

# NSW Local Government Waste and Resource Recovery Data Report 2016–17

as reported by Councils

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Published by:

NSW Environment Protection Authority  
59 Goulburn Street, Sydney NSW 2000  
PO Box A290, Sydney South NSW 1232  
Phone: +61 2 9995 5000 (switchboard)  
Phone: 131 555 (NSW only – environment information and publications requests)  
Fax: +61 2 9995 5999  
TTY users: phone 133 677, then ask for 131 555  
Speak and listen users: phone 1300 555 727, then ask for 131 555  
Email: [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)  
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Report pollution and environmental incidents  
Environment Line: 131 555 (NSW only) or [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au)  
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# Overview

## A snapshot of local and statewide waste management

The *NSW Local Government Waste and Resource Recovery Data Report 2016–17* is based on voluntary survey responses from all 128 NSW local councils.

This report provides data about domestic waste and recycling in NSW. It is an important resource to help local councils and industry measure the success of programs and make evidence-based decisions about waste and recycling. It also helps the NSW Environment Protection Authority (EPA) monitor waste and recycling levels across the State.

Sections 1 to 4 of the report focus on the quantity and types of waste created, recycled and disposed while sections 5 to 6 look at waste services.

This report includes only domestic waste and recyclables, which are the main component of the municipal solid waste stream. This report does not include data on Commercial and Industrial (C&I) or Construction and Demolition (C&D) waste. All per person averages are based on 30 June 2017 population figures from the Australian Bureau of Statistics (ABS). All data is based on council responses to an annual survey.

## Part of a larger environmental program

This report falls under a larger environmental program. The *NSW Waste Avoidance and Resource Recovery Strategy 2014–21* (WARR Strategy) is a framework for waste management. It aims to enable the community to improve the environment and community wellbeing by reducing waste and using resources more efficiently.

The WARR Strategy includes six long-term targets:

-  avoiding and reducing the rate of waste generation per person
-  increasing recycling rates to 70% for municipal solid waste, 70% C&I, 80% C&D
-  increasing waste diverted from landfill to 75%
-  managing problem wastes better, establishing 86 drop-off facilities or services across NSW
-  reducing the number of litter items by 40% compared with 2011–12 by 2017
-  reduce the incidence of illegal dumping by 30% compared with 2010–11 by 2017

A separate biennial report analyses the progress made against these targets in detail.

The NSW Government allocated \$802 million over nine years under the *Waste Less, Recycle More* initiative. This initiative is funded by the waste levy and is the largest program of its kind in Australia. *Waste Less, Recycle More* funds local council initiatives, new and enhanced infrastructure, organics collections, problem waste management, business recycling, illegal dumping and litter prevention.

## Focus on recycling will help achieve targets

For local councils to meet NSW WARR Strategy targets, it is vital to focus on reducing waste and increasing recycling. This report includes recycling rates for each waste stream. Results for each council are in Appendix tab 3.



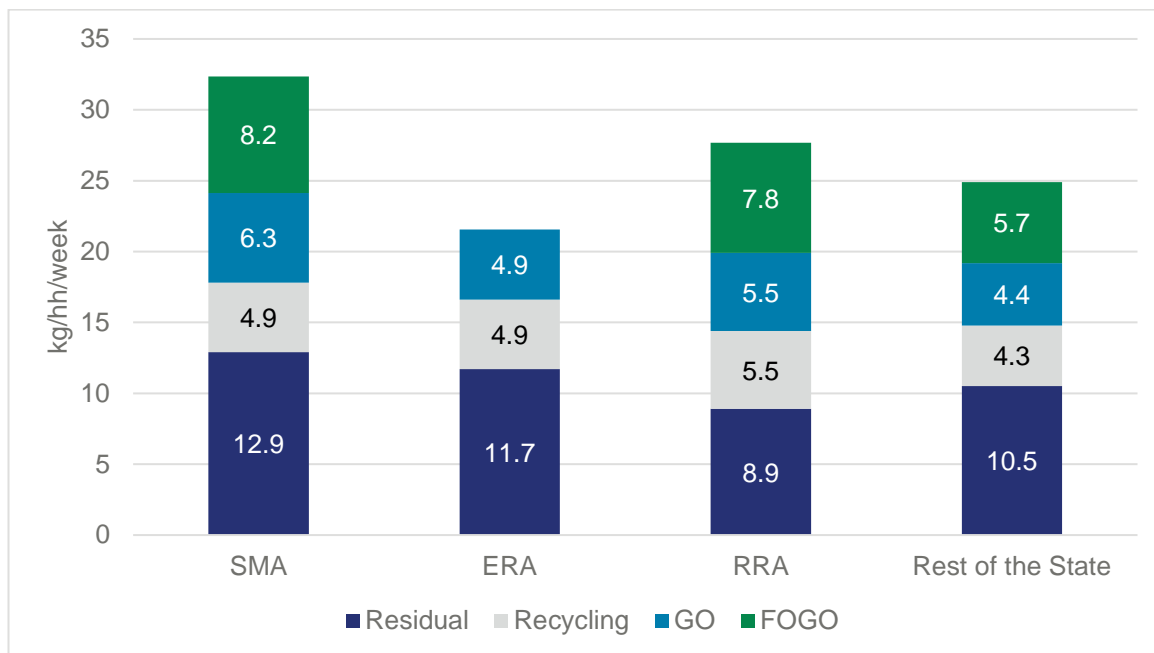
**Avoid and reduce waste generation – the average per capita and household was reduced in 2016-17 compared to the previous two years.**

In 2016–17 households created 3.62 million tonnes of domestic waste, collected 2.12 million tonnes of residual waste (red-lid bin contents) and 1.50 million tonnes of dry recycling and organics.

The Sydney Metro Area (SMA) collected 1.13 million tonnes of domestic waste and 700,000 tonnes of domestic recycling and organics. The Extended Regional Area (ERA) generated 457,000 tonnes of domestic waste and 332,000 tonnes of domestic recycling and organics. The Regional Regulated Area (RRA) generated 233,000 tonnes of domestic waste and 252,000 tonnes of domestic recycling and organics. With the Rest of the State generating 303,000 tonnes of domestic waste and 213,000 tonnes of domestic recycling and organics. Average kilograms per household per week figures for those with a service are shown in Graph 1 below.

Regular kerbside and clean-up collections accounted for 3.19 million tonnes or 88%. Council drop-off facilities collected 438,500 tonnes or 12% of material.

**Graph 1: Average kilogram per household per week with service by area 2016–17**



\* Average per household per week based on separate services.

\* (Note: individual services do not add up to total for an average household per week)

The average NSW household collected 23.3kg total material per week, or 9kg per person each week. Different council areas may not offer all collection services. The average household with a service puts out 4.9kg of recyclables, 5.7kg of garden organics, 7.4kg of food and garden organics and 11.9kg of residual waste at the kerbside for collection.



## Increase recycling

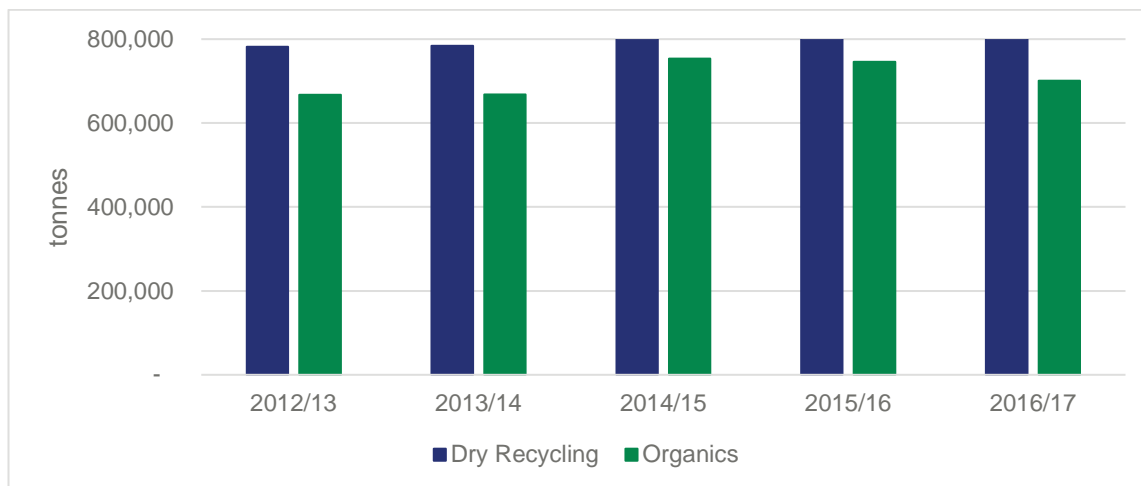
Around 1.71 million tonnes were recycled overall from domestic kerbside, clean-up and drop-off services, comprising 738,500 tonnes of recyclables; 671,000 tonnes of organics, 47,500 tonnes drop-off and clean-up waste recycled and 254,000 tonnes of material recovered via alternate waste treatment (AWT).

Kerbside dry recycling material collected remained static to previous years around 680,000 tonnes. There had been a gradual increase in kerbside organics collected, reaching 565,600 tonnes in 2015–16 and remained almost the same at 564,600 tonnes in 2016–17. In addition, 16 councils sent 525,000 tonnes of kerbside residual waste to an AWT facility where 254,000 tonnes, or an average of 48.4%, was recycled.

Combined clean-up and drop-off waste services (waste, recycling and organics) recycled 290,000 tonnes - a decrease of 36,000 tonnes or 11% from the previous year.

Graph 2 below shows that the total recycling and organics collected, including kerbside, clean-up and drop-off, has remained consistent for the past five years.

**Graph 2: Total dry recycling and organics tonnes collected by year 2012–17 (tonnes)**

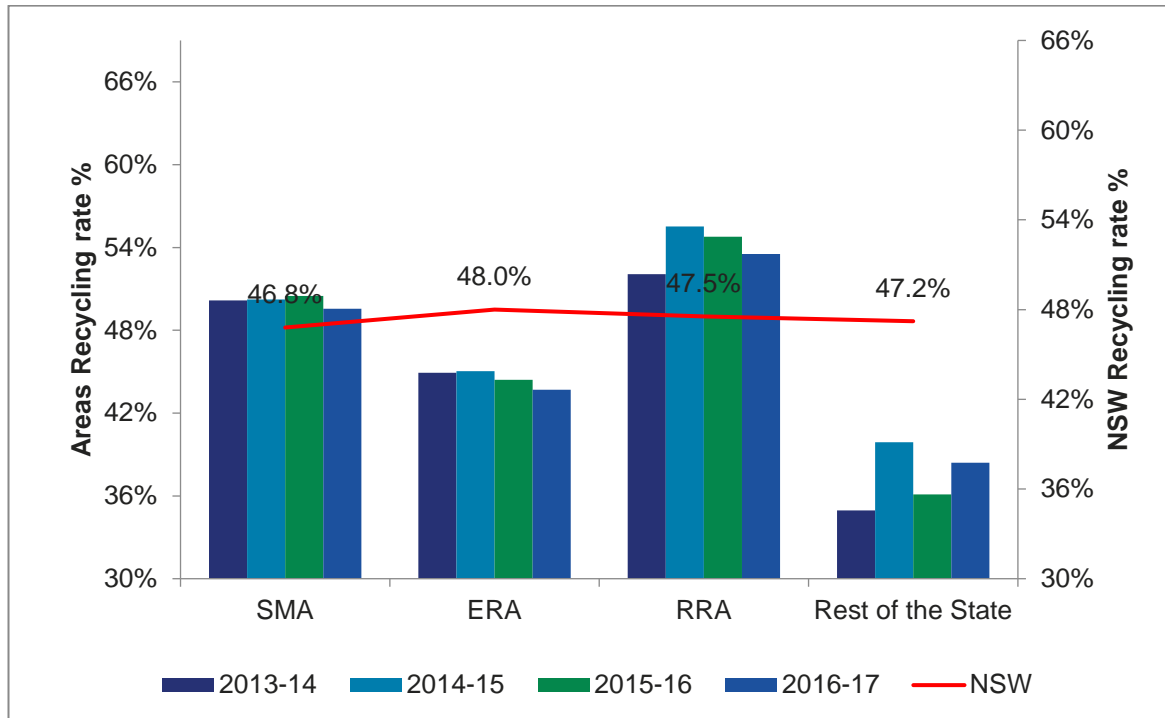




## Divert more waste from landfill

In 2016–17, 47.2% of domestic waste that was created in NSW was diverted from landfill. This is in line with 47.5% in 2015–16, yet higher than in 2013–14 when the recycling rate was 46.8%.

