Let's Talk E-Waste

This is the first of a multi-part discussion on sustainable waste management

Electronic devices and consumables have been in the mainstream long enough to have achieved mass distribution as well as demonstrating rapid obsolescence and replacement. The need for recycling or safe disposal of discarded products has become essential to their environmental sustainability. Fortunately, many of the materials found in electronic parts have enough value in their afterlife to offset the cost of harvesting both the harmful and the useful contents in recycling efforts. As a result, the electronics industry, the EPA, and consumers are becoming aligned on the right side of the problem.

Today, most households seem to have at least one large box that holds the historical artifacts of their love/hate relationship with electronics. The decision to downsize often means that it is time to tackle all the obsolete or otherwise idle electronic equipment, cables, storage devices, games, etc. Whether you do it yourself or get help, **Essentially Yours** is happy to share some information to help you get your mind around the problem.

Let's start at the landfill. Discarded electronic material, or E-waste, comprises about 5% of municipal solid waste. Given our reliance on electronics, this number will only grow unless consumers and businesses choose to dispose of materials responsibly. What follows is some background for discussions on why we should and how we actually can do the right thing without too much trouble.

The growing presence of e-waste has driven concern for its impact on the environment. However, exploration of ways to reuse or recycle waste material has shown that there is real value in sustainable practices. As long as businesses can underwrite e-waste management profitably they will make it easy on consumers. For example, there are many metals found in e-waste, but their reuse makes good business sense. So-called 'urban mining' of waste yields metals that are richer than raw ore and cheaper than mining virgin ore for replacements parts.

The table below illustrates some examples of equipment and parts and their environmental issues.

Item	E-waste Factors	Value Proposition
Circuit boards in all equipment and devices	Plastic & metal in landfill	Gold, silver, and palladium recovered through smelting
CRTs (cathode ray tubes) in TVs, monitors, cell phones	Highly toxic leaded glass Fluorescent bulbs, mercury	CRTs in landfill account for 40% of lead, highly recyclable

Rechargeable batteries in laptops, phones, etc.	Lead Cadmium Nickel Cadmium Lithium Ion	All are high-value recyclables once gathered in bulk, toxic if discarded
Plastic covers/casings	Plastics in landfill leach BPA into soil	Recycling plastic, avoiding replacement costs
CDs DVDs	Disks in landfill last estimated 1 million years while leaching BPA into soil, + wasted aluminum	High-demand polycarbonate plastic & aluminum recycling vs. 30 new CDs using 2 cups of crude oil & 300 cu ft of natural gas
Magnetic tapes	Plastic outer box Mylar plastic tape with chromium surface	No good recycling plan generally, recycle-by-mail at GreenDisk.com. Also, used in craft projects & collected at Savers stores.
Refrigerators, A/C units	Electronic parts as above, older units used freon gas that damages ozone	Metal casing highly recyclable, freon recoverable for automotive reuse
Cell phones	Screen, circuit boards, batteries as above	Recovery from recycling 1 million cell phones... ● 35,000 lb of copper ● 772 lb of silver ● 75 lb of gold ● 33 lb of palladium
Old wires and cables	Copper, for which mining is destructive	Copper, scarce best conductor of electricity, has high value in recycled form

My next post will talk about places to drop-off or mail your e-waste. In the meantime, I have a few links mentioned on my website here. Your own municipal waste management plan often is a good place to start as well.