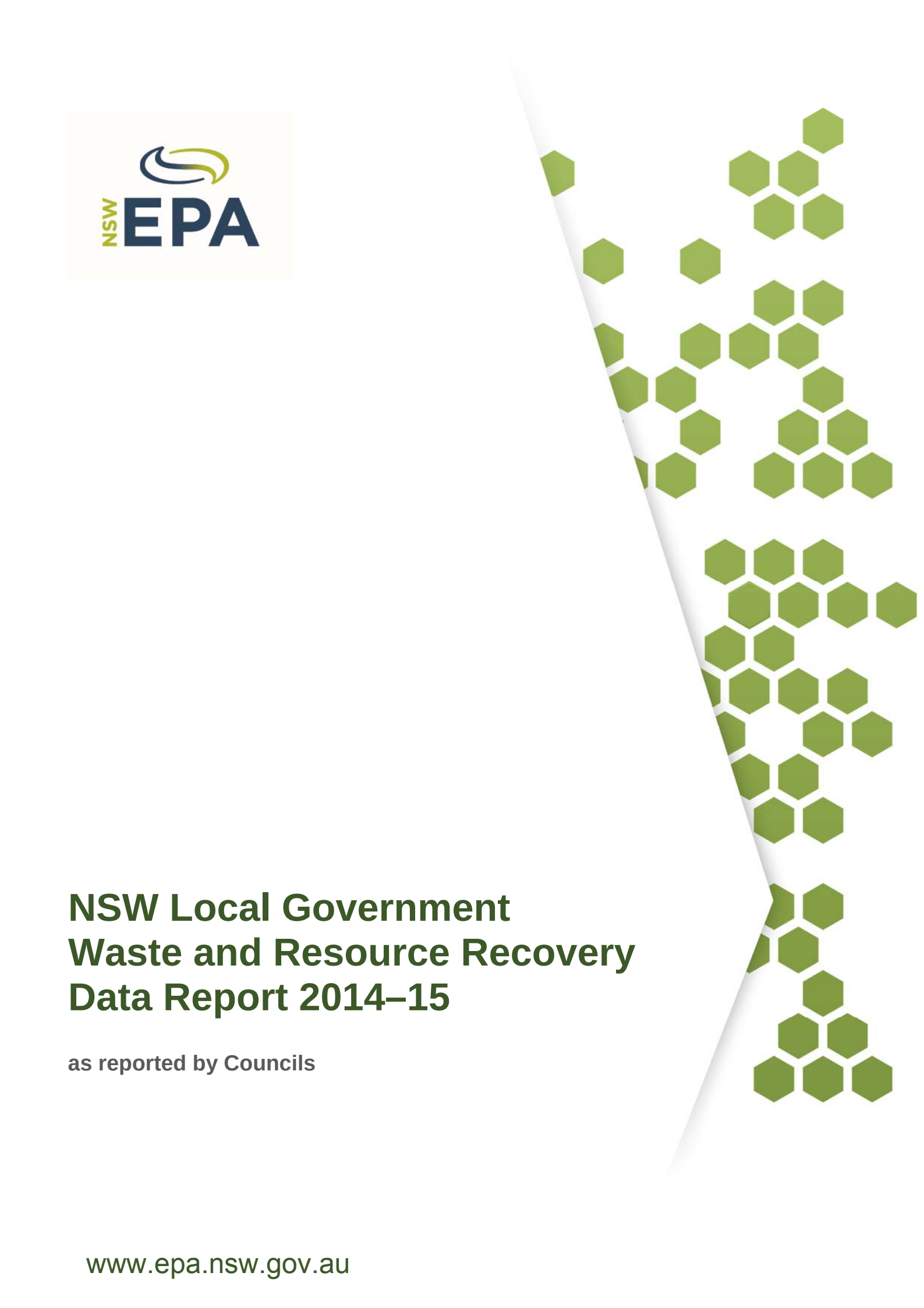

NSW Local Government Waste and Resource Recovery Data Report 2014–15

as reported by Councils

www.epa.nsw.gov.au

The EPA acknowledges the cooperation and contribution of all NSW councils that supplied data for this report. This report depends on the accuracy of that data. While the EPA has verified the information wherever possible, it cannot validate the raw data.

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Contents

Overview

A snapshot of local and statewide waste management

This is the tenth annual *NSW Local Government Waste and Resource Recovery Data Report*.) It is based on survey responses from 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 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 and recycled, while sections 5 to 7 look at how waste is collected.

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 & industrial and construction and demolition waste. All per person averages are based on 30 June 2015 population figures from the Australian Bureau of Statistics.

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. This will also help create jobs and grow the state economy.

The WARR Strategy includes six long-term targets:

1. Avoiding and reducing the amount of waste generation per person in NSW
2. increasing recycling rates to ◦70% for municipal solid waste, 70% C&I, 80% C&D,
3. increasing waste diverted from landfill to 75%
4. managing problem wastes better, establishing 86 drop-off facilities and services across NSW
5. reducing litter, with 40% fewer items (compared to 2012) by 2017
6. combatting illegal dumping, with 30% fewer incidents (compared to 2011) by 2017

While in line with previous reports, this document also reflects aspects of these key result areas. A separate biennial report analyses our progress against these targets in more detail.

The NSW Government allocated $802 million over nine years under the *Waste Less, Recycle More* initiative. This initiative is funded through 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, and illegal dumping and litter prevention.

Focus on recycling will help achieve targets

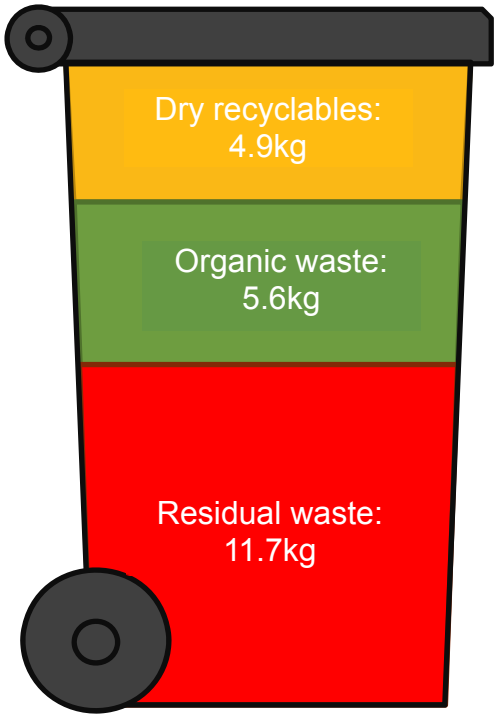
For local councils to meet NSW targets, it is vital to focus on reducing waste and increasing recycling. To help councils measure their effectiveness in this area, this report includes recycling rates for each waste stream. Results for each council are in Appendix 3.

Fast facts

Avoid and reduce waste generation

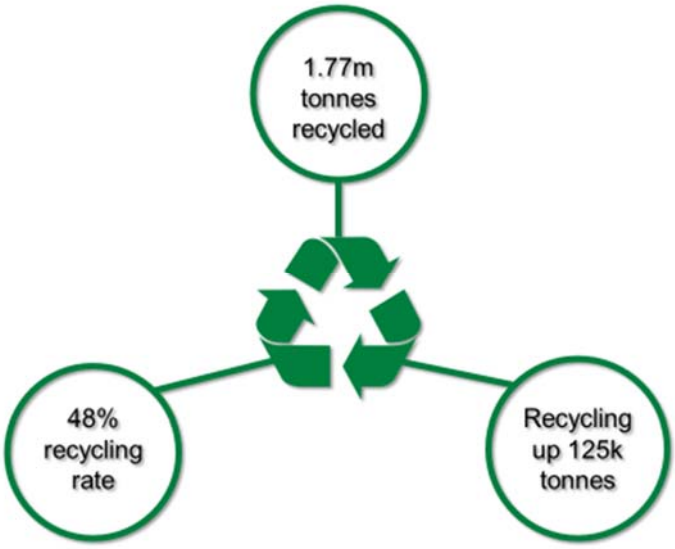
Households created 3.69 million tonnes of domestic waste, collecting 2.13 million tonnes of residual waste and 1.56 million tonnes of dry recycling and organics.

The average household created 24.2 kg of total waste, or 9.4 kg per person each week. This included 4.9 kg of recyclables, 5.6 kg of food and garden organics and 11.7 kg of residual waste collected at the kerbside (totalling 22.2 kg per week). Drop-off facilities and clean-up services collected the remaining 2.2 kg waste.



Increase recycling

More than 1.77 million tonnes was recycled from domestic kerbside, clean up and drop off services, comprising 756,000 tonnes of recyclables; 726,000 tonnes of organics; 256,000 tonnes of alternate waste treatment (AWT); 24,500 tonnes of clean-up waste; and 10,500 tonnes of drop off waste.



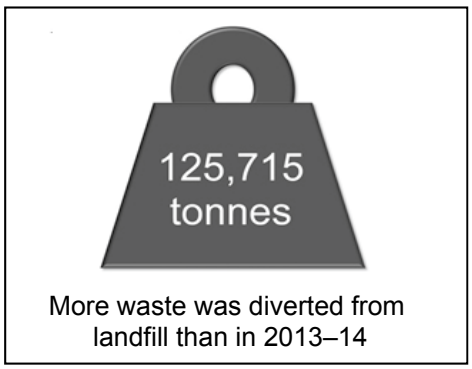
The amount of organics collected rose by 12.3% from the previous year.

Waste collected for recycling increased, mainly through drop off centres. Kerbside bin and clean-up collections remained static.

Twenty councils sent 488,000 tonnes of kerbside residual waste to an AWT facility where 256,000 tonnes or 52.5% was recycled.

Divert more waste from landfill

In 2014–15, 48% of domestic waste that was created in NSW was diverted from landfill. This was 125,175 tonnes more of recycling than in 2013-14 when the recycling rate was 46.8%.



The Sydney Metropolitan area (Sydney metro) collected 1.8 million tonnes of kerbside waste of which 905,454 tonnes (50.2%) was diverted from landfill. This is 29,010 tonnes increase in the amount of waste diverted from landfill compared to last year.

In NSW, 1.92 million tonnes of waste was sent to landfill. Most of this was residual waste sent direct to landfill accounting for 1.84 million tonnes. A further 82,000 tonnes were contaminants from dry recyclables and organics collections sent as rejects from the processing facilities.

1. Total domestic waste

1.1 Generated and recycled

The average amount of waste generated per household each week is 24.2 kg. Although this is an increase from 23.5 kg in 2013–14, it's below the 2011–12 level of 24.4 kg. Waste generated per household each week is relatively static over the 3-year period.

In 2014–15, NSW created 3.69 million tonnes of domestic waste. This is an increase of 168,000 tonnes (4.8%) from the previous year, but over the 3-year period the waste generation rate is relatively static. Total domestic waste includes all recyclables, organics and residual waste from households.

The average total domestic waste generated was 24.2 kg per household or 9.4 kg per person, based on the total number of households and people in the state.

From the 3.69 million tonnes of domestic waste generated, 1.92 million tonnes of residual waste was sent to landfill. In absolute terms, this is an increase of about 43,000 tonnes (2.3%) in comparison to 2013–14. A total of 1.77 million tonnes of the domestic waste generated was recycled, which is an increase of 125,000 tonnes from the 2013–14. Although more waste was generated in 2014–15 compared to the previous year, more of the waste was recycled.