Graph 3: Areas recycling rate by year and NSW average 2013–17



The Sydney Metropolitan Area generated 1.83 million tonnes of kerbside waste, of which 909,000 tonnes (49.6%) was diverted from landfill.

Across NSW, 1.91 million tonnes was disposed to landfill. Most of this was residual kerbside waste sent direct to landfill, accounting for 1.43 million tonnes. A further 61,000 tonnes were contaminants from dry recyclables and 16,000 tonnes from organics collections sent as rejects from the processing facilities. In addition, 209,000 tonnes from drop-off materials and 193,000 tonnes from kerbside bulky waste clean-up collections was disposed of.

**Note:** Figures have been rounded to the nearest whole number in this Overview.

# 1. Total domestic waste

## 1.1. Generated and recycled



The average domestic waste generated per household each week is 23.3kg. This is an increase from 23.2kg in 2015–16. Waste generated per household includes regular kerbside collections, clean-up and resident drop-off materials.

In 2016–17, NSW created 3.62 million tonnes of domestic waste. This is a decrease of 83,000 tonnes from the previous year, but over the five-year period the waste generation rate is relatively static, with gradual increases in organics collections. Total domestic waste includes all recyclables, organics and residual waste from household kerbside services and drop-off facilities.

The average total domestic waste generated was 23.3kg per household per week or 9kg per person, based on the total number of households and people in NSW.

From the 3.62 million tonnes of domestic waste generated, 1.91 million tonnes of residual waste was disposed to landfill. In absolute terms, this is a decrease of about 26,000 tonnes (-1.4%) in comparison to 2015–16. A total of 1.71 million tonnes of the domestic waste generated was recycled, a decrease of 57,500 tonnes from 2015–16.



The total domestic recycling rate rose from 46.8% in 2013–14 to 47.2% in 2016–17.

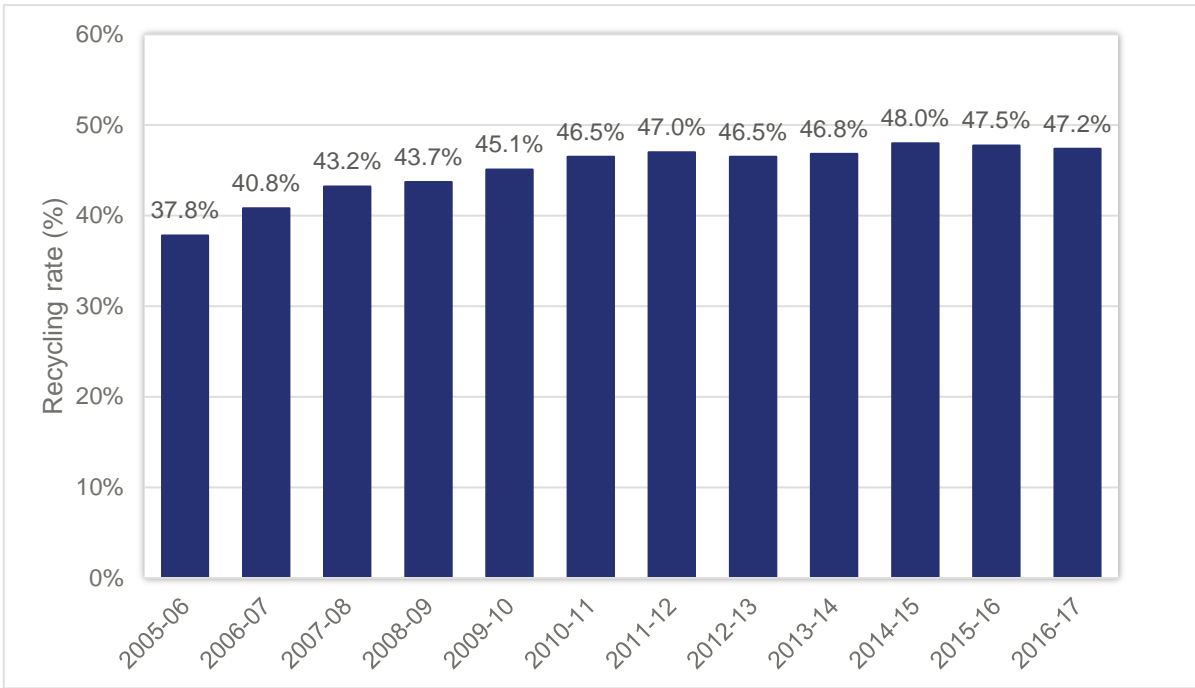
NSW residents recycled 47.2% of domestic waste: 1.71 of 3.62 million tonnes. This figure includes recycling from:

- kerbside recycling (618,000 tonnes)
- kerbside organics (548,000 tonnes)
- alternative waste treatment (254,000 tonnes)
- clean-up services (62,000 tonnes)
- drop-off facilities (229,000 tonnes).

Graph 4 shows the recycling rates in NSW over time. Although the increases have been consistent overall, the increases over the past four years have been marginal, where recycling rates have remained relatively consistent around 47%.



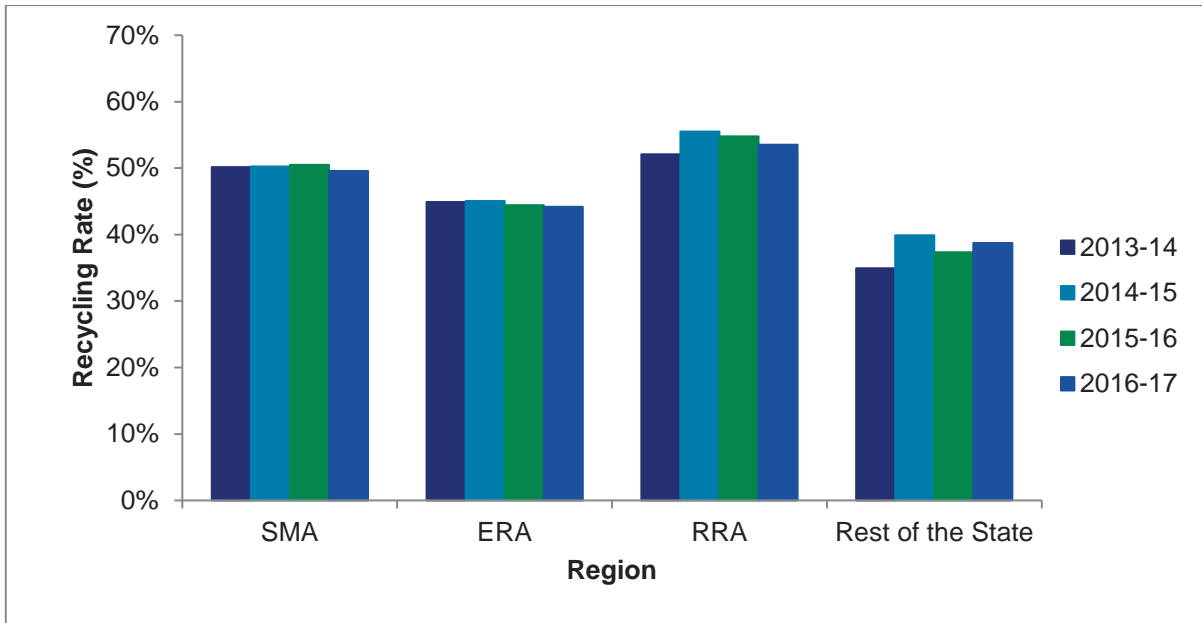
**Graph 4: NSW recycling rates for domestic waste between 2005–17**



The kerbside recycling rate is stabilising because:

- less packaging and changes in packaging e.g. from glass to plastic
- less newsprint being generated with the increase in online media.

**Graph 5: Recycling rates of domestic waste across NSW areas for 2013–17**



Graph 5 shows the recycling rates by NSW areas. The highest levels are reported in the Regional Regulated Area (RRA) at 53.5%, a slight decrease from 54.8% in 2015–16, but still up from 52.1% in 2013–14.

The rest of NSW (Rest of State) at 38.4% was an increase from 36.1% in 2015–16 and up from 34.9% in 2013–14.

Recycling rates in the Sydney metro decreased to 49.6% in 2016–17 from 50.5% in 2015–16. There have been slight decreases overall in the Extended Regulated Area (ERA) at 43.7% from 44.4%.



**1.71 million tonnes were recycled from kerbside collections, drop-off facilities, clean-up services and AWT facilities in 2016–17.**

Table 1 shows the weight in tonnes of material collected by waste stream, the amount recycled and the remaining amount disposed of in landfill after processing.

For recyclables and organics, the material disposed of after processing is called contaminants or rejects. For dry recyclables, the proportion of rejects was 8.1%. For organics, the proportion of rejects was 3.8%. For residual waste, 14.2% was recycled from AWT processing and the remaining amount was disposed of in landfill.

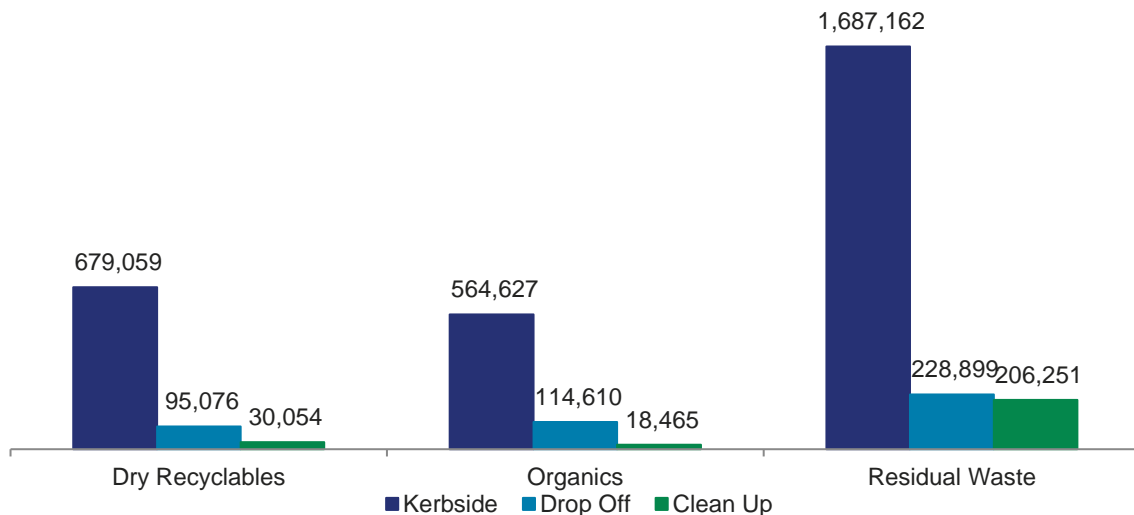
**Table 1: Domestic generation and fate by waste stream 2016–17 (tonnes)**

Waste stream	Collected	Recycled	Disposed
Dry recyclables	804,189	738,648	65,541
Organics	697,702	671,051	26,651
Residual waste	2,122,311	301,762	1,820,550
Total	3,624,203*	1,711,461	1,912,742

\* Due to rounding, the total is not the same as the sum of the component figures

Graph 6 shows the total domestic waste tonnes collected by waste stream and collection method. Kerbside collection is the predominant area for generation, thus programs and education are focusing around this stream.

