

SETTING THE STANDARD: AN EPEAT PROGRESS REPORT

EPEAT IS PROMOTED AS A WAY TO HELP CONSUMERS MAKE BETTER, GREENER DECISIONS WHEN PURCHASING ELECTRONICS. WITH INTEREST IN SUSTAINABILITY AT ALL-TIME HIGHS, BUT RETAIL NUMBERS COMING UP SHORT, HOW IS THE MARKETPLACE REACTING TO THIS INNOVATIVE RANKING SYSTEM, AND WHAT EFFECT DOES IT HAVE ON E-SCRAP?

BY ANNE PETERS AND MARK SCHAFFER

One of the most interesting drivers in the e-scrap world in recent years has been the market-based Electronic Product Environmental Assessment Tool. EPEAT, as it is more commonly known, is a purchasing device that enables buyers of desktops, laptops and monitors to select models that meet a variety of environmental attributes. For e-scrap recyclers, processors, policymakers and industry watchers, EPEAT's import is that it requires manufacturers to offer take-back and recycling services for all EPEAT-registered products. More broadly, however, EPEAT-registered products yield significant environmental benefits, such as reduction in toxic materials, energy savings and increased recycling.

"We've seen manufacturers change designs to assure gaining specific EPEAT points to reach silver or gold standards," says Wayne Rifer, operations director for EPEAT. Such environmental benefits accrue over the lifetime of each EPEAT product sold, and eventually should translate into products that last longer, use less energy, and are more readily recycled at end of life (EOL).

In the near future, EPEAT, operated by the Portland, Oregon-based non-profit Green Electronics Council (GEC), will become a family of standards, with separate environmental criteria for three product categories: Computing equipment, imaging equipment (printers, scanners, copiers, etc.), and televisions. While EPEAT was originally designed solely for computers sold to

institutions, manufacturers have also begun registering more consumer-oriented computer products.

"At this point, most leading CE manufacturers have consumer-oriented products on the registry," says Jeff Omelchuck, executive director of EPEAT and the GEC's director. And, as the standard expands into new product categories, it is expected that more products for consumers, such as TVs, will be registered.

Marketplace demand is expected to be robust, and EPEAT-registered products sold with the associated required take-back services may drive increased demand for manufacturer-managed recycling and re-use services. Thus, electronics processors, purchasers of e-cycling services, entrepreneurs, manufacturers, and government officials should take note that the EPEAT standards for imaging equipment and televisions, now under development, will impact the EOL marketplace for electronics.

If interested, now is the time for stakeholders to become engaged in this open, multi-stakeholder process, which has already zeroed in on issues of concern and interest to electronics organizations dealing with re-use, refurbishment and recycling.

The road to greener pastures

Originally launched in 2006 after several years of multi-stakeholder involvement, EPEAT's outstanding success has resulted in significant sales of environmentally-preferable computers over the past two years. Taking note, GEC created a *Standards Development Roadmap*, calling for the inclusion of televisions, imaging equipment, cell phones and servers to the EPEAT standard. Key stakeholders from the electronics industries, as well as purchasers, governments, environmental advocacy groups, academics, and other interested parties approved the roadmap, and formal standard development processes for imaging equipment and television were launched in late 2008.

These standards are being developed as ANSI-accredited standards through the requirements of the Institute of Electrical and Electronics Engineer (IEEE), which stipulates an "open," multi-stakeholder, consensus-driven process. Anyone with a "direct and material interest" is welcome to participate, says Patty Dillon, co-chair of EPEAT's Television Working Group and program manager for the Northeast Recycling Council. Figure 1 shows the makeup

of participants, by stakeholder group, on the imaging equipment standard.

