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Quantity of waste and recycling materials (in tonnes) handled by local governments, by destination
The Department of Environment and Conservation (DEC) conducts an annual census of the waste and recycling (W&R) services provided to households and commercial premises by local government and constituted regional councils in Western Australia.

The 2011-12 census incorporates input from 140 local governments and eight regional councils, representing a 100% census participation rate. Figure 1 shows the statewide total collected waste and recycling materials (in million tonnes) by type of collection service, and a comparison of the collections in the metropolitan and non-metropolitan local governments.

The total quantity of materials collected statewide was approximately 1,536,648 tonnes. Metropolitan local governments handled approximately 1,024,695 tonnes or 67 per cent of that quantity. Non-metropolitan local governments handled 511,953 tonnes or 33 per cent.

The total kerbside collection was approximately 1,015,380 tonnes or 66 per cent of the total collection across the State. Drop-off collection was 326,940 tonnes (or 21%), vergeside collection was 149,702 tonnes (or 10%), and public place and special events collection was 44,627 tonnes or three per cent.

About 711,820 households or 1.785 million people live in the areas covered by the metropolitan local governments. This represents about 74 per cent of the total number of households and people.

Of the total W&R materials collected by the metropolitan councils
• kerbside collection was approximately 741,776 tonnes or 72 per cent
• drop-off collection was approximately 138,128 tonnes or 14 per cent
• vergeside collection was approximately 125,841 tonnes or 12 per cent
• public place and special events collections were approximately 18,950 tonnes or two per cent.
There are about 251,239 households or 627,112 people in the areas covered by the non-metropolitan local governments. Of the total W&R materials collected by the non-metropolitan councils:
- kerbside collection was approximately 273,604 tonnes or 53 per cent
- drop-off collection was approximately 188,812 tonnes or 37 per cent
- vergeside collection was approximately 23,860 tonnes or five per cent
- public place and special events collections were approximately 25,676 tonnes or five per cent.

The total quantity of materials recovered for re-use and recycle across all local governments was about 565,604 tonnes or 37 per cent. This is disaggregated by type of collection service in Figure 2. The total waste disposed to landfill was 971,044 tonnes or 63 per cent of the total collected W&R materials.

Metropolitan local governments had a higher diversion rate compared to non-metropolitan local governments (42% vs. 27%).

For the metropolitan local governments, most recovered materials were from kerbside collection (29%) and this is larger than the combined quantities from drop-off (7%), vergeside (5%), and public place and special event recycling (less than 1%).

Material recovery in the non-metropolitan local governments was largely from drop-off services (15%). Materials collected from kerbside services constituted seven per cent of the total. The rest were from vergeside (two per cent), and public place and special event recycling services (three per cent).

Considering the total number of households that had access to W&R services in 2011-12, the weighted average quantity of waste handled by local governments was about 0.64 tonnes per person, or 1.61 tonnes per household. This means that, on a weekly basis, the local governments handled 12.39 kilograms of waste per person or 31.02 kilograms per household.
1 Introduction

The Department of Environment and Conservation (DEC) conducts an annual census of the waste and recycling (W&R) services provided to households and commercial premises by local government and constituted regional councils in Western Australia.

Between August and October 2012, DEC collected various data on the W&R services provided during the 2011-12 financial year from all local governments in Western Australia.

Information from the census is used by the State Government for:
- the development of policy and programs by DEC and the Waste Authority
- the development of policy by the Office of the Minister for Environment
- monitoring progress towards the Waste Strategy targets

Where local governments have assented, census data is provided to Western Australia Local Government Association (WALGA) and the Forum of Regional Councils (FORC).

This report presents a summary of the information as reported in the annual census by local governments for financial year 2011-12, as follows:
- Sections 2 and 3 provide details of the census, sources of other relevant data, and census participation.
- Section 4 provides a summary of the total quantities of W&R materials collected, disposed to landfill, and recovered by type of service provided by the metropolitan and non-metropolitan local governments.
- Section 5 presents the statewide diversion rate, as well as the separate diversion rate for metropolitan and non-metropolitan local governments, and the per capita and per household wastes derived from the 2011-12 W&R census data.
- Section 6 presents a brief summary of each type of W&R service provided by local governments in financial year 2011-12 and compares implementation levels by metropolitan and non-metropolitan councils.
- Section 7 shows the disaggregation of recovered materials statewide, and the contributions of the metropolitan and non-metropolitan local governments.
- Information gathered on financial data and waste audits are presented in Sections 8 and 9 respectively. General information on W&R in local government councils' operations is presented in Section 10.
- Finally, Section 11 lists some reported information pertaining to local government councils’ activities to prevent littering and illegal dumping.

