area over the last 10 years. In 2022-23, the NSW recycling rate for domestic waste of 48% shows an increase of 2% since 2021-22 noting that Metropolitan levy area and regional levy area rates have increased since the previous year while the Rest of the State area has decreased slightly. Note that contamination data has not been included the 2022-23 calculations.

Figure 4 Total domestic recycling rate by levy area, 2014–23



Note: Tabular data appears in Appendix 2, Table 17.

Table 3 NSW domestic recycling rate as reported by councils, 2005–23 (as shown in Figure 4)

Year	Recycling rate	% change from previous year
2005-06	38%	-
2006-07	41%	3%
2007-08	43%	2%
2008-09	44%	1%
2009-10	45%	1%
2010-11	47%	1%
2011-12	47%	1%
2012-13	47%	-1%
2013-14	47%	0%
2014-15	48%	1%
2015-16	48%	-1%
2016-17	47%	0%
2017-18	47%	0%
2018-19	47%	0%
2019-20	44%	-3%
2020-21	46%	2%
2021-22	46%	0%
2022-23	48%	2%
Change from 2005-06 to 2022-23		10%

2. Total domestic waste

2.1. Domestic waste collected and recycled

In 2022–23, NSW councils collected 3,856,231 tonnes of domestic waste. This is a decrease of 6% (235,775 tonnes) from the previous year. Total domestic waste includes all recyclables, organics and residual waste from household kerbside services and drop-off facilities.

Previous years also included the tonnages of residual waste calculated as contamination in the recycling stream. Note contamination of recyclables is not included in the WaRR 2022-23 (refer to About this Report section for more detail).

From the 3,856,231 tonnes of domestic waste collected in 2022-23, 2,023,276 tonnes of waste were disposed of in landfill. This was a decrease of 8% from 2021–22. A total of 1,832,955 tonnes was recycled, which was consistent with tonnages recycled in 2021–22. The total domestic tonnes collected and recycled includes 127,749 tonnes of containers collected through the container deposit scheme.

In summary, for the year 2022–23, councils reported that NSW residents recycled 48% of domestic waste (1,832,955 tonnes of 3,856,231 tonnes). A breakdown of the recycling total is illustrated in Table 4 below.

Table 4 Composition of waste recycled by NSW councils in 2022-23 (tonnes)

Recyclable composition	NSW 2022-23 (tonnes)
Kerbside recycling	488,038
Container deposit scheme recycling	127,749
Kerbside garden organics	413,754
Kerbside FOGO	281,242
Alternative waste treatment	206,885
Clean-up services (includes residual waste, garden organics, FOGO)	62,255
Drop-off facilities	253,032
TOTAL	1,832,955

Note: Contamination of recyclables is not included in the calculations for 2022-23

Table 6 shows the NSW weight in tonnes of waste composition by collection method for 2022-23.

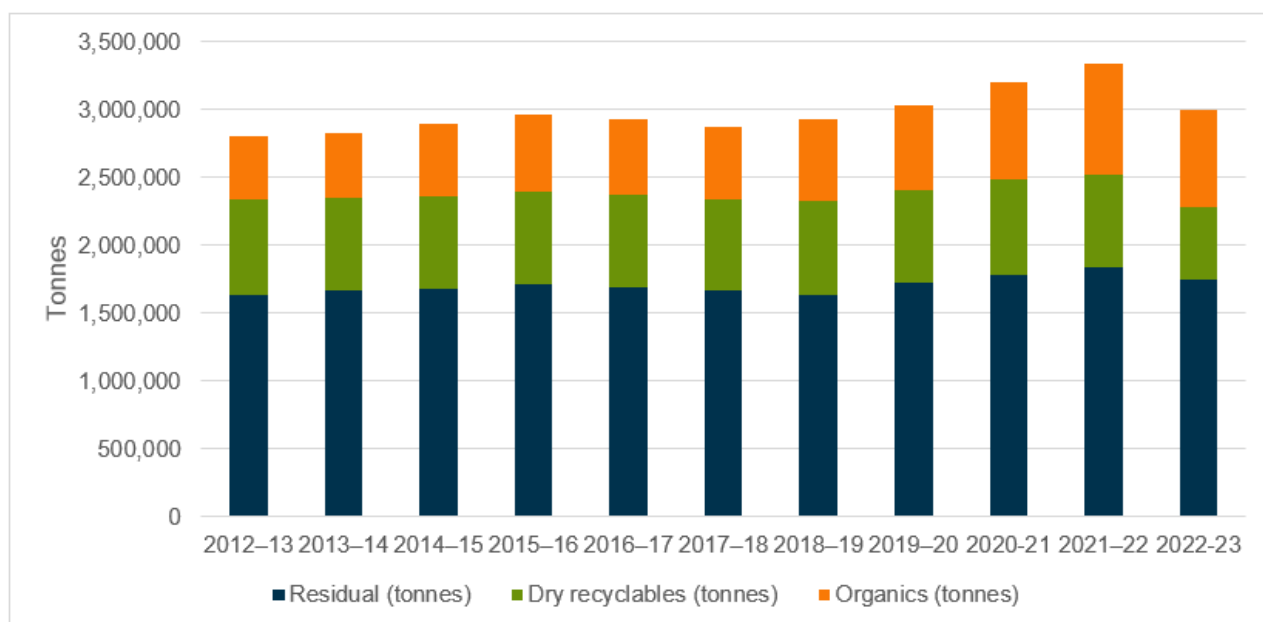
Table 5 Waste collection through all domestic services (kerbside pickup, drop-off, container deposit scheme, and clean-up) in 2022-23

Waste composition	Kerbside collection (tonnes)	Drop off collection (tonnes)	Container deposit scheme containers (tonnes)	Clean up collection (tonnes)	Total collection (tonnes)
Residual waste	1,740,950	301,500	-	175,778	2,218,228
Recyclables	538,761	108,658	127,749	19,213	794,382
Organics*	716,515	113,707	-	13,400	843,622
Total	2,996,226	523,865	127,749	208,391	3,856,231

**Organics refers to garden organics and FOGO combined*

Figure 5 shows that the total amount of domestic waste collected at kerbside between 2012 and 2023 has varied slightly. Since 2021-2022 there has been a slight decline in total kerbside tonnes collected across all types of waste.

Figure 5 Total waste collected at the kerbside by type 2012–23



Note: Residual waste. Dry recyclables includes container deposit scheme tonnes. Organics refers to garden organics and FOGO combined. Tabular data is presented in Appendix 2, Table 18.

3. Recycling

3.1. Dry recyclables collected

Dry recyclables formed 22% of total domestic waste in 2022–23. A total of 794,382 tonnes of recyclables was collected, comprising 538,761 tonnes from kerbside services, 19,213 tonnes from clean-ups, 108,658 tonnes from drop-offs and 127,749 tonnes of containers under the container deposit scheme.

Recyclables are collected from four sources:

- Kerbside collections accept mixed household recyclables including paper, newspaper, magazines, cardboard, plastic containers and bottles, steel and aluminium cans, and glass bottles.
- Eligible containers that are collected separately through the container deposit scheme.
- Drop-off facilities allow residents to bring in recyclables including paper, glass, plastic, mattresses, metals, electronic waste (e-waste), batteries, globes, cartridges, and some hazardous materials.
- Clean-up services collect large metals, recyclables, organics, and bulky goods.

