GOVERNMENT OF WESTERN AUSTRALIA

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WALGA
WORKING FOR LOCAL GOVERNMENT

Household Hazardous Waste Program

Annual Report 2020/21

Contents

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 2020/21 financial year a total of 520,851kg of Household Hazardous Waste (HHW) was collected through the Program from fifteen Permanent facilities and thirteen Temporary Collection Days (TCDs).

The total Program expenditure for 2020/21 was $2,134,081*, this represents an expenditure of 96% of the Program budget.

General Program expenditure was:

- 67% was for the collection, transport, sorting, testing and disposal/recycling of material from HHW Permanent facilities
    - 55% Metro
    - 12% Non-Metro
- 18% was for running, promoting and disposal/recycling of HHW collected from thirteen Temporary Collection Days
- 7% was for WALGA administration costs
- 6% was for risk assessments to be developed for 14 Permanent facilities and for the build and supply of equipment for the new Karratha and Bayswater HHW Permanent facilities.
- 1% was for Permanent facility staff training
- 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 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 2020/21 financial year, the total Program expenditure was $2,134,081 which represents an expenditure of 96% 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:

- 67% was for the collection, transport, sorting, testing and disposal/recycling of material from HHW Permanent facilities
    - 55% Metro
    - 12% Non-Metro
- 18% was for running, promoting, transporting and disposal/recycling of HHW collected from thirteen Temporary Collection Days
- 7% was for WALGA administration costs
- 6% was for risk assessments to be developed for 14 Permanent facilities and for the build and supply of equipment for the new Karratha and Bayswater HHW Permanent facilities.
- 1% was for Permanent facility staff training
- 1% was for HHW Program promotional activities.

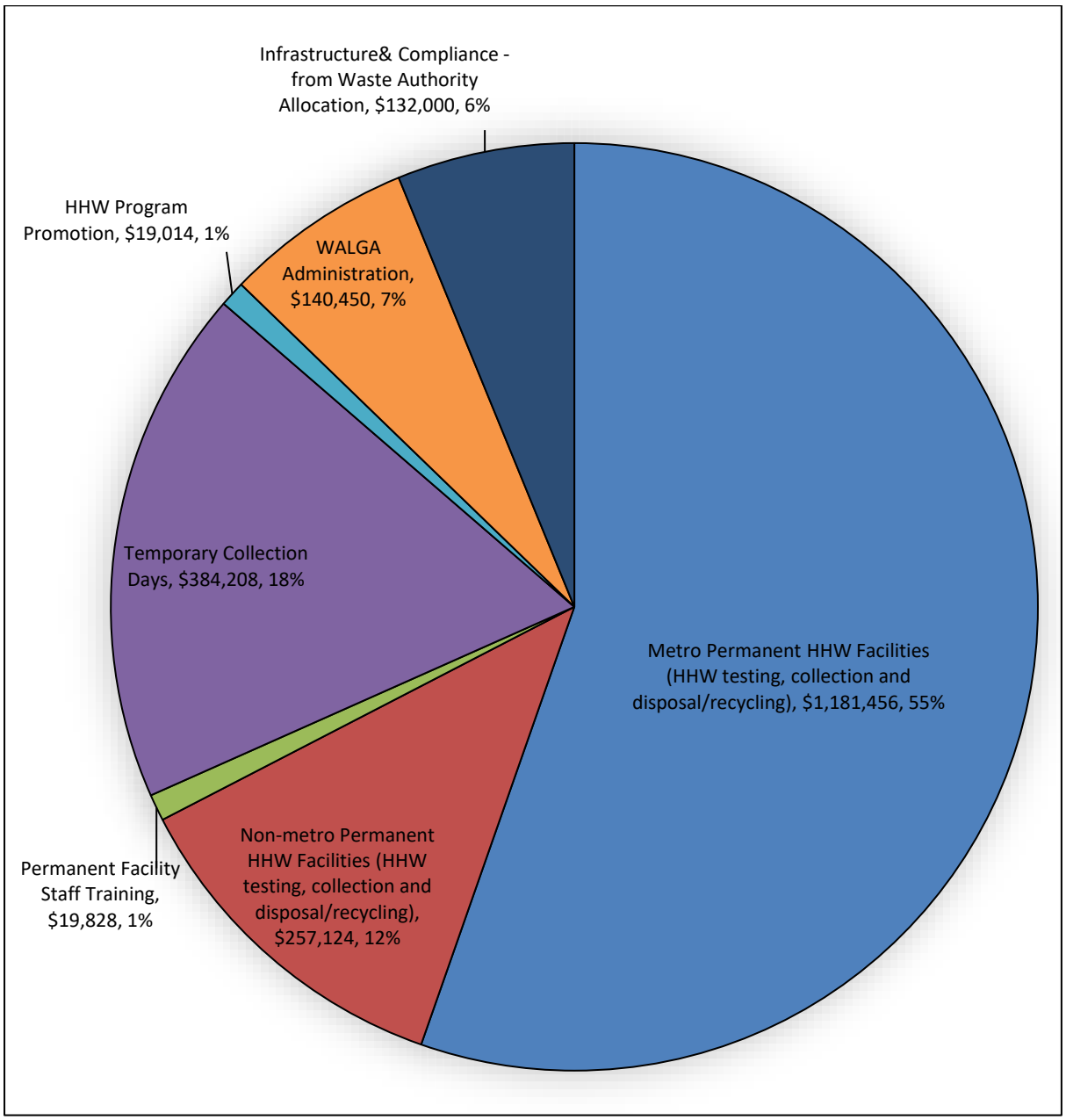

Figure 1. HHW Program expenditure by activity, for 2020/21 financial year.

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 $1,123,544 to the HHW Program (see Figure 2 for a breakdown of the various expenditure areas for the Local Government co-contributions).