The Waste Authority and DEC acknowledge the cooperation of local governments in providing the information summarised in this report.
2 Census details and other data sources

DEC distributed and collected the 2011-12 census forms, and undertook data consolidation and analysis.

The 2011-12 census form is composed of nine sections, namely:

- **Section A**: Participant’s contact details
- **Section B**: Waste and recycling services for domestic premises
- **Section C**: Materials recycled
- **Section D**: Waste audits
- **Section E**: Annual cost and charges of collection/processing and disposal of domestic materials
- **Section F**: Waste and recycling services for commercial premises
- **Section G**: General information on local government’s waste and recycling management
- **Section H**: Littering and illegal dumping

Immediate feedback on the completeness and consistency of data was provided to councils. Considerable effort was made to verify the data through emails, phone calls and face-to-face meetings. However, as no data validation was conducted, the accuracy of measurements and estimates provided by local government cannot be guaranteed.

Local governments not equipped to measure the quantity of W&R materials they handled were encouraged to provide estimates based on documented information such as recent waste composition audits and historical data.

Some local governments were not able to provide complete information on tonnages and other information such as costs and charges. This may be due to the absence of an established W&R data management system and/or the lack of staff whose function specifically included monitoring and reporting W&R services.

In this report, W&R tonnages per person and per household are presented. The projected population and number of households in each local government for 2011-12 were obtained from the Western Australian Planning Commission (Mulholland, 2012). The statistics for the Shires of Christmas Island and the Cocos (Keeling) Islands were obtained from the Western Australian Local Government Directory 2012 (Western Australian Local Government, 2012).

3 Local government participation

A 100 per cent census participation rate was achieved for financial year 2011-12. See Table 3.1 below for more detail.

Table 3.1 shows the number of participating local governments and regional councils in the metropolitan and non-metropolitan regions across the state.

<table>
<thead>
<tr>
<th>Type of Council</th>
<th>Number of local governments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Metropolitan</td>
<td></td>
</tr>
<tr>
<td>Local government</td>
<td>30</td>
</tr>
<tr>
<td>Regional</td>
<td>5</td>
</tr>
<tr>
<td>Non-metropolitan</td>
<td></td>
</tr>
<tr>
<td>Local government</td>
<td>110</td>
</tr>
<tr>
<td>Regional</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>148</td>
</tr>
</tbody>
</table>

The number of local governments in the non-metropolitan regions in this census includes the City of Greater Geraldton, which is the amalgamation of the City of Geraldton-Greenough and the Shire of Mullerwa. These were separate local governments in the previous census.
4 Waste and recycling services

In this report, waste and recycling (W&R) materials collected by local government are differentiated according to the type of collection service, namely:
- kerbside
- vergeside
- drop-off
- public place and special events (PP&SE).

Collected materials are further disaggregated according to their destination, namely:
- disposed to landfill, including mix waste processed in an alternative waste treatment (AWT) facility
- recovered for recycling or re-use.

Statewide W&R collection and the corresponding data for the metropolitan and non-metropolitan local governments are found in Tables A1 to A3 in the Appendix. The quantity of statewide W&R materials by destination, and the corresponding figures for the metropolitan and non-metropolitan local governments are found in Table A4 in the Appendix.

4.1 Collection of waste and recycling materials

Figure 4.1 shows the statewide local governments’ total W&R collection (in million tonnes) by type of service and a comparison of the collection levels by the metropolitan and non-metropolitan local governments.

The total W&R collection statewide was approximately 1,536,648 tonnes. Metropolitan local governments handled approximately 1,024,695 or 67 per cent, and non-metropolitan local governments handled 511,953 tonnes or 33 per cent.
Statewide:
- total kerbside collection was about 1,015,380 tonnes or 66 per cent of the total collection across the State
- drop-off collection contributed about 326,940 tonnes or 21 per cent
- vergeside collection was about 149,702 tonnes or 10 per cent
- PP&SE collection was about 44,627 tonnes or three per cent.