Table 66 shows the levy area and collection method for council recyclables. In 2022–23, 794,382 tonnes of recyclables were collected in NSW. Of these:

- 68% (538,761 tonnes) was collected from the kerbside recycling bins

- 16% (127,749 tonnes) was collected through the container deposit scheme
- 14% (108,658 tonnes) was collected at drop off points
- 2% (19,213 tonnes) was collected by clean-up services.

The figures immediately above do not include *Other* types of council recycling which covers council-based waste such as, hazardous waste, council parks and gardens and gutters.

Table 6 Tonnes of recyclables collected by levy area, 2022–23

Type of recyclable	Metropolitan levy area	Regional levy area	Non-levied area	NSW
No. of councils	42	19	51	112
Kerbside (tonnes)	402,592	67,647	68,522	538,761
Drop-off (tonnes)	23,366	30,504	54,787	108,658
Clean-up (tonnes)	16,621	1,507	1,085	19,213
Container deposit scheme (tonnes)	82,471	18,969	26,309	127,749
Total domestic (tonnes)	525,050	118,627	150,703	794,382
*Other types of Council recycling (tonnes)	389	21,165	862	22,416

Note: *Other types of Council recycling not included in totals reported in Table 6 above.

Of 128 NSW councils, 112 reported having a recycling collection service. Between these 112 councils, they covered 84% of all NSW households.

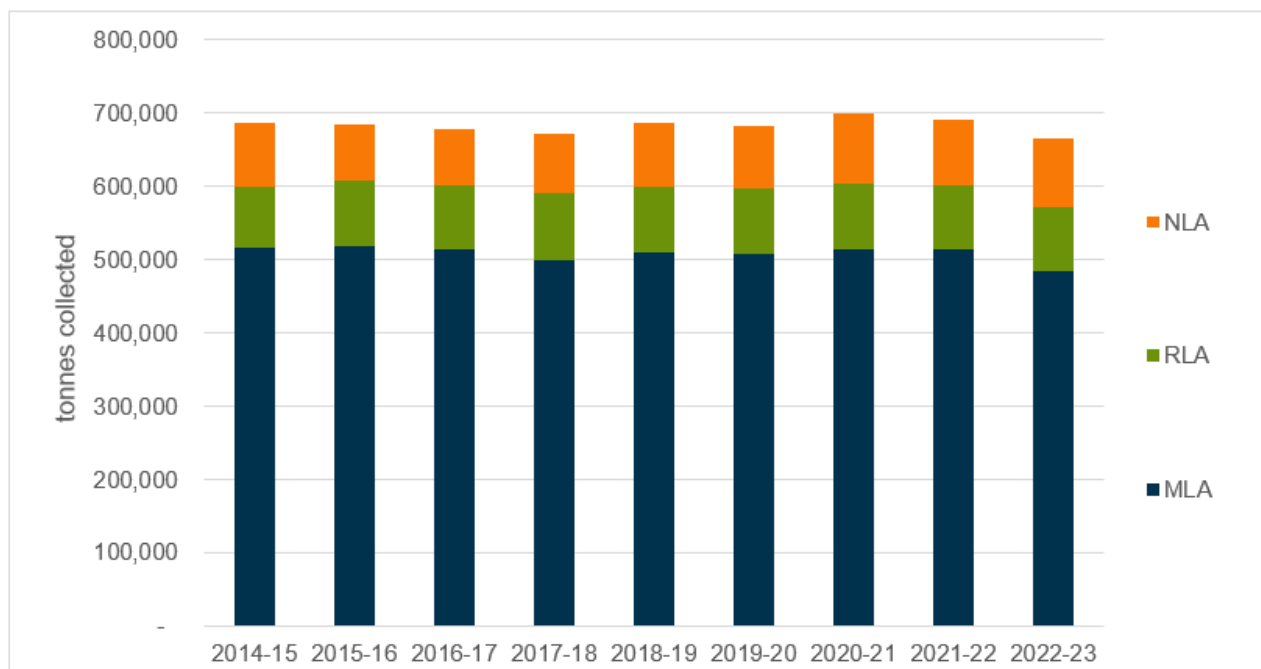
Table 7 shows the average weight of dry recyclables collected from 2,947,854 households, per household and per person for each levy area. In 2022–23, an average of 183 kg of kerbside dry recyclables was collected from households with a recycling service. This is a weekly average of 4 kg per household or 1 kg per person.

Table 7 Kerbside dry recyclables collected per household and per person by levy area, 2022–23

Levy area	Number of households with service	Annual average kg per household	Weekly average kg per household	Annual average kg per person	Weekly average kg per person
Metropolitan levy area	2,258,395	178	3	71	1
Regional levy area	323,782	209	4	97	2
Non-levied area	365,677	187	4	93	2
NSW	2,947,854	183	4	76	1

Figure 6 shows that historically there has been a slight decline, then a slight increase and then another slight decline in the total amounts of kerbside dry recyclables between 2013 and 2023.

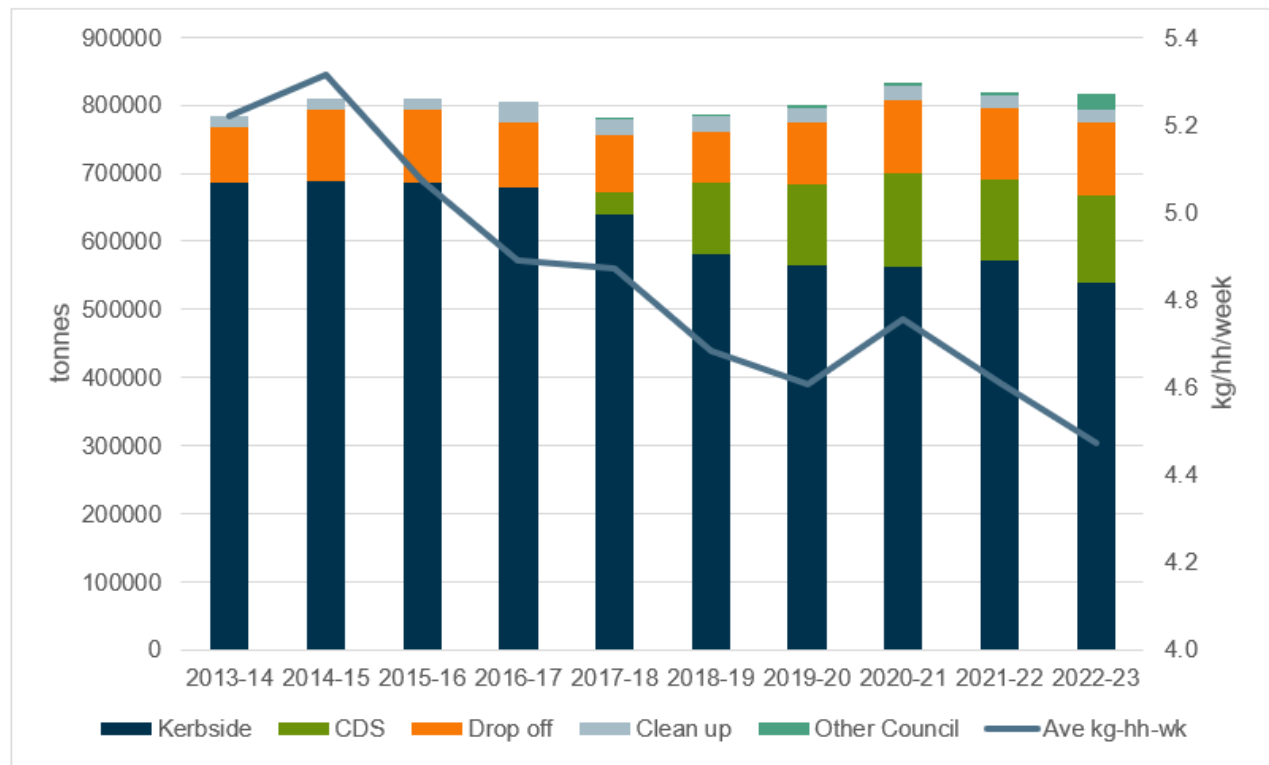
Figure 6 Kerbside dry recyclables collected by levy area, 2013–23