The total domestic recycling rate rose from 46.8% in 2013-14 to 48% in 2014-15

NSW residents recycled 48% of domestic waste: 1.77 of 3.69 million tonnes. This figure includes recycling from:

- kerbside recycling (638,000 tonnes)
- kerbside organics (513,000 tonnes)
- alternative waste treatment (256,000 tonnes)
- clean up-services (76,000 tonnes)
- drop-off facilities (289,000 tonnes).

The increase of 125,000 tonnes, compared to the previous year was a result of reported increases in all recyclable waste streams. Dry recyclables increased by 24,000 tonnes, organics by 83,000 tonnes and 18,000 tonnes more recyclables were extracted from residual waste following processing at AWT facilities.

Figure 1 shows the recycling rates in NSW over a ten-year period. 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%.

The investments made from Waste Less, Recycle More local government infrastructure projects are not reflected in this report as funding for the first rounds had only just been allocated in 2014-15 and very few projects had begun. Increases in recycling rates being delivered through WLRM will be reflected in future years as projects are built and rolled out.

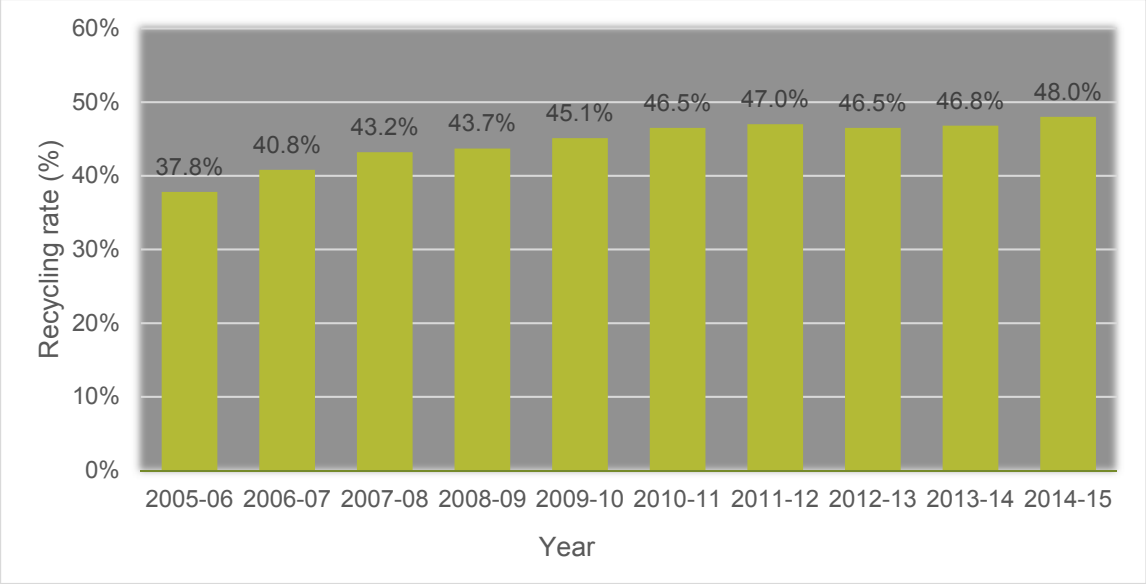


Figure 1: NSW recycling rates for domestic waste between 2005–2015

Figure 2 shows the recycling rates by NSW regions. The highest levels are reported in the Regional Regulated Area (RRA), now known as the regional levy area. The recycling rate in the RRA improved by 3.4% from the previous year, up to 55.5%.

The rest of NSW (Rest of state) has the lowest recycling rate overall but the greatest increase compared to the previous year. The recycling rate improved by 5% to 39.9%.

Recycling rates in the Sydney metro and the Extended Regulated Area (ERA) were consistent to last year at 50.2% and 45%, respectively.

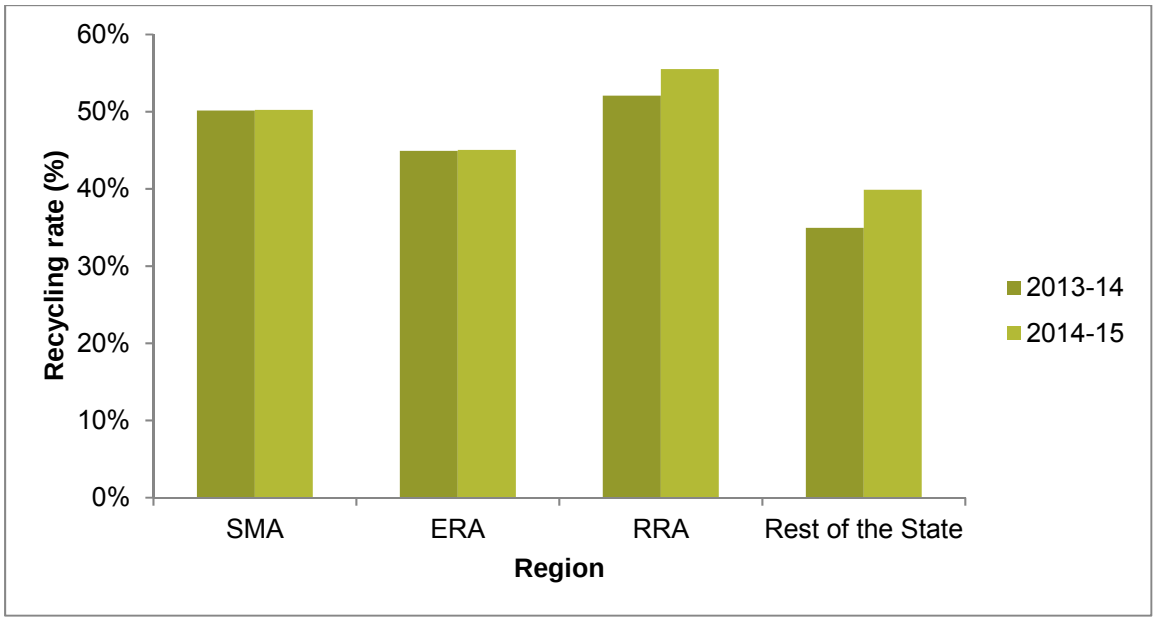


Figure 2: Recycling rates 2013–14 and 2014–15 of domestic waste across NSW regions

More than 1.77 million tonnes was recycled from kerbside collections, drop-off facilities, clean-up services and AWT facilities in 2014–15.

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

For recyclables and organics, the material disposed of is called contaminants or rejects. For dry recyclables the proportion of rejects was 6.7%. For organics, the proportion of rejects was 3.6%. For residual waste, the recycled weight represents the amount of recyclables extracted from the AWT residual waste treatment process. Overall, 13.7% was recycled from the residual waste stream.

Table 1: Domestic generation and end destination by waste stream (tonnes)

Waste stream	Collected	Recycled	Disposed
Dry recyclables	810,826	756,590	54,236
Organics	753,411	725,968	27,432
Residual waste	2,127,203	290,907	1,836,297
Total	3,691,440	1,773,465	1,917,965

The amount of dry recyclables generated rose to 810,826 tonnes in 2014–15 from 783,766 tonnes in 2013–14. More residual waste was also generated, up by 26,000 tonnes to 2.13 million tonnes. This figure includes bulky goods collected from clean-up services.

Table 2 shows the total amount of domestic waste collected, recycled and disposed by regional area. As expected, the largest amount of waste is managed within the most populated area, Sydney metro.

Table 2: Domestic waste collected and end destination by region 2014–15 (tonnes)

Region	Collected	Recycled	Disposed
Sydney metro	1,802,666	905,454	897,211
Extended area	816,441	367,707	448,734
Regional area	464,460	257,877	206,583
Rest of state	607,873	242,436	365,437
NSW	3,691,440	1,773,465	1,917,965

Figure 3 shows the total domestic waste collected by waste stream and collection method. Kerbside collection is the main method of collection for all streams.

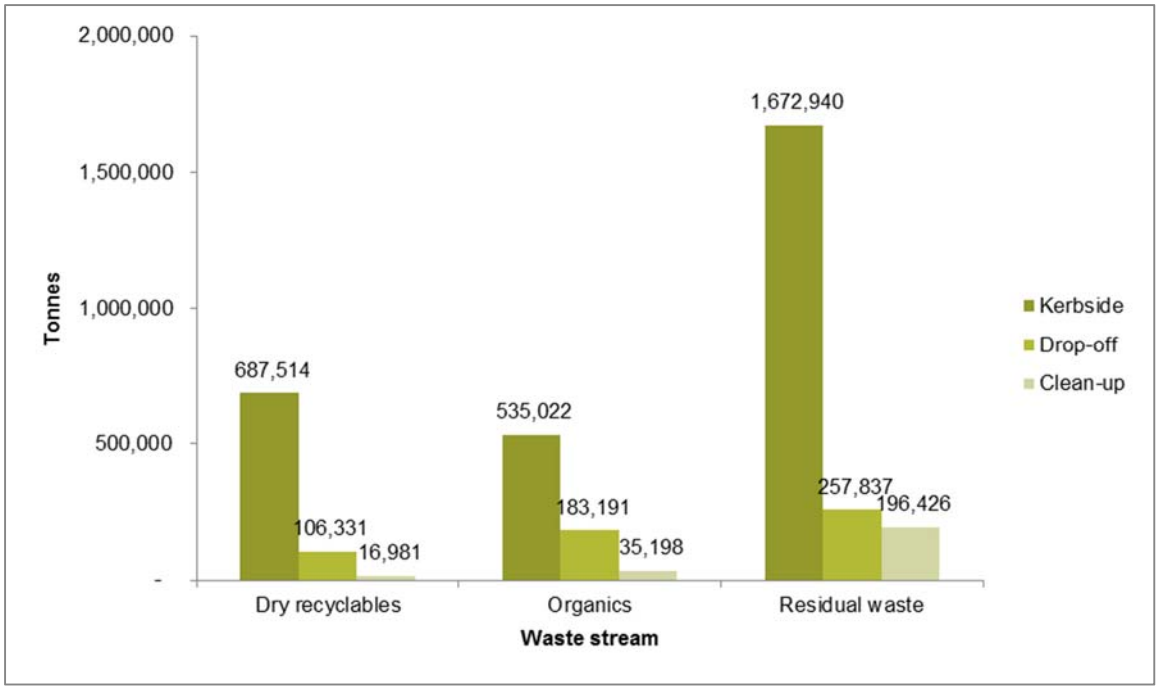


Figure 3: Domestic waste collected by waste stream and collection method 2014–15

Figure 4 shows the amount of domestic waste collected at the kerbside between 2009 and 2015.The current amount of domestic waste collected at the kerbside is 22.2 kg per household per week. Whilst this is a marginal increase compared to 22.1 kg in 2013–14, the amount of domestic waste collected at the kerbside for each waste stream is relatively consistent over the six-year period, suggesting both waste generation has remained static over this six-year period.