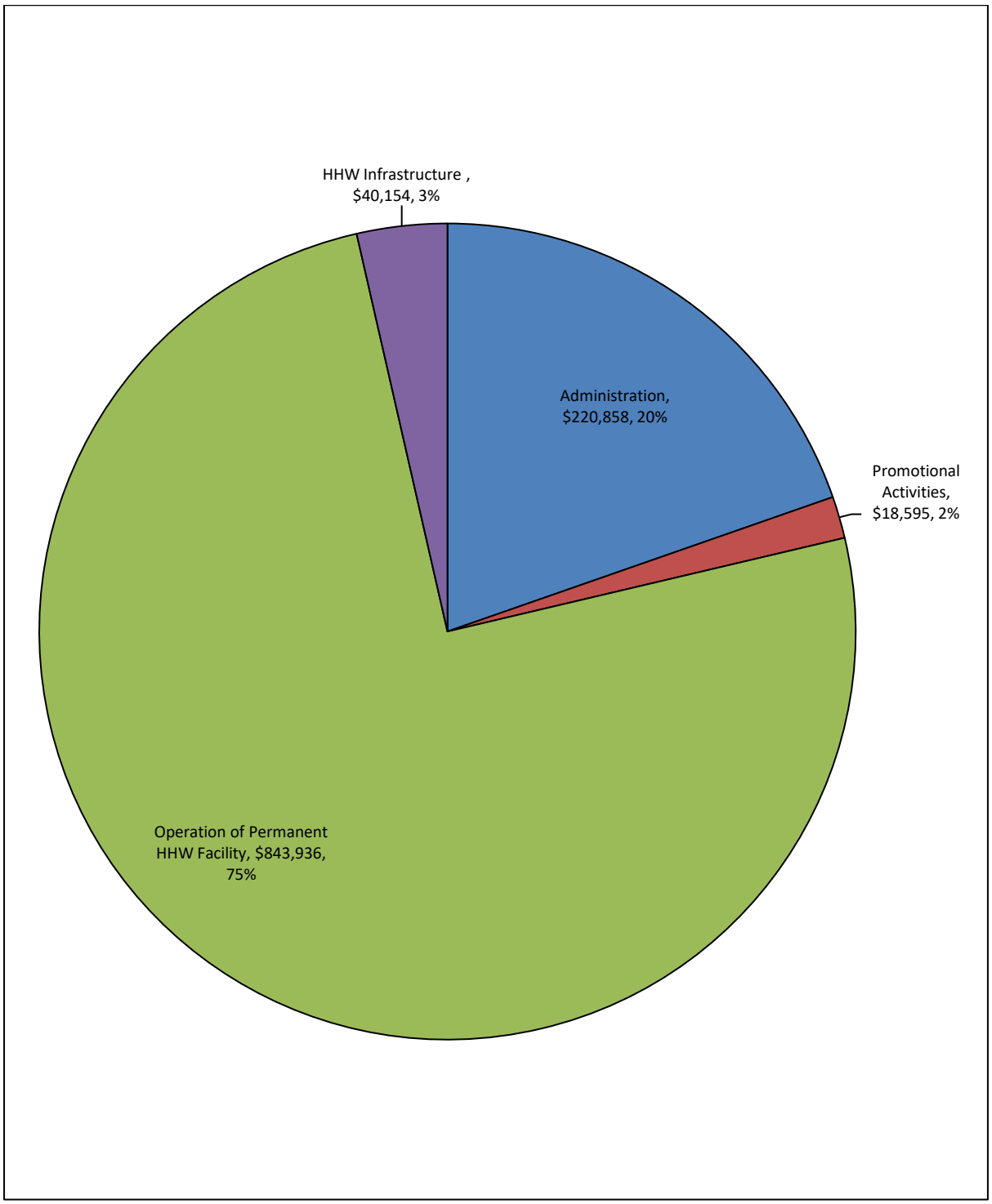

Figure 2: Local Government co-contribution expenditure breakdown for Permanent facilities in 2020/21.

4.0 HHW Program Collections Overall

In the 2020/21 financial year, a total of 520,851kg of HHW was collected through the Program, 438,702kg from Permanent facilities and 82,149kg from TCDs.

The largest amount of materials collected through the Program from all collection methods were gas cylinders - propane (25%), batteries – alkaline and lithium (16%), paint – water based (14%) and flammable liquids (9%).

Figure 3 gives a detailed breakdown of the total amount of material collected (by weight) and Figure 4 shows the disposal/recycling cost of the material collected from Permanent facilities and Temporary Collection Days.

