



GOVERNMENT OF
WESTERN AUSTRALIA



Household Hazardous Waste Program Annual Report 2021/22

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Acknowledgements

The Western Australian Local Government Association (WALGA) administers the Household Hazardous Waste (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 Cleanaway 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 supported by the Government of Western Australia and administered by the Waste Authority.

Executive Summary

In the 2021/22 financial year a total of 480,585kg of Household Hazardous Waste (HHW) was collected through the Program from fifteen Permanent facilities.

The total HHW Program expenditure for 2021/22 was \$1,914,114*, with expenses distributed as follows:

- 91.3% was for the collection, transport, sorting, testing and disposal/recycling of material from HHW Permanent facilities
 - 74.5% Metropolitan
 - 16.8% Non-Metropolitan
- 7.5% was for WALGA administration costs
- 1.0% was for additional activities, including expenses relating to the risk assessments completed for 14 HHW facilities, plus purchase of equipment and infrastructure for HHW Permanent facilities
- 0.1% was for Permanent facility staff training
- 0.1% was for HHW Program promotional activities.

* All figures in the Report exclude GST and there may be some minor discrepancies between figures due to numbers in the Report being rounded.

1.0 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 (CFLs) 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 (smoke detectors)
- Mercury (e.g. thermometers)
- Organic peroxides
- Paint
- PCB materials
- Pesticides (including Schedule X pesticides)
- Solvents

2.0 Permanent Facilities

The HHW Program provides fifteen Permanent facilities in Western Australia where householders can safely drop off their hazardous materials for free. All householders can dispose of eligible HHW at any Permanent facility as it is not restricted to 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, sorting, identification and recycling/disposal of HHW from all fifteen 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)
- Fremantle Recycling Centre (City of Fremantle)
- Henderson Waste Recovery Park (City of Cockburn)
- 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 Management Facility (Mindarie Regional Council)
- West Metro Recycling Centre (Western Metropolitan Regional Council)

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)
- Railway Road Transfer Station (Shire of Toodyay)
- Seven Mile Waste Facility (City of Karratha)
- Stanley Road Waste Management Facility (Bunbury-Harvey Regional Council)

3.0 HHW Program Budget

In the 2021/22 financial year, the total Program expenditure was \$1,914,114. Figure 1 shows the expenditure breakdown by activity. These expenses were distributed as follows:

- 91.3% was for the collection, transport, sorting, testing and disposal/recycling of material from HHW Permanent facilities
 - 74.5% Metropolitan
 - 16.8% Non-metropolitan
- 7.5% was for WALGA administration costs
- 1.0% was for additional activities, including expenses relating to the risk assessments completed for 14 HHW facilities, plus purchase of equipment and infrastructure for HHW Permanent facilities
- 0.1% was for Permanent facility staff training
- 0.1% was for HHW Program promotional activities.