Note: Figure 6 above only includes container deposit scheme from 2017-18 onwards. Tabular data presented in Appendix 2, Table 19.

Figure 7 shows that the total amount of recyclables collected at kerbside increased slightly since 2021-22. The amount of drop-off materials has remained stable. It shows that the container deposit scheme collection rate increased since its inception in 2017-18 up until 2020-21 and has remained stable in recent years. The household average (the blue line) is based on total collection (kerbside, container deposit scheme, drop off, clean up, and *other* council) and total NSW households.

Figure 7 Dry recyclables and *Other* council waste, total collected and average collected per household per week, 2013–23



Note: Other council waste includes materials such as hazardous materials. Container deposit scheme data is from 2017-18 onwards. Tabular data included in Appendix 2,

3.2. Organics collected

Like dry recyclables, organics are collected through kerbside, drop-off, and clean-up services. In 2022–23:

- 41 councils reported collecting garden organics only
- 40 councils collected food and garden organics (FOGO)
- 2 councils reported collecting food organics only. The food only data has been included in the FOGO category for reporting
- 5 councils used both systems (garden organics only and FOGO)
- 40 councils reported not collecting organics at the kerbside.

Councils reported that they collected a total of 843,622 tonnes of organics in 2022-23, representing a decrease of 92,400 tonnes (11%) from 2021-22. Across NSW, 63% of households had a kerbside collection service for organics and/or FOGO. Table 8 shows how organics were collected, with the majority being picked up at the kerbside.

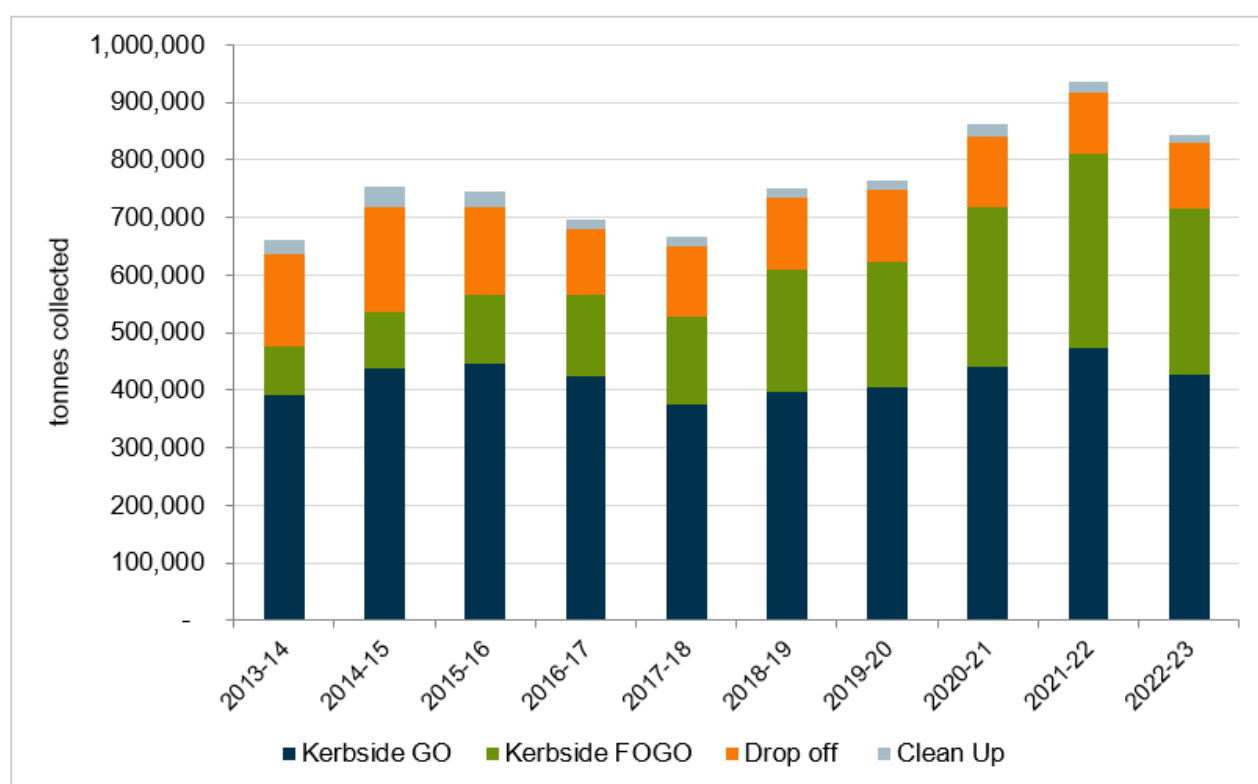
Table 8 Total Organics collected in NSW, by method and levy area, 2022–23

Amount	Metropolitan levy area	Regional levy area	Non-levied area	NSW
No. of councils	42	17	36	95
Kerbside (tonnes)	509,547	109,166	97,803	716,515
Drop-off (tonnes)	24,778	26,538	62,390	113,707
Clean-up (tonnes)	12,693	624	82	13,400
Total domestic (tonnes)	547,018	136,328	160,276	843,622
*Other types of Council recycling (tonnes)	14,559	15,243	13,958	43,760

Note: *Other types of Council recycling not included in total domestic tonnes in Table 11.

Figure 8 shows an increase in total organics collected since 2018-2019 but with a decline in 2022-23 across most collection methods.

Figure 8 Total organics collected by method, 2013–23



Note: Tabular data presented in Appendix 2,

Kerbside organics collection

A total of 716,515 tonnes of organics (garden and FOGO) was collected at kerbside in NSW in 2022–23 (Table 9). This is a decrease of 12% from 2021–22. Of the kerbside total, 426,415 tonnes were from garden organics (Table 10) and 290,100 tonnes were from FOGO collection systems in 2022–23 (Table 11).

Table 9 Organics collected at the kerbside by levy area: total garden organics and FOGO, 2022–23

	Metropolitan levy area	Regional levy area	Non-levied area	Total
Councils with service	42	17	36	95
Tonnes collected	509,547	109,166	97,803	716,515
Average kg/hh/wk	6	6	7	6
Average kg/pp/wk	2	3	3	3

Table 10 and Table 11 show the collected garden organics compared to the food and garden organics per household and per person, per week. The metropolitan levy area collected 6 kg of garden organics per household weekly, and 8 kg of FOGO. The regional levy area collected 4 kg of garden organics and 8 kg of FOGO.

