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 batteries[5]

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.

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.

Lead-acid batteries are the oldest type of rechargeable battery [1].

These batteries are typically used to power vehicles.

Environmental Impacts

Batteries are the most common form of household hazardous waste [2].

But 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.

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 workplaces [3]. 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. One battery can 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 recycling [2]. The Australian Battery Recycling Initiative is working towards establishing battery recycling facilities in Australia [4].

Electronic waste is growing at 3 times the rate of general household waste in Australia [3].

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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 hundreds of times.

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?

Battery recycling services	
Suez (SITA)	Batteries
Batteryworld	Battery World & Recycling
Cleanaway	Battery Recycling
Local council	Check with your local council or use Planet Ark
Planet Ark	Use Recycling Near You to locate your local council's drop off locations
Mobile Muster	Mobile phone recycling
ALDI	Battery Recycling
IKEA	Energy & resources

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