

Household Hazardous Waste Program

Annual Report 2016/17



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Acknowledgements

WALGA administers the HHW Program on behalf of the Waste Authority.

Thank you to the Local Governments and Regional Councils who manage the Permanent facilities throughout WA for providing the staff and facilities to handle and store HHW.

Thank you to Toxfree who have delivered a highly professional collection and disposal service over the past year.

Thank you to the Minister for Environment (State Government), the Waste Authority and the Department of Water and Environmental Regulation for their ongoing support of the Household Hazardous Waste Program.

The HHW Program is funded by the Waste Authority through the Waste Avoidance and Resource Recovery Account.

Executive Summary

In the 2016/17 financial year a total of 611,089kg of Household Hazardous Waste (HHW) was collected through the Program from Permanent facilities. The total Program expenditure for 2016/17 was \$1,947,788*; this represents an expenditure of 99.9% of the Program budget. Paint (water and solvent based) made up 57.9% of material collected.

General Program expenditure was:

- 93.1% for HHW collection, testing, treatment and disposal/recycling from HHW Permanent facilities:
 - 82.4% from Metropolitan facilities, 10.7% from Non Metropolitan facilities
- 6.9% for WALGA administration
- Less than 0.1% for Promotion of the Program.

*All figures in this Report are exclusive of GST, there may be some minor discrepancies between figures due to numbers in the report being rounded.

1. Materials Collected through the Household Hazardous Waste Program

The Household Hazardous Waste (HHW) Program funds the collection and recycling/disposal of hazardous materials from residential sources. Material from commercial, industrial, agricultural or veterinary sources is not covered, nor are hazardous materials covered by other collection Programs. Householders can go to any of the HHW Permanent facilities and drop off any of the following products:

- Acids (note: some Permanent facilities do not accept hydrofluoric acid)
- Aerosols (CFC-based, paints, lacquers, pesticides etc.)
- Alkalis
- Batteries (household)
- Compact fluorescent lamps and fluorescent tubes
- Cyanides
- Engine coolants and glycols
- Fire extinguishers (non-halon only)
- Flammable liquids (e.g. hydrocarbons and fuels)
- Flammable solids
- Flares
- Gas cylinders
- General household chemicals (e.g. cleaning products)
- Heavy metal compounds
- Inorganic oxidising agents (e.g. pool chlorine)
- Low level radioactive substances (e.g. smoke detectors)
- Mercury (e.g. thermometers)
- Organic peroxides
- Paint
- PCB materials
- Pesticides (including Schedule X pesticides)
- Solvents

2. Permanent Facilities

The HHW Program provides thirteen Permanent facilities in Western Australian where householders can safely drop off their hazardous materials for free. All householders can dispose of HHW at any Permanent facility as it is not restricted to just residents of the Local Government/Regional Council which hosts the facility.

The Permanent facilities are managed and staffed by Local Governments and Regional Councils, and the HHW Program provides funding for the collection and recycling/disposal of the HHW collected. Each Permanent facility has an area where the public can drop off their unwanted HHW and a storage area where HHW is sorted into categories and stored until it is collected.

HHW Program funding covers the cost of collection, transport, identification and recycling/disposal of HHW from all thirteen sites. The Permanent facilities currently participating in the HHW Program are:

Metropolitan HHW facilities:

- Armadale Landfill and Recycling Facility (City of Armadale)
- Canning Waste Transfer Station (City of Canning)
- Henderson Waste Recovery Park (City of Cockburn)

Non-Metropolitan HHW facilities:

- Hanrahan Road Waste Minimisation Facility (City of Albany)
- Mandurah Waste Management Centre (City of Mandurah)
- Meru Waste Disposal Facility (City of Greater Geraldton)

- JRF (Jim) McGeough Resource Recovery Facility (Western Metropolitan Regional Council)
- Millar Road Landfill Facility (City of Rockingham)
- Recycling Centre Balcatta (City of Stirling)
- Red Hill Waste Management Facility (Eastern Metropolitan Regional Council)
- Tamala Park Waste Minimisation Facility (Mindarie Regional Council)
- Railway Road Transfer Station (Shire of Toodyay)
- Stanley Road Waste Management Facility (Bunbury-Harvey Regional Council)

3. HHW Program Budget 2016/17

In the 2016/17 financial year, the total Program expenditure was \$1,947,788 which represents an expenditure of 99.9% of the Program budget. The expenditure for this financial year is summarised in Figure 1 and shows the expenditure breakdown by activity. These expenses were distributed as follows:

- 93.1% was for collection, transport, testing and disposal/recycling of HHW materials from Permanent facilities
 - 82.4% from the Metro
 - 10.7% from the Non Metro
- 6.9% was for WALGA administration
- Less than 0.1% was for Promotion of the Program.