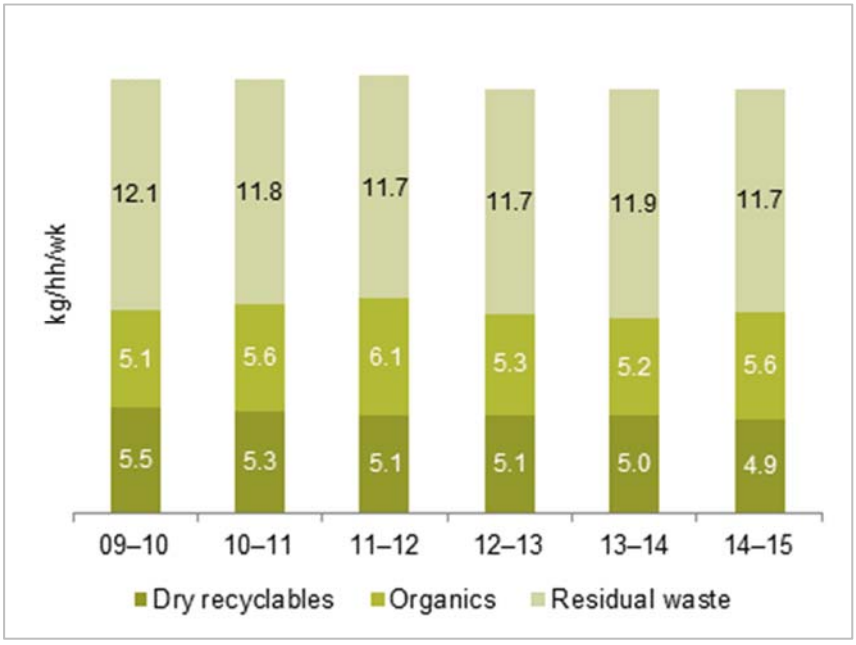


Figure 4: Average kilogram per household per week waste generation by kerbside collection method 2009–2015

Figure 5 shows the total amount of waste collected at the kerbside by waste and the amount of waste processed by each end destination method. There has been some marginal consistent increases in the amount of waste recovered by AWT facilities over the past five years, but the total weight of material amounts for other end destinations is relatively consistent over the six year period with some marginal variances year on year.

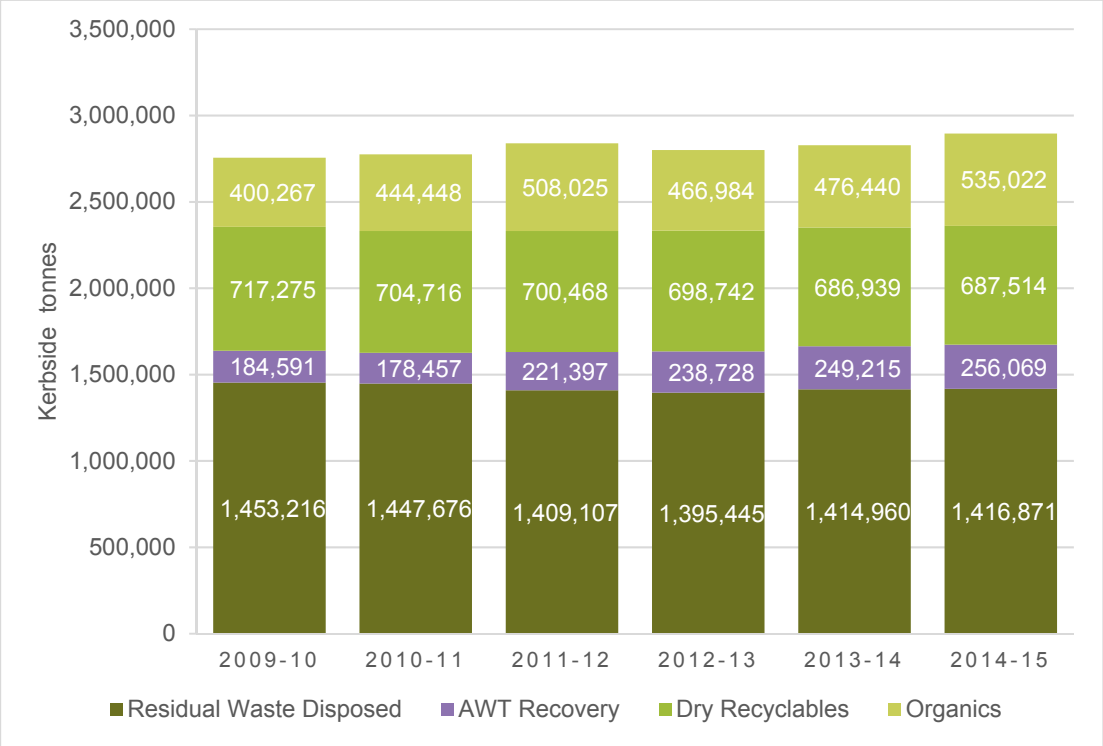


Figure 5: Total domestic waste by processing method for waste collected at the kerbside 2009–2015

2 Recyclables

2.1 Dry recyclables collected and recycled

Dry recyclables form 22% of total Domestic Waste in 2014–15, where a total of 810,826 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 films 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 3 shows the collection method and the regional area from which dry recyclables were collected. In NSW, 810,826 tonnes of dry recyclables were collected in 2014–15. Of this, 85% or 687,514 tonnes was collected from the kerbside, with residents taking 13% to drop-off points and the remaining 2% collected by clean-up services.

Around 79% of drop-off material was collected from the Regional area and the rest of the 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 3: Dry recyclables collected by collection method and regional area 2014-15

	Sydney metro	Extended area	Regional area	Rest of state	NSW
No. of councils	38	13	21	59	**131**
Kerbside (tonnes)	369,704	147,521	83,224	87,066	687,514
Drop-off (tonnes)	2,183	20,530	38,745	44,873	106,331
Clean-up(tonnes)	12,432	1,989	1,349	1,211	16,981
Total (tonnes)	**384,319**	**170,039**	**123,319**	**133,150**	**810,826**

Figure 6 shows the total amount of dry recyclables collected, by method in comparison to the previous year. A total of 810,826 tonnes of dry recyclables was collected in 2014–15. This was an increase of 27,060 tonnes compared with 2013–14. Despite the marginal increase in kerbside collections and clean up, drop-off services showed a greater increase of 32% on the amount collected in the previous year.

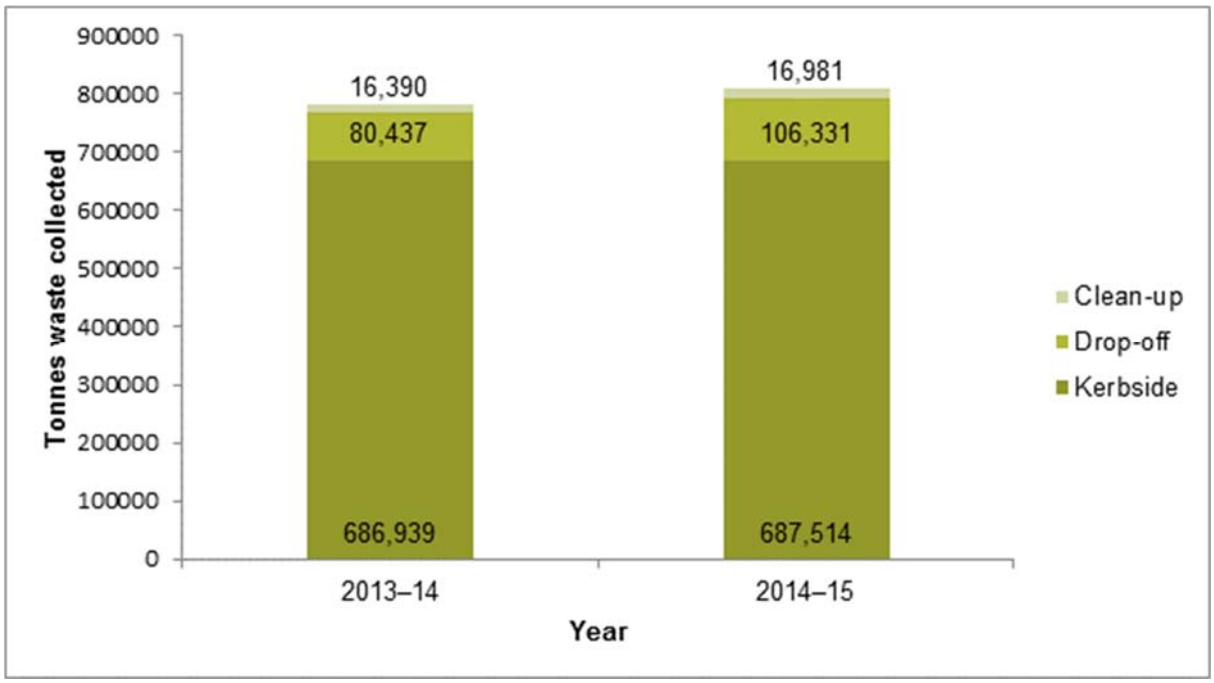


Figure 6: Dry recyclables collected by method 2013–14 and 2014–15

In NSW 131 councils reported a recycling collection service. The Sydney metro region collected 54% of the total kerbside recyclables from 1.55 million households. The Extended area collected a further 21% and the Regional area and the rest of the state collected 12% and 13% respectively.

Table 4 shows the different weight of dry recyclables collected from households by region. On average, 254 kg of kerbside dry recyclables were collected from households with a recycling service in 2014–15, a weekly average of 4.9 kg per household or 1.8 kg per person. The Extended area and Regional area collected more kerbside dry recyclables over the year than the state average: 269 kg and 277 kg per household respectively. There was a slight drop in the dry recycling yield per household per week in 2014-15 in comparison to previous years from 5.0 kg per household per week in 2013–14 and 5.1 kg per household per week in 2012–13 and 2011–12 in comparison to 2014–15. The decrease in household recycling is likely to be due to light weighting of packaging like glass and plastic containers, fewer and smaller newspapers and the trend in packaging to lighter materials such as pouches.

Table 4: Dry recyclables collected per household / person by region 2014-15

		Household[1]		Person[2]	
Region	**Councils**	**Annual kg**	**Weekly kg**	**Annual kg**	**Weekly kg**
Sydney metro	38	243	4.7	86	1.6
Extended area	13	269	5.2	105	2.0
Regional area	21	277	5.3	106	2.0
Rest of state	59	259	5.0	96	1.8
NSW	**131**	**254**	**4.9**	**93**	**1.8**

Note: Due to rounding and presentation of data to 1 decimal place, the multiplication of the weekly data may not be exactly the same as the annual figures when multiplied by 52

Figure 7 shows the weight of dry recyclables collected by kerbside collections within the four regions in comparison to the previous year. Although the majority of dry recyclables were collected from the Sydney metro region, there was almost 5,000 tonnes less collected in 2014–15 in comparison to the previous year. The Extended and Rest of the State areas marginally increased the weight of material collected through their kerbside collections during the same period. The Regional area remained broadly the same as 2013–14.

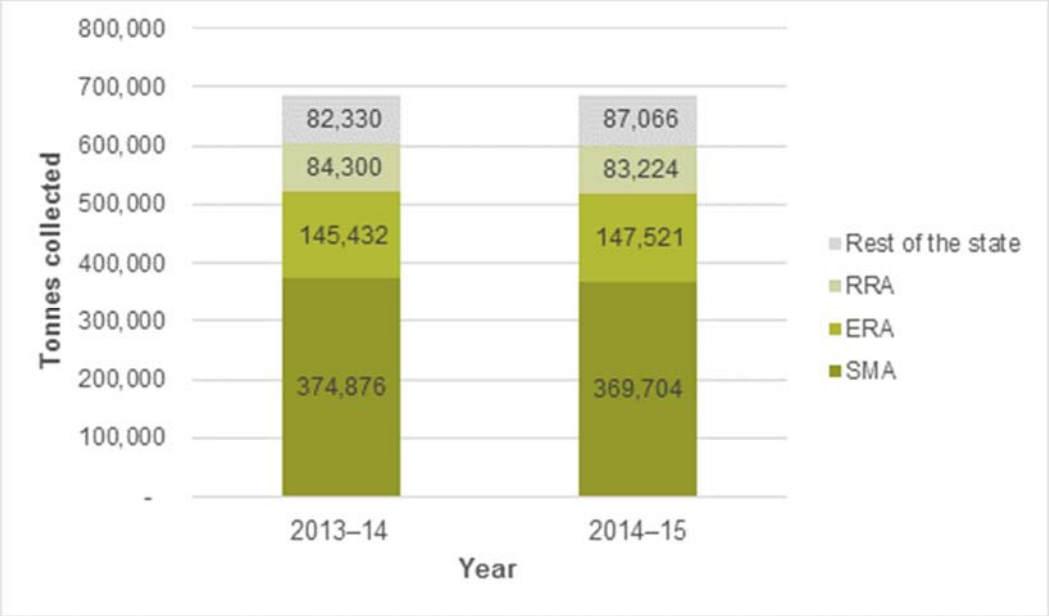


Figure 7: Kerbside dry recyclables collected by region

The amount of dry recyclables collected at the kerbside has steadily declined by a marginal amount over the past 6 years as illustrated in Figure 8. Therefore any increases reported in total levels of recycling has come from non-kerbside collections and organic waste collections.

