

As seen in the Salisbury Business Journal

Technology Recycling – The Good, The Bad, and The Ugly

Computers, cell phones, and technology in general have directly or indirectly changed the lives of everyone in this country. The most obvious technology would be the electronics that we use to help make our lives a little easier. As we've all found out from time to time... these little gadgets can and will die - usually an abrupt and poorly timed death. If you're lucky enough to keep one working for a few years, you'll find that the rest of the world has moved on without you, and your device (which still works) doesn't play well with others anymore. The time has now come for you to make a few decisions, such as whether you should buy a new one, try to squeeze another year of life out of your existing one, or if it's a computer, try to upgrade enough parts to extend its life for another 6 to 12 months.

As a part of the technology process, we all end up with boxes, drawers, and cabinets filled with old cables, chargers, computer parts, old printers, printer cartridges, and everything that ever came with any electronic device we've purchased over the years. If you're anything like me, you'll look at that pile of parts and old devices and briefly consider sending the whole pile to the landfill with your next round of garbage... but never actually get around to doing it.

If you do get around to sending your old electronics to the landfill, your electronics may end up damaging the surrounding environment, which in turn creates a more toxic environment for everyone. Most computers, cell phones, and electronic devices contain some amount of toxic materials like lead, mercury, and cadmium. These devices also contain some amount of precious metals such as gold, silver, and copper at the same time. The Silicon Valley Toxic Corporation estimates that approximately 70% of the toxic materials (like lead, mercury, and cadmium) found in landfills come from consumer electronics. So what should you do? Recycle your old electronics and accessories.

Many electronics recycling programs are available nationwide and some here in the Salisbury area. The process of recycling electronics can be dangerous and time consuming, but potentially lucrative. Luckily, your role in the recycling process is simple – just drop your old equipment off at a recycling center near you. The rest is up to them.

Most local recycling programs actually send the equipment to another location where a refinery can break down the parts and begin the recycling process. Most of the metal and some plastics in electronics can be recovered, but the cables and "green boards" will be discarded.

The average computer contains about fifty cents worth of pure gold (at the current market value), and less than a dollar's worth of other metals (aluminum, steel, copper, and silver). If enough of these computers and electronics are processed, the value of the recovered metals could add up quickly. However, the process of extracting these metals can be very difficult, expensive, and often dangerous. Gold can be extracted from the computer's processors and other parts by bathing them in hydrochloric and nitric acids, which leaves an almost pure-gold dust. However, the chemical bathing process for separating gold, silver, and copper produces high amounts of toxic gases and fumes, so facilities must have proper safety equipment.

With our current system of strip-mining for gold and other metals, we generate tons of waste in order to extract enough gold and metal to build a single cell-phone. However, with the recycling process, it may take as few as 2-5 old cell phones to acquire enough metals to make a new phone.

Written by

Tan Nguyen, Senior Consultant

Tezla Consulting Group, Inc.

Tan@tezlagroup.com