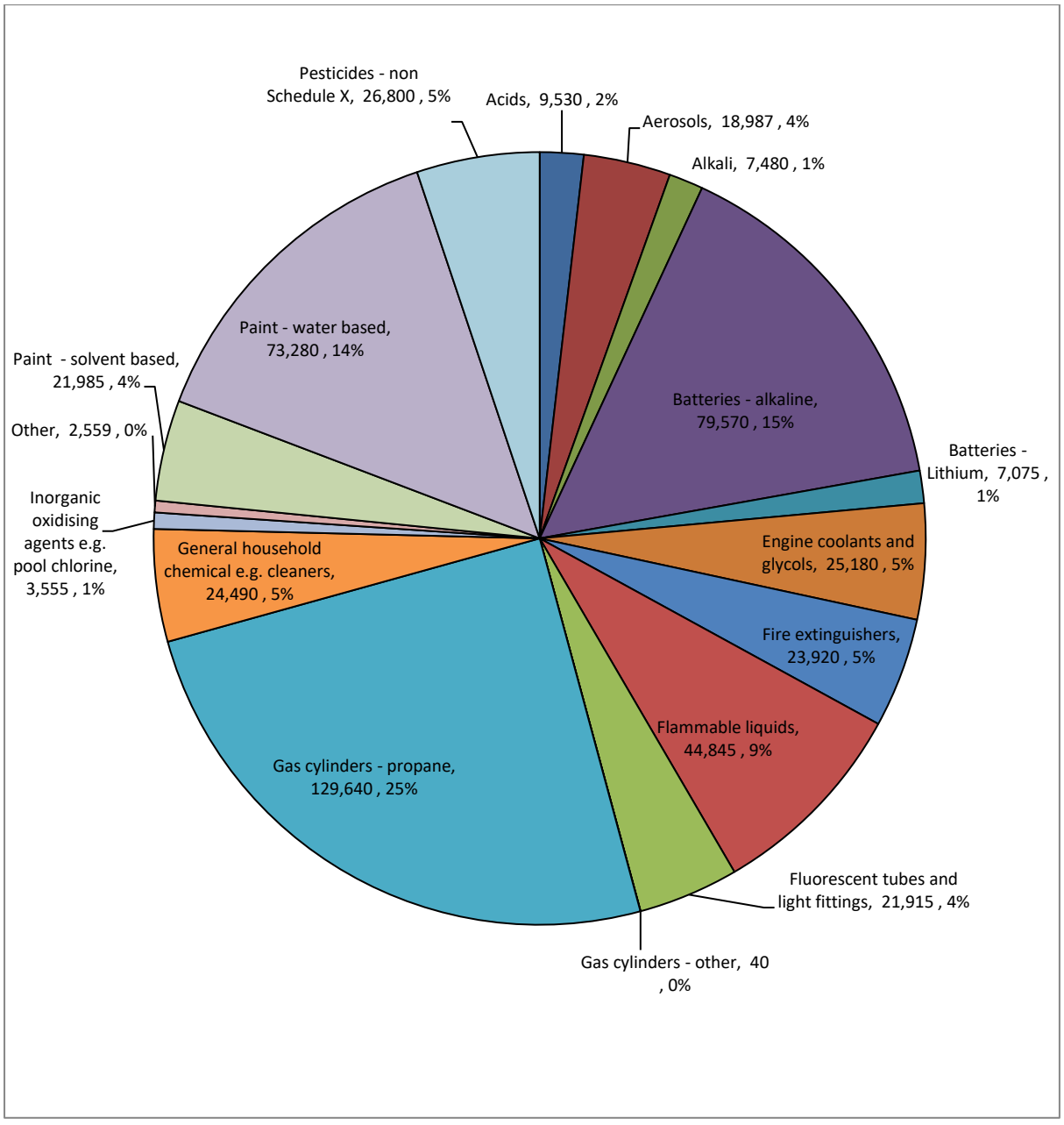

Figure 3: Amount of materials (kg) collected from Permanent facilities and Temporary Collection Days through the HHW Program, 2020/21.

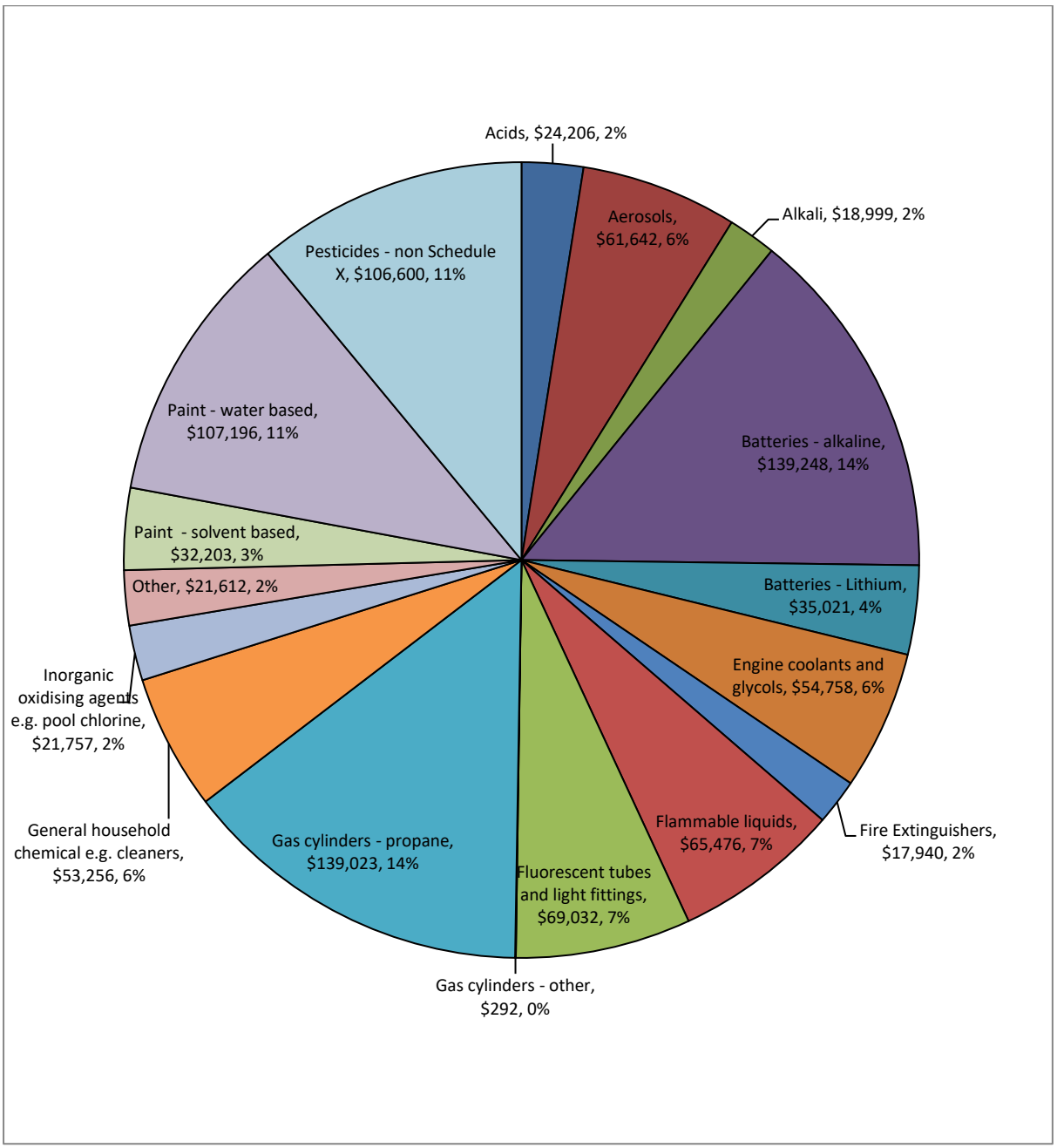

Figure 4: Disposal/recycling cost of HHW collected at Permanent facilities and Temporary Collection Days through the HHW Program, 2020/21.