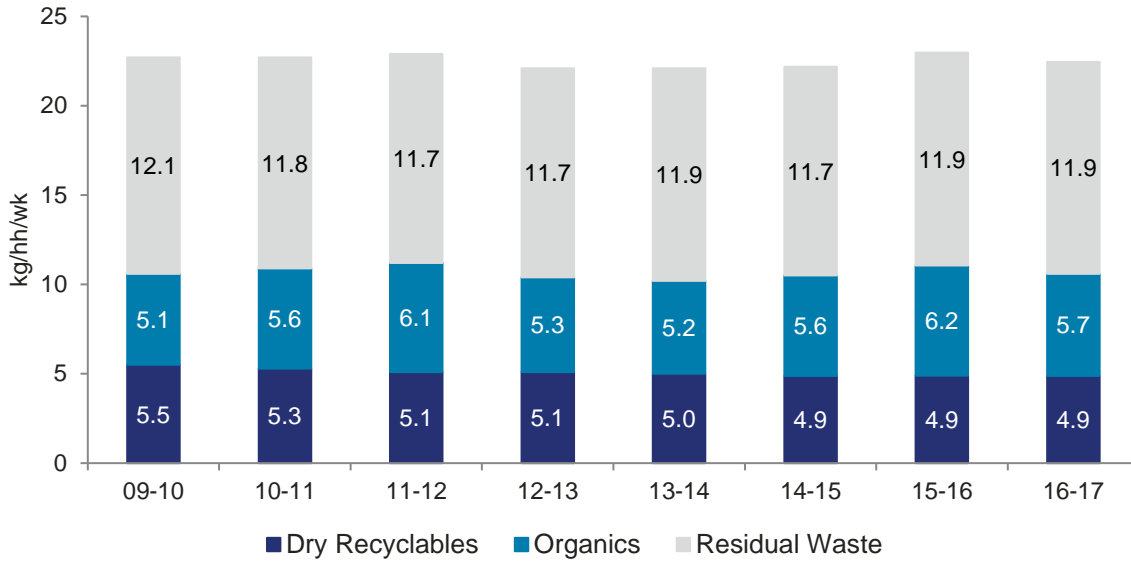
**Graph 6: Domestic waste collected by waste stream and collection method 2016–17 (tonnes)**



\*Note: Due to rounding, the total is not the same as the sum of the component figures for Residual Waste when compared to Table 1

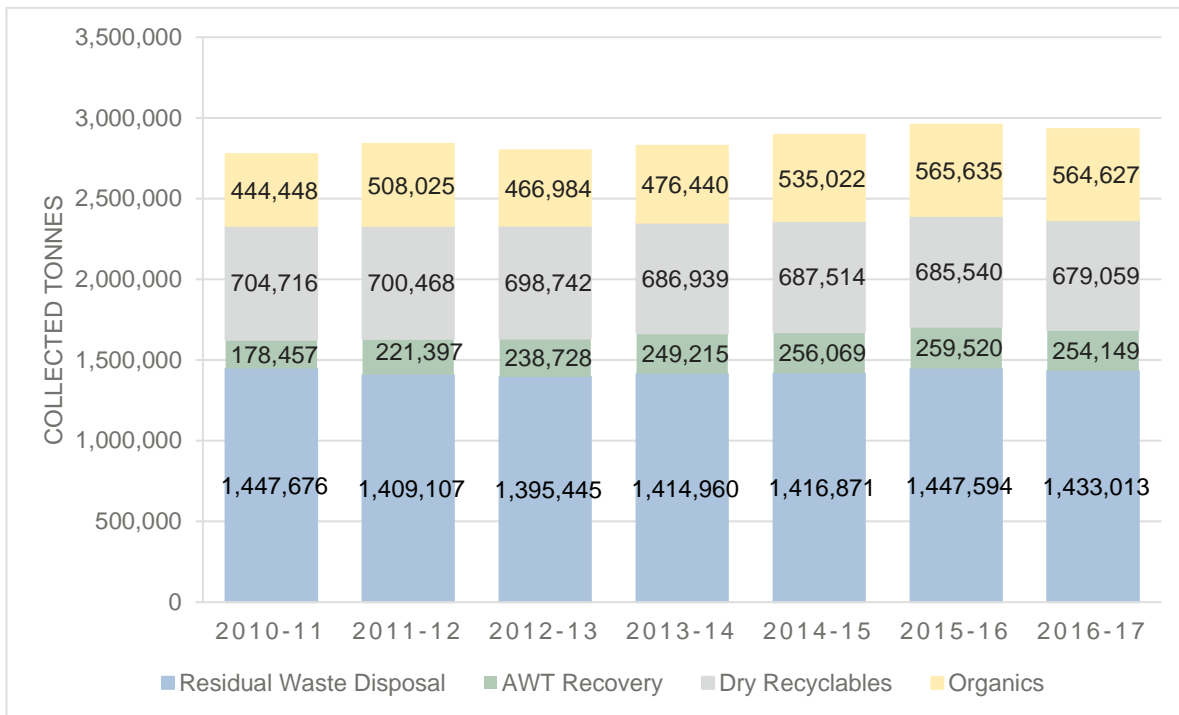
Graph 7 shows the amount of domestic waste collected at the kerbside between 2009 and 2017. The current average amount of domestic waste collected at the kerbside is 23.3kg per household per week. The amount of domestic waste collected at the kerbside for each waste stream is relatively consistent over the eight year period.

**Graph 7: Average kilogram per household per week waste generation by stream 2009–17**



Graph 8 shows the total amount of waste collected at the kerbside by waste and the amount of waste processed by each end destination method. Although numbers of households have increased, some waste collection reduction may be occurring due to private contracts by multi-unit dwellings not reported under council operations.

**Graph 8: Total domestic kerbside waste collected by processing method 2010–17 (tonnes)**



## 2. Recycling

### 2.1. Dry recyclables collected and recycled



**Dry recyclables formed 22% of total domestic waste in 2016–17, where a total of 804,189 tonnes were collected (compared to 35% or 663,876 tonnes in 2005–06).**

Dry recyclables are collected from three sources:

- Kerbside collections accept mixed household recyclables, including paper, newspaper, magazines, cardboard, plastic film and bottles, steel and aluminium cans, and glass bottles.
- Drop-off facilities allow residents to bring in recyclables, including electronic waste (e-waste), batteries, gas bottles and oils.
- Clean-up services collect large metals and bulky goods.

Table 2 shows the collection method and the regional area from which dry recyclables were collected. In NSW, 804,189 tonnes of dry recyclables were collected in 2016–17. Of this, 84% or 679,059 tonnes was collected from the kerbside, with residents taking 12% to drop-off points and the remaining 4% collected by clean-up services.

Around 72% of drop-off material was collected from the Regional Area and the Rest of State, while the Sydney Metro and Extended Area collected the most from kerbside and clean-up services. This reflects the different service provisions and access to kerbside collections between the areas.

**Table 2: Dry recyclables collected by collection method and regional area 2016–17 (tonnes)**

	Sydney Metro	Extended Area	Regional Area	Rest of State	NSW
<b>No. of councils</b>	<b>30</b>	<b>12</b>	<b>19</b>	<b>51</b>	<b>112</b>
Kerbside (tonnes)	368,294	144,971	89,214	76,581	679,059
Drop-off (tonnes)	1,955	25,069	35,790	32,262	95,076
Clean-up (tonnes)	26,631	1,284	1,263	875	30,054
<b>Total (tonnes)</b>	<b>396,880</b>	<b>171,324</b>	<b>126,267</b>	<b>109,718</b>	<b>804,189</b>

In NSW 112 of 128 councils reported a recycling collection service covering 89% of households in the State. The Sydney Metro region collected 54% of the total kerbside recyclables from 1.47 million households with a service.

Table 3 shows the average weight of dry recyclables collected from 2,671,542 NSW households and by capita per region. On average, 254 kg/year of kerbside dry recyclables were collected from households with a recycling service in 2016–17, a weekly average of 4.89kg per household or 1.88kg per person.

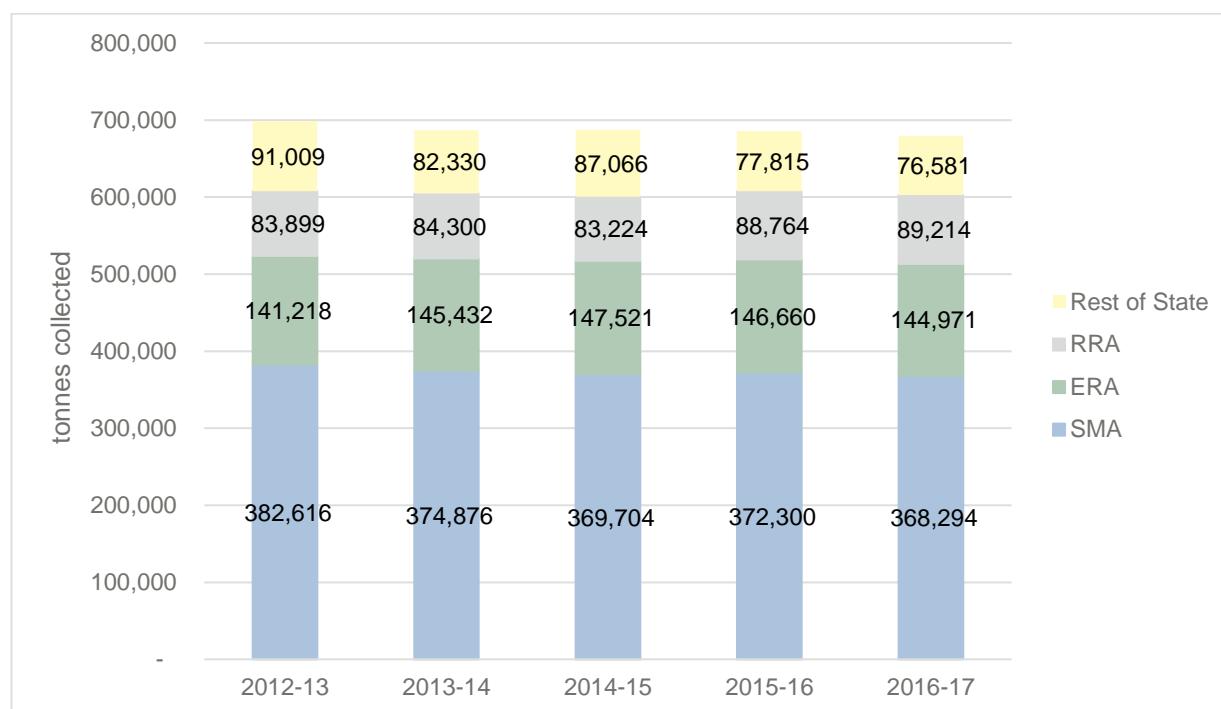
**Table 3: Dry recyclables collected per household / person by region 2016–17**

Region	No. households with Service	Household <sup>1</sup>		Person <sup>2</sup>	
		Annual Ave kg	Weekly Ave kg	Annual Ave kg	Weekly Ave kg
Sydney Metro	1,446,961	254.5	4.89	91.6	1.76
Extended Area	567,003	255.7	4.92	102.2	1.97
Regional Area	312,711	285.3	5.49	123.8	2.38
Rest of State	344,867	222.1	4.27	95.9	1.84
<b>NSW</b>		<b>254.2</b>	<b>4.89</b>	<b>97.6</b>	<b>1.88</b>

**Note:** Due to rounding and presentation of data to 1 decimal place, the multiplication of the weekly data per person may not match the annual figures when multiplied by 52

Graph 9 shows the weight of dry recyclables collected by kerbside collections by area in comparison to the previous year. The Regional Regulated Area slightly increased collection, however the overall NSW total remained broadly the same as the previous five years.