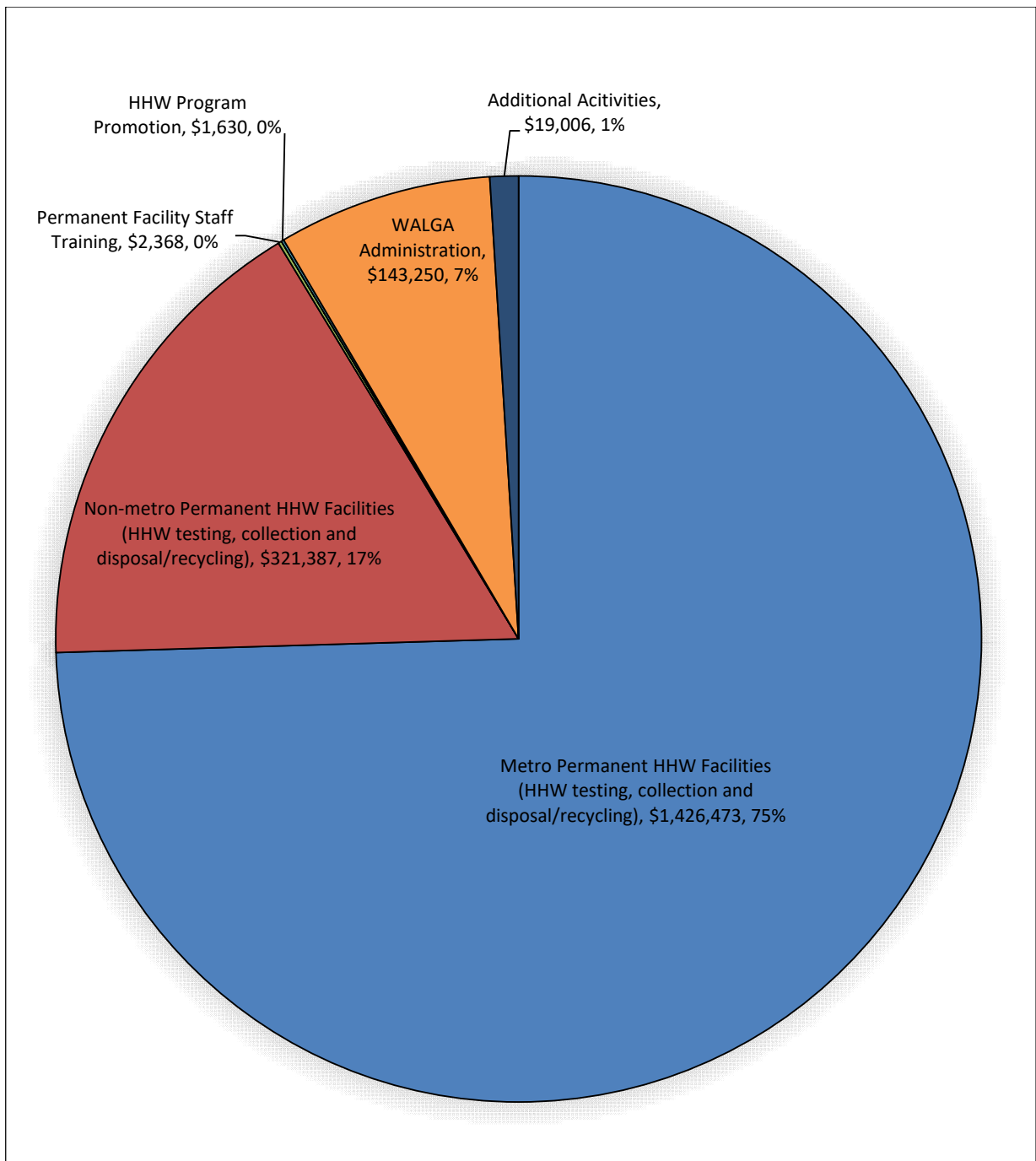


Figure 1. HHW Program expenditure by activity, for 2021/22 financial year.

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 \$1,200,228 to the HHW Program (see Figure 2 for a breakdown of the various expenditure areas for the Local Government co-contributions).