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[1] *The household average is based on the number of serviced households.*

[2] *The person average is based on the total population in Councils with kerbside recycling*

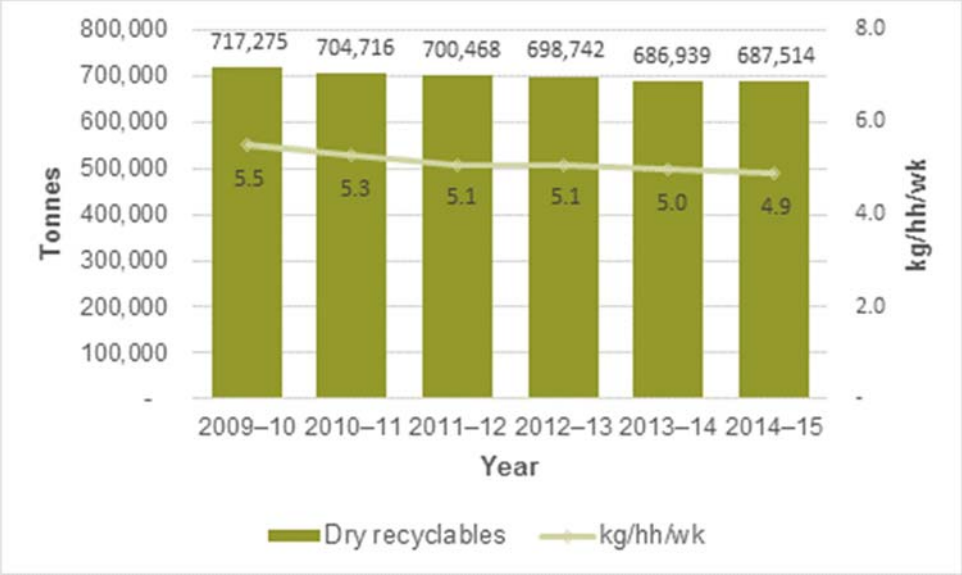

Figure 8: Dry recyclables collected at the kerbside (total and average household yield per week) 2009–10 to 2014–15

2.2 Collection systems

NSW councils used 10 different recycling collection bin container sizes. To increase recycling, the EPA suggested mobile garbage bins (wheeled bins) of at least 240 litres, collected at least fortnightly. There were 111 councils, or 73%, that use this system.

Figure 9 shows the varying levels of performance reported by councils using different container sizes. The provision of a larger container appears to contribute to a higher recycling rate. Councils using the EPA recommended fortnightly 240 litre collection containers correlated with the highest recycling rates. Interestingly, councils' containers collected on a weekly basis (i.e. double the volume) achieve higher recycling rates than the same size collected fortnightly. There are some marginal other variations reported in recycling rates with other containers, where the 360 litre container collected fortnightly has the highest average recycling rate.

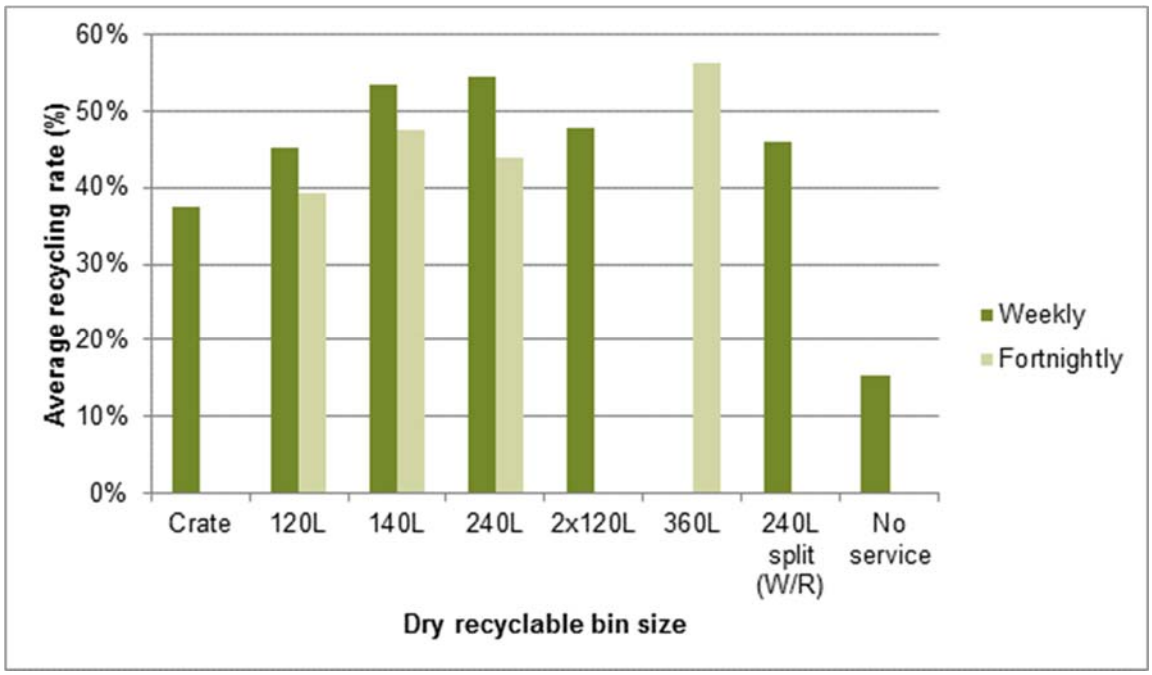

Figure 9: Performance of recycling collection systems by size and frequency 2014-15

2.3 Organics collected and recycled

Like dry recyclables, organics are collected through kerbside, drop-off and clean-up services. Most councils only collect garden organics, but 22 also co-collect food and garden organics (FOGO). A total of 71 councils do 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 5 shows the amount of organics collected in 2014–15. The total weight of organics collected at the kerbside increased by 12% from 476,440 in 2013–14 to 535,022 tonnes in 2014–15. From this amount, 96% was recovered, leaving only 4% of rejects and contaminants being sent to landfill. The 22 councils with collection systems accepting FOGO collected 98,178 tonnes in 2014–15.

Table 5: Organics collected at the kerbside by method and by region 2014–15

	Sydney metro	Extended area	Regional area	Rest of state	NSW
Garden organics					
Councils	32	9	7	12	**60**
Tonnes collected	261,905	122,551	23,079	29,309	**436,844**
Food and garden organics					
Councils	2	-	8	12	**22**
Tonnes collected	36,733	-	49,116	12,329	**98,178**
Total					
Councils	34	9	15	24	**82**
Tonnes collected	298,638	122,551	72,195	41,638	**535,022**

More organics were collected from kerbside collections in 2014–15 535,022t when comapred to the previous year, 2013–14 476,440 t

Figure 10 below shows the steady increase in the amount of organics collected by region over the past 5 years. There was an exceptional peak in 2011–12 for all areas, for reasons unknown, and some regional year on year variances between regions. Kerbside organics collection increased by 12% (around 58,500 tonnes) compared to 2013–14. This is a rise of 20% (90,500 tonnes) compared to 2010–11.

There have been increases in all regions, mostly notably in the Extended Regulated Area. Sydney metro councils provided a kerbside collection service to 82% of all households for organics, and collected 56% (298,638 tonnes) of all organics collected in NSW. Extended area councils offered a kerbside collection service to 76% of their households for organics and collected 23% (122,551 tonnes) in 2014–15.

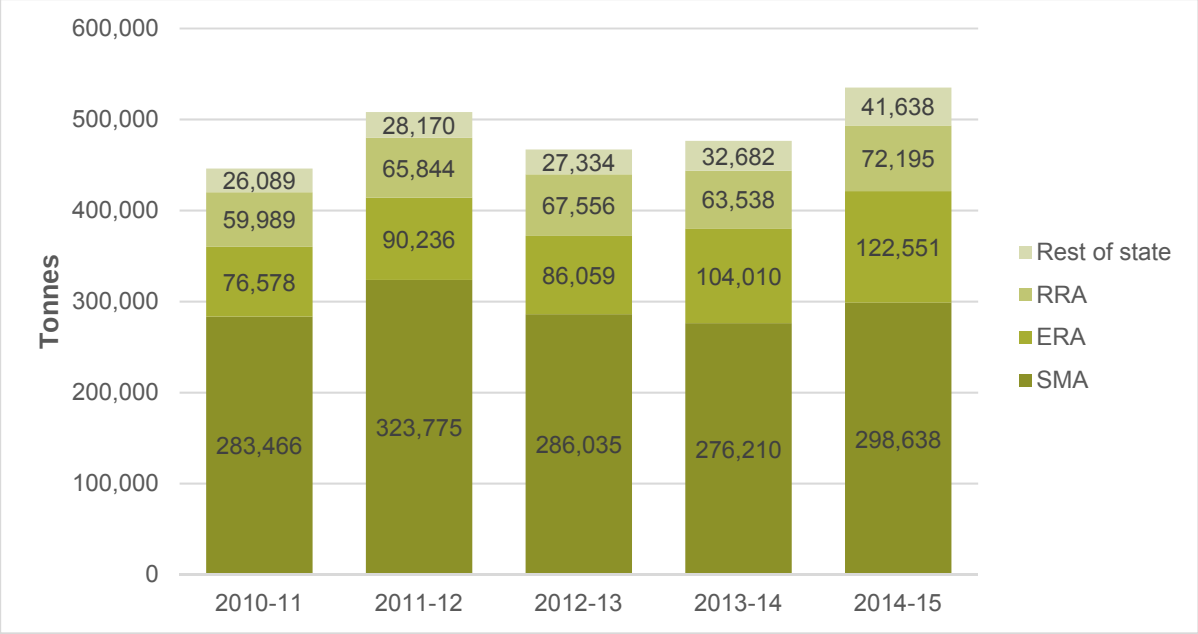

Figure 10: Organics collected at the kerbside by region 2013–14 to 2014–15

Over the year, council services collected 293 kg of food and garden organics per household, as shown in Table 6. Weekly, this is 5.6 kg per household or 1.8 kg per person. The Sydney metro area collected 5.6 kg of organics per household weekly, in line with the state average. The Regional area and Extended area exceeded the state average, collecting 6.9 and 5.8 kg per household weekly respectively.

The average organics collected per household each week last year was 5.2 kg per household, an increase of 8%.