**Graph 9: Kerbside dry recyclables collected by area 2012–17 (tonnes)**

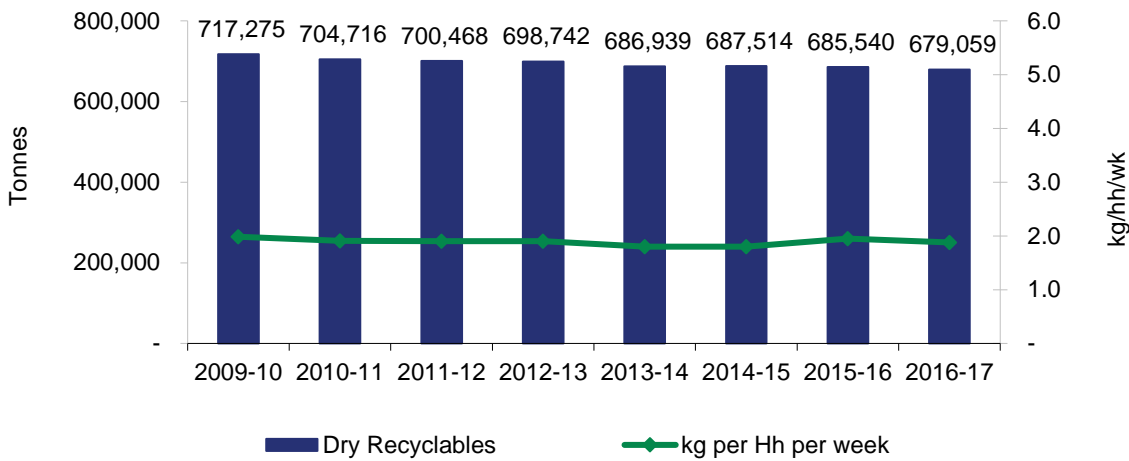


The level of dry recyclables collected at the kerbside has held steady over the past five years as illustrated in Graph 10. Therefore any increases in overall recycling has come from non-kerbside collections, organic waste collections and AWT material recycled.

<sup>1</sup> The household average is based on the number of serviced households

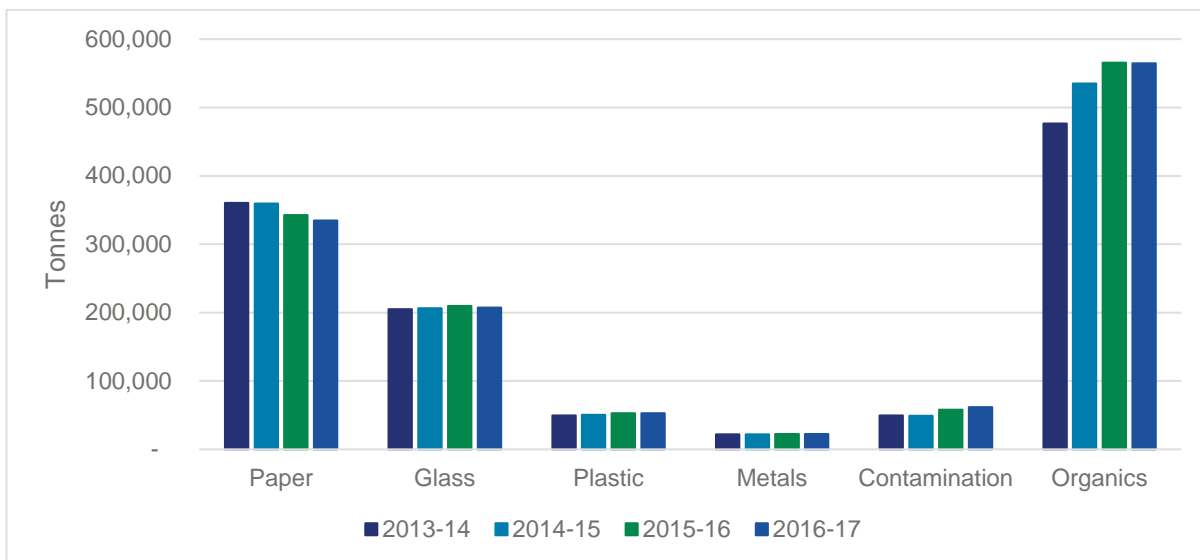
<sup>2</sup> The person average is based on the total population in councils with kerbside recycling

Graph 10: Dry recyclables collected at the kerbside (total and average household yield per week) 2009–17



Graph 11 below is the average by material collected over the past four years based on compositional recycling audit data.

Graph 11: Kerbside recycling collected by material in tonnes per year 2013–17



## 2.2. Organics collected and recycled

Like dry recyclables, organics are collected through kerbside, drop-off and clean-up services. A total of 46 councils collect garden organics only and 28 councils collect food and garden organics (FOGO), with four councils using both systems. Statewide, 50 councils did not collect organics at the kerbside. Household garden organics are mainly bark, leaves, twigs and lawn clippings, while the FOGO co-collection service also includes household food scraps.

Table 4 shows the organics collected at the kerbside in 2016–17. The total weight of organics collected at the kerbside increased by 16% from 476,440 in 2013–14 to 564,627 tonnes in 2016–17. From this amount, 97% was recovered, leaving only 3% of rejects and contaminants being sent to landfill. The 32 councils with collection systems accepting FOGO collected 139,450 tonnes in 2016–17.

**Table 4: Organics collected at the kerbside by method and by region 2016–17 (tonnes)**

	Sydney Metro	Extended Area	Regional Area	Rest of State	NSW
<b>Garden organics</b>					
Councils with service	25	8	6	11	<b>50</b>
Tonnes collected	259,087	109,517	32,378	24,195	<b>425,177</b>
<b>Food and garden organics (FOGO)</b>					
Councils with service	3	2	10	17	<b>32</b>
Tonnes collected	34,837	15,945	57,982	30,686	<b>139,450</b>
<b>Total organics</b>					
Councils with service	28	10	16	28	<b>82</b>
<b>Tonnes collected</b>	<b>293,924</b>	<b>125,462</b>	<b>90,360</b>	<b>54,881</b>	<b>564,627</b>



**More FOGO collections in NSW than ever: 32 councils collected 139,450 tonnes in 2016–17, compared to 84,215 tonnes in 2012–13, a 40% increase.**

Graph 12 below shows the steady increase in the organics collected by region over the past five years. Kerbside organics collection in 2016–17 increased by 6% (around 30,000 tonnes) from 2014–15.

There have been increases in all regions except Sydney Metro, which can be attributed to natural annual fluctuations (annual rainfall increasing or decreasing organics production), as most council had a slight decrease in collections. NSW councils provided a kerbside collection service to 60% of all households for organics and/or FOGO.

**Graph 12: Organics collected at the kerbside by region 2010–17 (tonnes)**

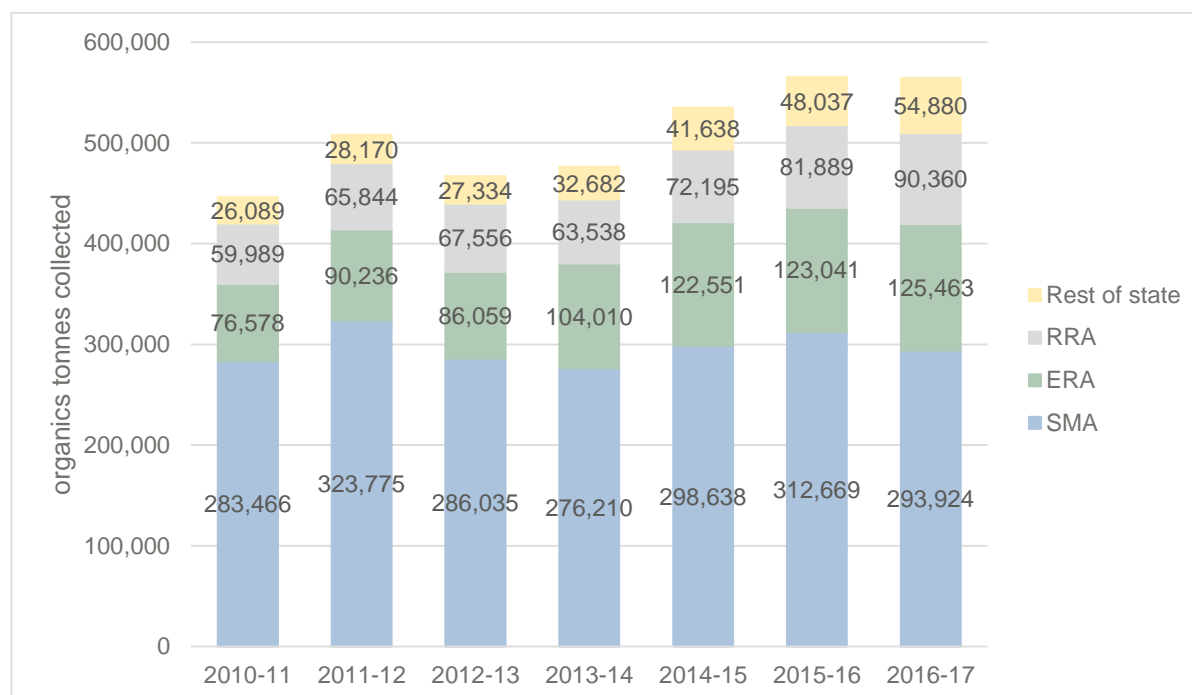


Table 5 shows the collected garden organics compared to the food and garden organics per household and capita weekly. The Sydney Metro area collected 6.33kg of organics per household weekly, compared to 8.22kg of FOGO. The Regional Area collected 5.51kg of organics compared with 7.78kg of FOGO. The Rest of State collected 5.71kg per household per week.

Across all areas FOGO produces the greatest yield, by taking the food out of the waste bin thus reducing landfill and increasing recycling rates.

The FOGO systems have been increasing over the past few years and proving to provide a greater yield in achieving recycling targets per household and capita than the regular garden organics.



**Across all areas FOGO produces greater yield. By taking food out of the waste bin this reduces landfill and increases recycling rates.**

**Table 5: Organics collected per household<sup>3</sup> / person<sup>4</sup> by region 2016–17 (kilograms)**

Region	No. LGA	No. LGA	Household Average		Person Average	
	Organics Service	FOGO Service	Organics kg/wk	Fogo kg/wk	Organics kg/wk	Fogo kg/wk
Sydney Metro	25	3	6.33	8.22	2.20	3.07
Extended Area	8	2	4.93	9.24	1.90	3.68
Regional Area	6	10	5.51	7.78	2.55	3.26
Rest of State	11	17	4.40	5.71	1.94	2.46
NSW	50	32	5.70	7.42	2.12	3.04

Table 6 shows 74% of kerbside organics are collected from the Sydney Metro and Extended Area. The amount of material which was sent to landfill as reject or contamination was on average 3% in NSW.

**Table 6: Organics including FOGO collected at the kerbside by region 2016–17 (tonnes)**

Region	Collected	Recycled	Disposed
Sydney Metro	293,924	288,478	5,446
Extended Area	125,463	124,360	1,103
Regional Area	90,360	88,331	2,029
Rest of State	54,880	47,246	7,634
<b>NSW</b>	<b>564,627</b>	<b>548,415</b>	<b>16,212</b>

<sup>3</sup> The household average is based on the actual number of serviced households

<sup>4</sup> The person average is based on the households with a service pro rata to population



## 2.3. Organics collection systems

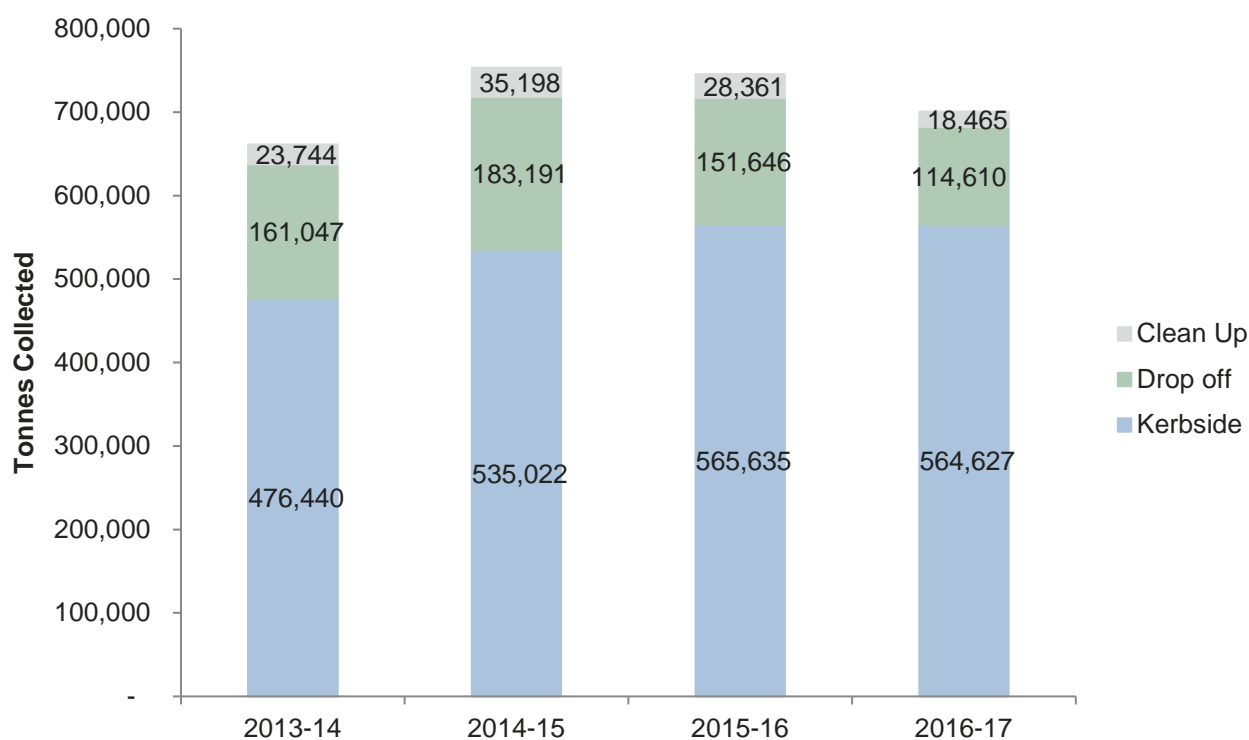
Overall, organics-only collected decreased by 6% (47,940 tonnes) in comparison to 2015–16. Kerbside organic collections stayed about the same, however drop-off organics decreased by 37,000 tonnes and collections from clean-up services decreased by 10,000 tonnes from 2015–16. As organics generation can be seasonal, the decrease tends to be across all areas and councils. This reflects generation was less rather than anything else, as the number of households and services have remained consistent.