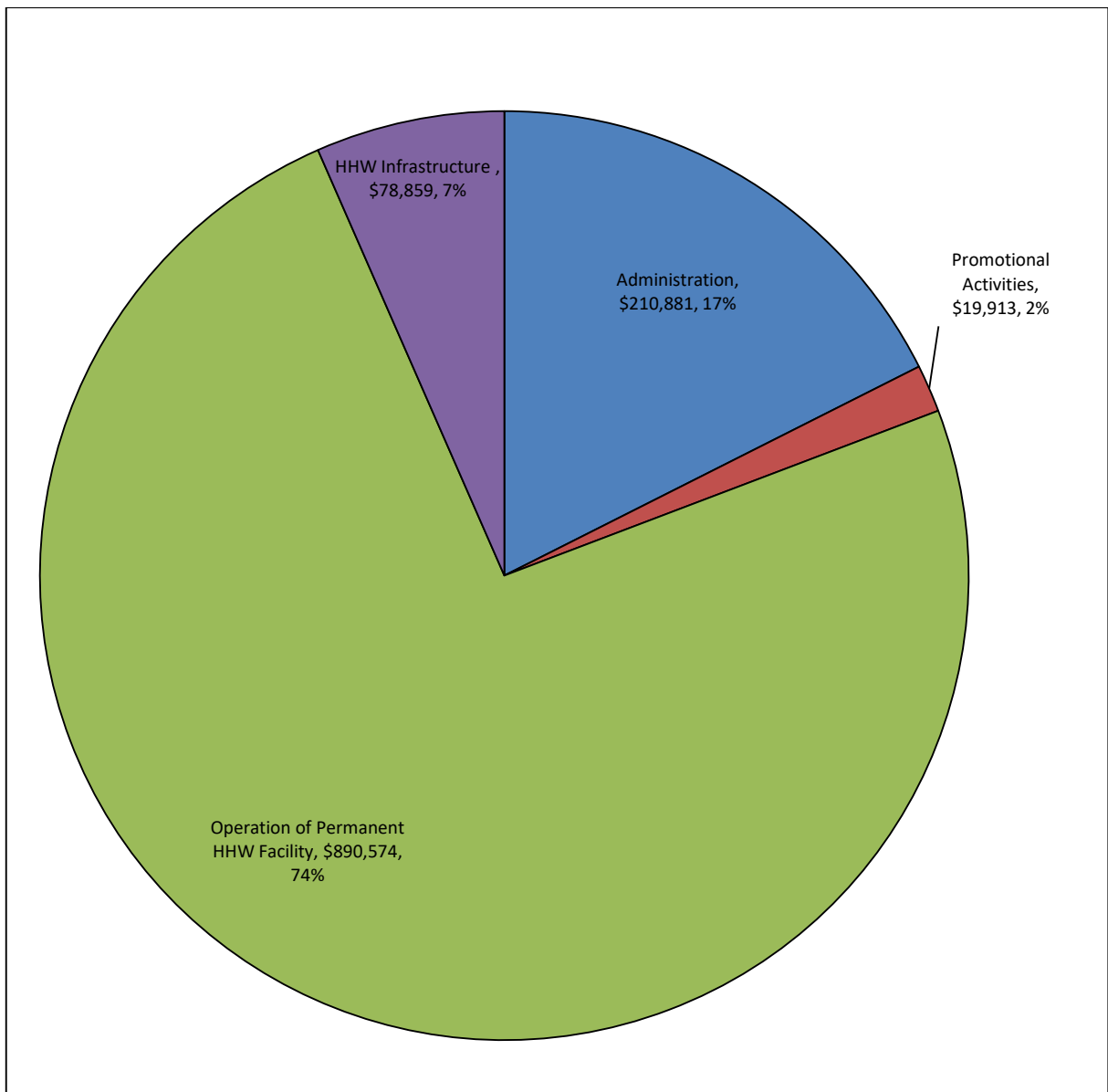


Figure 2: Local Government co-contribution expenditure breakdown for Permanent facilities in 2021/22.

4.0 HHW Program Collections 2021/22

In the 2021/22 financial year 480,585kg of HHW was collected from fifteen Permanent facilities.

The largest amount of material collected, by weight, was gas cylinders – propane (27%), batteries – alkaline & lithium (17%) and flammable liquids (12%). Figure 3 shows a detailed breakdown of the amount of material collected from Permanent facilities, by weight and Figure 4 shows the breakdown of the disposal/recycling cost of the material collected from Permanent facilities.