5.0 HHW Permanent Facilities Summary

In the 2020/21 financial year 438,702kg of HHW was collected from fifteen Permanent facilities. The total cost for testing, sorting, collection, transport and disposal/recycling of HHW from Permanent facilities in 2020/21 was $1,438,580.

The largest amount of material collected, by weight, through the Permanent facilities was gas cylinders – propane (27%), batteries – alkaline & lithium (20%) and flammable liquids (10%). Figure 5 shows a detailed breakdown of the amount of material collected from Permanent facilities, by weight and Figure 6 shows the breakdown of the disposal/recycling cost of the material collected from Permanent facilities.

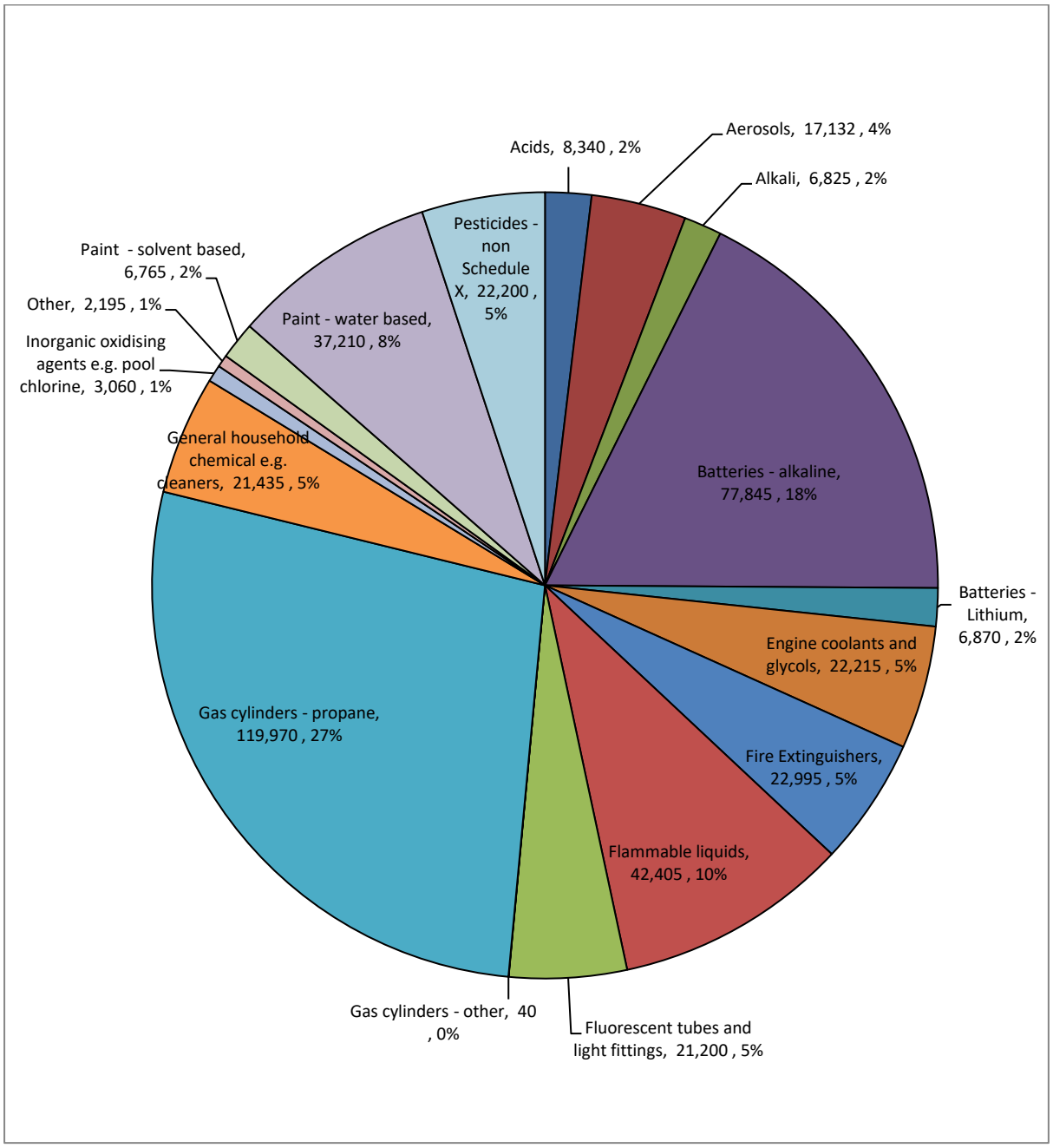

Figure 5: Amount of materials (kg) collected at Permanent facilities through the HHW Program, 2020/21.