Table 7 shows how organics were collected across NSW, where the majority was collected by kerbside collection. In the Rest of State, the main weight of organics collected was via drop-off, probably reflective of the more limited kerbside provision in this area. In all, 697,702 tonnes of organics were collected from kerbside, drop-off and clean-up services. Of this, 81% or 564,627 tonnes from kerbside including 139,450 tonnes collected from FOGO.

**Table 7: Organics collected by method and region 2016–17 (tonnes)**

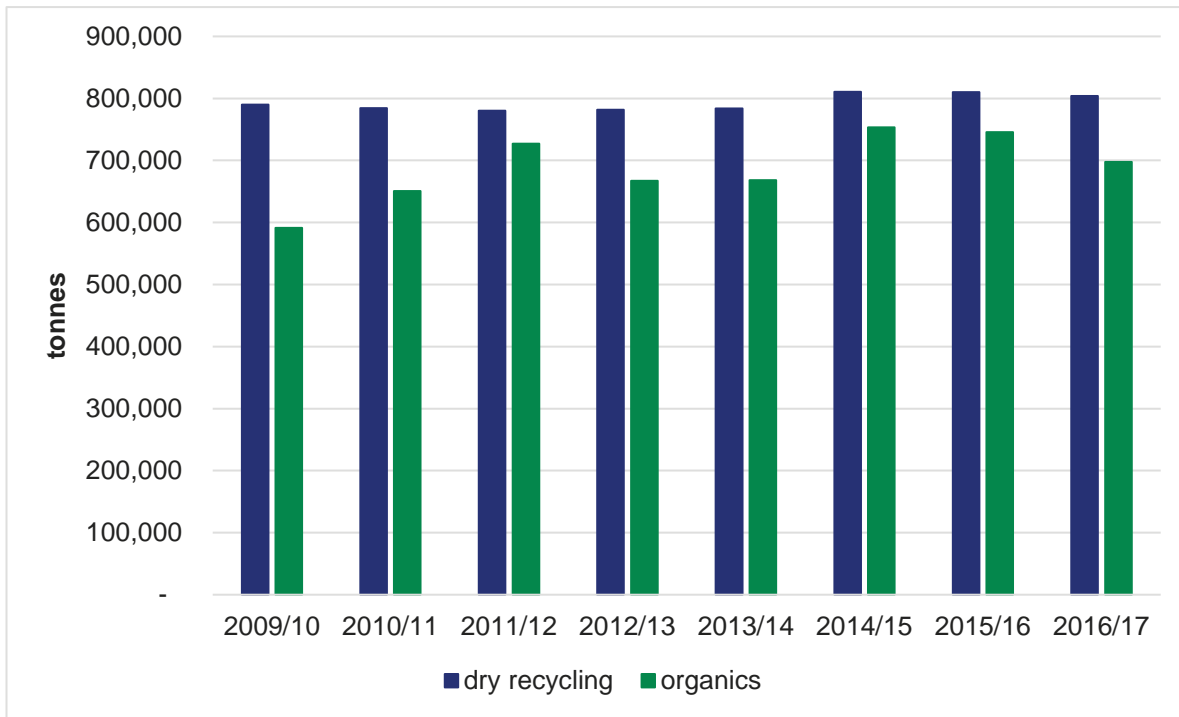
	Sydney Metro	Extended Area	Regional Area	Rest of State	NSW
Kerbside	293,924	125,463	90,360	54,880	564,627
Drop-off	7,127	25,930	33,079	48,474	114,610
Clean-up	6,970	8,969	2,229	297	18,465
<b>Total tonnes</b>	<b>308,021</b>	<b>160,362</b>	<b>125,668</b>	<b>103,651</b>	<b>697,702</b>

**Graph 13: Kerbside organics collected by method 2013–17 (tonnes)**



Graph 14 shows the collected dry recyclables year-on-year is stable but there is a linear increase over time in the quantity of organics collected. A slight decrease in 2016–17 was due to a drier season producing less organics.

Graph 14: Dry recyclables and organics collected by year 2009–17 (tonnes)



# 3. Residual waste

Residual waste is the remaining waste after households have separated out the dry recyclables and organics. It is collected from one of three methods: kerbside, at drop-off facilities and through clean-up services. The residual waste is either:

- treated in an AWT facility before disposal, or
- sent directly to landfill.

NSW residents disposed of 1,912,742 tonnes of residual waste to landfill. This figure includes:

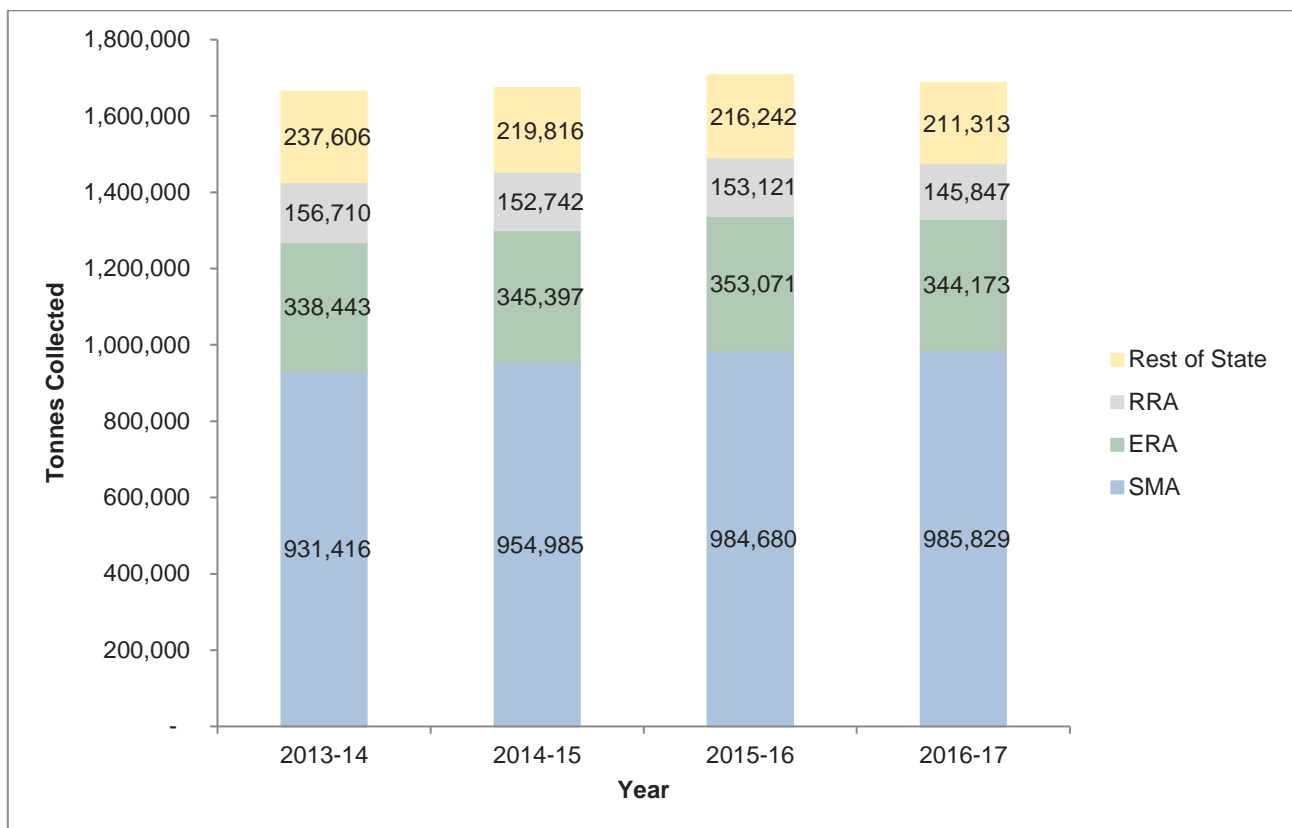
- residual waste collected at the kerbside and sent direct to landfill (1,162,104 tonnes)
- residual waste from drop-off centres (203,385 tonnes)
- residual waste, from clean-up collections (184,152 tonnes)
- rejects from AWT sent to landfill (270,909 tonnes)
- rejects from dry recyclables sent to landfill from kerbside, clean-up and drop-off methods (65,541 tonnes)
- rejects from organics sent to landfill from kerbside, clean-up and drop-off methods (26,651 tonnes).

## 3.1. Kerbside residual waste collected and recycled

In 2016–17 the total amount of waste collected from kerbside residual waste collections decreased by 2.2% from the previous year to 1,687,162 tonnes

Graph 15 shows that the decreases were outside the Sydney Metro Area. This only includes council-contracted and day labour waste collected. It does not include some residential properties serviced by private contractor. However the average per person collection remains the same since 2013.

Graph 15: Kerbside residual waste collected by region 2013–17 (tonnes)



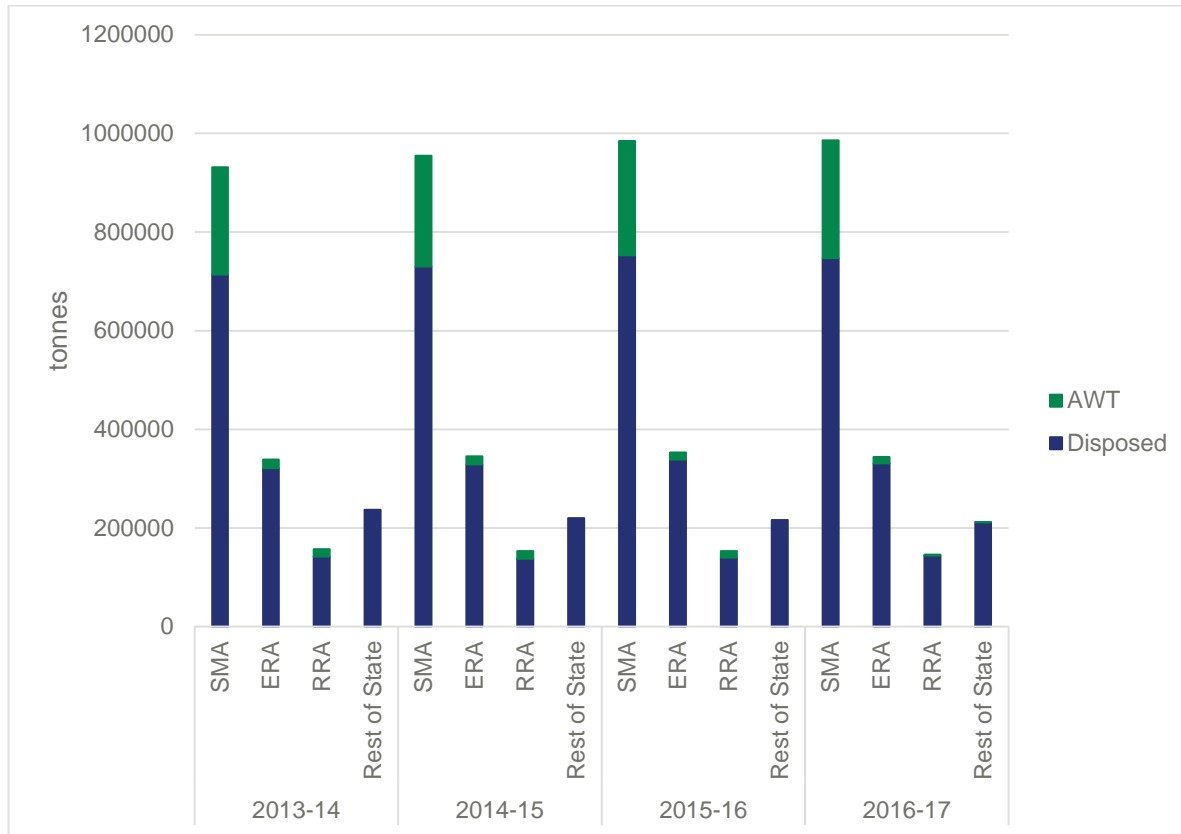


**Sixteen councils sent 525,000 tonnes of kerbside residual waste to an AWT facility where 49% was processed to be recycled (254,000 tonnes).\***

\* Figures have been rounded up to the nearest whole number

Graph 16 shows the residual waste collected by region and the amount sent to an AWT facility. The SMA accounting for 52% of the NSW tonnes disposed.