In 2011-12, the number of households in the metropolitan regions across the State was about 711,820 or about 1.785 million people. These represent about 74 per cent of the total number of households, as well as the total number of persons statewide.

Of the total W&R materials collected by metropolitan councils:
- kerbside collection was about 741,776 tonnes or 72 per cent
- drop-off collection contributed about 138,128 tonnes or 14 per cent
- vergeside collection about 125,841 tonnes or 12 per cent
- PP&SE was about 18,950 tonnes or two per cent.

In the non-metropolitan regions, there were about 251,239 households or 627,112 people in 2011-12. These represent about 26 per cent of the total number of households, as well as the total number of persons statewide.

Of the total W&R materials collected by non-metropolitan councils:
- kerbside collection in these regions was about 273,604 tonnes or 53 per cent
- drop-off collections contributed about 188,812 tonnes or 37 per cent
- vergeside collection was about 3,860 tonnes or five per cent
- PP&SE was about 25,676 tonnes or five per cent.
4.2 Destination of waste and recycling materials

Local governments are increasingly providing collection services to recover materials for recycling and re-use.

The breakdown of the quantity of materials recovered and the quantity directed to landfill by the metropolitan and non-metropolitan local governments are shown in Figures 4.2 and 4.3, respectively. In these figures, the materials recovered are also disaggregated by type of collection service.

Metropolitan local governments recovered about 427,058 tonnes or 42 per cent and disposed about 597,637 tonnes or 58 per cent to landfill (see Figure 4.2). Most of the recovered material was from kerbside collection (29%), and almost 12 per cent from the combined drop-off, vergeside and PP&SE collections.

Figure 4.3 shows that non-metropolitan local governments recovered 138,546 tonnes or 27 per cent, and disposed about 373,407 tonnes to landfill or 73 per cent of their total collection. Materials recovered by non-metropolitan local governments were largely from drop-off services (15%), and materials collected from kerbside were less than half (7%) of the drop-off collection. Vergeside- and PP&SE-recovered materials constituted the remaining five per cent.

Compared to other W&R services, many local governments, both in the metropolitan and non-metropolitan areas, were not able to provide much information on PP&SE services.

Figure 4.2 Quantity of waste handled by metropolitan local governments by destination, and the disaggregation of recovered materials by type of collection service

Figure 4.3 Quantity of waste handled by non-metropolitan local governments by destination, and the disaggregation of recovered materials by type of collection service
5 Statewide waste and recycling indicators

5.1 Diversion Rates

The diversion rate, or the proportion of materials diverted from traditional landfilling to the total W&R collected, is an indicator of waste management efficiency.

Figures 4.2 and 4.3 (in Section 4) show that metropolitan local governments had a higher diversion rate than non-metropolitan local governments (42% vs. 27%). This is due to better access to recovery facilities, such as Material Recovery Facilities (MRFs) and alternative waste treatment (AWT) facilities.

The number of local governments that had access to council-provided and/or private drop-off recycling services increased from 52 in 2010-11 to 80 in 2011-12. Sixty-seven of these are non-metropolitan local governments.

Section 4 shows that State W&R collection was mostly from kerbside services. The number of local governments that provided kerbside recycling, either as an in-house service or outsourced to private contractors, increased from 83 in 2010-11 to 85 in 2011-12. Fifty-seven of these were non-metropolitan local governments. Non-metropolitan local governments that did not provide kerbside services depended largely on drop-off services, resulting in the higher proportion of drop-off collections and recovery compared to kerbside collections in non-metropolitan areas as shown in Figures 4.1 and 4.3 (in Section 4).

Statewide, the total waste disposed to landfill was 971,044 tonnes or 63 per cent of the total collection. The total quantity of materials recovered for re-use and recycle was about 565,604 tonnes or 37 per cent. This is disaggregated by type of collection service in Figure 5.1.

Twenty-six local governments, all non-metropolitan, registered no recycling tonnages (i.e. diversion rate = 0). It must be noted though that six provided recycling services and/or had access to at least one type of recycling collection service, but were unable to provide estimates on the quantity of materials they handled through these services.

5.2 Waste and recycling per capita and per household

Based on the total W&R materials collected statewide and the number of premises that had access to W&R services provided by local governments, the weighted average two W&R materials handled by local governments is 0.64 tonnes per person, or 1.61 tonnes per household. This means that, on a weekly basis, the local governments handled 12.39 kilograms of waste per person or 31.02 kilograms per household.