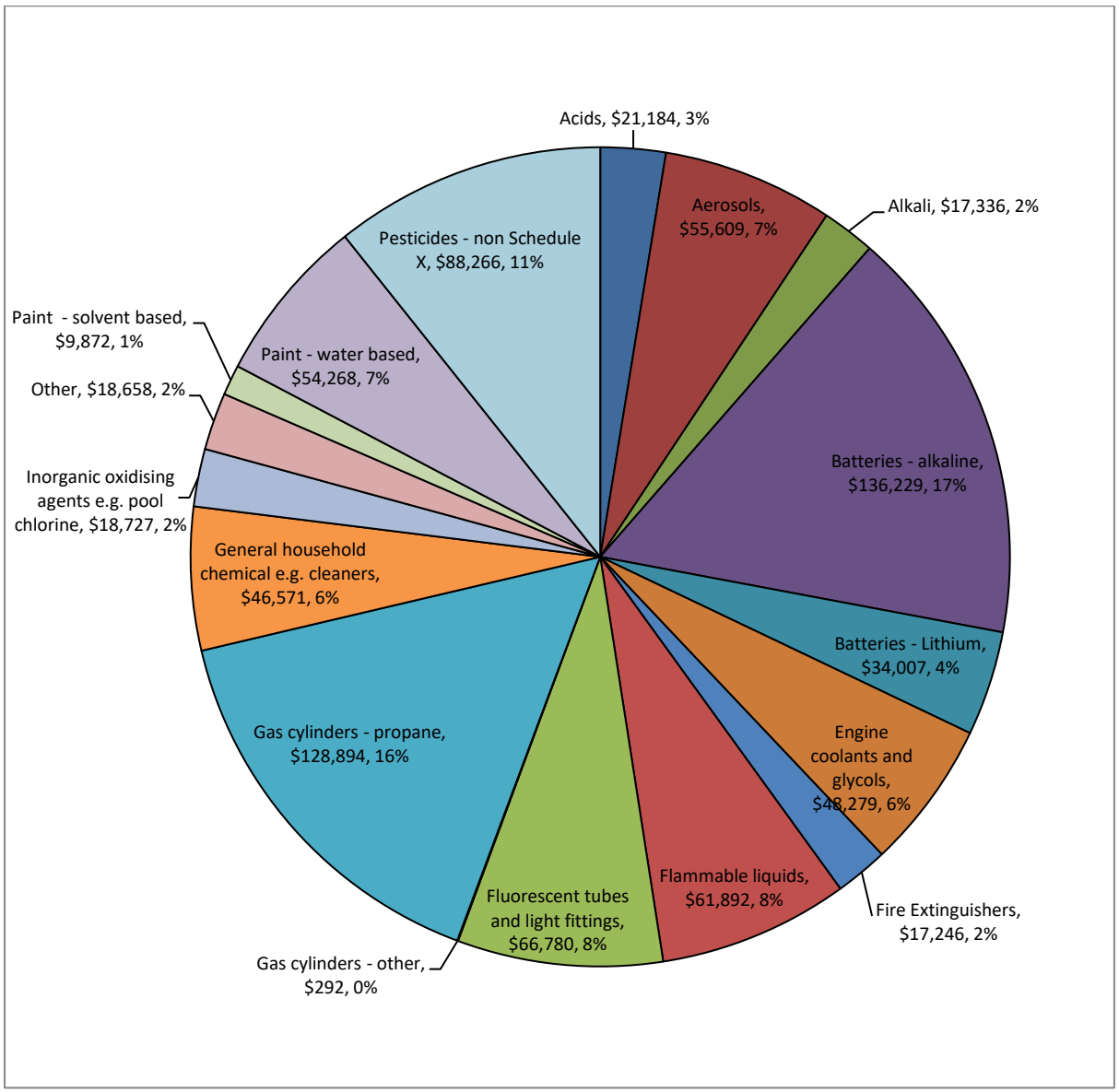

Figure 6: Disposal/recycling cost of HHW collected at Permanent facilities through the HHW Program, 2020/21.

Figure 7 shows a breakdown of the total kilograms of HHW collected and the percentage of HHW each Permanent facility collected this financial year. Tamala Park collected the largest amount of material (21%), followed by Balcatta (20%), WMRC (9%), Henderson (8%) and Red Hill (7%).