**Graph 16: Kerbside residual waste by end destination by region 2013–17 (tonnes)**



The average weekly residual waste created by each household remained the same as 2015–16 at 11.9kg. Of the 128 councils with residual waste collection services, 16 sent some or all of their kerbside residual waste to an AWT facility. From the created waste, 254,149 tonnes were recovered by AWT (see Appendix tab 9 for more detail).

**Table 8: Kerbside residual waste collected per household/person by region 2016–17 (kilograms)**

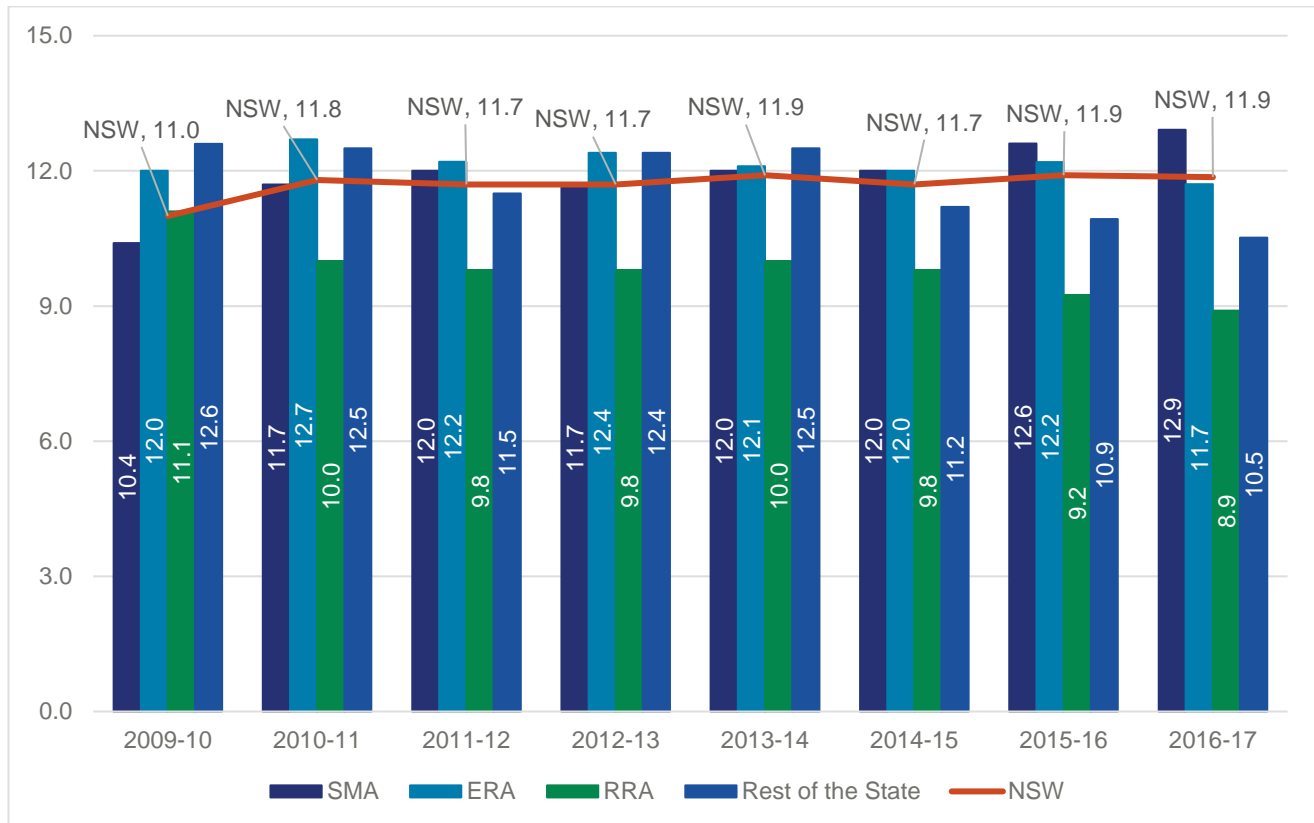
Region	Household Average		Person Average	
	Annual kg	Weekly kg	Annual kg	Weekly kg
Sydney Metro	671.5	12.9	241.1	4.6
Extended Area	608.6	11.7	243.3	4.7
Regional Area	462.8	8.9	200.6	3.9
Rest of State	546.8	10.5	238.2	4.6
NSW*	616.8	11.9	237.0	4.6

\*Figure totals for NSW may not add up to the sum of the table component numbers because they are averages.



## Avoid and reduce waste generation: per household average residual waste has held level since 2010–11.

Graph 17: Average<sup>5</sup> household weekly residual waste by region 2009–17 (kilograms)



### 3.2. Collection systems

In 2016-17, NSW councils can be categorised into five types of collection systems, each with a combination of waste, recycling, organics and food and garden organics (FOGO). The collection figures in Table 9 are an average amount collected based on households with a service calculated to kilograms per household per week.

All 128 NSW councils had a residual waste collection service. Kerbside waste services covered 91% of households in NSW, 91% in Sydney Metro, 99% in ERA, 88% Regional Area and 85% in Rest of State.

A total of 111 of 128 councils provided a weekly service, collecting 12.37kg/hh/wk and 17 councils collected fortnightly, yielding 7.47kg/hh/wk.

A total of 112 councils provided a dry recycling service; 16 councils with weekly collection at 4.49kg/hh/wk and 96 with fortnightly predominant service collecting 4.95kg/hh/wk, delivering a service to 89% of households in NSW.

A garden organics service was offered by 50 councils. Of those, 44 used a fortnightly service, yielding 5.33kg/hh/wk.

The number of councils using food and garden organics (FOGO) increased to 32, with 19 councils having a weekly service collecting 7.70kg/hh/wk and 13 councils with a fortnightly service collecting 3.93kg/hh/wk.

<sup>5</sup> Household average is based on the number of service households. Person average is based on the total population in councils that provide waste collection.

The combinations in Table 9 show the average collection yield per system for the councils' predominant service. Note: some councils have a mix and range of services offered.

**Table 9: Collection systems and average yield per household per week by council 2016–17**

No. LGAs	Avg. collected kg/hh/wk	Predominant system	Avg. recycling rate %
15	15.96	Waste only	9%
36	17.31	Waste + Recycling	34%
46	22.35	Waste + Recycling + Garden Organics	44%
27	19.31	Waste + Recycling + FOGO	55%
4	24.17	Waste + Recycling + Garden Organics + FOGO	41%

Appendix tab 8 shows each LGA average yield per household and capita.

# 4. Disposal to landfill

## 4.1. Waste streams

Waste sent to landfill can come from a variety of collection or service methods. It is often sent directly from residual waste collections from kerbside or clean-up, and some residents take waste direct to drop-off centres. Rejects or contamination from recycling facilities also contribute, along with material unable to be recycled by AWT facilities. AWT facilities have around a 50% processed rate from residual waste before continuing to landfill.

In 2016–17, 1,912,742 tonnes of domestic waste was sent to landfill, a 2% decrease from 2015–16. The Sydney Metro councils sent 48% of this (924,729 tonnes) to landfill, followed by the Extended Area councils who sent 444,349 tonnes (23%).

Graph 18 shows the breakdown of where the material sent to landfill originated from.

Graph 18: Tonnes sent to landfill from waste stream/collection method by region 2016–17

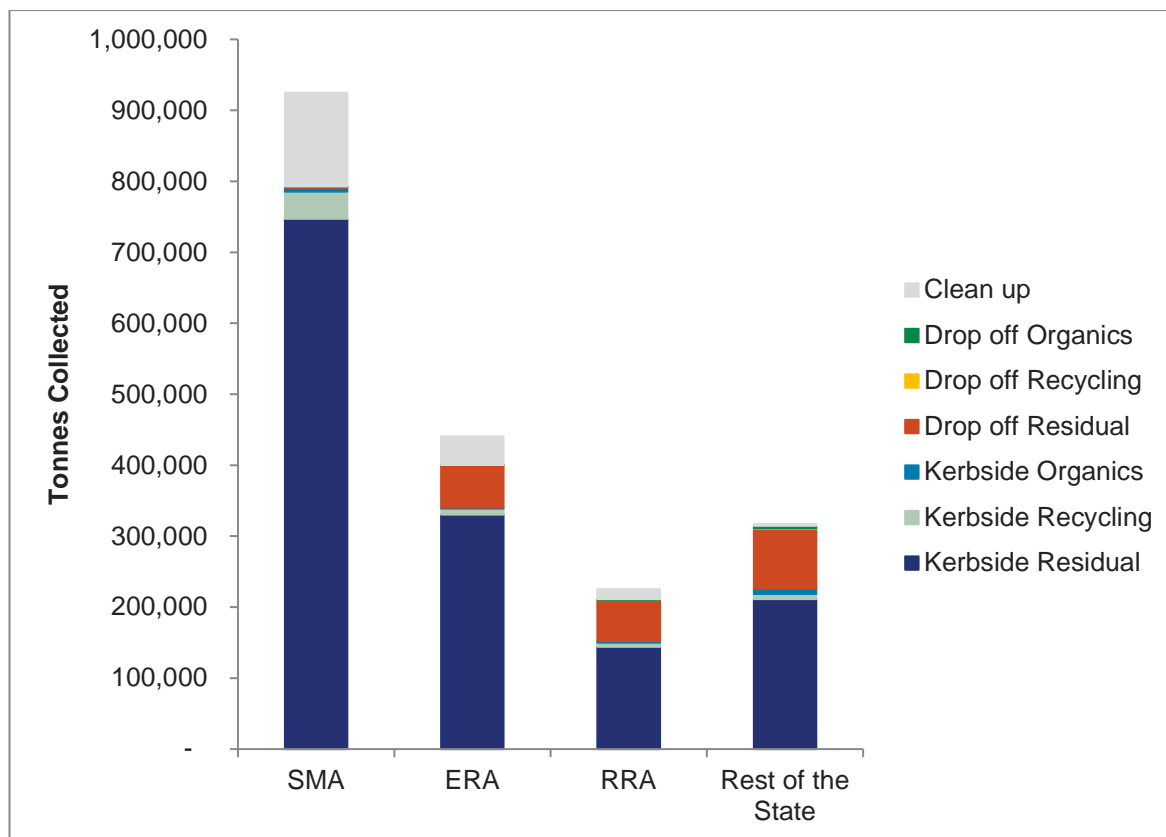
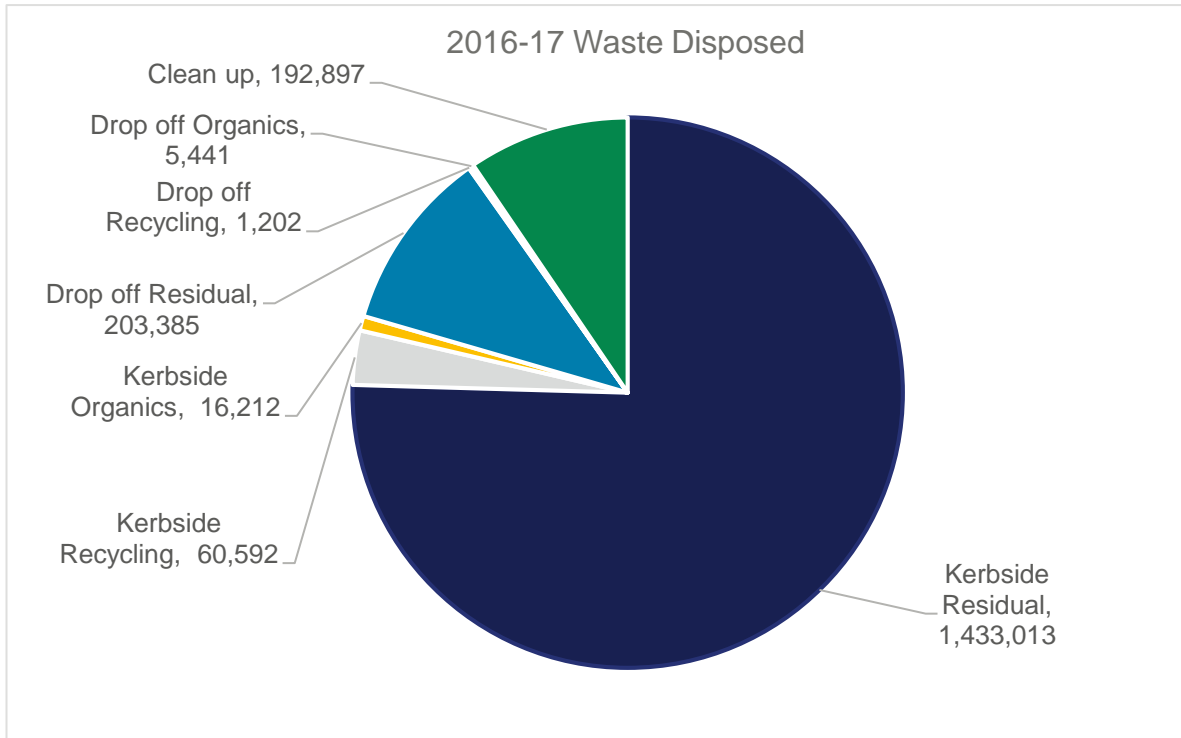


