



Zero Waste SA

KNOWE-WASTE

Fact Sheet

With awareness about the environmental impacts of sending electronic waste (e-waste) to landfill increasing, many householders are keen to dispose of their unwanted electronic equipment in a responsible way.

Televisions, computers and other e-waste contain non-renewable resources such as tin, nickel, zinc aluminium and copper, as well as hazardous materials such as lead and mercury. Sending these products to landfill means the resources they contain are potentially lost and there is a risk that the hazardous substances may be released into the environment.

The gradual phase-out of analog television across Australia between 2010 and 2013 is expected to generate an influx of unwanted TVs, although current equipment may be 'digital ready' or updated easily. Regional South Australian TV makes the switch to digital on 15 December 2010 and metropolitan Adelaide three years later on 31 December 2013. Many people have already switched to digital TV.

These discarded TVs will add to the escalating volume of e-waste:

- In 2007–08, 16.8 million TVs and computers were discarded in Australia, with 84% of these sent to landfill¹.
- Of the 15.7 million computers that reached their 'end-of-life' in Australia in 2007–08, only 1.5 million were recycled – that's less than 10%².
- At 30 June 2009, Australia had over 24 million mobile phone subscribers³.
- Australians update their mobile phones every 18-24 months. About 83% keep or give away their old mobile phones and 3% throw them out (down from 9% in 2005). About 14-16 million old and unused mobile phones are lying around in Australia⁴.
- Australians also discard millions of major appliances each year.

That's a lot of non-renewable resources in landfill. While it's easier to replace electronics with the latest and best; it's cheaper to replace appliances than to repair them. But the true costs are much greater.

The manufacture, use and disposal of electrical and electronic equipment purchased by Australians generates millions of tonnes of greenhouse gases per year. As we purchase and dispose of these products, we:

- increase consumption of raw materials, including water, from manufacturing processes
- take up landfill space
- put hazardous substances such as lead, mercury, chromium and flame retardants with bromine, which are safe with ordinary use, into places where they could leach into soil and water.



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AVOID • REDUCE • REUSE • RECYCLE



Almost all components of electronic equipment can be recycled. Here's a rundown of a typical PC:

CRT tube monitor

95% glass, 2% ferrous metal (e.g. screws)

Monitor case and base

98% plastic, 2% ferrous metal

Degaussing wire

95% copper wire, 5% PVC plastic tape

Monitor yoke

75% copper, 10% ferrous metal, 15% plastic

Monitor circuit board, mother boards, expansion cards

90% fibreglass or plastic, 5% non-ferrous metals, 5% other recyclables

Computer case

90% steel, 10% ABS or resin plastic (varies with model)

Floppy drives

95% metal (ferrous and non-ferrous), 5% circuit board

Mouse

90% plastic, 5% circuit board, 5% cable (can be recovered)

Cables

90% PVC plastic, 5% copper, 5% steel

CD ROM case

50% ferrous metal, 50% plastic resin

Keyboard

99% plastic resin with PVC and copper cabling

Hard drives

80% aluminium, 15% steel, 5% circuit board

Heat sink

95% aluminium, 4% polypropylene plastic (fan), 1% mixed metal

Power supply unit

85% steel case, 15% printed circuit board

Various screws

100% ferrous metal

What is ZWSA doing about e-waste?

Zero Waste SA has been preparing for national TV and computer recycling for some time.

At a national level, ZWSA contributes to national waste discussions through the Environment Protection and Heritage Council Waste Working Group. In November 2009, at the Environment Protection and Heritage Council, Australia's environment ministers resolved to introduce a national product stewardship scheme for TVs and computers by 2011.

This proposed scheme, being developed with industry, will see manufacturers and importers responsible for recycling all products they sell in Australia. The national scheme is expected to roll-out over several years. ZWSA is engaging with the computer and TV industry to assist with this roll-out.

The South Australian Environment Protection Authority's new *Environment Protection (Waste to Resources) Policy 2010* (EPP) bans TVs and computer monitors from being dumped in landfill in metropolitan Adelaide from 1 September 2012 and state-wide by 1 September 2013.

ZWSA is developing a strategy for e-waste that will support the EPP. It's taking a leadership role on market development and infrastructure assistance, working closely with the EPA, local government, the recycling industry and other key stakeholders.

WHAT CAN BE RECYCLED?

The metal is 100% recyclable, glass 99% recyclable and plastic (apart from plastic in very small particles) 100% recyclable.

Of the other materials, PVC may soon be affordably recycled, fibreglass is not recyclable and the metals in circuit boards could be recycled⁵.



Through South Australia's drink container refund scheme, the state already has the infrastructure in place to collect e-waste. The state's network of 115 bottle and can recycling depots could provide a convenient way for people to recycle their old electrical equipment.

A ZWSA survey showed that 80% of these depots would be keen to participate in e-waste recycling if a scheme was developed.

ZWSA has also supported construction of the southern hemisphere's first TV and computer monitor glass recovery plant with a \$290,000 grant. CRT Recycling will take hazardous material and transform it into glass that will be used all around the world, largely for making new TV screens and monitors. It uses specially designed processes and machinery to clean, separate and remove contamination from Cathode Ray Tube glass from TVs and computer monitors for recycling.

Council collections

As a transitional arrangement ZWSA is assisting South Australia's councils with funding to collect e-waste from householders throughout the state. The collections have been highly successful – in 2009-10 more than 428 tonnes of e-waste was collected for recycling. In 2010-11 ZWSA will continue to support councils in the collection of e-waste, taking into account greater participation rates as well as helping those parts of regional South Australia to deal with e-waste generated by the switchover to digital TV.

