

Recycling Online



Booting up e-cycling – Part 2

by Roger Guttentag

coordinated strategies that address procurement practices, producer responsibility and product design

A succinct but thorough discussion of what is meant by green electronics can be found on the Green Electronics Council (GEC) site.

Buy green

There is a number of green electronics buying guides and procurement resources that can be consulted online. A descriptive listing of the principal ones can be found on the Electronics TakeBack Coalition (ETBC) site by selecting the “Buy Greener Electronics” link. Two of the leading buying guides are the Electronic Product Environmental Assessment Tool (EPEAT), implemented in 2005 and currently managed by the GEC, and Greenpeace International’s Guide to Greener Electronics, first published in 2006 and now in its 18th edition (dated November 2012).

The EPEAT registry covers three product categories: computers and displays, imaging equipment and televisions. In order for a product to be included in the EPEAT registry, it must at a minimum, meet all required criteria for earning a Bronze rating. Products meeting at least 50 percent or 75 percent of the optional criteria specified by EPEAT can earn a Silver or Gold rating, respectively. All of the criteria are detailed on the EPEAT website.

Greenpeace’s Guide takes a different approach by focusing more on the manufacturer’s practices than specific products. The current edition ranks, in ascending order, 16 major electronics manufacturers based on three broad evaluative criteria: clean and efficient energy consumption, environmentally preferable operating procedures such as sustainable procurement methods, and adherence to producer responsibility principles.

The final resource in this category is the State Electronics Challenge (SEC) program site, which is administered by the Northeast Recycling Council. Anyone who works for

or with state and local governments as well as any type of public organization (such as a state university or utilities authority) will be well served by the information there. The SEC connects public agencies with electronics stewardship practices, and its site helps agencies find ways to procure, maintain and then discard of electronics in responsible ways. The SEC site also has an extensive library of resources in the form of Web links, downloadable documents and webinar presentations.

Full circle production

The next leg in a sustainable electronics system is legislation that puts into place a producer responsibility framework to ensure that electronic devices are properly managed from their creation to their eventual retirement. So far, 25 states have adopted laws requiring producer responsibility, advanced disposal fees or some other method for managing end-of-life electronics according to the ETBC. The ETBC site has information on a piece of proposed federal legislation, called the Responsible Electronics Recycling Act, that was re-introduced this past July.

While promoting the passage of producer responsibility legislation on state and federal level needs to continue, it is also critical to understand the experience of states with this legislation already in place. For this reason, the reports posted on the ETBC and the Product Stewardship Institute (PSI) site should be consulted. The ETBC site has a 2010 analysis of the producer responsibility programs implemented in Oregon and Washington, while PSI has links to recent evaluations conducted on PR programs operating within New York State, Minnesota, Wisconsin and Vermont. You can also find an extensive listing of producer responsibility Web references on the Resource section page of the Sustainable Electronics Initiative (SEI) site.

We should also not forget the role of the retailer in the producer responsibility chain of responsibility. The ETBC site

Last month I covered the Web resources that provide an overview of the current state management of end-of-life electronics with respect to descriptive statistics, enacted legislation and locating available recycling options. This month I’d like to expand the scope and look at resources online where we can learn more about the entirety of the green electronics system, not just end-of-life.

First, let me add a few words about the country’s disposal infrastructure for e-scrap. This subject is clearly one that belongs in the good news/bad news category. There is no question that scrap electronic recycling services are now available, often on a no-fee basis, for the majority of the U.S. population and many people are using them. However, the same figures show that, with recovery rates ranging from a low of approximately 10 percent for peripheral accessories like mice to nearly 40 percent for computers, the majority of unwanted electronic devices are either sitting in storage somewhere or getting thrown in the trash.

It can be argued that many of the e-scrap recovery strategies now being used can be regarded as solutions that have been bolted onto a production and retailing system that originally gave little consideration to end-of-life management of scrap electronics. They provide reasonable temporary fixes, but they don’t offer a long-term path to higher recovery rates and lower environmental impacts from scrap electronics either being sold today or in the development pipeline for future sales. The better answer, which is often referred to as green or sustainable electronics, is to craft

released in July 2013 its first report card on how well major electronics retailers are doing in making it easier for consumers and business to recycle their unwanted electronics. Highest marks go Best Buy, Office Depot and Staples while some of the biggest retailers like Amazon and Walmart received failing grades.

Environmentally conscious design

The final part of a complete sustainable electronics system is the design of the products that will be used by consumers and organizations. While many scrap electronic devices are now being diverted to recycling facilities, it should be recognized that these facilities are doing the best they can with products that were not designed from the start to be either reusable or recyclable. This is slowly changing as manufacturers are starting to recognize that you can't have a sustainable system if your products are among the biggest obstacles to making e-scrap recycling work.

While the subject of product design is complex, when it comes to recyclability, one starting point is clear: The disassembly of products should be given as much consideration as their assembly. Once that issue is effectively addressed, product components that are reusable or recyclable come naturally. A very nice introduction to this

Web Address Directory

Bloom Laptop For Disassembly and Recycling
Electronics Take Back Coalition
EPEAT
Green Electronics Council
Greenpeace Guide to Greener Electronics
Product Stewardship Institute – Electronics
Stanford Students Design Recyclable Laptop – YouTube
State Electronics Challenge
Sustainable Electronics Initiative
The Online Journal of Business & Design – Design for Disassembly

tinyurl.com/BloomLaptop
electronicstakeback.com
epeat.net
greenelectronicscouncil.org
tinyurl.com/GreenpeaceGreenElec
tinyurl.com/PSI-Elec
tinyurl.com/LaptopStanford
stateelectronicschallenge.net
sustainelectronics.illinois.edu

tinyurl.com/OJBD-DfD

important concept can be found in a March 2010 article by Nathan Shedroff that was published in the Online Journal of Business & Design. Shedroff lists and discusses the various design principles that would make any product easy to disassemble. A couple of his guidelines include using fewer standardized parts and using no fasteners.

The SEI site also has an extensive section on product design and manufacturing issues affecting electronic products' recyclability and environmental impact.

Final thoughts

As I said at the start of this column, the situation with unwanted electronic devices has improved significantly over the last 20 years. Individuals and businesses that want

to recycle can do so, and there are more green electronics buying options available. Still, we are only at the beginning of the process of effectively dealing with e-scrap, a part of our economy that continues to grow, innovate and transform in ways that almost defy prediction. It will be interesting to see what we can accomplish in the next five to 10 years.

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