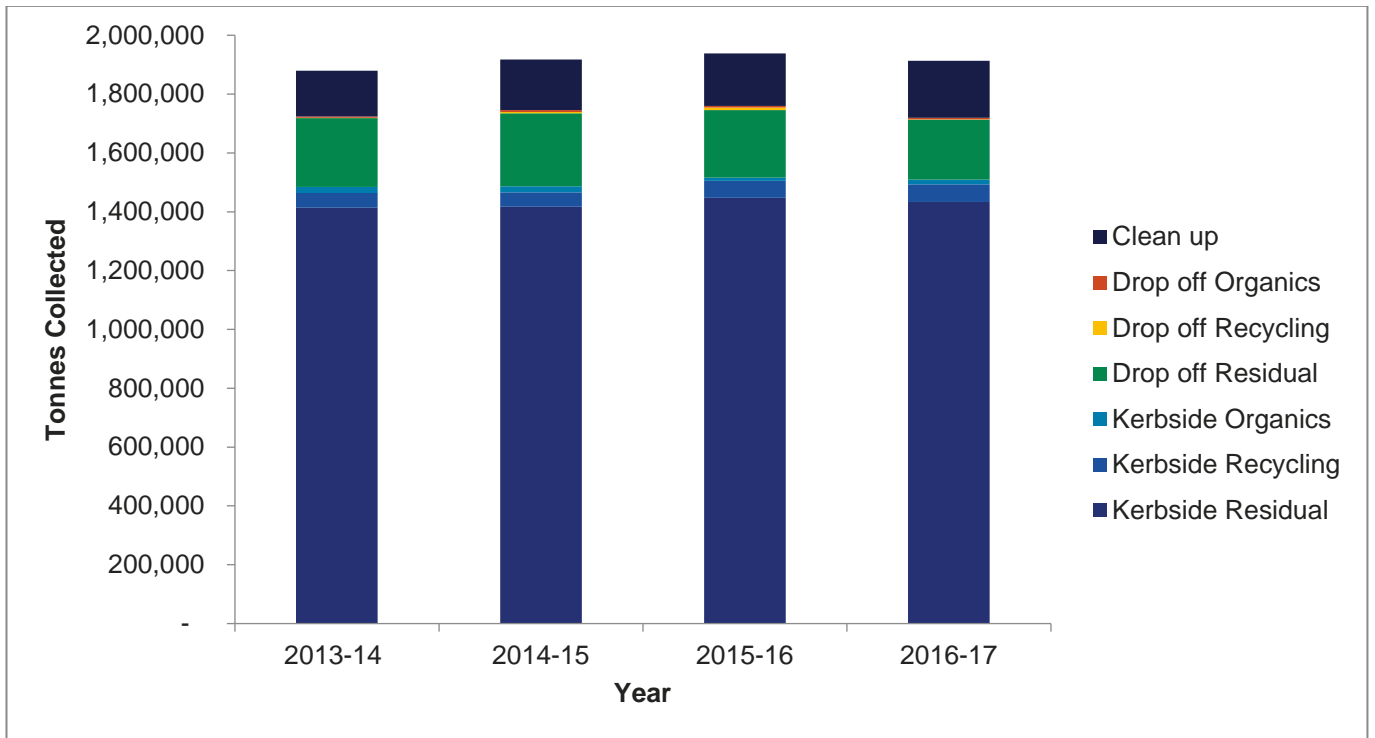
Diagram 1 shows the amount of residual waste disposed to landfill, including AWT disposal plus rejects from recycling and organic process. Contaminants from dry recycling and organics, collected kerbside make up 4.8% (92,192 tonnes) of the total. Drop-off contaminants make up 11% (210,028 tonnes). Clean-up contaminants make up 10.1% (192,897). Clean-up waste disposed includes primarily bulky goods and hard waste.

Diagram 1: Total domestic waste sent to landfill by collection method/waste stream 2016–17 (tonnes)



Graph 19 shows there has been only marginal changes in the amount and proportion of residual waste sent to landfill by collection method and stream from the previous few years, although there is an decrease in the total weight of material sent to landfill. Kerbside residual and contaminants from kerbside and drop-off recycling increased in 2016-17.

Graph 19: Domestic waste disposed to landfill by collection method/waste stream 2013–17 (tonnes)



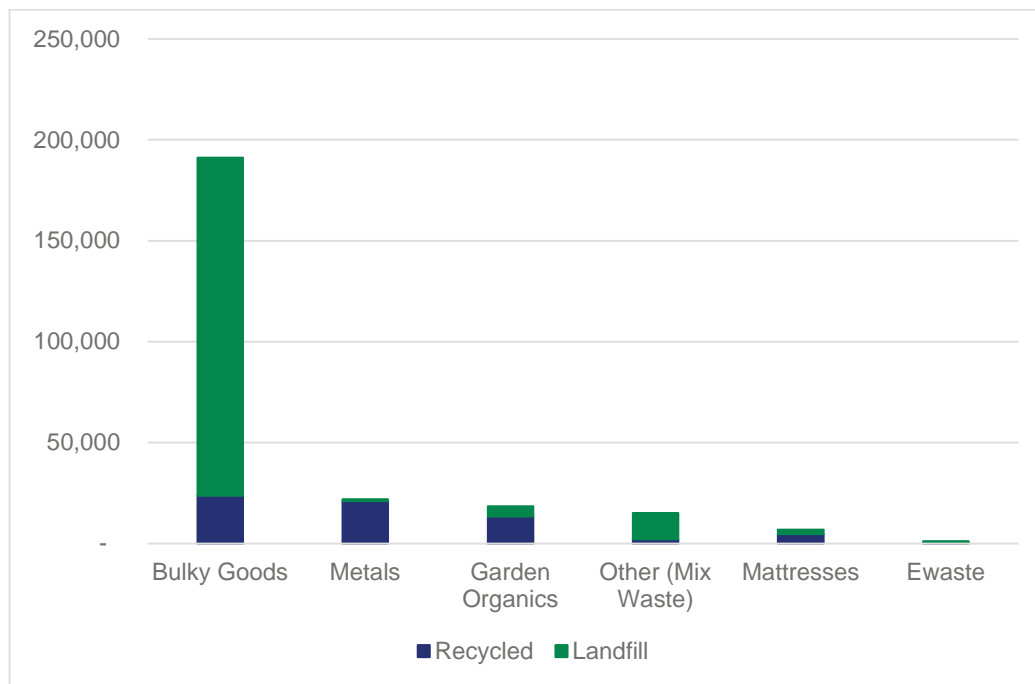


# 5. Clean-up services

## 5.1. Waste collected by clean-up services offered by councils

In 2016–17, 254,769 tonnes were collected from council kerbside clean-up services. Bulky goods made up 75% (191,117 tonnes), metals made up 9% (22,049), followed by garden organics at 7% (18,465 tonnes). The remaining 9% were other waste, white goods, mattresses and e-waste (23,138 tonnes).

Graph 20: Kerbside clean-up waste by material type, recycled and landfilled 2016–17 (tonnes)



25.8% of the 254,769 tonnes collected by clean-up services were recycled

In NSW, 79 councils provided a variety of different kerbside clean-up services but access to the services varied across councils.

Table 10 shows the weight of source-separated material collected separately from residual waste. Of the 254,769 tonnes collected from kerbside clean-up services, 65,710 tonnes were recycled and 189,059 tonnes went to landfill. The recycling rate from kerbside clean-up services was 25.8% in 2016–17.

For some materials such as garden organics, e-waste and white goods, almost all of the material collected was recycled. For other separately collected materials such as bulky goods, only a proportion of the material collected was suitable for recycling with the remainder disposed of.

**Table 10: Tonnes of source separated clean-up materials by type 2016–17**

Material type	Collected	Recycled	Disposed	% Recycled
Bulky Goods	191,117	23,764	167,353	12.4%
Metals	22,049	21,001	1,048	95.2%
Garden Organics	18,465	13,467	4,998	72.9%
Other (Mix Waste)	15,133	2,172	12,961	14.4%
Mattresses	6,851	4,694	2,157	68.5%
E-waste	1,154	612	541	53.1%
<b>Total</b>	<b>254,769</b>	<b>65,710</b>	<b>189,059*</b>	<b>25.8%</b>

**Note:** The weight of bulky goods disposed of may include recyclable material which was collected as part of the bulky goods such garden organics, mattresses etc.

\*Total figure does not represent the sum of the component numbers due to rounding



**Most of the bulky goods and other mixed materials were sent to landfill.**

Table 11 shows a significant variation between regions in the weight of material collected from clean-up collections and how much of that was recycled. The largest volume of material was collected from the Sydney Metro region, although only 24.2% was recycled. Conversely, the Rest of State collected the least weight, but proportionally recycled the greatest proportion of the material collected.