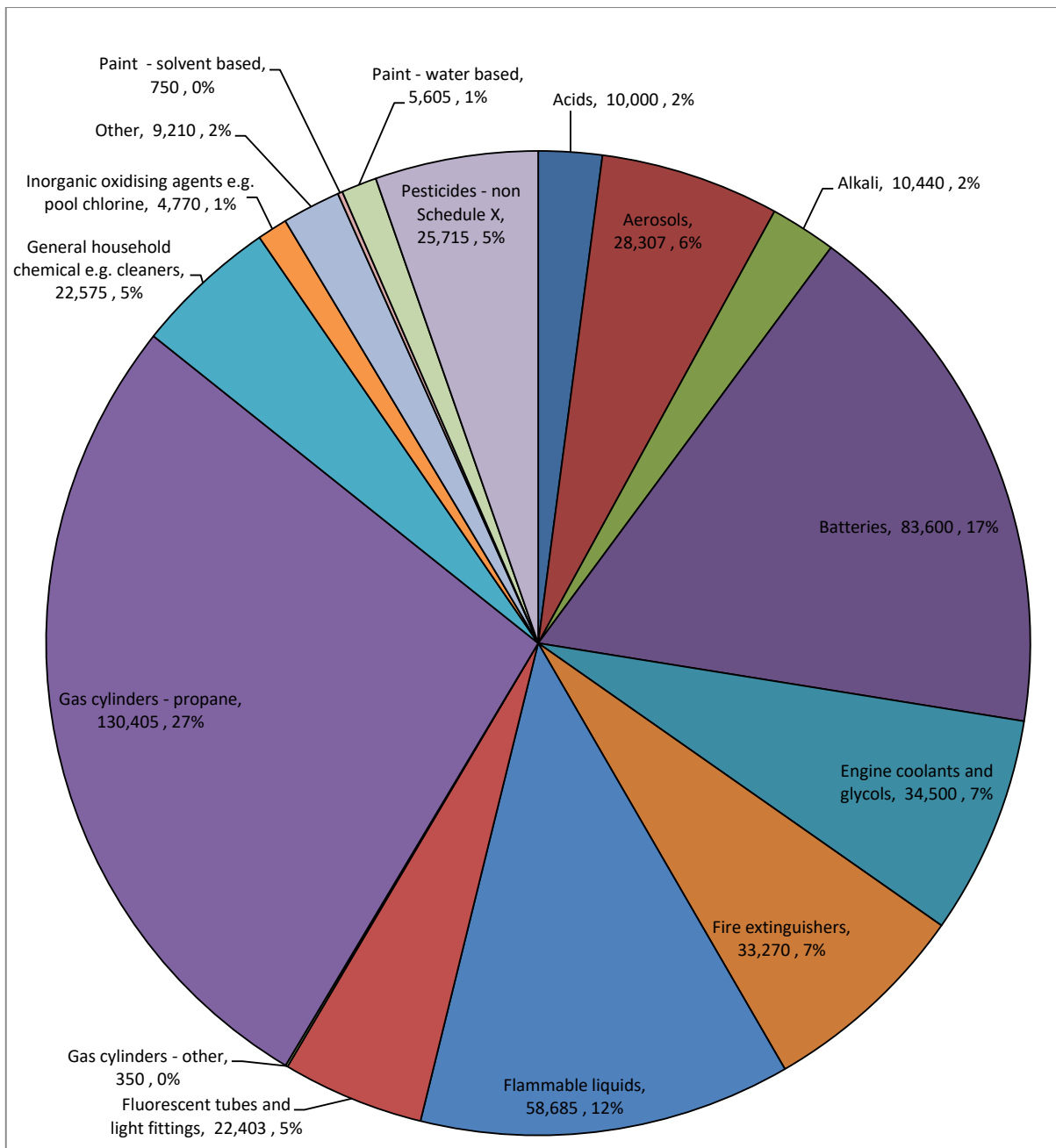


Figure 3: Amount of materials (kg) collected at Permanent facilities through the HHW Program, 2021/22.