Weighted averages give greater weight to data from larger local government authorities, which tend to have better W&R collection and reporting systems.

Figure 5.1. Quantity of waste handled by all local governments statewide by destination, and the disaggregation of recovered materials by type of collection service
6 Profiles of local government waste and recycling services for residential premises

6.1 Kerbside services

Kerbside services are defined as containerised, regular, frequent collection of waste and/or recyclables from the front of residential premises.

6.1.1 Kerbside wastes disposed to landfill

Across the state, 133 local governments (25 metropolitan and 108 non-metropolitan) provided kerbside waste collection for disposal to landfill. Of the seven local governments that did not provide this service, five were metropolitan local governments that directed all kerbside waste to an AWT, and two were non-metropolitan governments that largely depended on drop-off collection services.

The metropolitan local governments offered this service to almost 100 per cent of their residential premises, with a participation rate of 96 per cent. The non-metropolitan local governments offered this service to about 81 per cent of their residential premises, with a participation rate of about 91 per cent.

About 64 per cent of the metropolitan and 77 per cent of the non-metropolitan local governments providing kerbside waste collection outsourced this service, while the rest utilised in-house resources.

6.1.2 Kerbside wastes dispose to an Alternative Waste Treatment (AWT) facility

A total of 14 local governments across the state provided kerbside waste collection for disposal to an AWT facility. Eleven of these were metropolitan local governments (including five that did not provide kerbside waste to landfill services) and three were non-metropolitan local governments.

The metropolitan local governments offered this service to almost 100 per cent of their residential premises, with an average participation rate of 93 per cent. Non-metropolitan local governments offered this service to about 93 per cent of their residential premises, with an average participation rate of 91 per cent.

About 83 per cent of the metropolitan and 67 per cent of the non-metropolitan local governments offering this service outsourced this to a private contractor, while the rest utilised in-house resources.

6.1.3 Kerbside recycling

A total of 85 local governments (28 metropolitan and 57 non-metropolitan) provided kerbside co-mingled recycling collection. The metropolitan local governments offered this service to almost 100 per cent of their residential premises, with an average participation rate of 91 per cent. The non-metropolitan local governments offered this service to 73 per cent of their residential premises, with an average participation rate of 87 per cent.

About 88 per cent of the metropolitan and 79 per cent of the non-metropolitan local governments that provided this service outsourced it to a private contractor. The rest utilised in-house resources.

Table 6.1 lists the number of local governments by frequency of kerbside recycling service, the type and size of container, and the type of recyclable materials. About 79 local governments or about 94 per cent of those that provided co-mingled dry recycling service collected fortnightly, another three collected weekly, one collected monthly and one provided the service on demand.

Table 6.1 also shows that few local governments provided separate kerbside recycling services solely for packaging containers, and paper and cardboard.
Table 6.1  Number of local governments providing kerbside recycling services, by container type and size, and frequency of collection service.

<table>
<thead>
<tr>
<th>Material type</th>
<th>Container</th>
<th>Frequency</th>
<th>Number of councils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-mingled dry recyclables</td>
<td>240L MGB</td>
<td>weekly</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>240L MGB</td>
<td>fortnightly</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>240L MGB</td>
<td>monthly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>60L bag</td>
<td>fortnightly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>60L bag</td>
<td>on demand</td>
<td>1</td>
</tr>
<tr>
<td>Packaging containers</td>
<td>240L MGB</td>
<td>fortnightly</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>120L MGB</td>
<td>weekly</td>
<td>2</td>
</tr>
<tr>
<td>Paper and cardboard</td>
<td>240L MGB</td>
<td>fortnightly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>120L MGB</td>
<td>weekly</td>
<td>1</td>
</tr>
<tr>
<td>Bundled</td>
<td></td>
<td>monthly</td>
<td>1</td>
</tr>
</tbody>
</table>

Some local governments provide more than one size MGB. The containers shown here are the most commonly used.
6.2 Vergeside services

Vergeside collection services are intermittent, non-containerised collection of bulky wastes, such as green wastes (e.g. grass or flower cuttings and hedge trimmings) and hard wastes (e.g. furniture, mattresses and white goods).