Table 10 and Table 11 show that for both metropolitan levy area and regional levy area, FOGO produced a greater yield (kg per person, per week) than regular garden organics.

Table 10 Organics collected at the kerbside by levy area: garden organics, 2022–23

	Metropolitan levy area	Regional levy area	Non-levied area	NSW
Councils with service	31	6	11	48
Tonnes collected	366,698	37,041	22,676	426,415
Average kg/hh/wk	6	4	7	6
Average kg/pp/wk	2	2	4	2

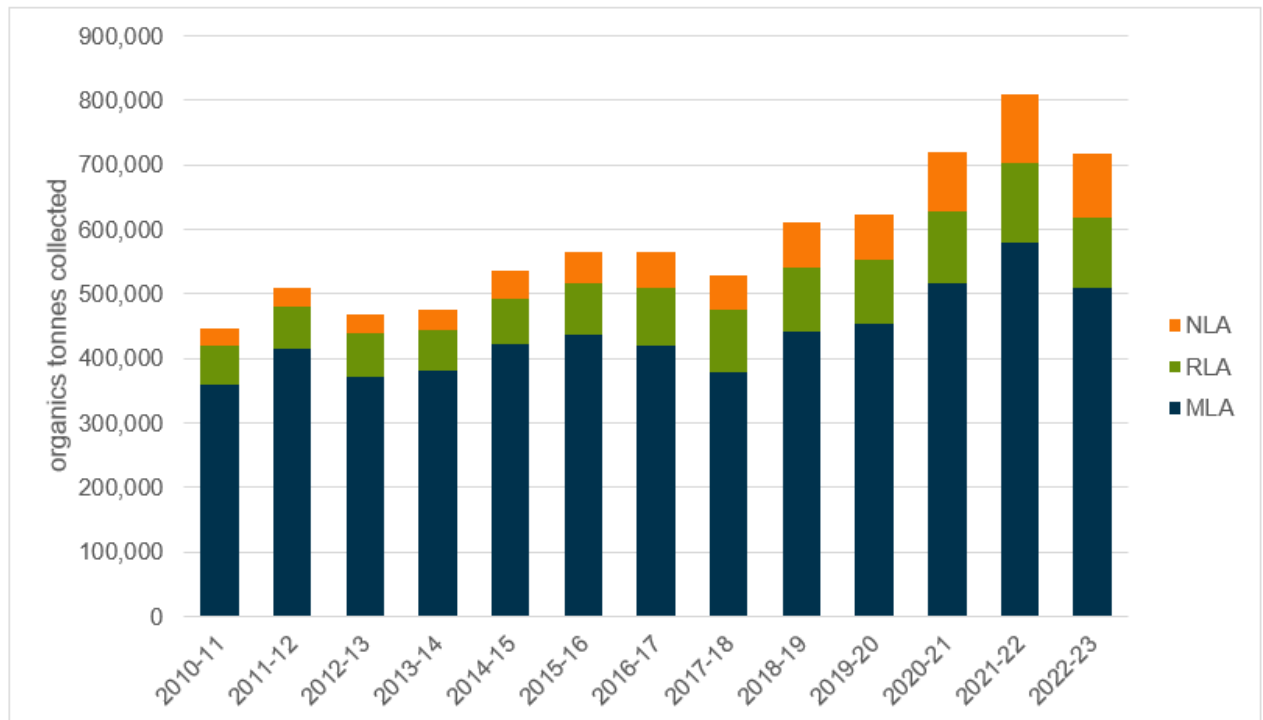
Table 11 Organics collected at the kerbside by levy area: food and garden organics (FOGO), 2022–23

	Metropolitan levy area	Regional levy area	Non-levied area	NSW
Councils with service	11	11	25	47
Tonnes collected	142,848	72,125	75,127	290,100
Average kg/hh/wk	8	8	7	7
Average kg/pp/wk	3	4	3	3

Total kerbside organics collected decreased by 12% (93,615 tonnes) from 2021–22 to 2022–23. When comparing the differences between the levied areas over the same period, collection in the

metropolitan, regional and non-levied areas decreased by 12%, 13% and 8%, respectively (Figure 9).

Figure 9 Total organics collected at the kerbside by levy area, 2010–23



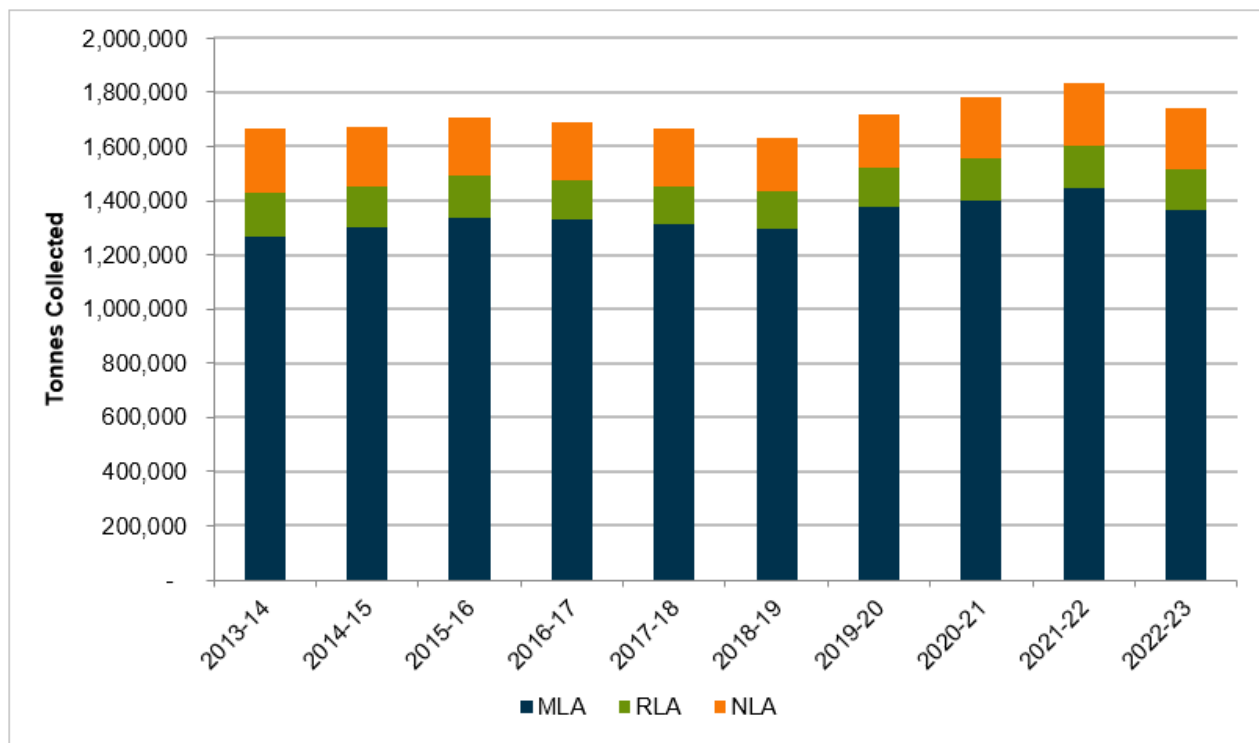
Note: Tabular data presented in Appendix 2 Table 25.