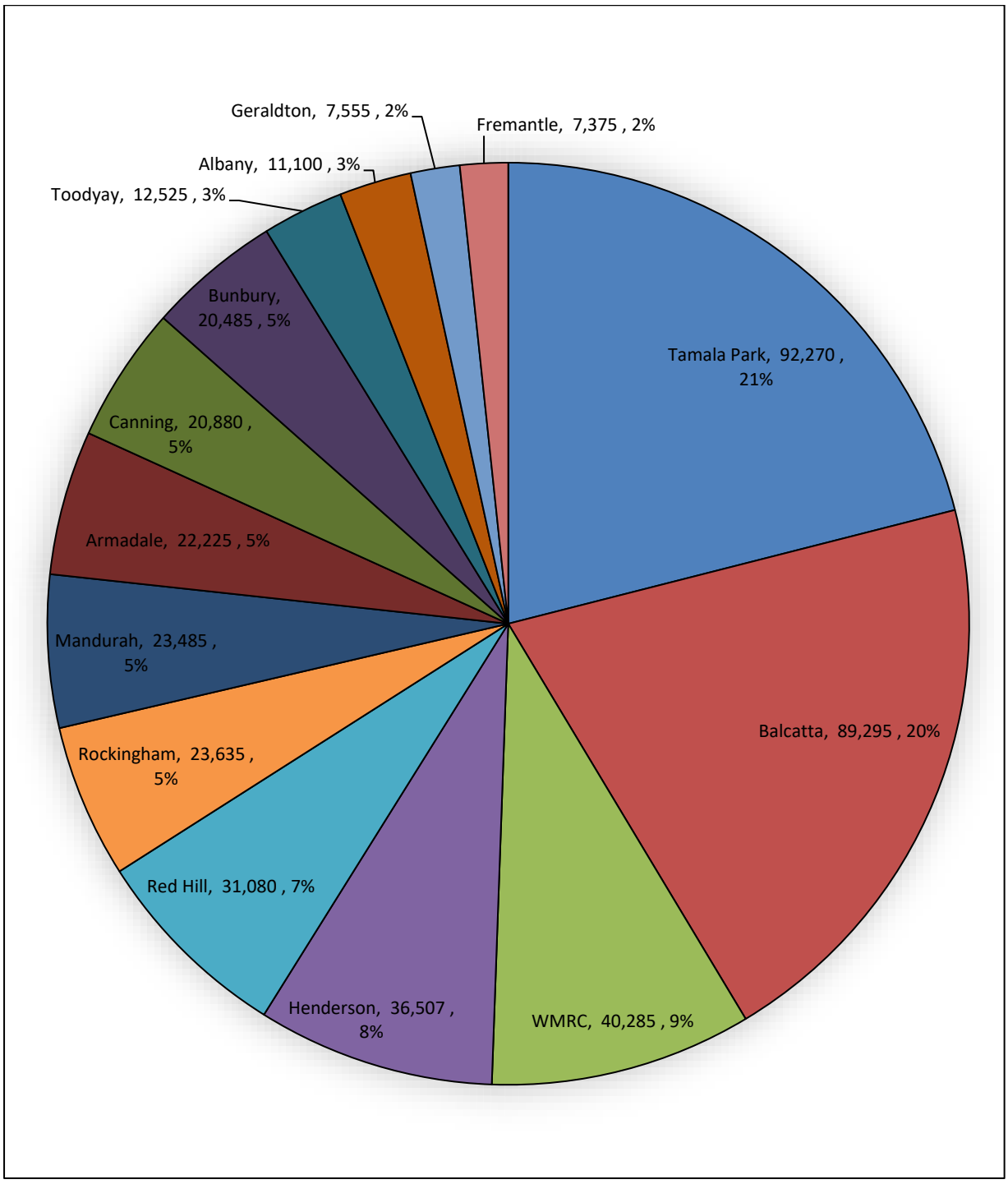

Figure 7: Weight of HHW collected (kg) and the percentage of total each HHW Permanent facility made up in 2020/21.

6.0 Temporary Collection Days Summary

In the 2020/21 financial year a total of 82,149kg of HHW was collected from thirteen Temporary Collection Days (TCDs). The total cost to the Program for promotional activities and to hold, transport and dispose/recycle the HHW collected was $384,208.

The thirteen events were held in the following locations:

- City of Fremantle – Saturday 1 August 2020
- Shire of Murray – Saturday 8 August 2020
- Shire of Wagin – Saturday 15 August 2020
- Shire of Williams – Saturday 15 August 2020
- City of Vincent – Saturday 22 August 2020
- Shire of Capel – Saturday 5 September 2020
- Shire of Merredin – Saturday 10 October 2020
- Shire of York – Saturday 10 October 2020
- Shire of Bruce Rock – Saturday 10 October 2020
- Shire of Esperance – Saturday 21 November 2020
- Shire of Augusta Margaret River – 10 April 2021
- City of Swan – 1 May 2021
- City of Joondalup – 15 May 2021.

The largest amount of material collected, by weight, through the TCDs was paint – water based (44%), paint – solvent based (19%), gas cylinders – propane (12%) and pesticides – non-Schedule X (6%).

Figure 8 shows a detailed breakdown of the amount of material collected from the TCDs, by weight and Figure 9 shows the breakdown of the disposal/recycling cost of the material collected from the TCDs.