Table 6: Organics collected per household[3] / person[4] by region 2014–15

Region	Councils with service	Household		Person	
		Annual kg	Weekly kg	Annual kg	Weekly kg
Sydney metro	34	289	5.6	84	1.6
Extended area	9	302	5.8	111	2.1
Regional area	15	358	6.9	117	2.2
Rest of state	24	224	4.3	79	1.5
NSW	**82**	**293**	**5.6**	**92**	**1.8**

Note: Due to rounding and presentation of data to 1 decimal place, the multiplication of the weekly data may not be exactly the same as the annual figures when multiplied by 52

[3] *The household average is based on the number of serviced households*

[4] *The person average is based on the total population in Councils with organic collection services*

Table 7 shows the majority of organics are collected from the Sydney metro and Extended Area, accounting for 79% of the material collected. The amount of material which was sent to landfill as reject or contamination was less than 5% in all areas.

Table 7: Organics collected at the kerbside by region 2014–15

Region	Councils	Collected	Recycled	Disposed
Sydney metro	34	298,638	283,367	15,372
Extended area	9	122,551	121,062	1,489
Regional area	15	72,195	69,206	2,989
Rest of state	24	41,638	40,184	1,453
NSW	**82**	**535,022**	**513,719**	**21,303**

The amount of organics collected has risen by 20% over five years to the highest amount in 2014–15

2.4 Collection systems

Overall, organics collected increased by 13.9% (92,000 tonnes) in comparison to 2013–14. Kerbside collections rose by 12.3% (58,500 tonnes), drop off organics increased by 13.8% (22,000 tonnes) and collections from clean-up services increased by 48.2% or 11,400 tonnes in 2014–15.

Table 9 shows how organics were collected across NSW, where the majority was collected by kerbside collection. In the Rest of state area, the main weight of organics collected was via drop off, probably reflective of the more limited kerbside provision in this area. In all, 753,411 tonnes of organics were collected from kerbside, drop-off and clean-up services. Of this, 535,022 tonnes was from kerbside including 98,178 tonnes collected from FOGO services. Drop-off facilities collected 24% (183,191 tonnes) and 5% (35,198 tonnes) by clean-up services.

Table 8: Organics collected by method and region 2014–15 (tonnes)

	Sydney metro	Extended area	Regional area	Rest of state	NSW
Kerbside	298,638	122,551	72,195	41,638	**535,022**
Drop-off	19,033	46,658	47,069	70,431	**183,191**
Clean-up	8,469	17,901	3,038	5,790	**35,198**
Total tonnes	**326,140**	**187,110**	**122,303**	**117,859**	**753,411**

Seventy seven councils majority bin size was the 240 litre bin. Many councils use various bin sizes with varying collection frequencies to collect garden organics and FOGO. Forty nine councils use a 240 litre bin with a fortnightly garden organics collection. The average collected yield for a 240 litre fortnight collection system is 5.3 kg per household per week.

Councils with a FOGO 240 litre weekly service collected an average of 379 kg per year or 7.3kg per week per household. Councils using the same predominant, weekly with a 240litre bin for garden organics only collected on average 289 kg per year or 5.6 kg per week per household serviced. Thus by adding food to the collection service increases by 1.7kg per household per week.

Figure 12 shows the increase in the amount organics collected across all collection methods. The most notable increase is in kerbside collections.

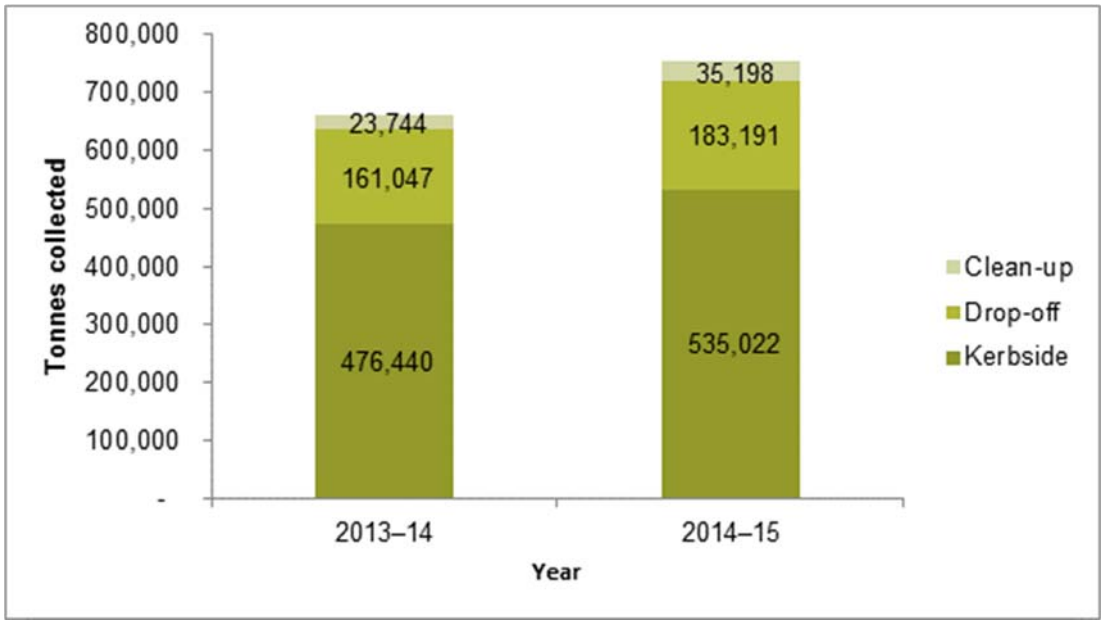

Figure 11: Kerbside organic collected by method 2013–14 and 2014–15

Figure 13 shows that despite marginal annual fluctuations in the amount of dry recyclables collected year on year, there is a linear increase over the six-year period in the quantity of organics collected.

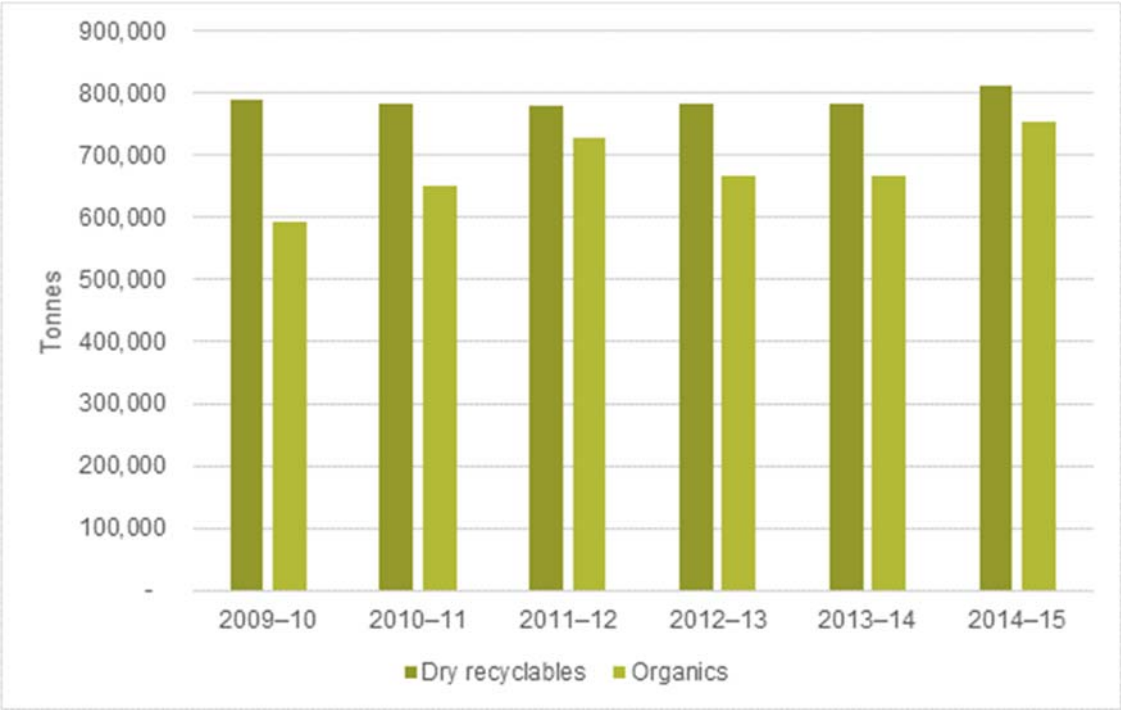

Figure 12: Dry recyclables and organics collected by year

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 1.92 million tonnes of residual waste to landfill: This figure includes:

- residual waste collected at the kerbside and sent direct to landfill (1,416,871 tonnes)
- residual waste from drop off centres (247,499 tonnes)
- residual waste from clean-up collections (171,927 tonnes)
- rejects from AWT sent to landfill (256,069 tonnes)
- rejects from kerbside, clean up and drop-off methods collecting dry recyclables and sent to landfill (54,236 tonnes)
- rejects from kerbside, clean up and drop-off methods collecting organics and sent to landfill (27,432 tonnes)

3.1 Collected and recycled

In 2014–15 the total amount of waste collected from kerbside residual waste collections increased by 0.5%, from the previous year up to 1,672,940 tonnes. Figure 13 shows that the increases were in the Sydney metro 2.5% and extended area 2%, with RRA 3% and Rest of the State 8% decreases.

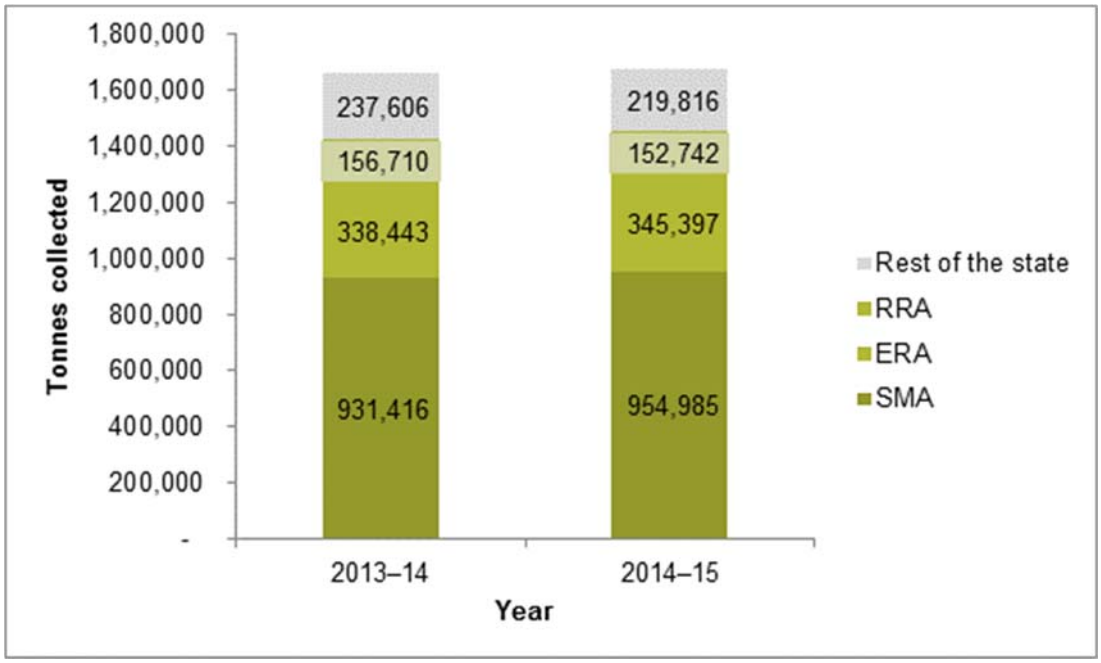

Figure 13: Kerbside residual waste collected by region 2013–14 and 2014–15

In Sydney metro, 38 councils provide kerbside collection services to 99% of the total households. The Extended area serves 96% of its households, the Regional area 88%, and Rest of state 86%.

Twenty councils sent 488,000 tonnes of kerbside residual waste to an AWT facility where 52% was processed recycled and 48% was sent as reject.

