Resource Recovery

Managing e-waste at resource recovery centres

Electronic waste or 'e-waste' is classified as a combustible recyclable and waste material that could create a fire hazard if not stored correctly. Operators should comply with the Environment Protection Authority Victoria's (EPA's) *Waste Management Policy (Combustible Recyclable and Waste Materials)*.

Key points

- E-waste is any electrical or electronic equipment with a power cord or battery. It is the fastest growing type of waste generated by Australians.
- E-waste can contain both hazardous and valuable materials that can be safely disposed of through treatment or recovered for reuse.
- From 1 July 2019, all e-waste is banned from landfill in Victoria.
- Various acts, regulations, standards and guidelines apply to e-waste at resource recovery centres and transfer stations.

What is e-waste?

E-waste is any electrical or electronic equipment with a power cord or battery. E-waste is divided into two categories – specified and non-specified:

Specified e-waste	› Cathode-ray tube from computer monitors and televisions › Flat panel monitors and televisions › Information technology and telecommunications equipment, e.g. computers, including printers, computer parts and accessories › Lighting, e.g. fluorescent bulbs › Photovoltaic panels, e.g. solar panels › Rechargeable batteries
Non-specified e-waste	All other electrical or electronic equipment with a power cord or battery, for example, large electronic furniture (e.g. chairs with lifting mechanisms) and small appliances such as toasters, battery-powered toys and pedestal fans.

Potential hazards

E-waste contains many materials which can pose hazards to human health and the environment, including:

- broken glass or sharp edges of metal or plastic
- exposure to toxic chemicals
- exposure to heavy metals and mercury vapours.

Regulations

A new Waste Management Policy (E-waste) came into operation from 1 July 2019 (No. G26, Gazette 28 June 2018). This policy aims to reduce e-waste in landfill, increase resource recovery and ensure e-waste is managed in a way that minimises risks to human health and the environment.

Some of the acts, regulations, standards and guidelines that apply to the safe handling, storing, transferring, transporting and recycling of e-waste are listed below.

Occupational health and safety (OHS)	Occupational Health and Safety Act 2004
	Occupational Health and Safety Regulations 2007
	Compliance code: Hazardous manual handling (WorkSafe Victoria, 2018)
	Liquid storage and handling guidelines (EPA publication 1698)
Environmental	Environment Protection Act 1970
	Environment Protection (Industrial Waste Resource) Regulations 2009
	National Television and Computer Recycling Scheme – guide for local government
	Management and storage of combustible recyclable and waste materials – guideline (Publication 1667.2, October 2018)
EPA waste management policies	Waste Management Policy (Combustible Recyclable and Waste Materials)
	Waste Management Policy (E-Waste) – from 1 July 2019
Australian standards	AS/NZS 5377:2013 – Collection, storage, transport and treatment of end-of-life electrical and electronic equipment

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Storing e-waste

All e-waste must be collected, managed and stored in compliance with the Waste Management Policy (E-waste) and key requirements of AS/NZS 5377:2013, including:

- protection from weather
- avoiding breakage
- storing on an impermeable and bunded surface
- clear signage in collection and storage areas in line with Sustainability Victoria's signage guide
- keeping records of e-waste received and transferred.

E-waste should meet the EPA's *Liquid storage and handling guidelines* (publication 1698), which replaces the Bunding guideline (publication 347). While e-waste is not classified as a liquid, it is necessary to contain or isolate a site from groundwater and stormwater systems at times of high risk (such as fire and fire water or foam run-off) and give additional time to contain, clean up or manage pollutants and prevent liquids from leaving the site.

Collecting and recycling e-waste

For best practice, get a certificate of reuse, processing or recycling from the receiving facility.

The minimum requirements are to:

- only use an experienced collection contractor with all necessary approvals
- use a suitable transport process, such as cages or bulk bins
- ensure e-waste goes to a known and appropriately licensed location for disassembly and processing.

E-waste may leak hazardous or toxic materials into the landfill and the surrounding environment. From 1 July 2019, e-waste can no longer be disposed of at landfill.

Record keeping

Keep records of all e-waste received and sent for recycling. This enables tracking of material from site, as well as helping to manage the amount being stored on-site.

Under the Waste Management Policy (E-waste), e-waste service providers must record information about specified e-waste. Refer to the policy for record-keeping requirements for e-waste service providers.

Requirements can include:

- recording incoming televisions, computers or other e-waste items received at the gatehouse
- a monthly stocktake of e-waste materials stored on-site compared with the maximum allowable number (could use photographs or videos to support this)
- recording the number and weight of e-waste collected from site by approved contractors.

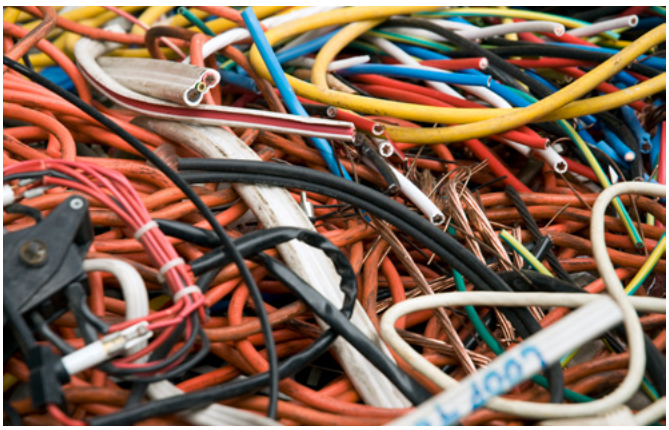

Photo credit: Metropolitan Waste and Resource Recovery Group

E-waste and the circular economy

Sustainability Victoria is actively promoting a transition to a circular economy and reducing reliance on raw materials in production processes by continuously cycling materials of all types back through supply chains.

With e-waste being the fastest growing type of waste generated by Australians, recovery and reuse of precious materials is essential.

E-waste is recovered in several ways, depending on the item, and can be repurposed for use in new batteries, electronics, homewares and more. The goal is to make a closed loop, where a new product is made from fully recovered components instead of raw materials. These recovered components can then be recovered again and again.

Once all the different components of your e-waste are back in the supply chain, they can be reused to make a variety of items as outlined in the table below.

Recovered component from e-waste	› Plastic › Batteries › Precious metals › Glass › Other metals
New uses	› Plastic fence posts, pallets, casings, toys, keyboards › New batteries › Jewellery, reuse in new electronics › New screens for televisions and monitors, homewares › Reuse in new products, cabling

For more information

Department of Environment and Energy – National Television and Computer Recycling Scheme
Phone 1800 332 783
environment.gov.au/protection/national-waste-policy/television-and-computer-recycling-scheme

WorkSafe Victoria
Phone (03) 9641 1444
or 1800 136 089 (toll free)
worksafe.vic.gov.au

EPA Victoria
Phone 1300 372 842
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