4. Kerbside residual waste

Residual waste is what is left over after households have separated out the dry recyclables and organics. It is collected at the kerbside, at drop-off facilities and through clean-up services, and either treated in an alternative waste treatment facility before disposal or sent directly to landfill.

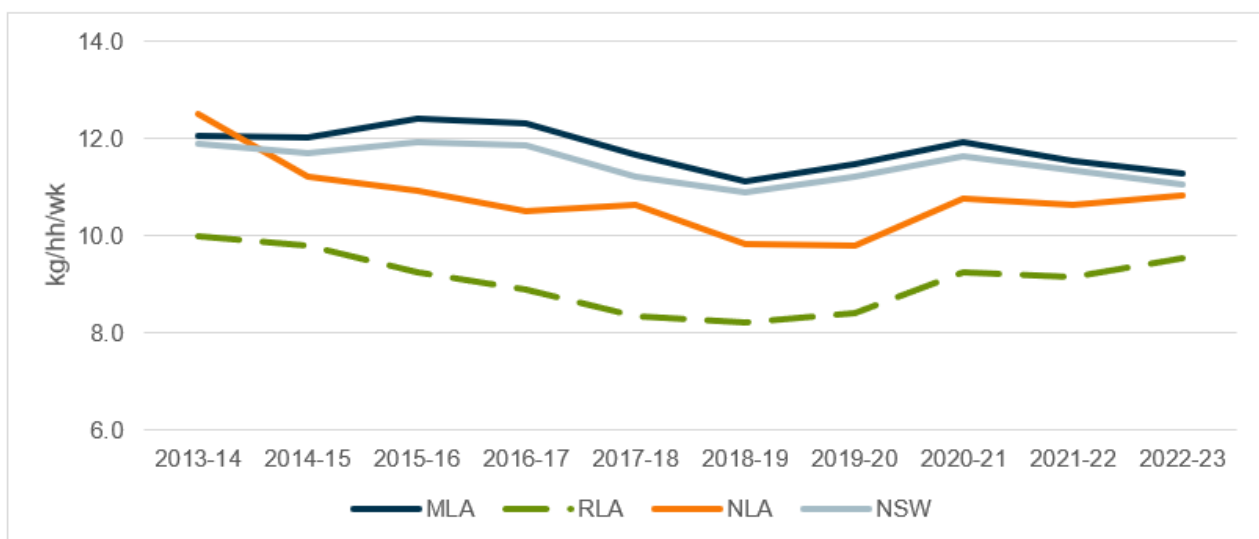
In 2022–23 the total amount of residual waste collected from the red-lid bin kerbside was 1,740,950 tonnes - a decrease of 5% from the previous year. The values in Figure 10 are only for waste collected by council-contracted services and day labour, they do not include waste collected from some residential properties by private contractors. Figure 11, shows the NSW average per-person collection reported by councils has also slightly declined since 2021-22.

Figure 10 Kerbside residual waste collected by levy area, 2013–23



Note: Tabular data presented in Appendix 2, Table 24.

Figure 11 Average household weekly residual waste (kg) by levy area, 2013–23



Note: Tabular data presented in Appendix 2, Table 25.

5. Clean-up services

5.1. Waste collected by council clean-up services

In 2022–23, 72 NSW councils collected 208,392 tonnes of waste using kerbside clean-up services. Table 12 shows this included:

- bulky goods – 83.5% (174,025 tonnes)
- garden organics – 6.4% (13,400 tonnes)
- metals – 4.7% (9,767).
- mattresses – 4.2% (8,740 tonnes)
- other (mixed) – 0.8% (1,753)
- e-waste – 0.3% (707 tonnes).

Table 12 Tonnes of source-separated clean-up materials by type, 2022–23

Material type	Collected (tonnes)	Recycled (tonnes)	Disposed of (tonnes)	% Recycled
Bulky goods	174,025	30,306	143,719	17%
Mattresses	8,740	7,834	906	90%
Garden organics	13,400	13,382	18	100%
Metals/white goods	9,767	9,401	366	96%
Other (mixed)	1,753	737	1,016	42%
E-waste	707	595	112	84%
Total	208,392	62,255	146,137	30%

Notes: Bulky goods disposed of may include recyclable material, such as garden organics, metals and mattresses, that were collected as bulky goods.

Table 13 shows the number of councils that offered clean-up services and the tonnage collected and disposed of. The metropolitan levy area collected the largest tonnage of material (it has the most households/population) and 30% of this was recycled. Across the state 30% of clean-up materials were recycled.

Table 13 Tonnes of bulk waste clean-up materials by area, 2022–23

Levy area	Councils (number)	Collected (tonnes)	Recycled (tonnes)	Landfilled (tonnes)	% Recycled
Metropolitan levy area	37	190,850	57,758	133,092	30%
Regional levy area	12	12,735	3,132	9,604	25%
Non-levied area	23	4,806	1,365	3,440	28%
NSW	72	208,392	62,255	146,136	30%

Table 14 Kerbside clean-up waste by material type in NSW, 2012–23 (tonnes)

Year	Garden organics	e-waste	Metals / whitegoods	Mattresses	Bulky goods	Other / mixed	Total
2012-13	31,557	2,034	6,618	3,057	85,576	77,519	206,361
2013-14	23,744	1,841	6,863	7,686	103,059	63,301	206,494
2014-15	35,198	1,442	7,126	6,949	125,434	70,993	247,142
2015-16	28,361	544	9,575	7,652	189,396	20,322	255,850
2016-17	18,465	1,154	22,049	6,851	191,117	15,133	254,769
2017-18	14,228	7,438	9,733	5,219	212,817	22,892	272,327
2018-19	16,996	462	9,838	12,508	185,204	18,167	243,175
2019-20	19,646	581	12,638	7,764	189,017	22,541	252,187
2020-21	20,129	1,842	11,414	7,268	203,452	30,090	274,195
2021-22	19,272	206	10,510	7,699	212,099	22,342	272,128
2022-23	13,400	707	9,767	8,740	174,025	1,753	208,392