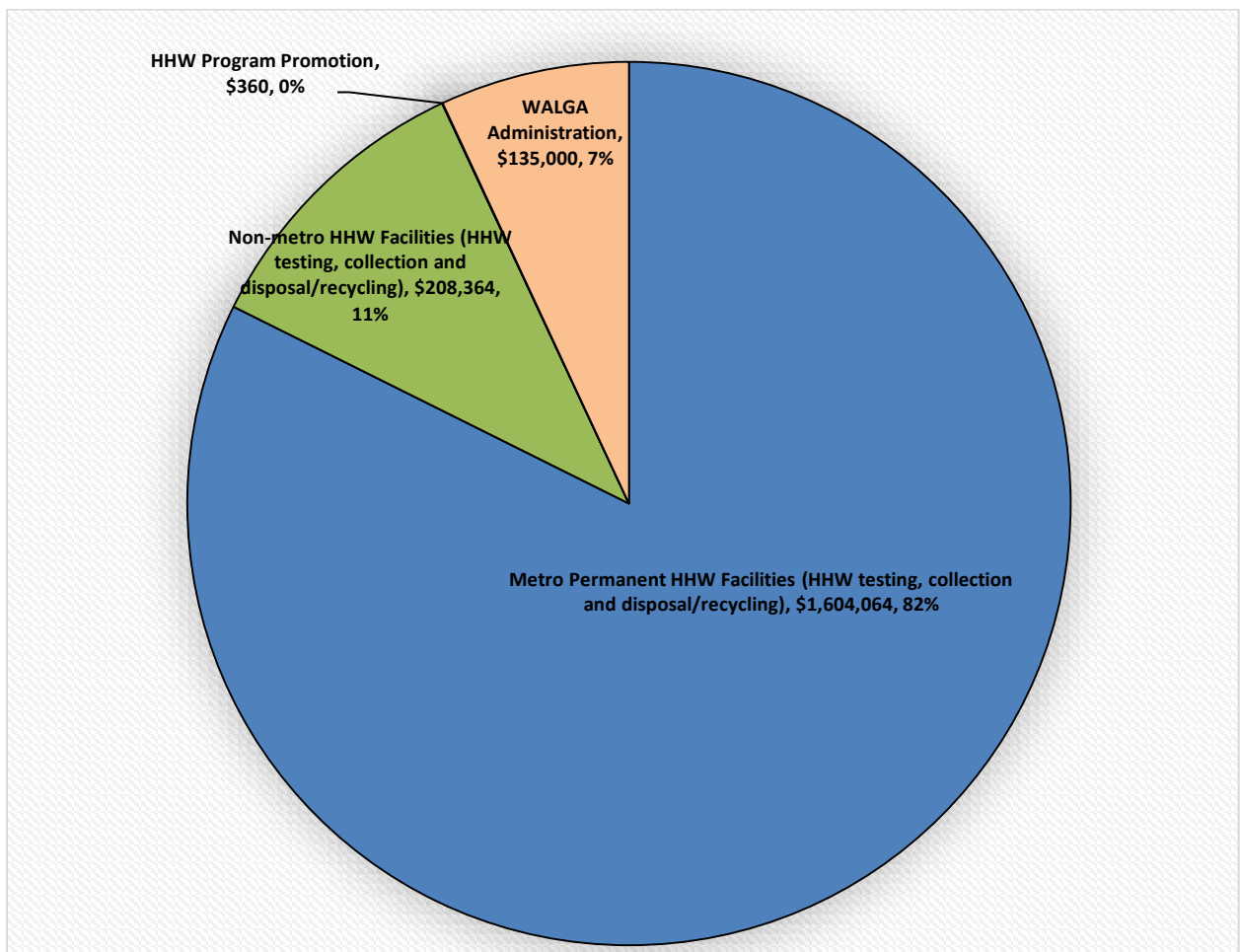


Figure 1. HHW Program expenditure by activity, for 2016/17 financial year.

4. HHW Program 2016/17 – HHW Collections

In the 2016/17 financial year, a total of 611,089kg of HHW was collected through the Program from Permanent facilities. The largest amount of material collected was Paint – water based (44%), Paint – solvent based (14%), Gas cylinders – propane (12%) and Batteries – household (11%). In the 2016/17 financial year, Paint (water and solvent based) made up 58% of the material collected by weight. Figure 2 gives a detailed breakdown of the total amount of material collected (by weight) and Figure 3 shows the disposal/recycling cost of the material collected during the 2016/17 financial year.