Across the state, at least 60 local governments provided vergeside green waste collection, about 70 provided hard waste collection, and 58 offered both services.

Table 6.2 lists the number of local governments by frequency of vergeside green waste and hard waste collection.

For green waste collection in the metropolitan areas, 10 local governments collected biannually, eight collected quarterly and four collected annually.

The majority of non-metropolitan local governments (20 out of 31, or 65%) collected green waste annually, eight collected biannually, one collected quarterly and one collected monthly.

For hard waste collection in metropolitan local governments, an equal number (12) provided this service annually and biannually, and one collected quarterly.

In non-metropolitan local governments, the majority (31 out of 40 or 78%) provided annual hard waste collection services, 6 collected biannually, and one collected quarterly.

Two metropolitan local governments provided green and hard waste collection services on demand. None of the non-metropolitan local governments provided this service on demand.

<table>
<thead>
<tr>
<th>Frequency of Service</th>
<th>Vergeside green waste service</th>
<th>Vergeside hard waste service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Metro</td>
<td>Non-Metro</td>
</tr>
<tr>
<td>Monthly</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Quarterly</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Bi-annually</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Annually</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>On demand</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>31</td>
</tr>
</tbody>
</table>
6.2.1 Vergeside green waste
Twenty-nine metropolitan local governments provided vergeside green waste collection. Out of this number, 20 outsourced this service. Metropolitan local governments presented this service to an average of about 96 per cent of the total number of residential premises in their area.

Thirty-eight non-metropolitan local governments provided vergeside green waste collection, 13 of which outsourced this service. Non-metropolitan local governments offered this service to about 86 per cent of the residential premises in their area.

6.2.2 Vergeside hard waste
Thirty metropolitan local governments provided vergeside hard waste collection, 22 of which outsourced this service. Metropolitan local governments offered this service to about 98 per cent of the total number of residential premises in their area.

Forty non-metropolitan local governments provided vergeside hard waste collection, 19 of which outsourced this service. Non-metropolitan local governments offered this service to about 84 per cent of the residential premises in their area.

6.2.3 Vergeside recycling
Table 6.3 shows that, in terms of statewide tonnages, more hard waste was collected than green wastes. While only one-fifth of the vergeside hard waste was recycled, a substantial portion (71%) of vergeside green waste was recycled.

<table>
<thead>
<tr>
<th>Data</th>
<th>Green waste</th>
<th>Hard waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total collection, tonnes</td>
<td>65,686</td>
<td>84,015</td>
</tr>
<tr>
<td>Recycled materials,</td>
<td>46,652</td>
<td>16,709</td>
</tr>
<tr>
<td>(% of total collection)</td>
<td>(71%)</td>
<td>(20%)</td>
</tr>
</tbody>
</table>

6.3 Drop-off Services
Drop-off services are provided at central locations, usually at a waste depot, where residents can bring their waste for disposal or recycling using cars, utes or trailers. Drop off services are sometimes called “mums and dads” waste and recycling collection.

Non-metropolitan local governments that did not provide kerbside and/or vergeside services provided drop-off recycling services. In some metropolitan local governments, drop-off services were also offered at the vicinity of the landfill or transfer stations. Some of these drop-off facilities are operated by the regional councils but managed by a member local government (DEC, 2012).

Table 6.4 shows the number of local governments that operated their own drop-off facilities and those that had access to drop-off facilities operated by private and not-for-profit groups.

Table 6.4 Number of local governments\(^4\) that provided/had access to drop-off W&R services in 2011-12.

<table>
<thead>
<tr>
<th>Type of service</th>
<th>Metro</th>
<th>Non-Metro</th>
<th>Non-Metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop-off waste service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-house</td>
<td>12</td>
<td>78</td>
<td>90</td>
</tr>
<tr>
<td>Private and not-for-profit groups</td>
<td>5</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Drop-off recycling service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-house</td>
<td>10</td>
<td>62</td>
<td>72</td>
</tr>
<tr>
<td>Private and not-for-profit groups</td>
<td>4</td>
<td>20</td>
<td>24</td>
</tr>
</tbody>
</table>

\(^4\) A local government that operated its own drop-off facility and also had access to drop-off facilities operated by other organisations is counted as one.