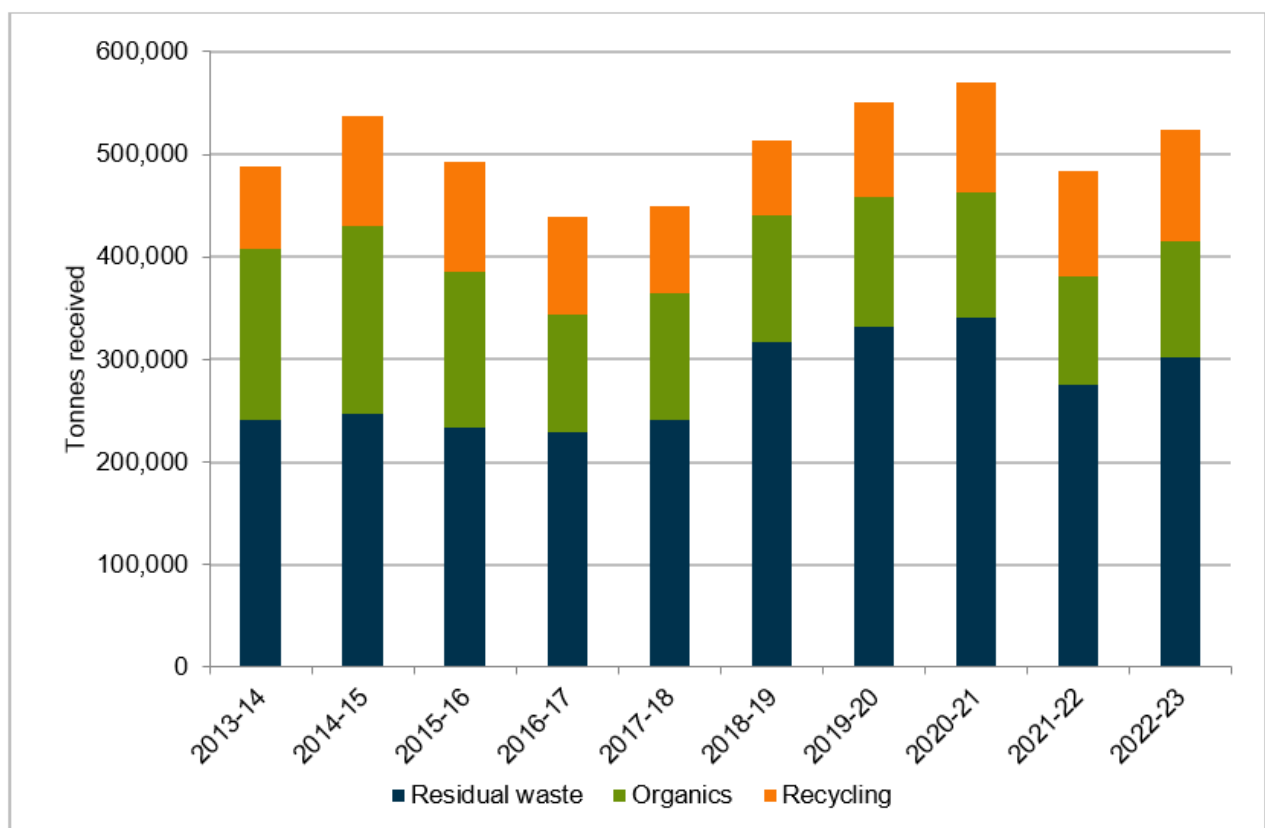
6. Drop-off facilities

6.1. Waste dropped off at a facility by residents

Across NSW, 120 of the 128 councils offered at least one drop-off facility. Figure 12 shows that in 2022–23 these facilities received 523,865 tonnes of material, comprising:

- 301,500 tonnes of residual waste
- 113,707 tonnes of organics
- 108,658 tonnes of dry recyclables.

Figure 12 Drop-off material received, by waste composition, 2013–23



Note: Tabular data presented in Appendix 2, Table 26.

NSW drop-off facilities received 8% more material in 2022–23 than in 2021–22. The split between residual waste, recycling and organics has remained consistent over the past four years. Refer to Figure 12.

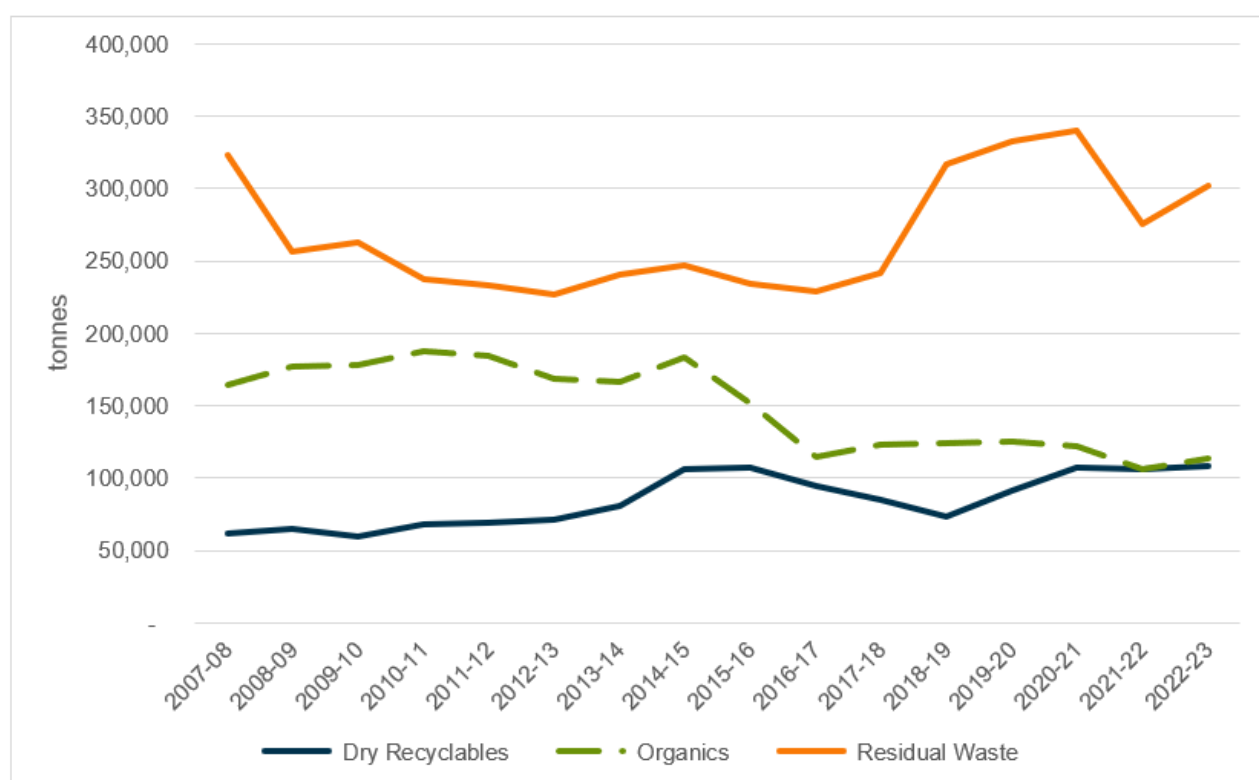
In 2022–23 a total of 48% of material from drop-off facilities was recycled.

Table 15 Residuals drop-off tonnages by levy area, 2022–23

Levy area	Councils (number)	Collected (tonnes)	Recycled (tonnes)	Landfilled (tonnes)	Recycled (%)
Metropolitan	42	75,343	9,519	65,824	13%
Regional	19	57,153	10,724	46,429	19%
Non-levied	59	169,003	19,534	149,469	12%
NSW	120	301,500	39,778	261,722	13%

Figure shows tonnes of material by waste composition over time accepted at a council facilities from residents.