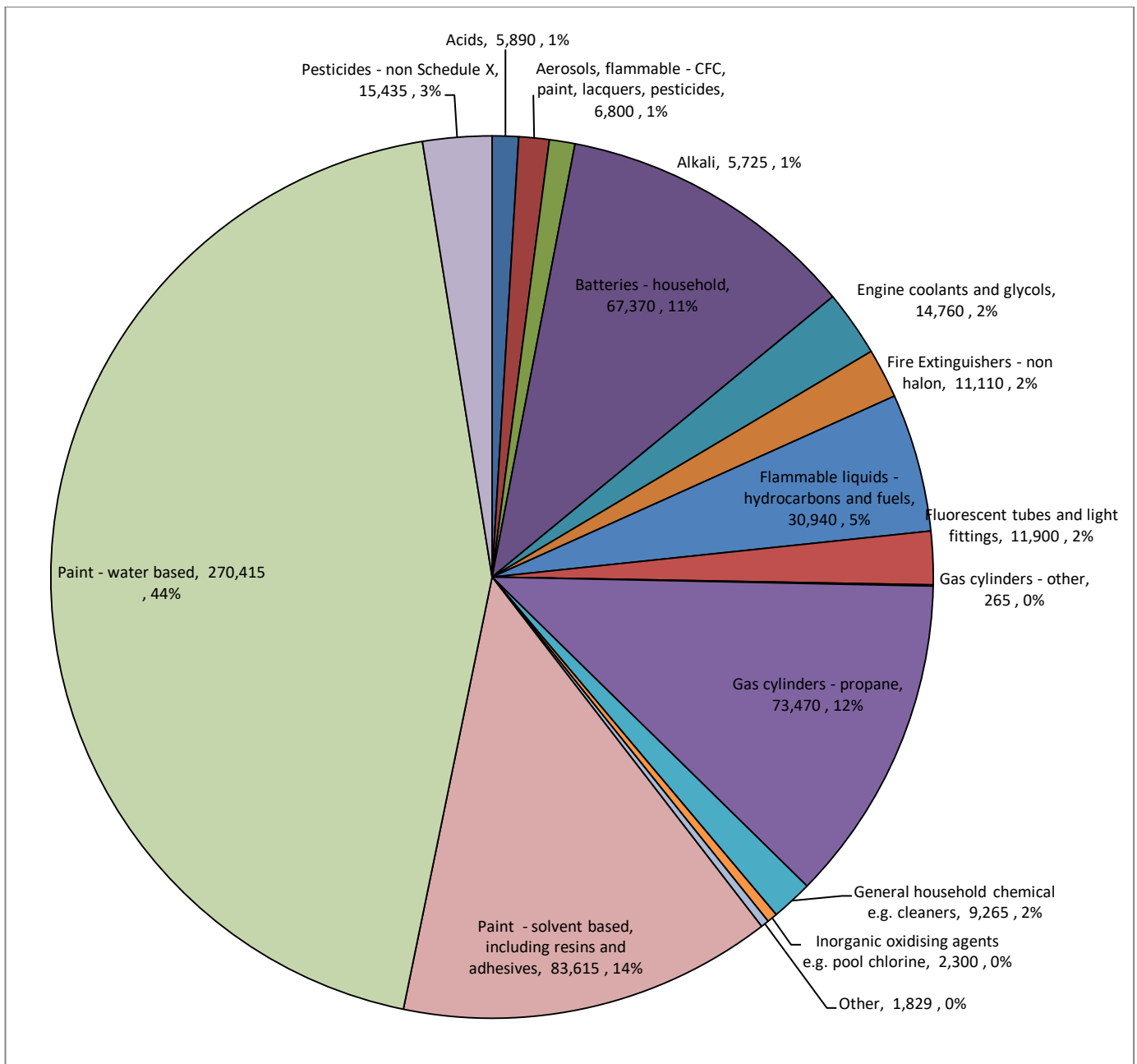


Figure 2: Weight of HHW (kg) collected from Permanent facilities in the 2016/17 financial year.

