

Waste & Recycling

Part 3e – Material Fact Sheets

E-waste



What is E-waste?

E-waste is a short name for electronic waste. As technology changes, the volumes of e-waste in New Zealand continue to rise. Successive innovations see technologies being replaced in rapid sequence by a mix of fashion, performance gains and lack of durability.

There are many types of e-waste including televisions, computers, printers, jug-kettles, toasters, DVD players and cell phones; anything with a mains plug or powered by batteries becomes e-waste.

What is E-waste made from?

E-waste is made from a mix of materials including plastic, steel and aluminium, copper and even gold. However, some materials in e-waste are hazardous metals, e.g. lead, mercury, lithium and cadmium.

Electronic items considered to be hazardous include televisions, older computer monitors (contain cathode ray tubes), LCD desktop monitors, LCD televisions, plasma televisions and portable DVD players with LCD screens, and fire alarms.

A large amount of what is considered e-waste *is not waste at all*, but is electronic equipment or parts readily marketable for reuse or for scarce materials recovery.

What Happens to E-waste ?

In many Districts/Cities, e-waste is collected and the various materials are dismantled and sorted in preparation for sending to recyclers who reclaim parts and valuable metals.





Photo: Example of dismantled E-waste from Amberley, bagged ready for delivery to Christchurch for recycling.

Hurunui Council dismantles e-waste - even plugs and cables are recyclable, preventing them being sent to landfill or illegally burned to expose the metals.

E-waste Recycling Facts

- About 50 million tonnes of e-waste get disposed of worldwide each year.
- Recycling one million laptops saves the energy equivalent to the electricity used by 3,657 homes in a year.
- For every one million cell phones which are recycled: 16 tonnes of copper, 350kgs of silver, 34kgs of gold, and 15kgs of palladium are recovered.
- Some, but not all companies, recycle e-waste in an ethical manner, paying attention to where and how the valuable materials are recovered. Working conditions and pay in NZ firms are generally better than those found in developing countries.

What about Reduction and Re-Use?

- Before bringing your e-waste to the transfer station, check whether family or friends could re-use it.
- If broken, it may be cheaper to fix than throw away and buy new, so check first. Do you really need to update electronic items so frequently?

What to Remember when Recycling E-waste

- Toners and ink cartridges need to be removed from printers and copiers when bringing them to the transfer stations.
- Toners can be recycled providing they are in a separate bag or box and handed to the transfer station staff.
- When recycling televisions and monitors, care must always be taken not to smash or crack the screens.
- If recycling a computer hard drive, ensure all files and data are properly erased first to protect your privacy and that any data you may want to keep is copied first. (Once computer hard drives are dropped off, they cannot be returned).
- Electrical cables and cords can also be recycled, so remember to bring these too.

Class Challenges

1. See how many different types of e-waste you can think of, either individually or as a class.
2. Find out what happens to the school's e-waste. Perhaps it would be possible to set up a recycling protocol for managing the unwanted e-waste?
3. What happens to the school's toners from printers and copiers? If the school is interested in recycling these, contact Croxley Recycling, as they provide collection boxes and a pick-up service. <http://www.croxley.co.nz/Recycling/What-do-we-recycle>



Further Resources

- www.recycle.co.nz provides information and tips on the recycling of e-waste.
- YouTube has a range of videos showing how e-waste is recycled.
Examples: <https://www.youtube.com/watch?v=zU62hh3DBfg> and www.dosomething.org/us/facts/11-facts-about-e-waste
- A discussion-stimulating cartoon from 'The Story of Stuff' team, on how industry has 'designed for the dump' and thus generates E-waste. https://www.youtube.com/watch?v=sW_7i6T_H78 (Advocates for product take-back, better design and producer responsibility).