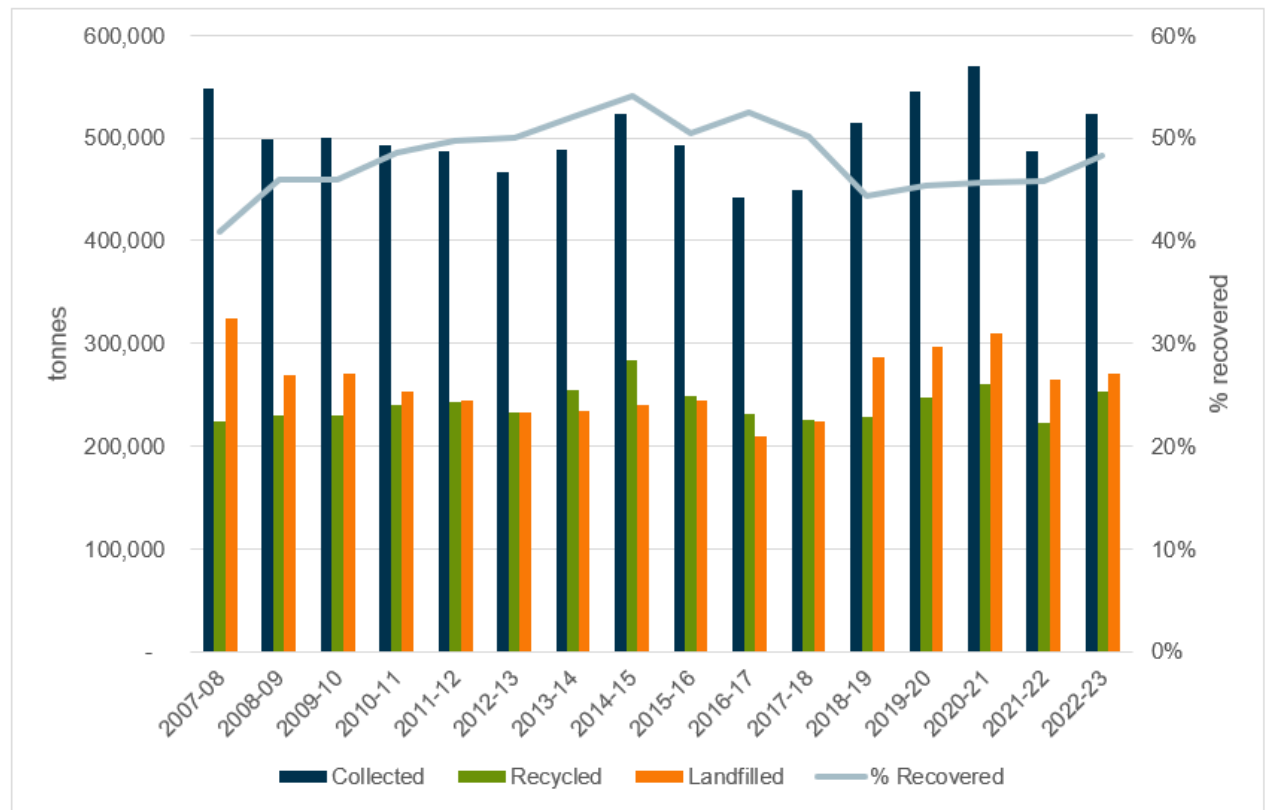
Figure 13 Drop-off waste collected by waste composition, 2007–23



Note: Tabular data presented in Appendix 2, Table 27.

Figure shows the tonnage of waste collected at drop-off facilities throughout NSW over time, the amount which was recycled or went to landfill and the proportion which was recovered. The recovery proportion has slightly increased each year since 2018-19.

Figure 14 Total drop-off tonnages and percentage recovered, 2007–23



Note: Tabular data presented in Appendix 2,

Appendix 1: Glossary

Clean-up

A council service to collect material from the kerbside rather than from a bin. Collects mainly bulky waste items, large organics, and hard waste. The service can be on-call or performed on a regular basis (e.g., yearly, or six-monthly).

Contaminants

Material rejected by recycling operators that is disposed of in landfill. Organics that are not processed are sent to landfill.

Container deposit scheme

Return and Earn is the NSW government's container deposit scheme. Container deposit scheme figures in this report refer only to containers collected by the Return and Earn network of collection points, including reverse vending machines, reverse vending centres, automated depots, over the counter sites and donation stations.

Drop-off

A council facility where residents can drop off material for recycling or disposal.

Dry recyclables

Materials collected in the yellow-lid recycling bin. Councils vary in what they will accept. Household recyclables are collected through:

- kerbside collection, which picks up
 - mixed paper
 - newspaper, magazines, cardboard
 - plastic films and bottles
 - steel and aluminium cans
 - glass bottles
- drop-off facilities, which accept the materials above plus others (e.g., batteries and gas bottles)
- clean-up services, which collect large metals and bulky goods.

Organics

Mainly bark, leaves, twigs, and lawn clippings. Food and garden organics (FOGO) also include food scraps. Organics are collected from the kerbside and through clean-up and drop-off facilities.

Recyclables

Dry recyclable and organic waste material that is not residual waste.

Recycling rates

The percentage of all domestic waste that is recycled, calculated as (total recycled ÷ total collected) x 100.

Residual waste

Household waste, less recyclables, and organics. Residual waste is what is left over after households have separated out the dry recyclables and organics. It is collected at the kerbside, at drop-off facilities and through clean-up services.

Total domestic waste

All waste created by households: the residual waste, recyclables, and organics that councils collect from households from the kerbside and through clean ups and drop-off facilities.

Waste composition

The category of the collected waste. The waste compositions are:

- residual waste – predominantly red lid bin material, intended for disposal
- dry recyclables – collected in the yellow-lid bin, intended for recycling
- organics – intended for recycling.

Appendix 2: Additional detail/tables

Waste collection and diversion from landfill

Table 16 NSW average kilogram per household per week collected from households with a kerbside bin service, by financial year (as shown in Figure 2)

Financial year	Residual waste (kg/hh/wk)	Dry recyclables (kg/hh/wk)	Garden organics (kg/hh/wk)	Food and garden organics (kg/hh/wk)	Total domestic waste collected (kg/hh/wk)
2016-17	12	5	6	7	30
2017-18	11	5	5	7	28
2018-19	11	4	5	7	28
2019-20	11	4	5	8	28
2020-21	12	4	6	8	29
2021-22	11	4	7	9	31
2022-23	11	4	6	7	28

Resource recovery

Table 17 Total domestic recycling rate by area, 2014–23 (as shown in Figure 4)

Year	Metropolitan levy area	Regional levy area	Non-levied area	NSW
2014-15	48%	56%	40%	48%
2015-16	47%	55%	36%	48%
2016-17	47%	54%	36%	47%
2017-18	47%	56%	39%	47%
2018-19	46%	55%	40%	46%
2019-20	43%	52%	43%	44%
2020-21	46%	50%	43%	46%
2021-22	46%	52%	45%	46%
2022-23	48%	55%	43%	48%

Total domestic waste

Table 18 Total waste collected at the kerbside, 2010–23 (as shown in Figure 5)

Year	Residual waste (tonnes)	Dry recyclables (tonnes)	Organics (tonnes)
2012-13	1,634,173	698,742	466,984
2013-14	1,664,175	686,939	476,440
2014-15	1,672,940	687,514	535,022
2015-16	1,707,114	685,540	565,635
2016-17	1,687,162	679,059	564,627
2017-18	1,667,470	671,712	527,287
2018-19	1,632,503	686,842	609,662
2019-20	1,718,474	683,602	621,616
2020-21	1,779,224	699,662	719,241
2021-22	1,831,255	690,840	810,130
2022-23	1,740,950	666,510	716,515

Recycling

Table 19 Kerbside dry recyclables collected, by area, 2013–23 (as shown in Figure 6)

Year	Metropolitan levy area (tonnes)	Regional levy area (tonnes)	Non-levied area (tonnes)	NSW (tonnes)
2013-14	520,308	84,300	82,330	686,938
2014-15	517,225	83,224	87,066	687,514
2015-16	518,961	88,764	77,815	685,540
2016-17	513,265	89,214	76,581	679,059
2017-18	498,851	92,270	80,591	671,712
2018-19	508,903	89,964	87,976	686,842
2019-20	508,141	89,331	86,130	683,602
2020-21	513,728	90,457	95,477	699,662
2021-22	514,222	88,397	88,221	690,840
2022-23	485,064	86,616	94,831	666,510

Note: 2017-18 onwards includes CDS data.