Fig 14 shows the residual waste collected by region and the amount sent to an AWT facility. The SMA generating 57% of the NSW tonnes disposed.

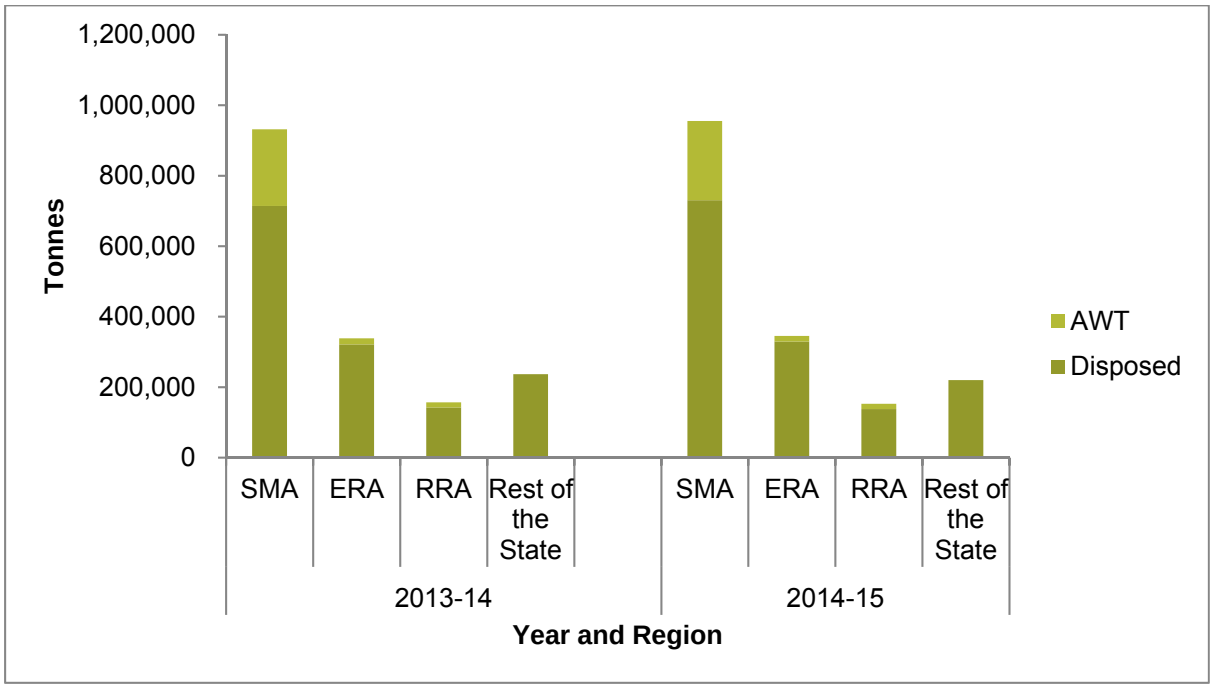

Figure 14: Residual kerbside waste by end destination by region 2013–14 and 2014–15

From 2013–14 the average created by each household reduced by 0.2 kg to 11.7 kg weekly. Of the 151 councils with waste collection services, 20 sent some or all of their kerbside residual waste to an AWT facility. From the created waste 256,069 tonnes were recovered by AWT (see Appendix 10 for more detail).

Table 9: Kerbside residual waste collected per household/person by region

		Household		Person	
Region	**Councils**	**Annual kg**	**Weekly kg**	**Annual kg**	**Weekly kg**
Sydney metro	38	625	12.0	221	4.3
Extended area	13	624	12.0	246	4.7
Regional area	21	511	9.8	194	3.7
Rest of state	79	584	11.2	218	4.2
NSW	**151**	**607**	**11.7**	**223**	**4.3**

The total amount of kerbside residual waste generated was 1,672,940 tonnes in 2014–15, up by around 8,700 tonnes in comparison to 2013–2014. In the Regional area and Rest of state, the amount of residual waste generated per person and the amount generated per household each week dropped, despite the overall rise. The increase in total amount is probably a function of population and household growth. The number of households with kerbside waste services increased to 2.75 million, covering 94% of households in NSW, which probably contributed to the decrease in the amount of residual waste per person and per household.

Avoid and reduce waste generation

3.2 Collection systems

Table 11 shows that councils report using one of seven different residual waste collection systems. In total 67 councils used 120 litre or 140 litre bins, collected weekly. A total of 67 councils used 240 litre bins, collected weekly, including 44 councils in Rest of state. Table 12 shows the different systems used, based on the main wheeled bin size and most common collection frequency in each council area.

The results in Table 11 show that the larger the bin and more frequent collection the more waste is generated. The 240 litre bin collected weekly produced 13.3 kg per household, 1.6 kg per week more than the state average of 11.7 kg. This is significant considering 44% of councils use a 240 litre bin as their predominant system.

Table 10: Councils/kerbside residual waste collection systems by region

Bin size	Frequency	Sydney metro	Extended area	Regional area	Rest of state	NSW	Average kg per household	
							Year	Week
80 L	Week	3	1	-	1	5	436	8.4
120 L	Week	13	3	1	10	27	572	11.0
140 L	Week	9	3	6	22	40	565	10.9
240 L	Week	12	5	6	44	67	691	13.3
140 L	Fortnight	1	-	2	1	4	496	9.5
240 L	Fortnight	-	1	5	1	7	458	8.8
Other or no service		**-**	**-**	**1**	**1**	**2**		

Figure 15 shows the correlation between bin size and residual waste generation, with a reasonably clear pattern that a larger bin and more frequent collection results in a larger proportion of residual waste.

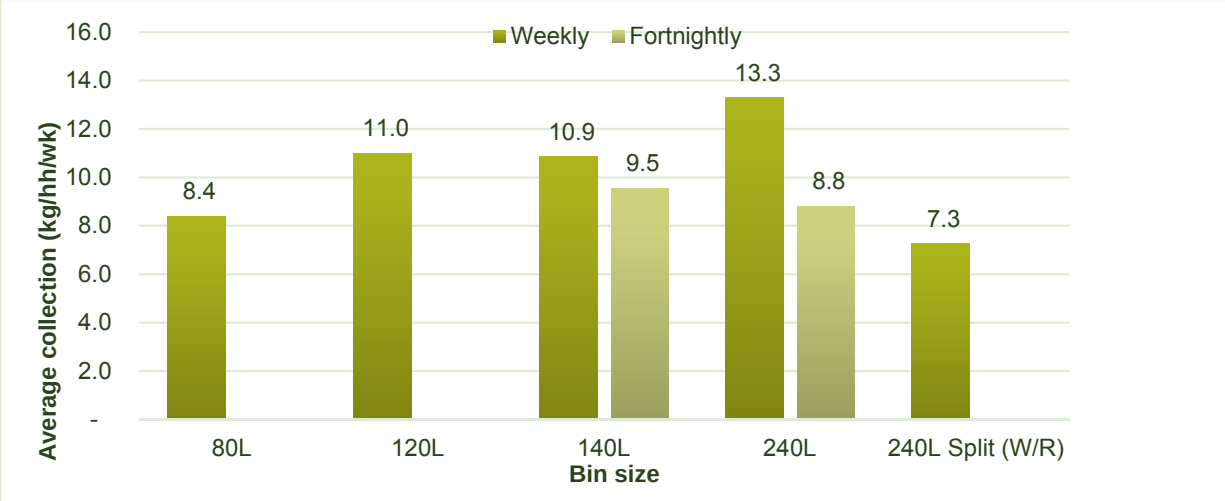

Figure 15: Average weekly residual waste collected by collection system

The amount of residual waste generated by households, each week, has been broadly the same over the past 5 years, as illustrated in Figure 16.

There have been some consistent patterns observed, such as the Sydney metro and Extended regional areas producing lightly above the state average 11.7 kg per household per week.

The average weekly residual waste per household has levelled off since 2010–11, rising slightly to 11.9 kg in 2013–14 and falling to 11.7 kg in 2014–15. This equates to an average of 4.3 kg per person per week in 2014–15.

The Regional area continued to create the least amount of residual waste in the state, 9.8 kg per household weekly.

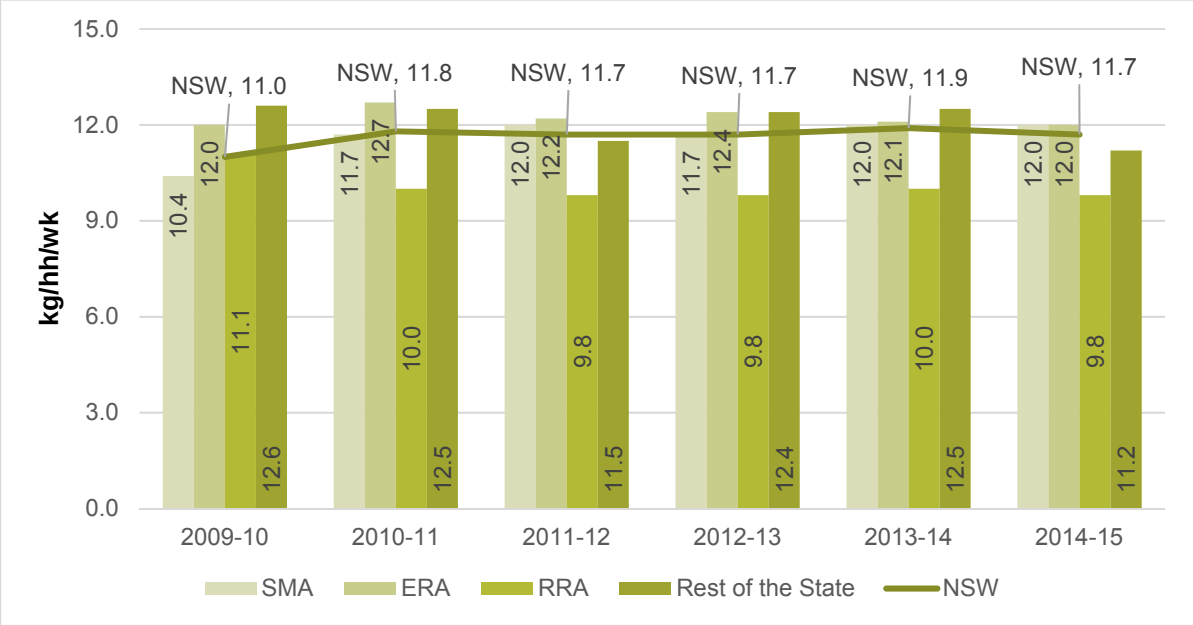

Figure 16: Average[5] household weekly residual waste by region 2010–11 to 2014–15

[5] *Household average is based on the number of service households. Person average is based on the total population in councils that provide waste collection.*

4 Disposal to landfill

4.1 Waste streams

As set out in section 3, waste sent to landfill can come from a variety of collection methods. It can be sent there directly from one of the different residual waste collections from kerbside, drop-off or clean-up; or, the rejects from the recycling systems offered alongside each of these systems. Alternatively, it can arrive as rejects from AWT facilities, which has processed the kerbside collected residual waste first to recover a proportion of recyclable material before continuing to landfill.

In 2014–15, 1,917,965 tonnes of domestic waste was sent to landfill, this is a 2.3% increase from last year. The Sydney metro councils sent 47% of this (897,211 tonnes) to landfill, followed by the Extended area councils who sent 448,734 tonnes (23%) in 2014–15.

Although the tonnage has increased Fig 16 shows the average per household per week has decreased from 2013-14 and held the level since 2010-11.