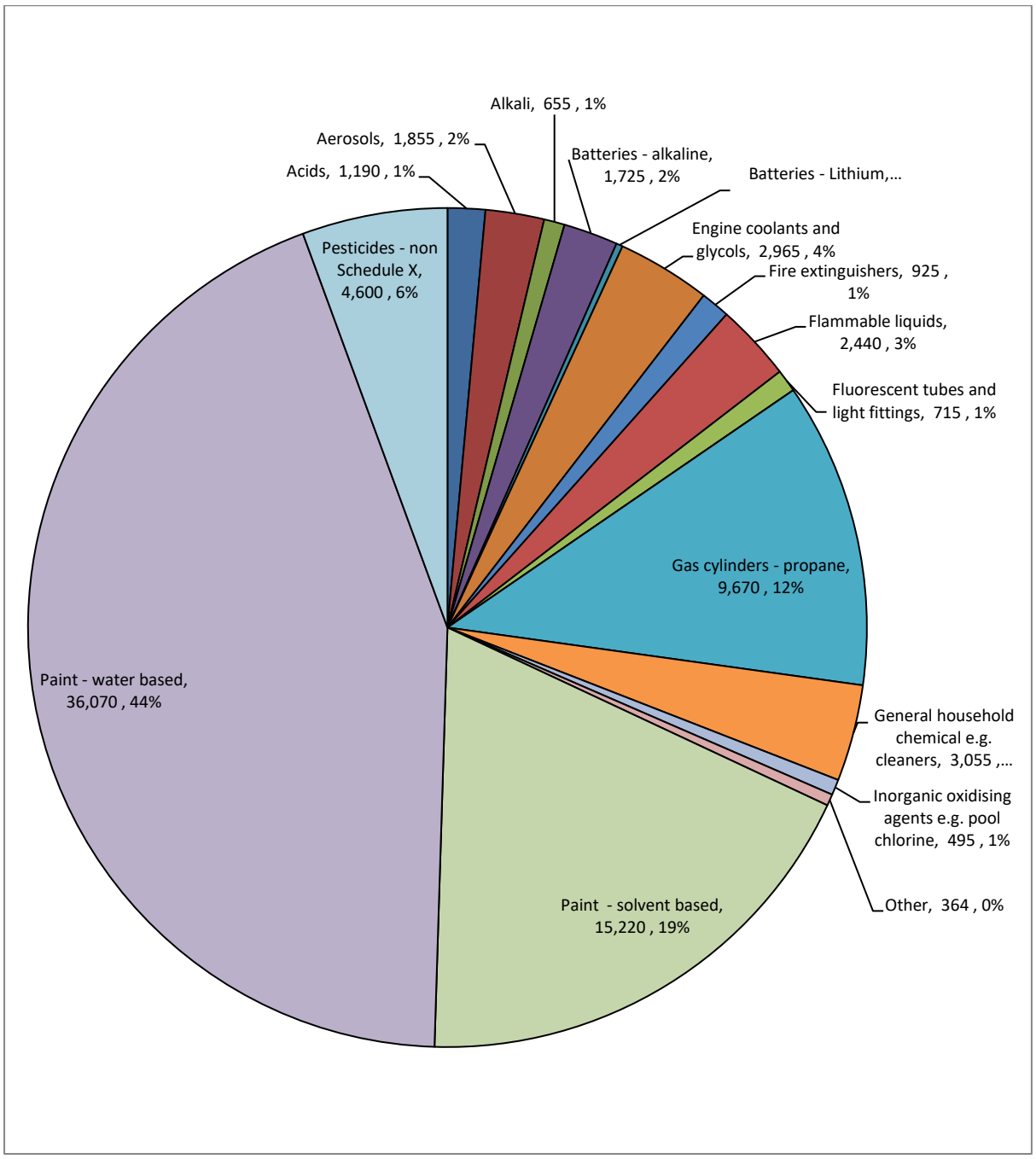

Figure 8: Amount of materials (kg) collected at TCDs through the HHW Program in the 2020/21 financial year.

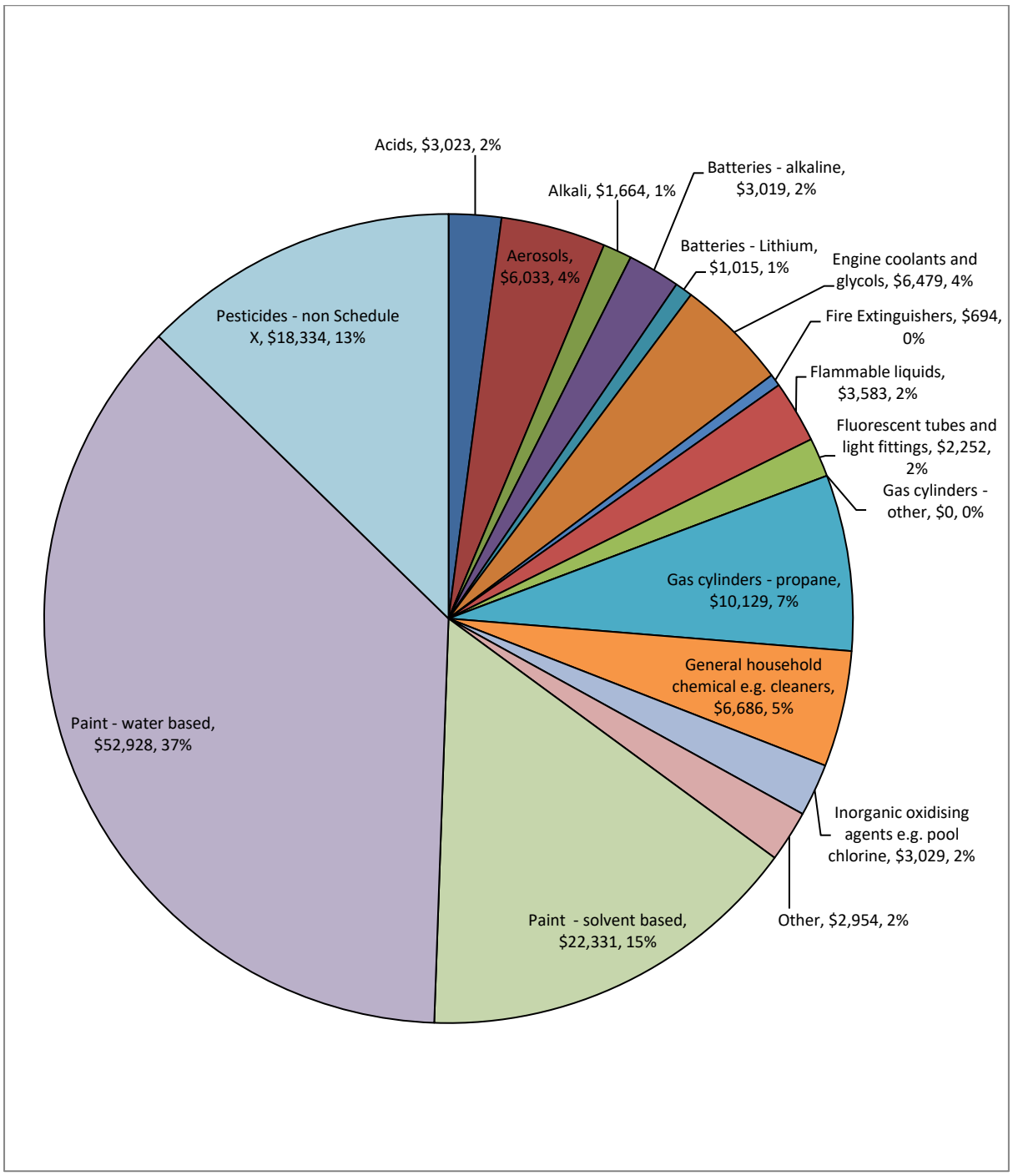

Figure 9: Disposal/recycling cost of HHW collected at TCDs through the HHW Program, in the 2020/21 financial year.

The main method for promoting the thirteen TCD events was through direct mail out flyers to residents in the area surrounding the TCD location. For Local Governments in larger population areas, Facebook boost advertising was also used. The majority of people heard about their event through the flyer in the mail. A total of 3,200 vehicles attended the events to drop off HHW. On average people drove for 8 minutes to get to the events.

7.0 Disposal and Treatment Methods

The majority of materials collected through the Program this financial year were 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 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 (93%, with the 7% 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. There are two types of smoke detectors:
    - Radioactive, which need to be landfilled at a Class V facility
    - Photoelectric – which are recycled as e-waste. The way that smoke detectors are collected and recorded, it is currently not known what percentage of smoke detectors need to be landfilled. However, only 10kg of 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. Only 1kg 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 at it contains PFAS compounds.

Figure 10 shows a breakdown of the treatment methods used for the collected HHW in 2020/21.