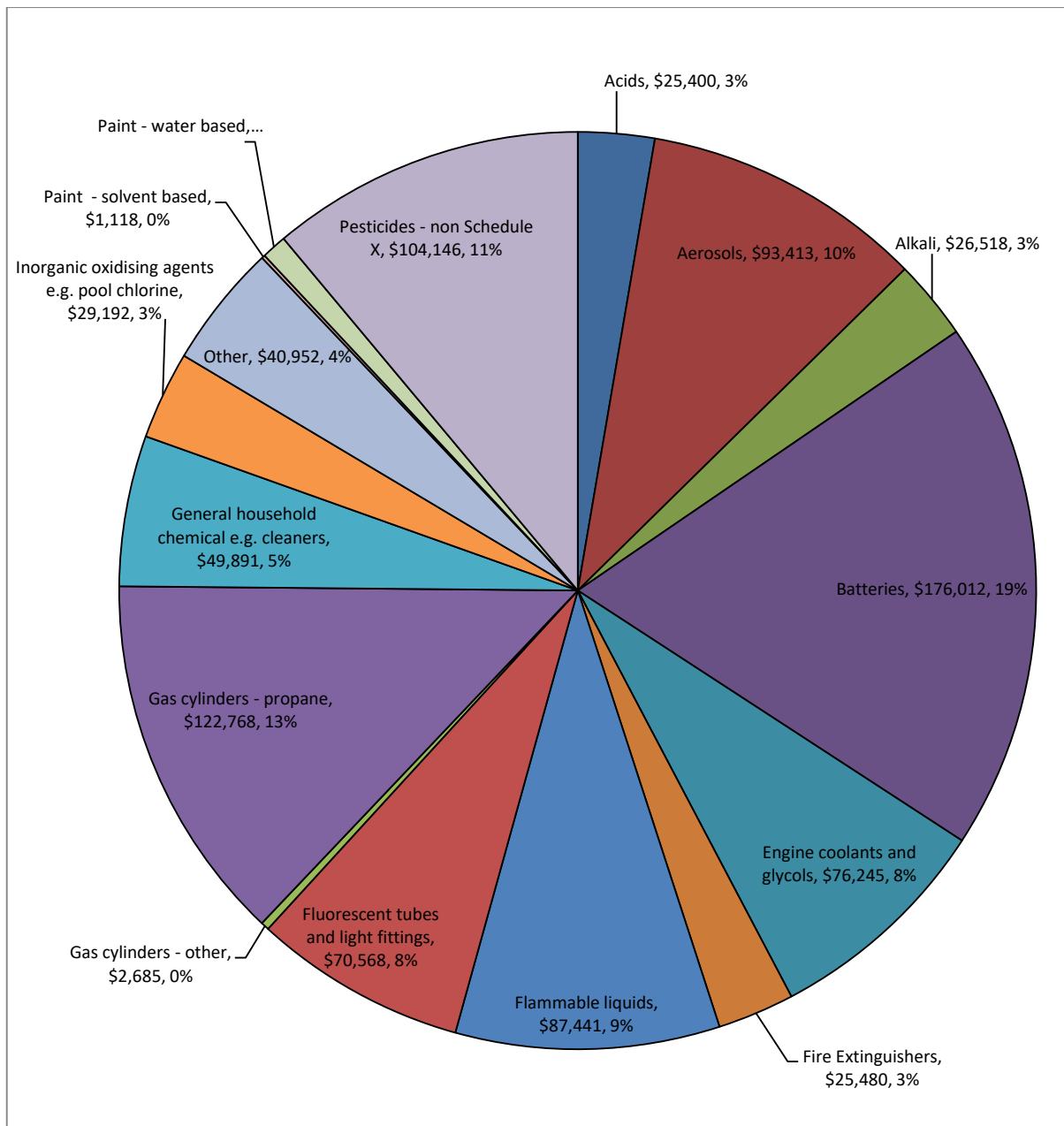


Figure 4: Disposal/recycling cost of HHW collected at Permanent facilities through the HHW Program, 2021/22.

Figure 5 shows a breakdown of the total kilograms of HHW collected and the percentage of HHW each Permanent facility collected this financial year. Balcatta collected the largest amount of material (23%), followed by Tamala Park (17%), Red Hill (8%), Rockingham (8%) and Henderson (8%).