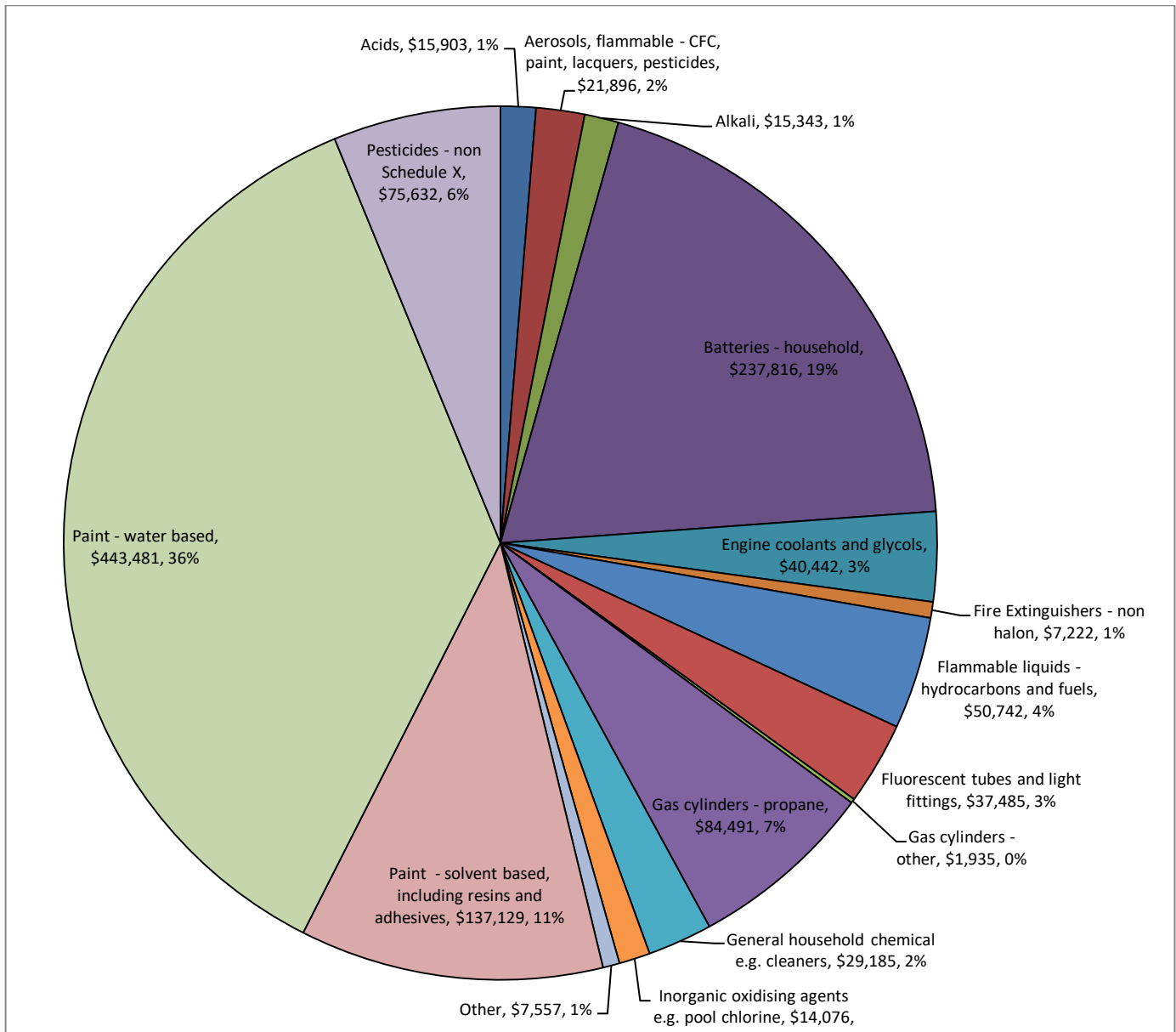


Figure 3: Costs of disposal/recycling the collected HHW from Permanent facilities in the 2016/17 financial year.

The total cost to the Program for collection, transport, testing and disposal/recycling of HHW through Permanent facilities this financial year was \$1,812,428 (see Figure 4 for the breakdown of the various expenditure areas to the Program from Permanent facilities).

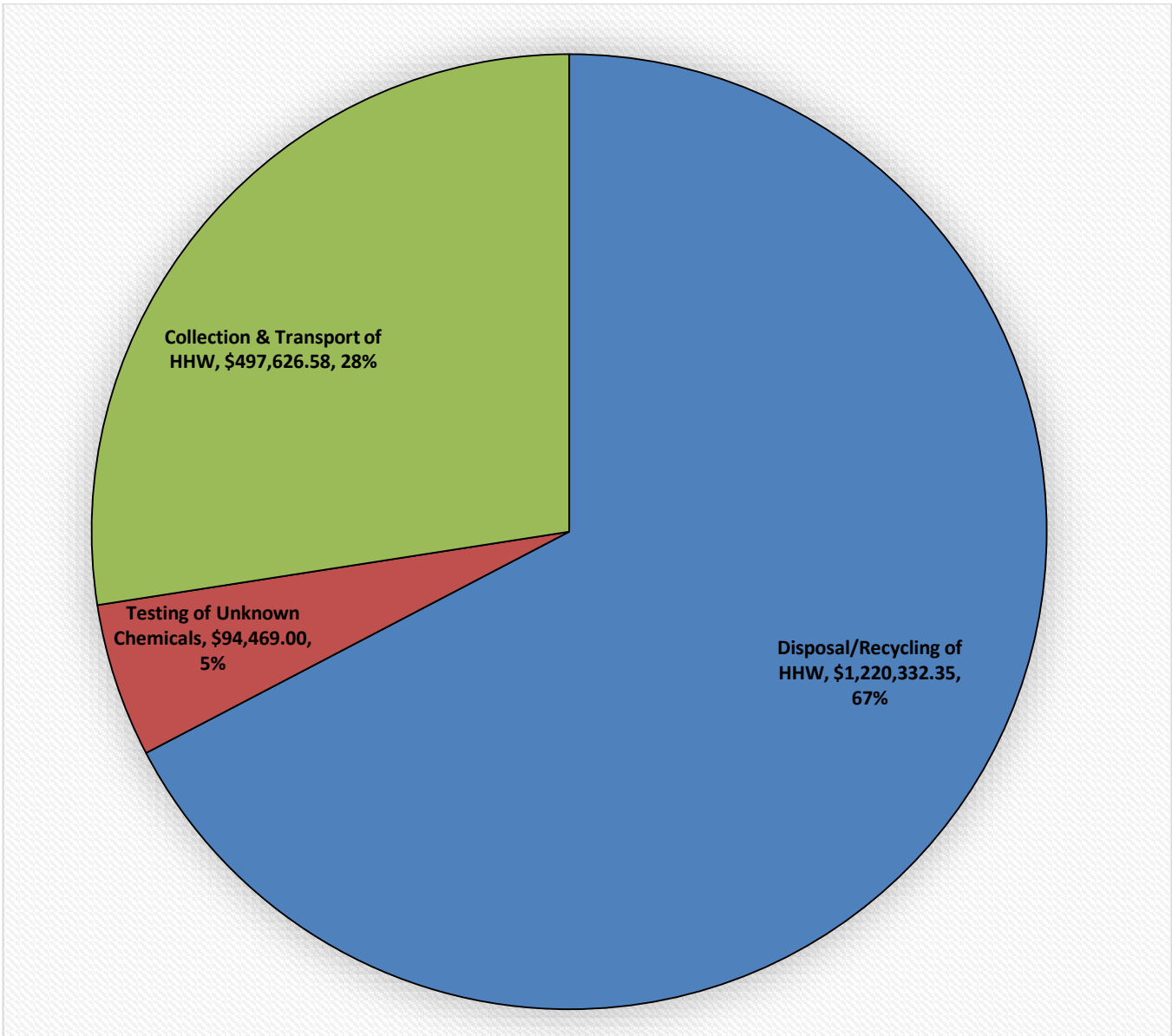


Figure 4: Expenditure breakdown for the HHW collected from Permanent facilities in 2016/17.

