



Battery Recycling

A record number of batteries are being used in a wide range of technologies including mobile phones, laptops, personal organisers, cars, alarms and clocks. Single-use batteries have significant environmental impacts at every stage of their life-cycle.

The Problem

Types of batteries⁵

Primary batteries are the most common household battery. They are also known as single-use batteries because they cannot be recharged and are disposed of after use.

These batteries automatically convert chemical energy into electrical energy using zinc and manganese chemistry.

Single-use batteries are typically found in toys, watches/clocks, smoke alarms, audiovisual equipment and remote controls.

Secondary batteries are also known as rechargeable batteries because they can be used repeatedly upon being recharged.

Recharging occurs when electrical current is applied to the battery, reversing the chemical reactions that occur during battery use.

Rechargeable batteries are usually composed of nickel cadmium, nickel metal hydride or lithium ion chemistry.

These batteries are most commonly found in cordless drills, mobile phones, laptops, PCs, shavers and cameras.

Lead-acid batteries are the oldest type of rechargeable battery¹.

These batteries are typically used to power vehicles.

Used batteries are valuable for their components. Almost all scrap metal merchants will accept used lead-acid batteries for recycling.

98% of a lead acid battery can be reclaimed through recycling.⁶

Environmental Impacts

Batteries are the most common form of household hazardous waste².

The environmental impact of batteries is not limited to the waste stream. Environmental impacts occur in the production, distribution and end-of-life phases of the battery life cycle.

Used rechargeable batteries are classified as a hazardous waste under the Hazardous Waste Act 1989. This means that they should not be disposed of with general household waste.

Production

The many varieties of batteries use these minerals - carbon, zinc, manganese, lithium, nickel, cadmium, lead, copper, aluminium. Mineral resources must be extracted to produce batteries. Mining is energy-intensive and requires the burning of large amounts of fossil fuels. As well as contributing to global warming, mining can also destroy wildlife habitat and create air and water pollution.

Distribution

Hundreds of millions of batteries are imported each year and transported to warehouses, shops, homes and workplaces³. Fossil fuels are burned to create energy for transport and natural areas are cleared to build infrastructure. Plastic packaging is often used to package batteries. Plastic is made from fossil fuels.

End-of-life

In landfill, the chemicals inside batteries can leach from their casings and pollute land and water with heavy metals that are toxic to life.

If placed in household recycling, a battery can leach chemicals.

A single battery has the potential to contaminate the contents of a recycling container.

Did you know?

Although batteries are recyclable, 97% end up in landfill. That's about 8000 tonnes each year!²

Batteries are sent overseas for recycling². The Australian Battery Recycling Initiative is working towards establishing battery recycling facilities in Australia⁴.

Electronic waste is growing at 3 times the rate of general household waste in Australia³.



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The Solution

What can you do?

Recycle Batteries

Keep batteries out of the waste stream.

Make sure you return used batteries to the appropriate collection points for recycling.

Choose Rechargeable Batteries

The vast majority of batteries in landfill are primary batteries that have been used once only prior to disposal.

In the past, rechargeable batteries were inconvenient because you needed to charge them prior to use, and they did not last as long as they do today.

Whilst rechargeable batteries will eventually lose their charge, new technology means that batteries manufactured today can be used up to 1,000 times.

Start a battery collection box in your workplace or school to keep batteries out of the red bin by searching [BusinessRecycling](#)

Advantages of Rechargeable Batteries

- Divert hazardous waste from landfill by using batteries again and again.
- Reduce the environmental impacts of mining virgin resources for primary batteries.
- Reduce the environmental impacts from transporting large volumes of primary batteries around the world.

Where can you recycle batteries?

There are numerous ways to dispose of used batteries that will not harm the environment.

Battery Recycling Services	
Planet Ark	Use Recycling Near You to locate your local council's drop off locations
Cleanaway	Battery Recycling
Local council	Contact your local council or access the PlanetArk resource centre
ALDI	Battery Recycling
Battery World	Battery World & Recycling
IKEA	Energy & resources
Mobile Muster	Mobile phone recycling
Suez (SITA)	Batteries
Envirostream	Battery Recycling Services
Australian Battery Recycling Initiative	Battery Recycling Services & information
Marine and other lead acid battery recycling	Century Yuasa

References

1. Energy Matters, [Deep Cycle Battery Guide](#)
2. Battery World, [Battery World & Recycling](#)
3. Australian Bureau of Statistics, [Solid Waste in Australia](#)
4. Australian Battery Recycling Initiative [Handheld Battery Recycling](#)
5. Battery University [Technical Information](#)
6. Century Batteries [Battery recycling](#)