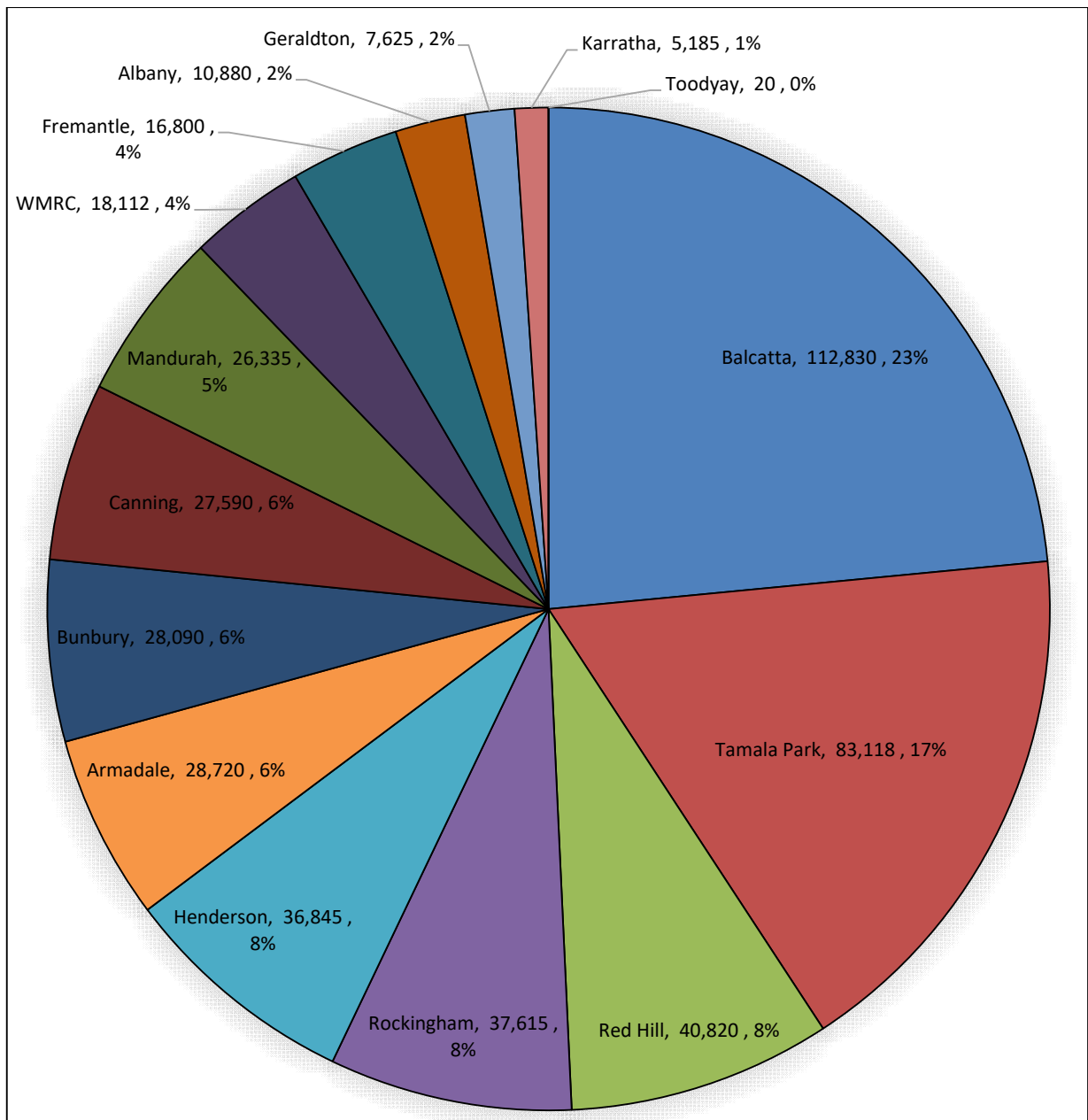


Figure 5: Weight of HHW collected (kg) and the percentage each HHW Permanent facility contributed to the overall amount of HHW collected 2021/22.