Local Governments and Regional Councils contribute to the costs of the Program, through staffing, managing, promoting and improving the Permanent facilities. This financial year Permanent facilities contributed \$740,105 to the HHW Program (see Figure 5 for a breakdown of the various expenditure areas for the Local Government co-contributions).

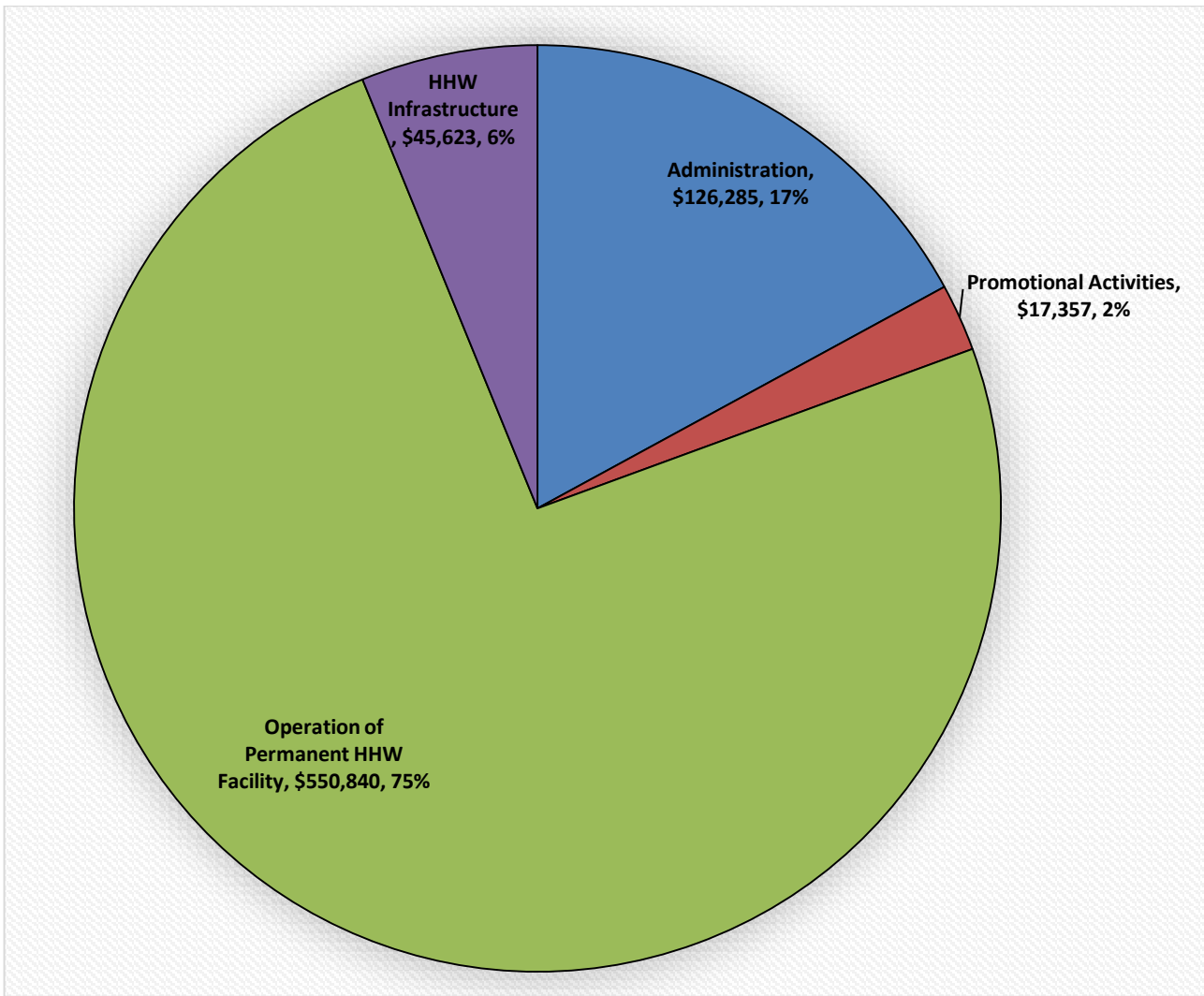


Figure 5: Local Government co-contribution expenditure breakdown for Permanent facilities in 2016/17.

Balcatta Transfer Station collected the largest amount of material this financial year (26%), followed by Tamala Park (24%), then Henderson (12%). See Figure 6 for the weight and percentage of HHW each Permanent facility collected this financial year.

