

Proper Disposal Electronics

A Guide to Doing it right in Lawrence and Mercer Counties



Consumer electronics are an important part of our lives at home and at work. The technology that powers our electronics changes constantly as the industry looks for ways to make our devices faster, smaller, energy efficient, etc. The result is that our society is discarding “outdated” devices at an increasing rate. According to a 2011 EPA report: 438 million new electronic products were sold, 5 million tons were in storage, 2.37 million tons were ready for end-of-life management, and about 25% were collected for recycling.

By weight, electronics make up approximately 2% of our waste stream, yet account for about 70% of the hazardous waste that we consumers throw away.

Wait...Hazardous!?

Electronics contain many different chemicals and elements that are required for them to work. This includes Lead, Mercury, Brominates, Beryllium, Cadmium, and Arsenic, to name but a few. The normal day-to-day usage of electronics doesn't expose us to these materials. Exposure to toxic substances becomes a concern upon their disposal, which is why recycling is important. The good news is that electronics along with their toxic components can be recycled .

What are the laws concerning Electronics?

The Pennsylvania Covered Device Recycling Act, passed in 2010, prohibits the landfilling of televisions, desktop computers, laptops, monitors, and computer peripherals. Residents and businesses must recycle these items.

Why is it important to properly dispose of my Electronics?

Illegal exporting overseas is often associated with free or inexpensive programs. Units shipped in this manner are usually broken open, stripped of valuable components, and abandoned or burned. This exposes the workers, environment, and eventually us to the hazardous materials contained in them. There are also personal and security risks from data on computer hard drives sent overseas in this fashion.

Landfilling was the primary method of electronics disposal in the past. As already discussed, electronics contain a myriad of potentially toxic materials that can be recycled. Landfilled materials are crushed, exposing their contents. Increasingly, electronics are illegally dumped along roads and into waterways. In both these cases there is potential for the leaching of harmful chemicals into the environment. There is no such thing as “away” when it comes to throwing our “trash” away.

Many electronic components contain elements such as Hafnium, Neodymium, and Ruthenium, which are very rare. Mining associated with obtaining the ores for rare earth elements is energy intensive and damaging to the environment.

Recycling old electronic items is important for many reasons including: reduced environmental contamination associated with illegal dumping and landfilling, recovered materials (many of which are toxic and/or rare) for reuse which reduces the need for raw material mining, and greatly reduces greenhouse gases associated with landfilling, refining, and mining.



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Why is there a cost to recycle electronics?

The recycling of electronics is complex. Electronics items are made with a variety of plastic, metal, and glass components that must be disassembled. This disassembly, called demanufacturing, is performed with manual labor which is time consuming and expensive.

Another challenge facing electronics recycling operations is the marketing of some materials. Televisions and computer monitors are the most commonly recycled electronics items. The glass from older Cathode Ray Tube televisions and computer monitors contains significant amounts of lead and is a recycling challenge. Recycling markets for the leaded glass are limited and expensive. The proper management of the leaded glass from these TVs and monitors is a primary reason for the costs associated with electronics recycling programs.

Materials from some free programs that are illegally sent overseas bypass marketing challenges with extremely cheap labor.

What should I look for in an electronics recycling program?

Look for programs that are registered with the Pennsylvania Department of Environmental Protection (DEP). The DEP website includes useful information about electronics and a listing of statewide programs. There are also Federal and National certifications to look for. This includes the R2 (Responsible Recycling) and e-Stewards certification programs.

Where can I recycle my electronics?

The Lawrence-Mercer Recycling/Solid Waste Department maintains the "Electronics Recycling Guide" which includes a listing of known local options. The guide is updated frequently and the most recent copy is available through our website or can be obtained by contacting us directly.



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