5.0 Disposal and Treatment Methods

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

- Paint, flammables, aerosols, non-Schedule X pesticides and toxics are used as an alternative fuel source for cement kilns.
- Materials such as acids, alkalis, inorganic oxidising agents and general household chemicals are treated and made safe then discharged through a wastewater treatment plant.
- Fluoros are crushed and the separated materials are recycled.
- Kleenheat accepted gas cylinders are put back into the market for reuse (94%, with the 6% unsuitable being recycled). For other gas cylinders, LPG is extracted and reused and the cylinders are recycled.
- Flares are destroyed by an explosives expert.
- PCB materials and Schedule X pesticides and CFC aerosols are treated and made safe through a pyrolysis process (Plasma Arc).
- Batteries are processed in Victoria where they are separated into steel, aluminium and copper, which is sold for processing new materials.

There are a few materials that need to go to landfill as there is no other viable, safe or sustainable option currently – they are:

- Smoke detectors – radioactive (Americium containing) only.
 - No smoke detectors were collected through the HHW Program this financial year.
- Cyanides, Hydrofluoric acid and Arsenic based products are neutralised by a chemist prior to being landfilled in a Class V landfill.
 - None of this waste was collected through the HHW Program this financial year.
- Foam, from foam fire extinguishers, must be landfilled in a Class V landfill as it contains PFAS compounds. This financial year 185kg of foam fire extinguishers were collected through the Program, however this weight includes the steel, which is recycled. Although only the foam is landfilled, Cleanaway do not have a separated breakdown of the kilograms of foam landfilled.

Figure 6 shows a breakdown of the treatment methods used for the collected HHW in 2021/22.