A free community event held on 11 and 12 September 2010 provided Adelaide householders with an opportunity to clear their homes of unwanted computers, televisions and mobile phones. The free service was hosted by ZWSA, the Local Government Association and seven Adelaide metropolitan Councils, with recycling provided courtesy of Apple Pty Ltd.

ZWSA will continue to grant funding to councils until the national product stewardship scheme begins.

What can we do?

We can all minimise waste and save precious resources by following the 3Rs – reduce, reuse, recycle.

Reduce

Be an environmentally responsible consumer:

- resist the latest electronic gadgets
- upgrade (rather than replace) computers and other electronic equipment where possible
- choose durable products and avoid disposable products.

Reuse (and repair)

- shop around for competitive repair prices by looking under the relevant Yellow Pages section (e.g. Computers – Repairs)
- check with friends, charities and schools to see if they can use your surplus appliances
- sell appliances through garage sales or at secondhand outlets
- offer appliances on Freecycle: groups.yahoo.com/group/freecycle_adelaide/ (registration is compulsory but only takes a minute and notices are free); make sure you describe your item exactly (working or not working), and give your location/suburb.
- find an organisation that accepts unwanted computer equipment and refurbishes it for use by schools and charities, e.g.: IT Share SA www.itshare.org.au. Ask how old computers that cannot be reused will be disposed of. If they'll go to landfill, try another organisation.

SMART STATE PC PROGRAM

The Smart State PC Donation Program helps South Australian community based, not-for-profit organisations access personal computer equipment from surplus government stocks.

www.premcab.sa.gov.au/dpc/community_donation.html

Recycling

Computer equipment

Some companies recycle computers and other e-waste by disassembling and recovering the material from components. They may charge a fee to cover handling and transport costs.

Fee-for-service providers who accept e-waste and process it in Australia include:

E-Cycle Recovery

352 Richmond Road, Netley SA 5037

Phone: (08) 8354 2044

Email: ecycle@optusnet.com.au,

www.ecyclerecovery.com.au

Sims E-Recycling

North Arm Road, Gillman SA 5013

Phone: (08) 8342 1383

Email: simssa.au@simsmm.com

www.simsmm.com/au

Check the Zero Waste SA website for current listings.

Reminder: Some retailers make take back or trade in your old TV set – remember to ask when you buy a new set.

Mobile phones

Between 1999 to 2009 and June 2010, over 724 tonnes of mobile phone handsets, batteries and accessories were collected for recycling in Australia by MobileMuster. That's more than 5.11 million handsets and batteries. And the problem is getting bigger each day.

The Australian Mobile Telecommunications Authority's MobileMuster recycles mobile phones and over 3,500 collection points can be found across Australia. The public can also return mobiles through prepaid satchels available at Australia post outlets or by downloading a free mailing label from the MobileMuster website. Used phones are collected, dismantled and sorted into batteries, plastic, printed circuit boards, handsets and accessories. They are then sent to specific recyclers locally or overseas who further shred, sort and process these components for recovery of plastics, metals and precious metals including nickel, cadmium, silver and gold. Over 90% of the materials are recovered.

For more information on mobile phone recycling and drop-off points check www.mobilemuster.com.au or contact MobileMuster on 1300 730 070.

Further information

Australia

Australian Information Industry Association

The peak body for Australia's information sector and is committed to implementing a product stewardship approach to managing end-of-life IT equipment.

www.aiaa.com.au

Australian Government Digital Switchover Taskforce

www.digitalready.gov.au

Department for Environment, Water, Heritage and the Arts for information on product stewardship, and about e-waste and its management

www.environment.gov.au/settlements/waste/index.html

National e-waste recycling scheme

www.ephc.gov.au/taxonomy/term/51

Product Stewardship Australia

A non-profit organisation established by the TV industry to support product stewardship initiatives for end-of-life TVs

www.productstewardship.asn.au/

International

European Commission

Responsible for devising the *Waste Electrical and Electronic Equipment and Restriction of Hazardous Substances* directives in the European community.

www.ec.europa.eu

e-Stewards

A group of leading North American electronics recyclers and asset managers, committed to operating their business in accordance with a set of standards designed to uphold the highest levels of environmental and social responsibility,

www.e-stewards.org

Electronics Takeback Coalition

A partnership of international organisations promoting green design and responsible recycling in the electronics industry:

www.electronicstakeback.com

StEP (Solving the E-Waste Problem)

An initiative of various United Nations organisations working to solve the e-waste problem with industry, governments, non government organisations and science partners.

www.step-initiative.org

US Federal Electronics Challenge

Encourages federal facilities and agencies to purchase greener electronic products, reduce impacts of electronic products during use, and manage obsolete electronics in an environmentally safe way.

www.federalelectronicschallenge.net

Worldwatch Institute

www.worldwatch.org/pubs/goodstuff/computers/ and www.worldwatch.org/pubs/goodstuff/cellphones/

About Zero Waste SA

The goal of Zero Waste SA is to eliminate waste or its disposal by encouraging South Australians to:

- reduce their consumption of resources
- reuse and recycle materials.

www.zerowaste.sa.gov.au

¹ Zero Waste SA 2010, Business Plan 2010–11, Zero Waste SA, Adelaide

² Total Environment Centre 2008, Tipping Point: Australia's E-waste Crisis, viewed 25 August 2010, www.tec.org.au/images/e-waste%20report%20updated.pdf

³ Australian Mobile Telecommunications Authority

⁴ Australian Mobile Telecommunications Association 2010, Australia: A Nation of Hoarders

⁵ Zero Waste SA, viewed 25 August 2010, www.zerowaste.sa.gov.au/About.mvclfewasterecycling



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