**Table 11: Tonnes of bulk waste clean-up materials by area 2016–17**

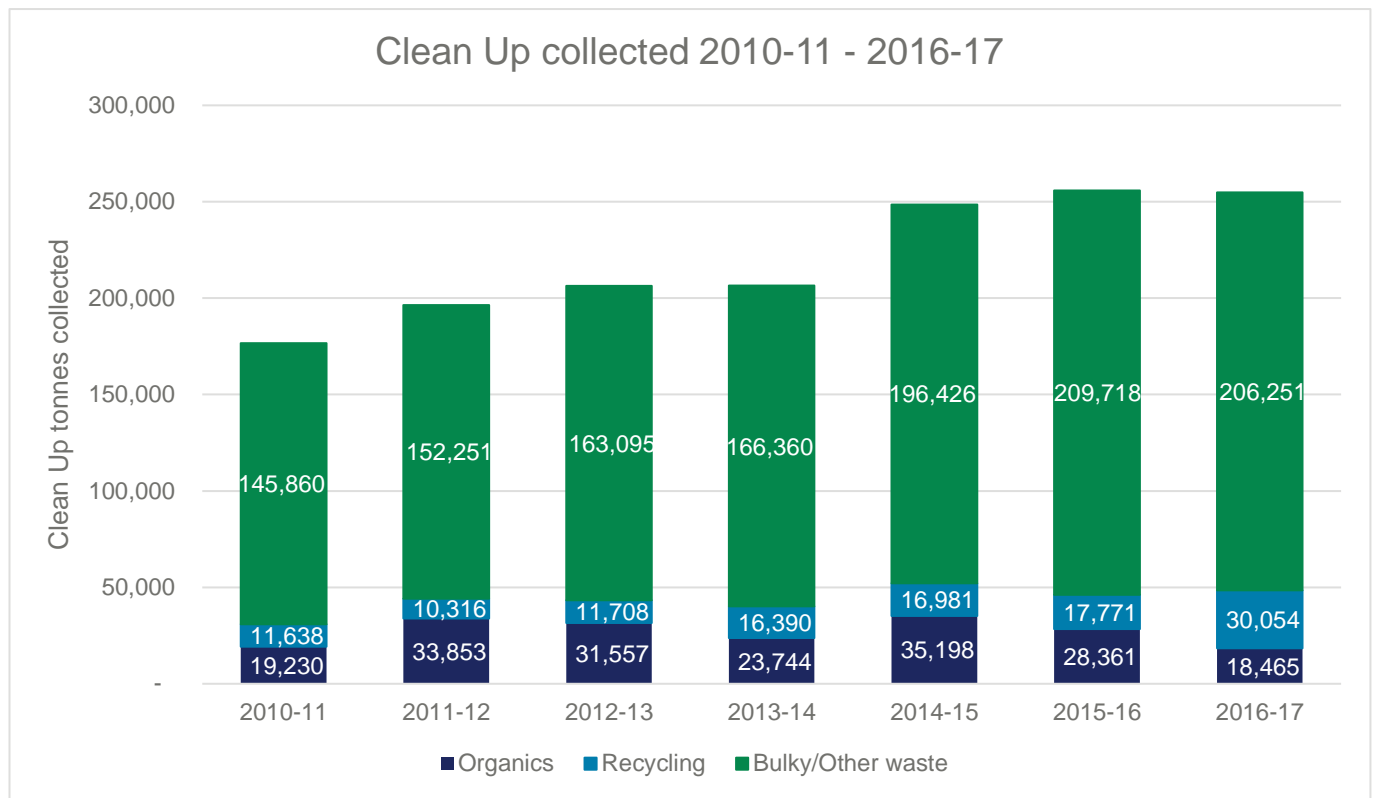
Region	Councils	Collected	Recycled	Landfilled	% Recycled
Sydney Metro	30	174,206	42,216	131,990	24.2%
Extended Area	10	58,015	17,856	40,159	30.8%
Regional Area	15	18,494	4,199	14,295	22.7%
Rest of State	24	4,054	1,440	2,614	35.5%
<b>NSW</b>	<b>79</b>	<b>254,769</b>	<b>65,710*</b>	<b>189,059*</b>	<b>25.8%</b>

\*Total figures do not represent the sum of the component numbers due to rounding

All areas are similar to last year and overall tonnage collected decreased by 1,081 tonnes.

Graph 21 shows the steady increase in kerbside clean-up collection including garden organics, bulky goods and other (mixed waste) since 2010.

Graph 21: Kerbside clean-up majority waste materials 2010–17 (tonnes)

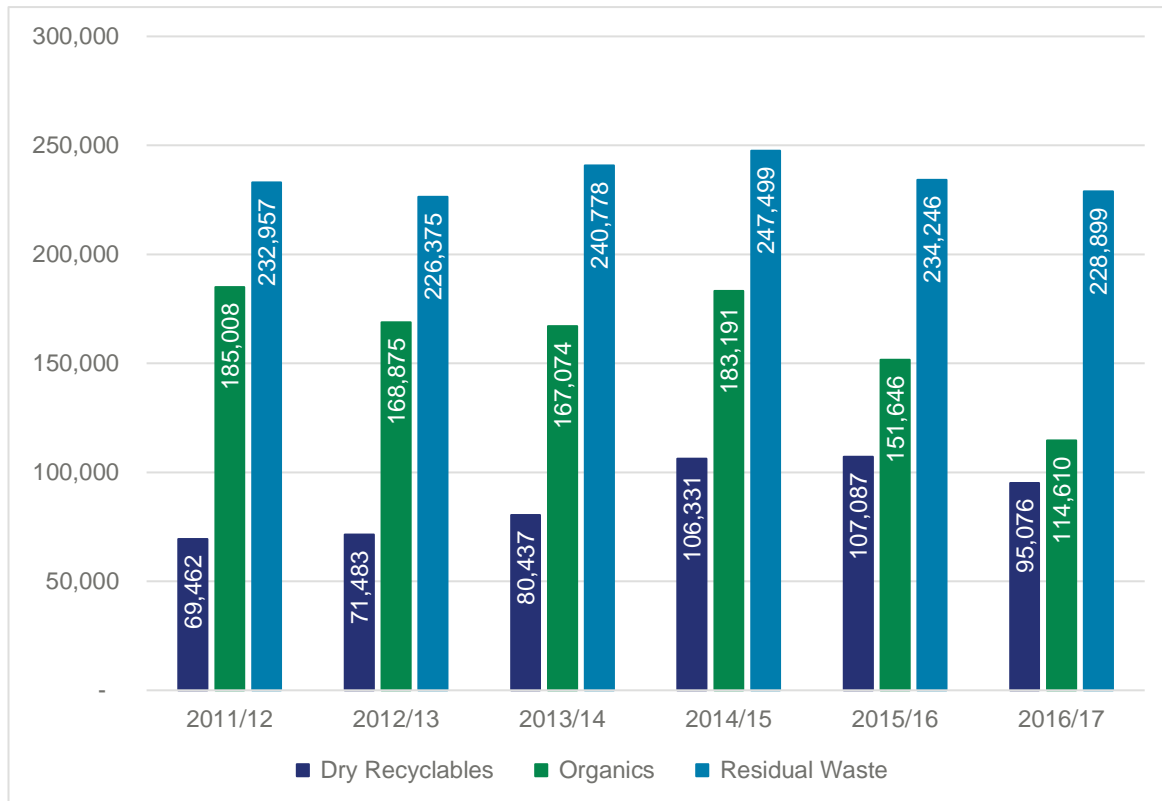


# 6. Drop-off facilities

## 6.1. Waste dropped off at a facility by residents

Graph 22 shows that residents took 438,585 tonnes of material to drop-off facilities in 2016–17. Across NSW, 103 of the total 128 council areas offered some sort of drop-off facility for residents. Graph 22 shows 228,899 tonnes residual waste and 114,610 tonnes organics were collected. Dry recyclables decreased to 95,076 tonnes in 2016–17, with all three streams being less than the previous two years. Overall there was 11% less material collected at drop-off centres in NSW compared to the previous year.

Graph 22: Drop-off received by waste stream 2011–17 (tonnes)

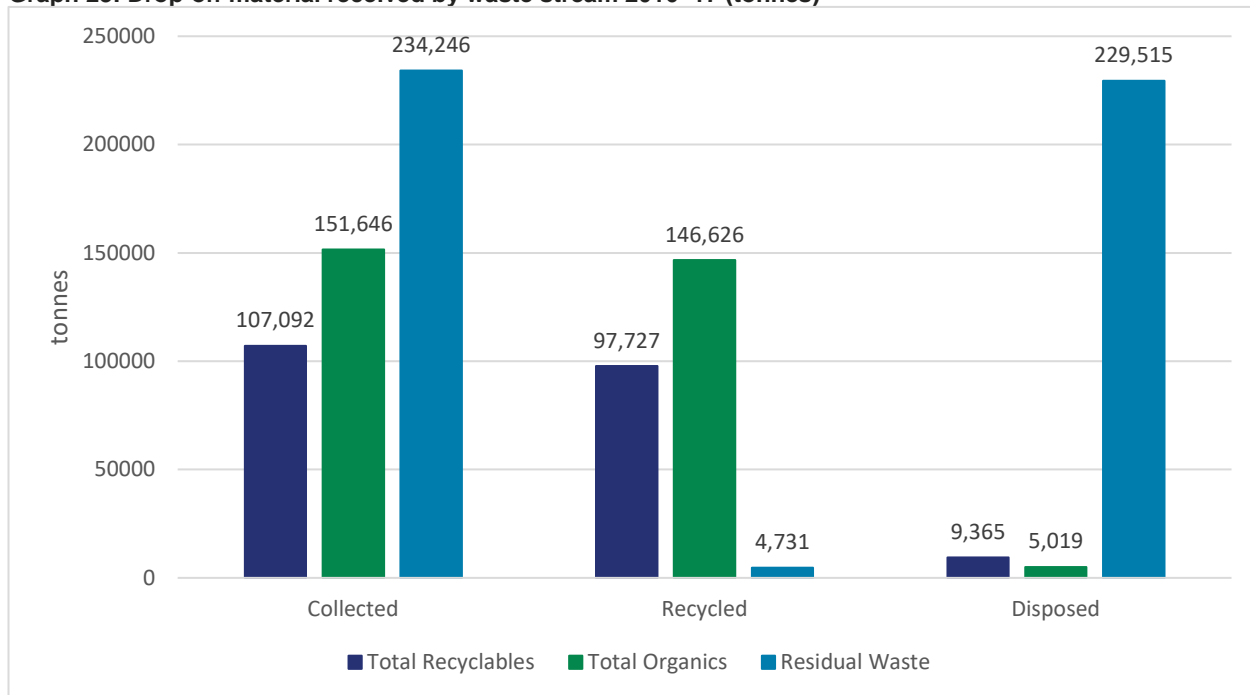




**A total of 52.1% of material from drop-off facilities was recycled in 2016–17.**

Graph 23 shows drop-off material collected, recycled and disposed of by waste stream in 2016–17.

**Graph 23: Drop-off material received by waste stream 2016–17 (tonnes)**



**Table 12: Drop-off service provisions by region 2016–17 (tonnes)**

Council region	Collected	Recycled	Disposed	%Recycled
Sydney Metro	11,107	9,514	1,593	85.7%
Extended Area	116,530	56,415	60,115	48.4%
Regional Area	141,358	82,334	59,024	58.2%
Rest of State	169,590	80,294	89,296	47.3%
<b>NSW</b>	<b>438,585</b>	<b>228,557</b>	<b>210,028</b>	<b>52.1%</b>

# Terms

## **Total domestic waste**

All waste created by households which includes residual waste, recyclables and organics that councils collect from households. Council collection services include kerbside, clean-up collections and drop-off facilities

## **Recyclables**

Dry recyclable and organic waste material which is not residual waste

## **Contaminants**

The tonnes rejected by recycling operators that are disposed of to landfill from the total amount sent for recycling. For organics, the tonnes which have not been processed are sent to landfill.

## **Waste stream**

This refers to each category the waste material is collected for. Residual waste, predominantly red-lid bin material, intended for disposal. Recyclables collected in yellow-lid bin intended for recycling and organics, intended to be recycled. All three streams have clean-up and drop-off options along with kerbside collections.

## **Recycling rates**

The percentage of all domestic waste that is recycled, calculated as:

$$\frac{\text{Total recycled}}{\text{Total collected}} \times 100$$

## **Dry recyclables**

Household recyclables are collected from three sources:

- Kerbside collection which picks up mixed paper, newspaper, magazines, cardboard, plastic films and bottles, steel and aluminium cans and glass bottles.
- Drop-off facilities accepting the above plus other material (e.g. batteries, gas bottles)
- Clean-up services which collect large metals and bulky goods.

## **Organic recyclables**

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

## **Residual waste**

Waste created by domestic activity, less recyclables and organics.