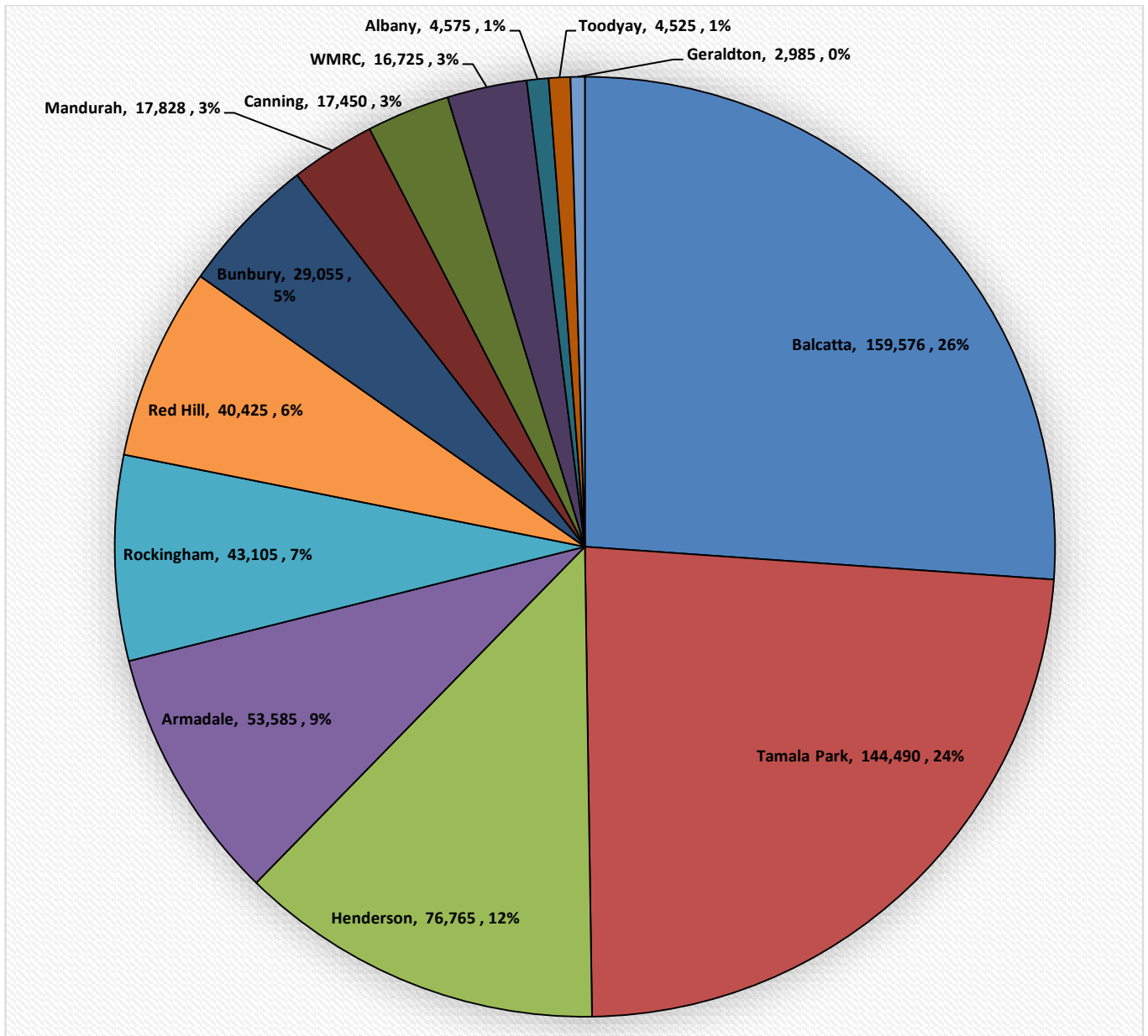


Figure 6: Weight of HHW (kg) collected by each HHW Permanent facility in 2016/17.

5. HHW Program Trends over Time

The HHW Program, in its current phase, has been running for six years (2011/12 to 2016/17). The Program's total expenditure for all HHW activities is \$11,861,855, with a total of 3,549,252kg (3,549 tonnes) of HHW collected, from Permanent facilities and Temporary Collection Days. Overall, the main materials collected were Paint (Solvent & Water Based) which makes up 62% of all materials collected, Gas cylinders - propane 11%, Batteries – household 9% and Flammable liquids which make up 4% of all materials collected. Figure 7 shows the total amount of HHW collected, along with the main material types and the total expenditure on all HHW activities for each financial year.