Western Australia Local Government Waste and Recycling Census 2011-12 as reported by local governments
6.3.1 Drop-off waste
A total of 90 local governments had access to council-provided drop-off services, and 16 had access to drop-off facilities operated by private and non-for-profit organisations. Seventy-eight (or 71%) of the non-metropolitan governments operated their own drop-off facilities, and 11 had access to drop-off facilities operated by private and non-for-profit organisations. Less than half of the metropolitan governments operated their own drop-off facilities and five had access to drop-off facilities operated by private and non-for-profit organisations.

6.3.2 Drop-off recycling
The number of local governments that had access to drop-off recycling services increased from 52 (in 2010-11) to 79 in this census. The majority of these (69 out of 79) are non-metropolitan local governments. This can explain the results presented in Sections 4 and 5 of this report, where it was shown that the quantity of drop-off W&R collections were higher in non-metropolitan than in metropolitan regions. Furthermore, more materials were recovered from drop-off recycling services in non-metropolitan local governments compared to their combined kerbside, vergeside, and PP&SE recycling collections.

6.4 PP&SE Services
Local governments collect waste and recycling in public places using street litter bins and permanent bins in parks. For special events such as festivals and similar gatherings, temporary bins are put in place. This also includes extra bins (in addition to permanent ones) for sports events.

The majority of local governments in the metropolitan area (83%-90%) provided PP&SE waste collection services, 63 per cent provided special events recycling services, but only 27 per cent provided public place recycling. However, only one out of every 10 local governments provided information on tonnages of actual recycled materials from these services.

Reported tonnages on PP&SE services are mostly ballpark estimates. Local governments reported that these services are difficult to monitor even when outsourced to private contractors. This partly explains the scant data and the low levels of PP&SE collections and material recovery as presented in Sections 4 and 5 of this report.

7 Recycled materials

7.1 Recycled materials statewide
Local governments provided tonnages of actually recycled materials for each type of collection service. Figures 7.1 and 7.2 show the quantities of materials recycled statewide as reported in this census.

Figure 7.1 shows that 74 per cent of recycled materials statewide were collected through services provided by metropolitan local governments.
Figure 7.2 shows the quantity for each material, disaggregated according to the type of collection service. Green waste constitutes the largest portion (36%) of recycled material, followed by paper and cardboard (28%). It must be noted though that these results (Section C of the census) particularly need further verification as there were inconsistencies in the reported information on tonnes actually recycled relative to those collected from each recycling service (Sections B1 to B4 of the census).

7.2 Recycled materials as reported by metropolitan local governments

Figure 7.3 shows the disaggregation of recycled materials by type of collection service provided by metropolitan local governments. The figure shows that paper and cardboard and green waste contributed the largest quantities of recycled materials at 31 per cent and 29 per cent, respectively.
7.3 Recycled materials as reported by non-metropolitan local governments

Figure 7.4 shows the disaggregation of recycled materials by collection service provided by non-metropolitan local governments. Green waste constitutes the largest quantity of recycled material (57%), followed by paper and cardboard at about 20 per cent, and non-packaging metal at 11 per cent.

Figure 7.4  Quantity of recycled materials reported by non-metropolitan local governments by type of collection service

8  Financial data

Local governments more readily provided information on the costs of providing W&R services compared to the amount charged to residents. The majority of local governments provided information on cost disaggregated by type of service, but many provided lump sum costs for all their W&R services. There were also quite a number of local governments that were not able to separate the charges for W&R services from the councils’ annual rates for residential premises.

Figure 8.1 shows the median per premise cost and median per premise charge\(^5\) for all W&R services provided by local governments grouped according to population as shown in Table 8.1. It appears that the per premise cost of providing W&R services is higher in less populated areas. On the other hand, no clear trend is observed on charge per premise relative to population.

Figure 8.2 shows the median cost per premise and median charge per premise only for recycling services provided by local governments grouped according to population as shown in Table 8.1.

Many local governments reported that recycling costs and charges were lumped with the total W&R costs and charges, and because of this, were unable to provide separate costs for recycling only. For some local governments, other circumstances such as the use of tip passes made it difficult to estimate an annual per premise charge. No data on annual recycling charge in Class A local governments can be drawn from this census. As shown in Figure 8.2, recycling costs per premise and recycling charge per premise show no clear trend relative to population.

\(^5\) The median costs and charges, instead of the averages, are used here due to the very wide variability of the data reported.
Table 8.1 Distribution of local governments by population.