NSW residents sent 1.917 million tonnes to landfill. Figure 17 shows the breakdown of where the material sent to landfill originated from.

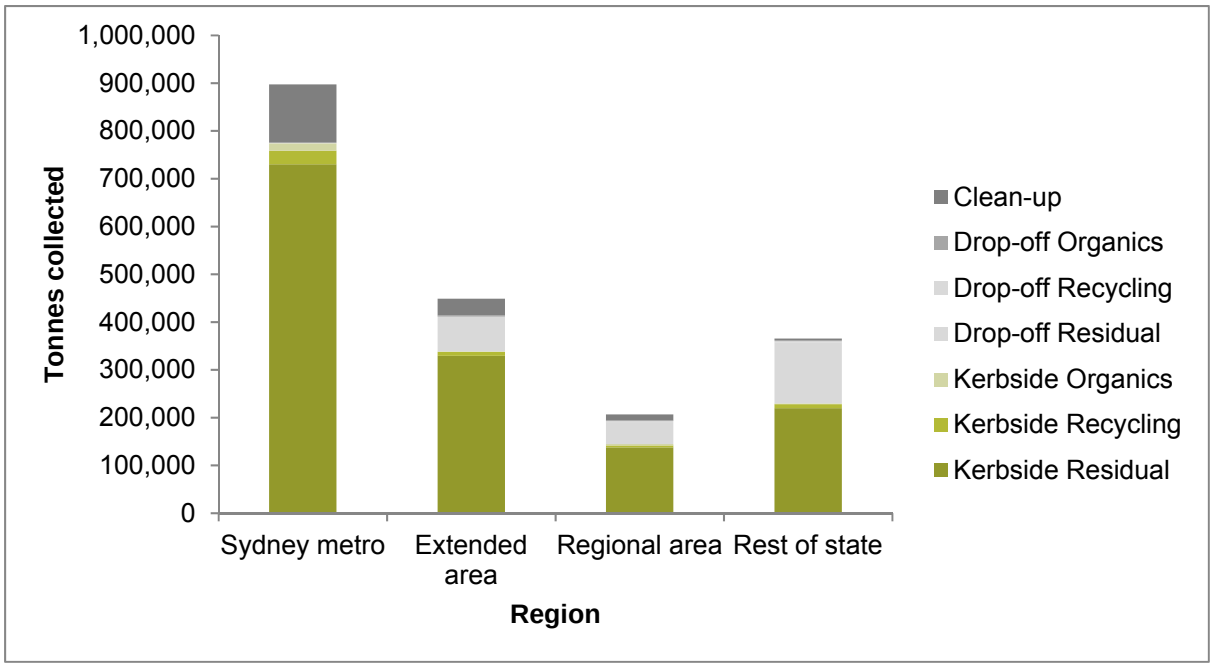

Figure 17: Tonnes sent to landfill from waste stream/collection method by region

Figure 18 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 or at drop-off facilities, make up 4% (81,094 tonnes) of the total. Clean up waste disposed includes bulky goods, hard waste, contaminated recycling and organics.

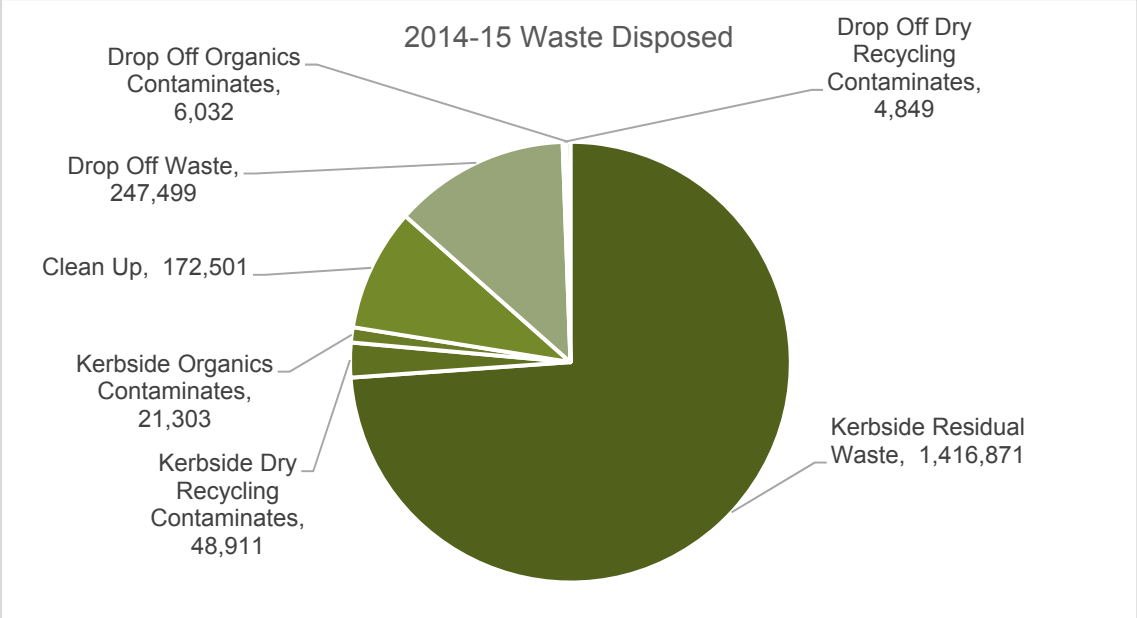

Figure 18: Total domestic waste sent to landfill by collection method/waste stream 2014–15

Figure 19 shows that there has been only marginal changes in the amount and proportion of residual aste sent to landfill by collection method and stream, although there is an increase in the total weight of material sent to landfill.

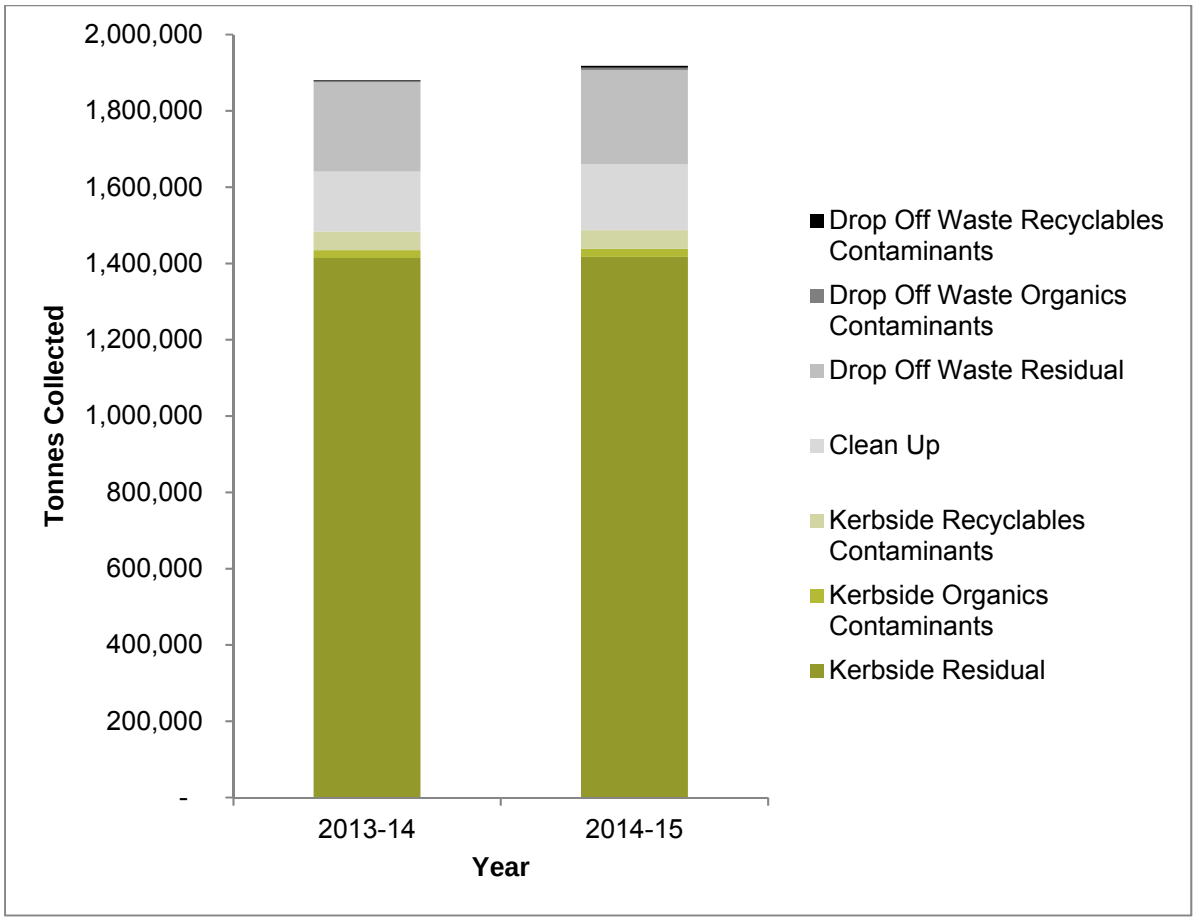

Figure 19: Domestic waste disposed to landfill by collection method/waste stream 2013–14 to 2014–15

5 Clean-up services

5.1 Waste collected by clean-up services offered by councils

In 2014–15, 248,606 tonnes were collected from council kerbside clean-up services. Bulky goods made up 50% (125,434 tonnes), mixed other goods made up 29% (70,993), followed by garden organics at 14% (35,198 tonnes), the remainder 7% being dry recyclables, including e-waste, white goods, mattresses and metals (16,981 tonnes).

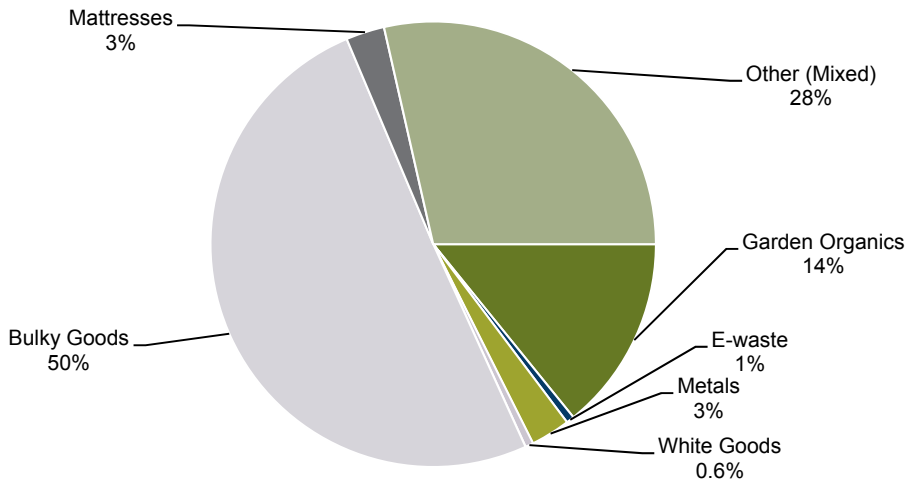

Figure 20: Kerbside clean-up waste by material type

Across NSW, 83 councils provided kerbside clean-up services, but access to the service varied across NSW:

- 38 councils or 100% of all councils in the Sydney metro area
- 11 councils or 85% of all councils in the Extended area
- 14 councils or 67% of all councils in the Regional area
- 20 councils or 25% of all councils in the Rest of the state area.

Table 11 shows the weight of source-separated material collected separately from residual waste. Of the 248,606 tonnes collected from kerbside clean-up services, 76,105 tonnes were recycled and 172,501 tonnes went to landfill. The recycling rate from kerbside clean-up services increased from 24% in 2013–14 to 31% in 2014–15.