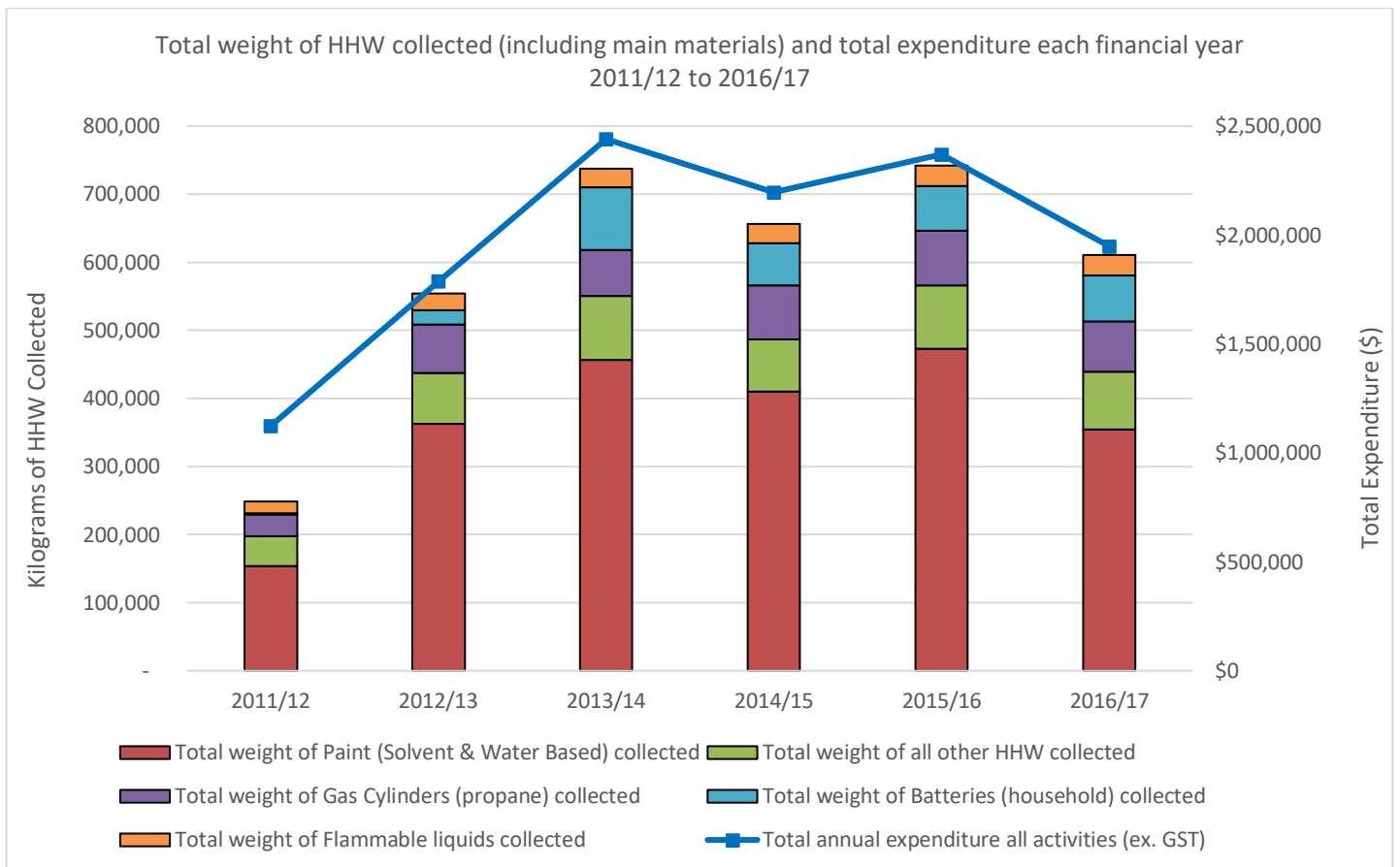


Figure 7: Total weight of HHW collected (kg), including the main materials by weight and the total Program expenditure for all activities, each financial year 2011/12 to 2016/17.

6. Disposal & Treatment Routes

The vast majority of materials collected through the HHW Program are diverted from landfill by being reused or recycled where possible, or treated to make safe and disposed of. The HHW collected is taken to the Toxfree facility in Kwinana where the treatment and disposal method for the materials is dependent on the type of material collected. For example:

1. Solvent based paint and hydrocarbons are used as an alternative fuel source for cement and brick kilns.
2. Materials such as acids, cyanides, and inorganic oxidising agents are treated and made safe through a trade waste plant.
3. Flares are destroyed by an explosives expert.
4. The only material that goes to landfill are smoke detectors, as they contain Americum, a radioactive substance. These are concrete-encapsulated before being landfilled, as there is currently no other safe alternative for disposal.

While the majority of material disposal routes remain unchanged from previous years there has been a recent change to the processing of batteries. All batteries collected through the Program (except NiCd) are no longer being exported to other countries for processing, they are now being processed by Envirostream Australia in Victoria. Their process has a 95% recovery rate, producing 4 material streams: steel, aluminium and copper, which are sold into AU markets and a mixed metal compound which is sent to a battery manufacturer in Korea for the use of manufacturing new batteries.

Figure 8 shows a breakdown of treatment methods for HHW collected in 2016/17.