<table>
<thead>
<tr>
<th>Group</th>
<th>Population</th>
<th>Metro</th>
<th>Non-Metro</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Greater than 50,000</td>
<td>12</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>B</td>
<td>10,000-50,000</td>
<td>13</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>C</td>
<td>5,000-9,999</td>
<td>4</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>D</td>
<td>Less than 5000</td>
<td>1</td>
<td>81</td>
<td>82</td>
</tr>
</tbody>
</table>

Figure 8.1 Median cost and charge per residential premise for all waste and recycling services provided by local governments grouped according to population (see Table 8.1)

Figure 8.2 Median cost and charge per residential premise for recycling services provided by local governments grouped according to population (see Table 8.1)
9  Waste composition audits

Eighteen local governments statewide conducted waste composition audits in 2011-12. Statewide, these figures are equivalent to roughly one out of every 10 local governments. Seven of these were in the metropolitan area and 11 in non-metropolitan.

10  Local government initiatives

Section G of the census gathered information on the W&R materials generated in the local government councils’ operations. Following is a summary of the responses gathered.

- Twenty-five local governments reported new waste and recycling infrastructure built in 2011-12. Two of every three of these were in the non-metropolitan areas and included workshops, tip shops, leachate ponds, landfill cells, septic ponds, fencing and Material Recovery Facilities.
- Thirty-seven local governments recycled construction and demolition waste from their own operations, including those from road upgrades. More than half of these are in non-metropolitan regions.
- Nearly all (29 out of 30) metropolitan local governments recycled their green waste. One in every three non-metropolitan governments recycled green wastes from their council operations.
- One out of every three local governments had a Sustainable Purchasing Policy or Green Purchasing Policy. This accounts for nearly all the metropolitan local governments, and only 17 per cent of the non-metropolitan local governments.
- Metropolitan local governments reported a total of AU$2.3million spent for waste and recycling education programs, while non-metropolitan local governments spent AU$0.95million.

11  Litter and illegal disposal of wastes

Section H of the census gathered information on the local government councils’ W&R programs to prevent littering and illegal dumping. Following is a summary of the information gathered.

- At least 1,004 infringement notices, including about 133 warnings for littering, were issued statewide; 63 per cent of these were issued by metropolitan local governments. Examples of offences include putting junk on verges, incorrect placement of waste at the landfill and improper disposal of cigarette butts.
- In the case of illegal dumping, at least 202 infringement notices were reported; 82 per cent of these were issued by non-metropolitan local governments. Examples of offences are dumping commercial quantities of fluorescent tubes and dumping wrecked vehicles in abandoned places.
- At least four local governments commenced court proceedings on illegal dumping; three of these were metropolitan local governments.
- Fifty-one local governments implemented programs aimed at preventing littering; 41 of these were in non-metropolitan regions.
- Fifty-three local governments implemented programs aimed at preventing illegal dumping; 37 of these were in the metropolitan area. Examples of programs include Dob in a Dumper, Name and Shame Campaign, Eyes on the Street, transportable CCTV surveillance, increased patrols, open community reporting systems, and local newspaper ‘Rangers Corner’ notice and awareness column, increase signage and media releases, and distribution of awareness pamphlets.
- Fifty-three local governments implemented programs aimed at preventing littering; 41 of these were in non-metropolitan regions.
Appendix

Table A1  Quantity of statewide W&R collection (in tonnes) by type of service

<table>
<thead>
<tr>
<th>Collection Service</th>
<th>Collection</th>
<th>% of Total Collection</th>
<th>Landfill</th>
<th>% of Total Materials to Landfill</th>
<th>Recovered</th>
<th>% of Total Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside</td>
<td>1015380</td>
<td>66%</td>
<td>679119</td>
<td>70%</td>
<td>336260</td>
<td>59%</td>
</tr>
<tr>
<td>Vergeside</td>
<td>149702</td>
<td>10%</td>
<td>86341</td>
<td>9%</td>
<td>63361</td>
<td>11%</td>
</tr>
<tr>
<td>Drop-off</td>
<td>326940</td>
<td>21%</td>
<td>176404</td>
<td>18%</td>
<td>150536</td>
<td>27%</td>
</tr>
<tr>
<td>PP&amp;SE</td>
<td>44627</td>
<td>3%</td>
<td>29180</td>
<td>3%</td>
<td>15447</td>
<td>3%</td>
</tr>
<tr>
<td>Total</td>
<td>1536648</td>
<td>100%</td>
<td>971044</td>
<td>100%</td>
<td>565604</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table A2  Metropolitan local governments’ W&R collection (in tonnes) by type of service