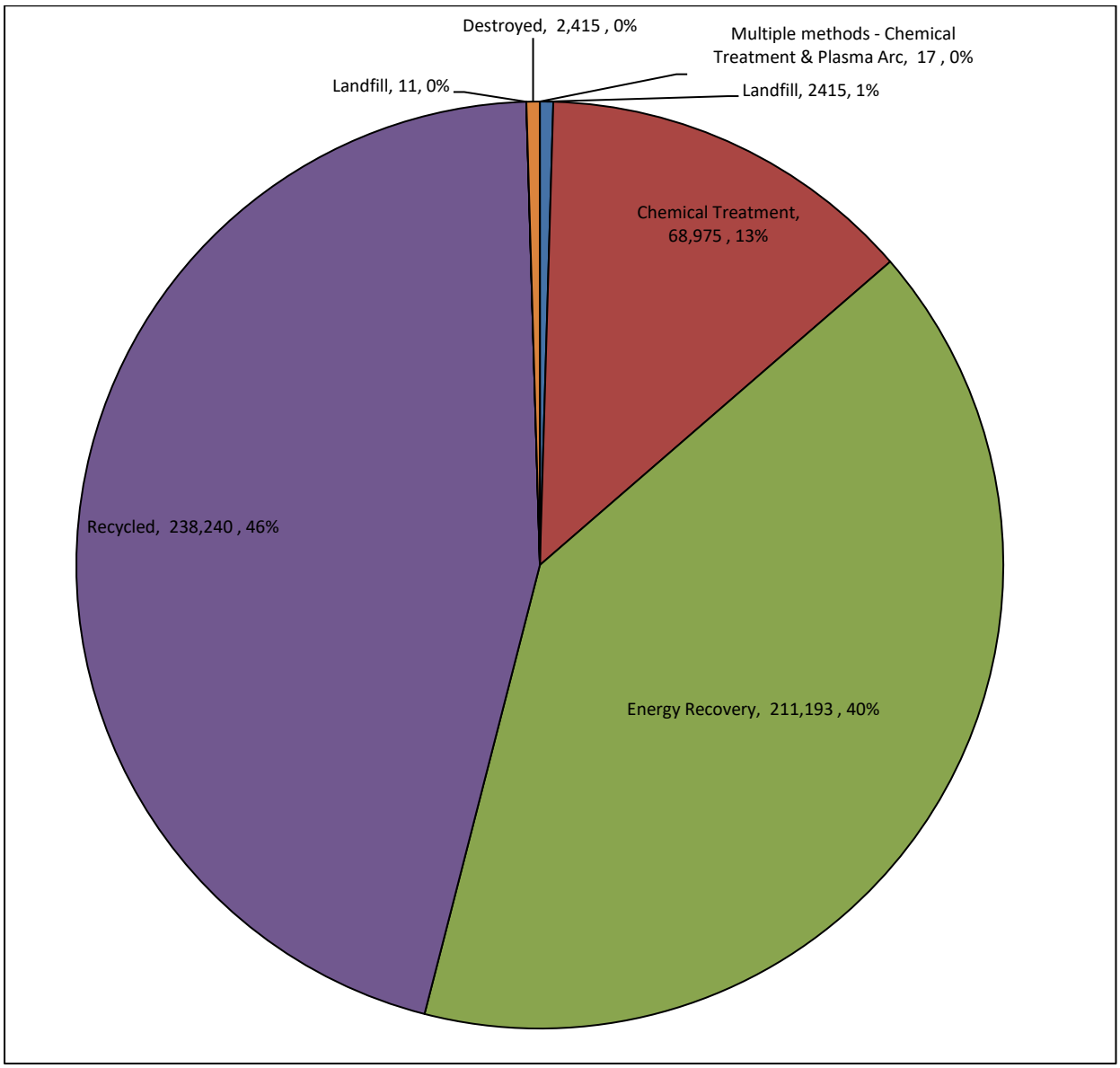

Figure 10: Treatment methods by weight (kg) for HHW collected in 2020/21.

8.0 Other Activities

8.1 New HHW Facilities

Two new Permanent facilities opened in 2020/21 – the City of Fremantle on the 14 November 2020 and City of Karratha on 15 March 2021.

8.2 Promotional Activities

8.2.1 HHW Flyer Printing

This financial year, 25,700 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.

8.3 Product Stewardship Schemes

8.3.1 Paintback Scheme

The Paintback scheme is operating at thirteen of the fifteen HHW Permanent facilities with the addition of four new Paintback sites: WMRC, Geraldton, Toodyay and Fremantle (which was already a Paintback site prior to opening as a HHW facility). WALGA is working with Paintback to sign up the remaining two non Paintback HHW facilities.

8.3.2 Battery Product Stewardship

In September 2020, the Australian Competition and Consumer Commission (ACCC) granted the Battery Stewardship Council (BSC) the two authorisations necessary for the implementation of a battery stewardship scheme in Australia. In October 2020 the two largest global manufacturers of batteries, Energizer and Duracell confirmed they will participate in the battery stewardship scheme.

The Battery Stewardship Council (BSC) advised in June 2021, that the Battery Stewardship Scheme will launch in January 2022. Once the Battery Product Stewardship Scheme is introduced, there is the potential to save the Program at least $140,000 annually.

8.3.3 Gas Cylinder Product Stewardship

LPG gas cylinders make up 27% of materials collected through the Program's Permanent facilities by weight and 16% of the cost of disposal/recycling HHW materials.

On 23 October 2020, Kleenheat began collecting suitable LPG cylinders from Cleanaway's Kwinana facility (collected from the HHW Program) for reuse or recycling. The 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 2020/21 financial year, Kleenheat collected 4,291 gas cylinders from the Program, 93% of these were put back into the market for re-use. This arrangement also saved the Program $11,622. All parties are willing to continue the arrangement.

8.4 Training

Sixteen HHW training sessions were held in the 2020/21 financial year, training 89 attendees at HHW Permanent facilities. Fire and Spill training was delivered to eight facilities in 2020/21, training 39 attendees.