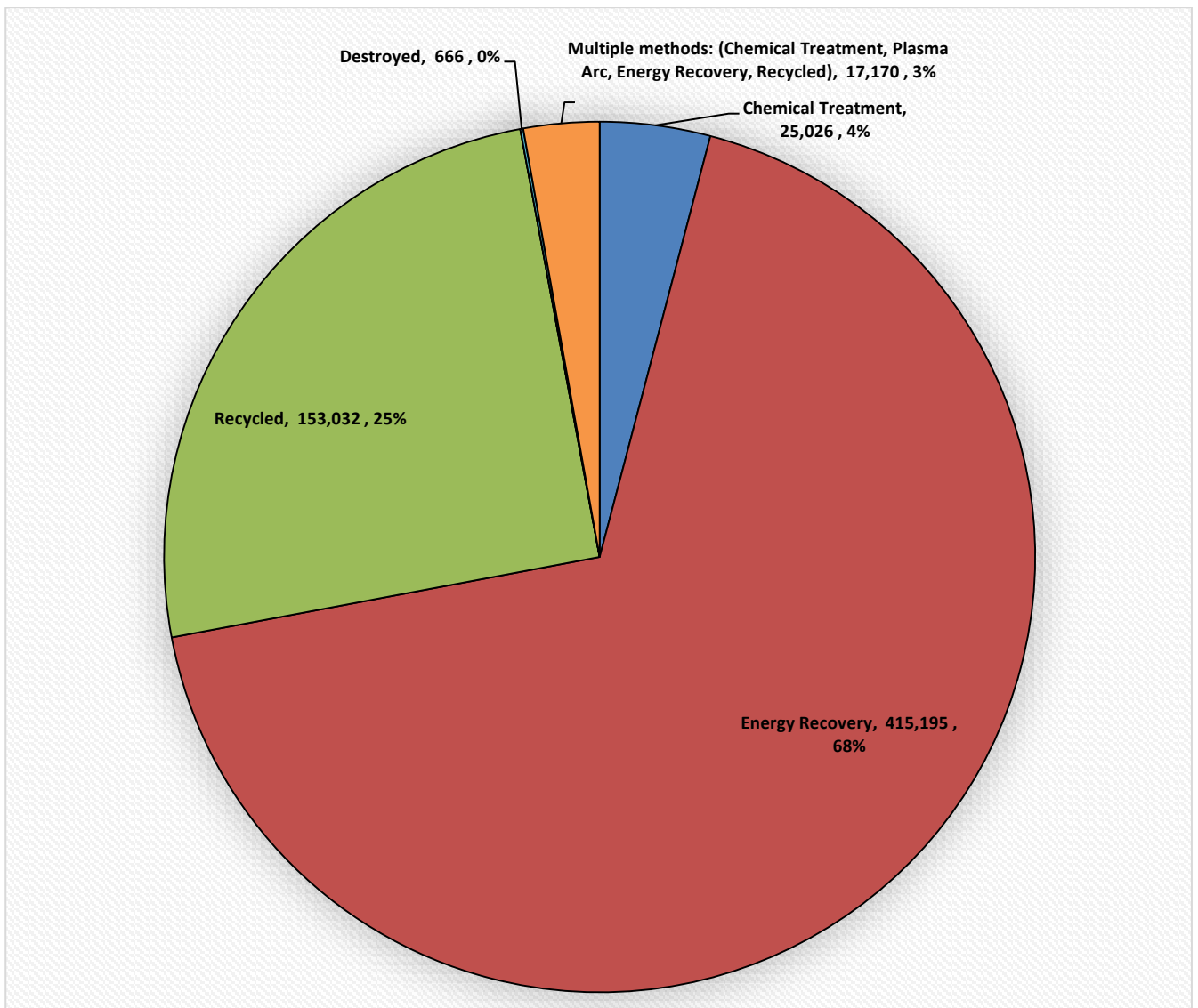


Figure 8: Weight (kg) and percentage of materials by treatment method for HHW collected in 2016/17.

7. Other Activities

7.1 HHW Program Extension – Funding Agreement

The Waste Authority extended the existing phase of the Program for one year, allowing a budget of \$1.6M for the 2017/18 financial year.

7.2 HHW Training

In the 2016/17 financial year, 15 training sessions were delivered to HHW Permanent facilities, training 94 attendees. The feedback from attendees has been positive, with many people advising they found it relevant to what they need to know to safely handle and store HHW at their sites. All 13 facilities have now received the training and any additional training will be scheduled on an as needed basis. Since the new training course was developed, 145 Local Government/Regional Council staff have completed the course.

7.3 Product Stewardship – Paint and Batteries

7.3.1 Paint Product Stewardship – Paintback

Four HHW facilities are now part of the Paintback Scheme: Balcatta, Rockingham and Red Hill commencing on 28 December 2016 and Tamala Park on 1 February 2017. These sites, through the Paintback Scheme, are collecting paint from domestic and commercial painters. People are able to drop off up to 100 litres of paint at a collection site per day for free.

All products covered by Paintback are no longer going through the HHW Program at the four Paintback participating sites. However, there are still 'paint products' which are covered by the HHW Program but not by Paintback.

WALGA continues to facilitate Paintback's engagement with Permanent facilities, with the aim of more HHW facilities becoming part of the Scheme in the future.

7.3.2 Battery Product Stewardship Scheme

The Battery Product Stewardship Scheme has had limited progress at this stage, with the scope of the proposed Scheme only covering rechargeable and hazardous batteries which make up approximately 20% of the costs for battery recycling through the HHW Program. To date a number of trial collection programs are underway for different types of rechargeable batteries.