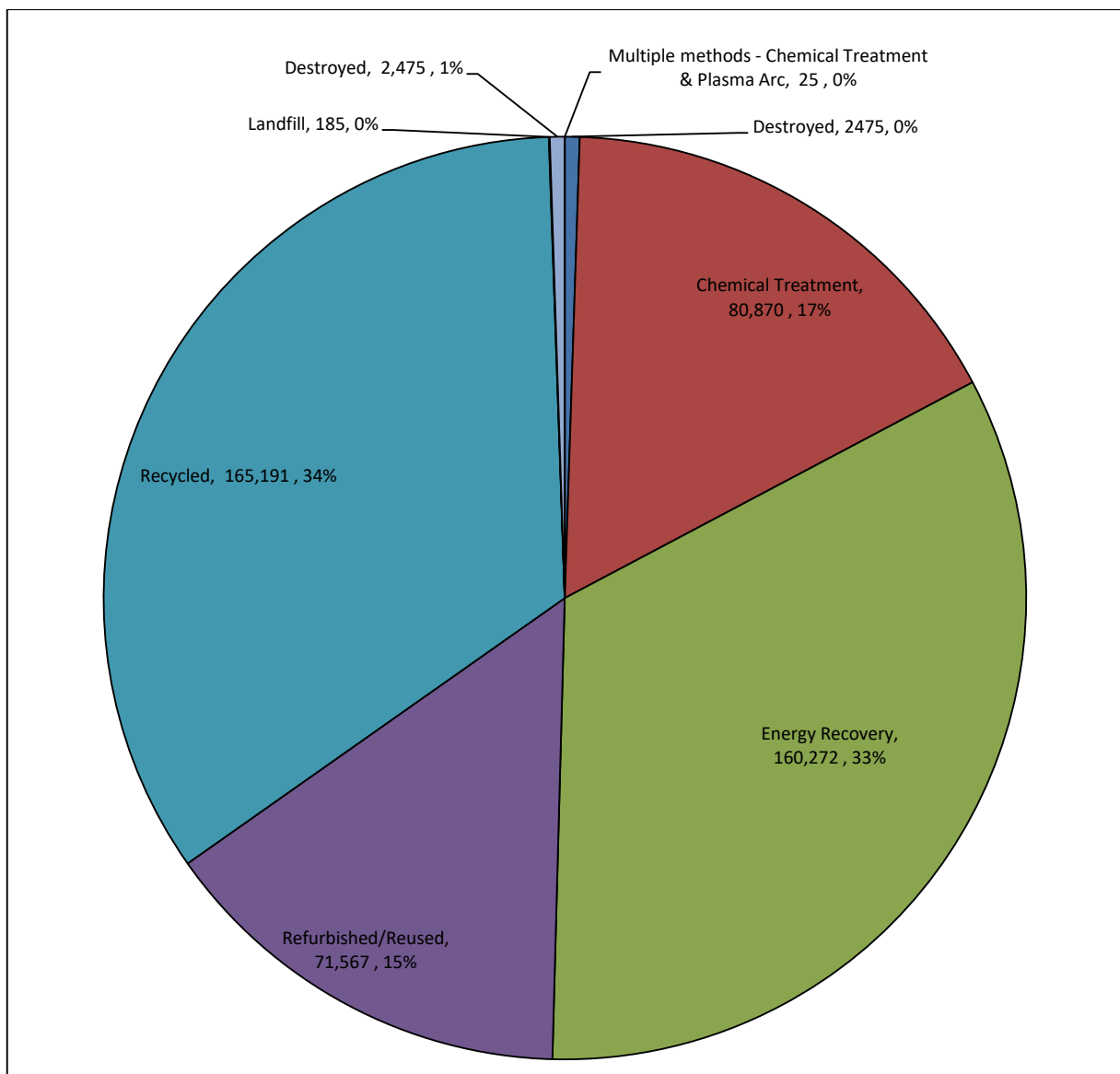


Figure 6: Treatment methods by weight (kg) for HHW collected in 2021/22.

6.0 Other Activities

6.1 New HHW Facilities

The HHW Facility in Bayswater is the next new facility for the HHW Program. The development of the facility has been delayed due to building material shortages and contractor delays related to COVID-19. The facility is expected to be operational in the 2022/23 financial year.

6.2 Promotional Activities

6.2.1 HHW Flyer Printing

This financial year, 10,000 HHW Program flyers were printed and distributed to Local Governments and Regional Councils. Flyers were circulated to residents through various methods, including as handouts at administration centres, waste facilities and events, or posted to households with waste calendars or rates notices.

6.3 Training

Ten HHW training sessions were held in the 2021/22 financial year, training 52 attendees at HHW Permanent facilities.

6.4 HHW Program Coverage

The Department of Water and Environmental Regulation calculates that in the Perth and Peel region, 70% of the population were within 10km of one of the ten Permanent HHW facilities, and that outside the Perth and Peel region, 31% of the population had access to a Permanent HHW facility located within their Local Government boundary.

6.5 HHW Material Processing Site Visits

WALGA undertook three site visits the various gas cylinder reuse/recycling sites and to the location where flares from the Program are destroyed, to better understand what happens to these materials.

6.6 Product Stewardship Schemes

6.6.1 Paintback Scheme

The Paintback Scheme is operating at thirteen of the fifteen HHW Permanent facilities. WALGA is working with Paintback to sign up the remaining two non Paintback HHW facilities. It is estimated that Paintback saves the HHW Program in excess of \$700,000 annually.

6.6.2 Battery Product Stewardship

B-Cycle, the National Battery Stewardship Scheme commenced on 1 January 2022. All 15 HHW Permanent facilities are accredited B-Cycle drop off points and Cleanaway are an accredited B-Cycle collector. This means all battery collections, from 1 January from the HHW facilities, are eligible for Cleanaway to claim the B-Cycle rebate. The first B-Cycle rebates will be processed and applied to the HHW Program in early 2022/23.

6.6.3 Kleenheat Gas Cylinder Product Stewardship

LPG gas cylinders make up 27% of materials collected through the Program's Permanent facilities by weight and 13% of the cost of disposal/recycling HHW materials.

Kleenheat (through a partnership with the HHW Program and Cleanaway) collect suitable LPG cylinders from the HHW Program, for reuse or recycling. This arrangement costs a lower dollar per kilogram rate for the cylinders collected by Kleenheat than the recycling rate for all other cylinders not usable by Kleenheat.

During the 2021/22 financial year, Kleenheat collected 8,651 gas cylinders from the Program, 94% of these were put back into the market for re-use. The arrangement saved the Program \$35,022.