Table 20 Dry recyclables and Other council Waste, total collected and average collected per household per week, 2013–23 (as shown in Figure 7) Unless noted otherwise, all metrics are in tonnes.

Year	Kerbside waste	Container deposit scheme	Drop off	Clean up	Other Council	Ave kg-hh-wk
2013-14	686,939		80,437	16,390		5.2
2014-15	687,514		106,331	16,981		5.3
2015-16	685,540		107,087	17,771		5.1
2016-17	679,059		95,076	30,054		4.9
2017-18	638,651	33,061	84,709	22,391	3,219	4.9
2018-19	581,233	105,610	73,943	22,808	3,459	4.7
2019-20	564,249	119,353	91,876	20,983	4,026	4.6
2020-21	563,595	136,067	107,774	20,524	4,572	4.8
2021-22	570,979	119,861	106,002	18,415	3,906	4.6
2022-23	538,761	127,749	108,658	19,213	22,416	4.5

Organics

Table 21 Organics collected at the kerbside, by levy area, 2010–23 (as shown in Figure 4)

Year	Metropolitan levy area	Regional levy area	Non-levied area
2010-11	360,044	59,989	26,089
2011-12	414,011	65,844	28,170
2012-13	372,094	67,556	27,334
2013-14	380,220	63,538	32,682
2014-15	421,189	72,195	41,638
2015-16	435,710	81,889	48,037
2016-17	419,387	90,360	54,880
2017-18	377,595	96,844	52,848
2018-19	442,137	97,394	70,131
2019-20	453,373	98,171	70,071
2020-21	516,560	111,431	91,249
2021-22	578,664	125,035	106,432
2022-23	509,547	109,166	97,803

Note: Due to rounding, the total is not the same as the sum of the component figures.

Table 22 Total organics collected in tonnes, by method, 2013–22 (as shown in Figure 5)

Year	Kerbside GO	Kerbside FOGO	Drop off	Clean up	Totals
2013-14	390,294	86,146	161,047	23,744	661,231
2014-15	436,844	98,178	183,191	35,198	753,411
2015-16	445,633	120,002	151,646	28,361	745,642
2016-17	425,121	139,329	114,610	18,465	697,525
2017-18	375,774	151,513	123,572	14,228	665,087
2018-19	396,536	213,126	123,789	16,996	750,448
2019-20	405,717	215,899	125,873	17,695	765,184
2020-21	441,004	278,237	121,934	22,047	863,222
2021-22	474,209	335,922	106,619	19,272	936,022
2022-23	426,415	290,100	113,707	13,400	843,622

Table 23 Recyclables and organics collected, 2013–22 (as shown in Figure 6)

Year	Recyclables (tonnes)	Organics (tonnes)
2013-14	783,766	661,230
2014-15	810,826	753,411
2015-16	810,399	745,642
2016-17	804,189	700,455
2017-18	782,032	665,087
2018-19	783,593	750,448
2019-20	796,461	765,184
2020-21	827,960	863,222
2021-22	815,257	936,022
2022-23	794,382	843,622

Residual waste

Table 24 Kerbside residual waste collected in tonnes, by levy area, 2013–23 (as shown in Figure 7)

Year	Metropolitan levy area	Regional levy area	Non-levied area
2013-14	1,269,859	156,710	237,606
2014-15	1,300,382	152,742	219,816
2015-16	1,337,751	153,121	216,242
2016-17	1,330,002	145,847	211,313
2017-18	1,315,467	139,349	212,655
2018-19	1,298,582	136,625	197,296
2019-20	1,375,069	144,351	199,054
2020-21	1,399,175	156,098	223,951
2021-22	1,447,550	156,471	227,234
2022-23	1,366,010	147,477	227,463

Table 25 Average household weekly residual waste, by levy area, 2013–23 (as shown in Figure 8)

Financial year	Metropolitan levy area	Regional levy area	Non-levied area	NSW (tonnes)
2013-14	12	10	13	12
2014-15	12	10	11	12
2015-16	12	9	11	12
2016-17	12	9	11	12
2017-18	12	8	11	11
2018-19	11	8	10	11
2019-20	12	8	10	11
2020-21	12	9	11	12
2021-22	12	9	11	11
2022-23	11	10	11	11

Drop off facilities

Table 26 Drop-off material received in tonnes, by waste composition, 2013–22 (as shown in Figure 9)

Year	Residual waste	Organics	Recycling
2013-14	240,778	167,074	80,437
2014-15	247,499	183,191	106,331
2015-16	234,246	151,646	107,087
2016-17	228,899	114,610	95,076
2017-18	241,751	123,572	84,709
2018-19	316,404	123,789	73,943
2019-20	332,618	125,873	91,876
2020-21	340,420	121,934	107,774
2021-22	275,031	106,619	106,002
2022-23	301,500	113,707	108,658

Table 27 Drop-off waste, percentage recovered, 2007–22 (as shown in Figure 10)

Year	Recovered
2007-08	41%
2008-09	46%
2009-10	46%
2010-11	49%
2011-12	50%
2012-13	50%
2013-14	52%
2014-15	54%
2015-16	51%
2016-17	52%
2017-18	50%
2018-19	44%
2019-20	45%
2020-21	46%
2021-22	46%
2022-23	48%

Table 28 Residual waste drop-off amounts and percentage, by levy area, 2007–23 (as shown in Figure 11)

Financial year	Collected	Recycled	Landfilled	% recycled
2007-08	548,472	224,455	324,017	41%
2008-09	498,723	229,440	269,283	46%
2009-10	500,791	230,214	270,577	46%
2010-11	493,664	239,966	253,697	49%
2011-12	487,427	242,491	244,936	50%
2012-13	466,733	233,296	233,437	50%
2013-14	488,289	254,224	234,065	52%
2014-15	523,768	283,362	240,406	54%
2015-16	492,979	249,080	243,899	51%
2016-17	441,514	231,487	210,027	52%
2017-18	450,032	225,780	224,252	50%
2018-19	514,137	228,067	286,070	44%
2019-20	544,801	247,317	297,484	45%
2020-21	570,128	260,037	310,091	46%
2021-22	487,653	223,257	264,396	46%
2022-23	523,865	253,032	270,832	48%

Appendix 3: Council data download

To access the Appendix to the 2022-23 report, visit the EPA website and search under 'waste data surveys'.