For some materials such as garden organics, e-waste and white goods, almost all of the material waste 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.

From 248,606 tonnes collected from clean up services, 31% of materials are recycled

Table 11: Tonnes of source separated clean-up materials by type

Material type	Collected	Recycled	Disposed	Recycled[6]
Garden organics	35,198	35,101	97	100%
E-waste	1,442	1,439	3	100%
Metals	7,126	6,836	290	96%
Mattresses	6,949	6,768	180.76	97%
White goods	1,464	1,461	3	100%
Bulky goods	125,434	18,698	106,736	15%
Other (mixed)	70,993	5,802	65,191	8%
Total	**248,606**	**76,105**	**172,501**	**31%**

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

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

Table 12 shows a significant variation between regions in the weight of material collected from clean-up collections and of that how much was recycled. The largest volume of material was collected from the Sydney metro region, although only 22% was recycled. Conversely, the rest of the state collected the least weight, but proportionally recycled the greatest proportion of the material collected.

Table 12: Tonnes of bulk waste clean-up materials by area 2014–15

Region	Councils	Collected	Recycled	Disposed	Recycled
Sydney metro	38	156,717	34,798	121,919	22%
Extended area	11	59,582	24,403	35,179	41%
Regional area	14	17,542	5,043	12,499	29%
Rest of state	20	14,763	11,861	2,903	80%
NSW	**83**	**248,606**	**76,105**	**172,501**	**31%**

[6] *Due to the low weight in the disposed column in comparison to the weight of total waste collected, the percentage recycled in some instances is rounded up to 100%, even though a small amount of the material is actually disposed of.*

The 38 Sydney metro councils collected 63% of the state's total material from clean-up services (152,717 tonnes), but only recovered 22% of it (34,798 tonnes). Clean-up tonnes had a 20% increase from last year and is collected 40% more than 2010–11.

Figure 22 shows the steady increase in garden organics, bulky goods and other (mixed waste) over the past 5 years.

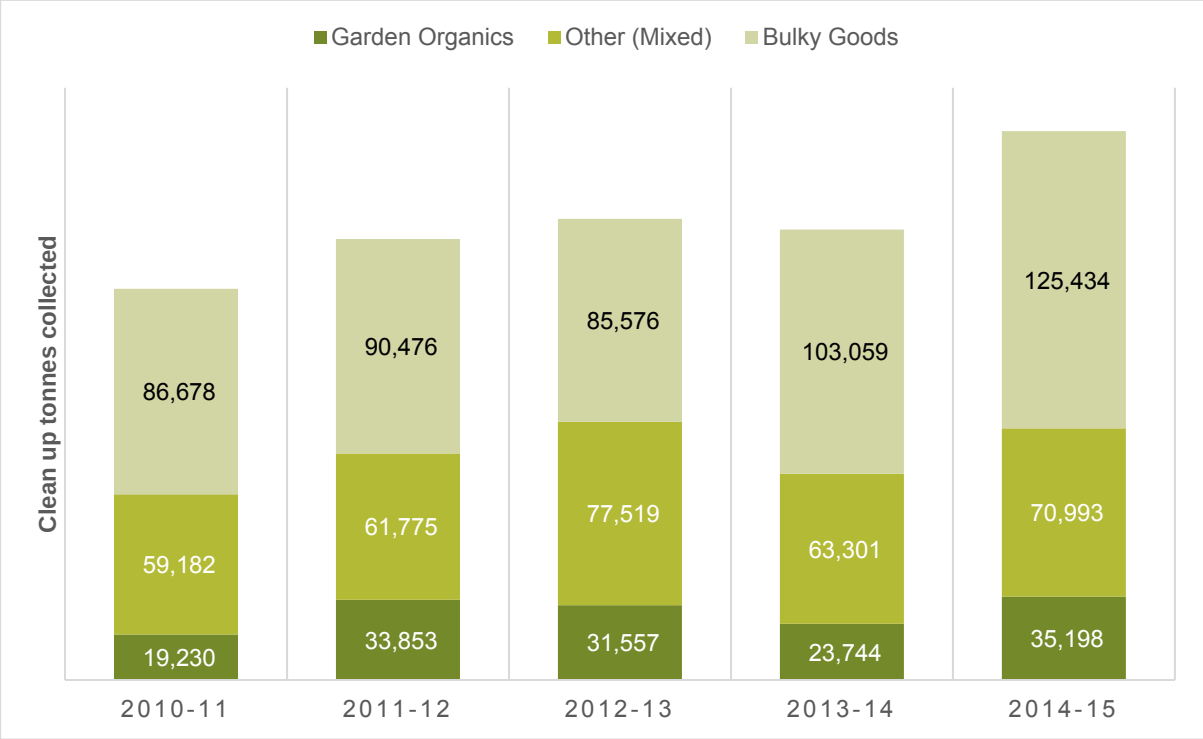

Figure 21: Kerbside clean-up majority waste materials 2010–11 to 2014–15

6 Drop-off facilities

6.1 Waste dropped off at a facility by residents

Figure 22 shows that residents took 547,359 tonnes of material to drop-off facilities in 2014–15. This was collected from 111 of the 152 council areas that offered a drop-off facility for residents to take material to in NSW. The main waste stream was 257,837 tonnes of residual waste. There was an increase in the amount of material received at drop-off facilities over the past year, the most notable being for dry recyclables and organics as service provision increased across NSW.

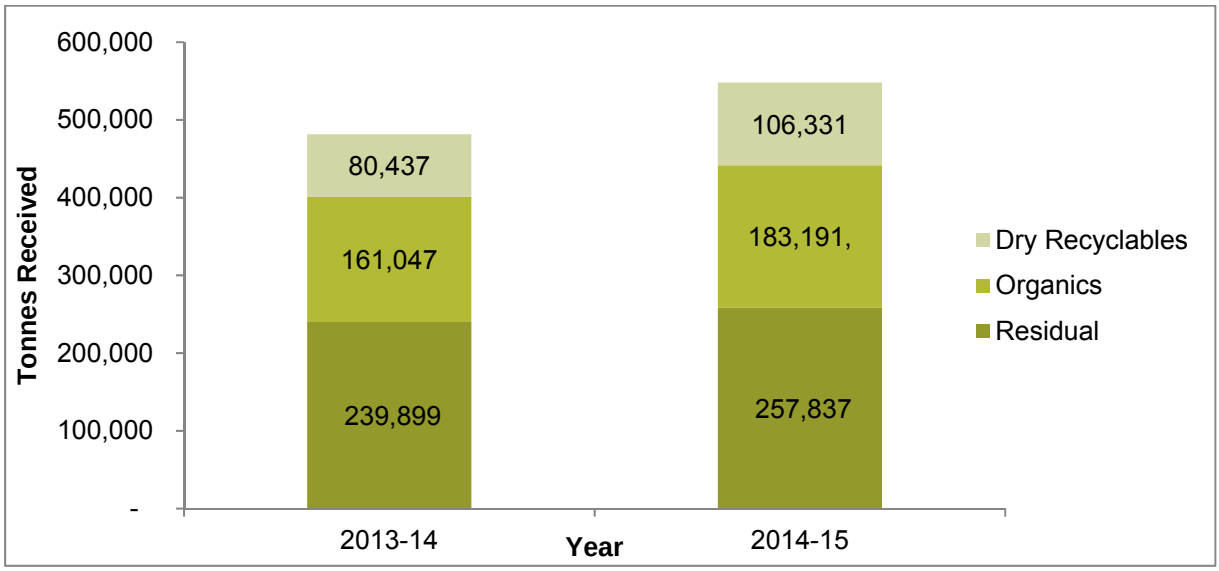

Figure 22: Drop off received by waste stream 2013–14 and 2014–15

A total of 53% of material from drop-off facilities was recycled (compared to 51% in 2013/14 and 41% in 2007/08).

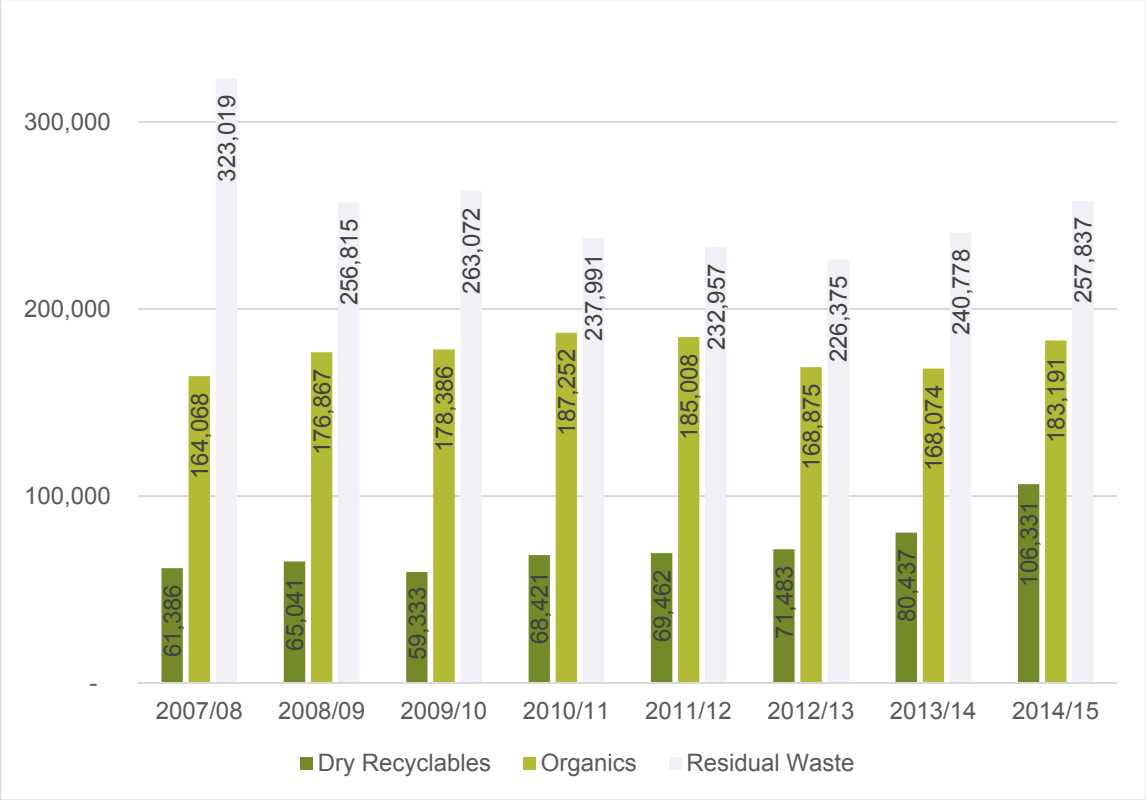

Fig 23: Drop off received by waste stream 2007–08 to 2014–15

Table 13: Drop-off service provisions by region 2014-15

Region	Councils	Collected	Recovered	Disposed	Recycled
Sydney metro	16	22,621	21,280	1,341	94%
Extended area	13	141,390	66,609	74,781	47%
Regional area	20	138,756	89,397	49,359	64%
Rest of state	62	244,591	111,692	132,899	46%
NSW	**111**	**547,358**	**288,978**	**258,380**	**53%**

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 operator that is disposed to landfill from the total amount sent for recycling. For organics the tonnes disposed to landfill from which has not been processed.

Waste stream

This refers to each category the waste material is intended 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 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 collect large metals and bulky goods.

Organic recyclables

Mainly bark, leaves, twigs and lawn clippings. Food and garden organics (FOGO) also includes 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.