Growth of EPEAT

A landmark moment occurred in January 2007 when then President George W. Bush signed an Executive Order strengthening federal agency environmental management; in turn, the Federal Acquisition Regulations (FAR) specified that all federal agencies "must ensure that they meet at least 95 percent of their annual acquisition requirement for electronic products with EPEAT-registered electronic products." Just as federal specifications for post-consumer recycled paper content drove the development of the de-inking and paper recycling industry in the 1980s and early '90s the FAR requirement has created tremendous demand for EPEAT-registered products – over 40 million EPEAT-registered products were sold in 2008 (Table 1).

EPEAT-registered products represent a significant market share in the U.S. 2008 data shows U.S. EPEAT-registered desktops were about 24 percent of total unit sales, and notebooks were a remarkable 45 percent. Globally, it appears that EPEAT-registered products are about 20 percent of total sales in those product categories.

"EPEAT-registered product sales have continued strong despite the recession," says Sarah O'Brien, EPEAT communications director. "With manufacturers continuing to join the system and product registrations climbing, the EPEAT brand seems to have conferred some protection against the recession's impacts."

Going global

The next exciting development for EPEAT is the expansion of the registry to cover over 40 countries worldwide, with over 100 computing products. Institutional purchasers from Australia, Brazil, Canada, New Zealand, Thailand, United Kingdom, and beyond, already use the standard to specify greener computing equipment. Eventually, EPEAT will translate documents, web pages, etc., to key languages to support international participation.

The forthcoming TV and imaging equipment standards are expected to be available worldwide. For the work groups presently involved in defining specific product environmental attributes, then writing criteria for those standards, the international scope poses some unique challenges.

For example, the standards will likely mandate that manufacturers run take-back programs for recycling or re-use, and may specify that partnered electronics processors/refurbishers be certified to either the R2 standard or the Basel Action Network's e-Steward standard. Unknowns include how these U.S./North American standards would be applied to products sold, used, and returned to electronics processors outside North America.

According to Dr. Mike Biddle, founder and president of MBA Polymers, Inc., there has already been an increase in the recognition of EPEAT as an internationally important standard. "I spoke in a sustainability session at the regional World Economic Forum in South Korea a few months ago and was surprised at how many in the audience knew of EPEAT, or at least recognized the importance of such standards in promoting the development of sustainable products and practices, like recycling," says Biddle.

Who is buying EPEAT computers?

Purchasers of EPEAT products come from beyond the U.S. Federal government, as well. Many government purchasers – local, regional, national and international – have established policies, issued RFPs and set contract specifications explicitly requiring EPEAT. Demand is growing globally.

Large corporate purchasers, such as Fairmont Hotels, a multi-national chain with worldwide operations, want a consistent standard to use across geographies. The education sector, from K-12 districts to colleges and universities, are developing green IT programs and using EPEAT as a purchasing requirement. The health care industry is widely greening operations as part of 'walking the healthy talk.' Large operations, such as Kaiser Permanente, the Premier Alliance group purchasing organization, and Catholic healthcare groups, are also requiring EPEAT in their purchasing standards.

Bringing together markets and environmentalism

GEC is hearing from major retailers that there is market demand from consumers for a credible multi-attribute environmental standard for televisions. Retailers are looking for a quick way to communicate "green" to consumers (that is, what is going to be the "Prius of TVs?") and the new EPEAT television

standard on the horizon for 2010 is expected to be the consumer-facing brand that can accomplish that. Sarah O'Brien notes that many recent market studies have found individual consumers want to buy green products if they have a credible way of identifying them. Lifestyle blogs and media outlets touting "green" practices often feature EPEAT, so it is expected to gain traction with consumers.

For imaging equipment, product makers in this category are committed to seeing an EPEAT standard developed, based on the market success of the EPEAT computer standard.

EPEAT measures the environmental impacts associated with already registered products through the Electronics Environmental Benefits Calculator, with details issued in the annual *Environmental Benefits Report*. Table 2 shows the estimated benefits from the lifetime use of over 110 million EPEAT registered products purchased in 2007. These benefits are from across all the phases of the lifecycle of the products, and include energy usage and responsible end-of-life practices.