<table>
<thead>
<tr>
<th>Collection Service</th>
<th>Collection</th>
<th>% of Total Collection</th>
<th>Landfill</th>
<th>% of Total Materials to Landfill</th>
<th>Recovered</th>
<th>% of Total Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside</td>
<td>741776</td>
<td>72%</td>
<td>442585</td>
<td>74%</td>
<td>299191</td>
<td>70%</td>
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<tr>
<td>Vergeside</td>
<td>125841</td>
<td>12%</td>
<td>70995</td>
<td>12%</td>
<td>54846</td>
<td>13%</td>
</tr>
<tr>
<td>Drop-off</td>
<td>138128</td>
<td>13%</td>
<td>65972</td>
<td>11%</td>
<td>72155</td>
<td>17%</td>
</tr>
<tr>
<td>PP&amp;SE</td>
<td>18950</td>
<td>2%</td>
<td>18085</td>
<td>3%</td>
<td>865</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>1024695</td>
<td>100%</td>
<td>597637</td>
<td>100%</td>
<td>427058</td>
<td>100%</td>
</tr>
</tbody>
</table>

References


### Table A3  Non-metropolitan local governments’ W&R collection (in tonnes) by type of service

<table>
<thead>
<tr>
<th>Collection Service</th>
<th>Collection</th>
<th>% of Total Collection</th>
<th>Landfill</th>
<th>% of Total Materials to Landfill</th>
<th>Recovered</th>
<th>% of Total Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside</td>
<td>273604</td>
<td>53%</td>
<td>236535</td>
<td>63%</td>
<td>37069</td>
<td>27%</td>
</tr>
<tr>
<td>Vergeside</td>
<td>23860</td>
<td>5%</td>
<td>15346</td>
<td>4%</td>
<td>8515</td>
<td>6%</td>
</tr>
<tr>
<td>Drop-off</td>
<td>188812</td>
<td>37%</td>
<td>110432</td>
<td>30%</td>
<td>78381</td>
<td>57%</td>
</tr>
<tr>
<td>PP&amp;SE</td>
<td>25676</td>
<td>5%</td>
<td>11095</td>
<td>3%</td>
<td>14582</td>
<td>11%</td>
</tr>
<tr>
<td>Total</td>
<td>511953</td>
<td>100%</td>
<td>373407</td>
<td>100%</td>
<td>138546</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Table A4  Quantity of W&R materials (in tonnes) handled by local governments, by destination

<table>
<thead>
<tr>
<th>Destination</th>
<th>Total</th>
<th>% of Total</th>
<th>Metro</th>
<th>% of Total</th>
<th>Non-metro</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>971044</td>
<td>63%</td>
<td>597637</td>
<td>58%</td>
<td>373407</td>
<td>73%</td>
</tr>
<tr>
<td>Kerbside recovered</td>
<td>336260</td>
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<td>299191</td>
<td>29%</td>
<td>37069</td>
<td>7%</td>
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<tr>
<td>Vergeside recovered</td>
<td>63361</td>
<td>4%</td>
<td>54846</td>
<td>5%</td>
<td>8515</td>
<td>2%</td>
</tr>
<tr>
<td>Drop-off recovered</td>
<td>150536</td>
<td>10%</td>
<td>72155</td>
<td>7%</td>
<td>78381</td>
<td>15%</td>
</tr>
<tr>
<td>PP&amp;SE recovered</td>
<td>15447</td>
<td>1%</td>
<td>865</td>
<td>0%</td>
<td>14582</td>
<td>3%</td>
</tr>
<tr>
<td>Total W&amp;R</td>
<td>1536648</td>
<td>100%</td>
<td>1024695</td>
<td>100%</td>
<td>511953</td>
<td>100%</td>
</tr>
<tr>
<td>Total Recovered</td>
<td>565604</td>
<td>37%</td>
<td>427058</td>
<td>42%</td>
<td>138546</td>
<td>27%</td>
</tr>
</tbody>
</table>