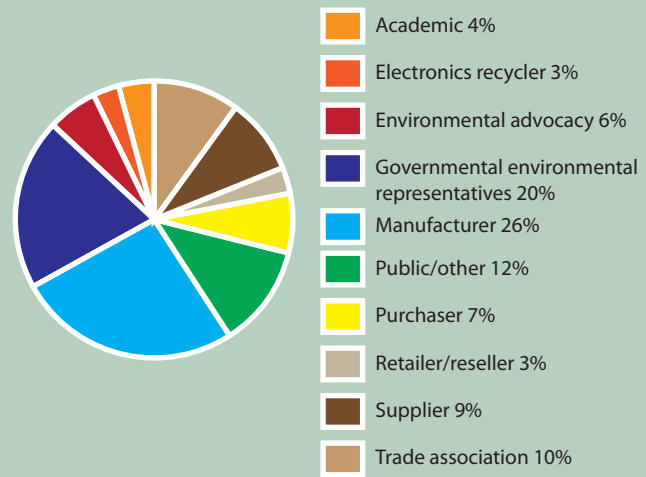
Future developments

Currently, EPEAT is developing standards for both imaging devices and televisions, with an expected completion of late 2010 or early 2011. Once these standards are in place, it is very likely that more manufacturers of these products will be seeking to establish not only U.S. take-back programs, but global programs for the collection and recycling of these electronic products. These programs, coupled with the increasing number of state and provincial recycling programs now in existence, will increase the amount of e-scrap being collected. Documentation and control of these waste streams will also be in demand through the various certification standards that EPEAT will require.

"We have seen an increase in closed-loop processing of plastics from the EOL equipment from imaging equipment manufacturers," said Mike Biddle of MBA Polymers.

The push into the consumer space by EPEAT will, too, increase the number of computer products entering the e-waste recycling stream, along with printers and televisions. The collection requirements for products from consumers will also grow and provide additional opportunities for processors to do business with manufacturers to meet these consumer demands. **ESN**

Figure 1 | Participants of the EPEAT Imaging Equipment Standard development process



Source: EPEAT, Green Electronics Council, 2009

Table 1 | Estimated 2007-2008 U.S. unit sales of EPEAT registered products

	<u>Desktops</u>	<u>Notebooks</u>	<u>Monitors</u>	<u>Integrated Systems</u>	<u>Total</u>
2007	12,400,000	10,400,000	18,900,000	1,200,000	42,900,000
2008*	8,100,000	16,400,000	18,500,000	1,100,000	44,000,000

* preliminary data, subject to final analysis by Green Electronics Council
Source: EPEAT, Green Electronics Council, 2009

Table 2 | Estimated environmental benefits in 2007 from EPEAT Purchasing

	<u>Reductions</u>	<u>Equivalents</u>
Electricity	42.2 Billion kilowatt hours	Annual consumption of over 3.7 million U.S. households
Primary materials	75.5 million metric tons	Weight of over 585 million refrigerators
Air emissions	174.4 million kilograms	174.4 million metric tons
Water emissions	364.8 million kilograms	364.8 million metric tons
Greenhouse gas	3.3 million metric tons	Removing over 2.6 million U.S. cars-emissions from the road for one year
Toxic materials	3,220 metric tons	Weight of over 1.6 million bricks; the amount of mercury in 482,381 fever thermometers
Hazardous waste	124,000 metric tons	Weight of over 61.6 million bricks
Cost savings	\$3,660,553,851	

Source: 2007 *Environmental Benefits Report*, EPEAT, 2008

Anne Peters is president of Gracestone, Inc. She can be contacted at (303) 494-4934 or annep@indra.com.

Mark Schaffer leads Schaffer Environmental, LLC. He can be contacted at (512) 468-9596 or mark@knowsgreen.com.

Reprinted with permission from Resource Recycling, P.O. Box 42270, Portland, OR 97242-0270; (503) 233-1305, (503) 233-1356 (fax); www.resource-recycling.com.