Environmental Benefits of 2009 EPEAT® Purchasing

Green IT Rating System's Influence, Impact Continue to Grow

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EXECUTIVE SUMMARY

Information technology has enabled significant improvements in the standard of living of much of the world, and through its contributions to greater transport efficiency, improved design, reduced materials consumption and other shifts in current practices, may offer a key to long term sustainability. However, the production, purchase, use and disposal of electronic products such as personal computers and monitors also can have significant negative environmental impacts.

The EPEAT® (Electronic Product Environmental Assessment Tool) system for greener electronics purchasing addresses many of these issues, with a lifecycle environmental standard that spurs improvements in product design and enables purchasers to reduce the lifecycle impacts of their product choices. This is the fourth annual report on the environmental benefits resulting from the purchase of electronic products registered and evaluated under the EPEAT program.

The EPEAT® System

EPEAT's environmental performance criteria, registration and verification processes, embodied in the International Electrical and Electronic Engineers (IEEE) 1680 and 1680.1 standards, were developed through an open, consensus-based, multi-stakeholder process supported by U.S. Environmental Protection Agency (US EPA) that included participants from the public and private purchasing sectors, manufacturers, environmental advocates, recyclers, technology researchers and other interested parties and lasted several years.

Bringing these varied constituencies' needs and perspectives to bear on standard development enabled the resulting system not only to address significant environmental issues, but also to fit within the existing structures and practices of the marketplace — making it easy to use and thus widely adopted. As a result, EPEAT has revolutionized the environmental playing field for the electronic product sector, with very broad participation by manufacturers and purchasers of all sizes and an extensive registry of products that meet the system's demanding criteria.

The EPEAT system currently covers personal computer products, including desktops, laptops, integrated systems, displays, workstations, and thin client devices, offering purchasers a uniform measuring stick to assess products' lifecycle environmental impacts. The system also provides manufacturers with guidance for development of environmentally preferable products that will meet market demand. And by providing a central product registry, EPEAT enables purchasers to view and compare the specific environmental performance of registered products from all participating manufacturers — encouraging manufacturers to compete to meet higher numbers of criteria and qualify products at higher levels, which pushes innovation and environmental excellence forward.

Growth of the EPEAT program

In the short time since its inception, EPEAT is transforming the marketplace for greener electronic products. EPEAT's breadth, depth and geographic reach have quickly made it one of the most widely used and trusted systems worldwide for assessing product environmental performance in the IT sector. A burgeoning roster of private and public purchasers around the world is using EPEAT to green their IT purchases. Increasing interest among consumers has also motivated EPEAT's gradual entry into the consumer market, and international demand has expanded the system's geographic reach.

In its first four years, the EPEAT program has evolved from three participating manufacturers — known as EPEAT Subscribers — to nearly 50 Subscribers and from 60 registered products to more than 2,000 unique products registered and sold worldwide.

International usage has spread rapidly, with purchasers in Asia, Latin America and European markets increasingly using EPEAT to identify and specify green IT products. In addition, IEEE work group processes are underway to expand the universe of EPEAT products with new 1680 standards for imaging devices (printers, faxes, copiers, etc.) and televisions.

EPEAT Internationalization

EPEAT has been used by hundreds of IT purchasers around the world since the system's debut. However, for the first few years of system operation it was challenging to match individual registered products to the geographies where they were available for purchase, or to verify claims in specific geographies, because no sales territory was identified in the registry.

To remedy this situation, EPEAT instituted a country-specific registry enhancement in August 2009. The new registry system enables manufacturer Subscribers to clearly communicate, and IT purchasers to easily evaluate, products' specific environmental performance and service offerings in the individual countries where they are sold, under locally recognized names.

The international registry launched in August 2009 with 40 covered countries — all EU and European Free Trade Area (EFTA) countries, China, Japan, Taiwan, Australia, New Zealand, Brazil and Mexico, in addition to the US and Canada. By December 2009 there were nearly ten thousand individual product registrations, including more than 3,700 individual Gold registrations, outside the US. (Since registrations are by country, these figures include multiple registrations of the same products worldwide, but are a useful indicator of the overall numbers, and proportion of Gold products, available outside North America.)

A Country Addition process is open to all countries where manufacturers, purchasers or governments wish to use the system.

The international registry launched in August 2009 with 40 covered countries. By December 2009 there were nearly ten thousand individual product registrations, outside the U.S.

2009 EPEAT Registry Growth

2009 witnessed significant growth in manufacturer participation and EPEAT product registrations, with very rapid growth in Gold product registrations.

In November 2008 the EPEAT registry contained 975 total product registrations from 30 manufacturers, with 217 Gold rated products.

By July 2009, there were 1,278 registered products in total, with 33 manufacturers participating, and 412 products registered at the Gold level.

By the end of December 2009, 37 manufacturers had registered some 1,400 products in the US, including 483 Gold products, and there were over 8300 product registrations outside the US.

2009 Sales Reporting Changes

EPEAT's manufacturer Subscribers must annually report on their sales of all EPEAT qualified products. The lifecycle environmental benefits of those sales are calculated using the Electronics Environmental Benefits Calculator (EEBC) originally developed by the University of Tennessee Center for Clean Products under a grant from US EPA. (See Methodology section for more detail.)

Several significant changes were made to the reporting system in 2009 that impact this year's reporting results:

- Sales are now only reported for the countries currently covered by the EPEAT system — reducing the number of countries reported on from more than 200 to 40 in 2009
- Subscribers must report sales by country, for all countries where they have registered products. (To ensure consistency in 2009, Subscribers only reported sales for those countries where they were actively registering products as of December 31, 2009)
- Subscribers are now required to report sales figures by EPEAT Tier — Bronze, Silver or Gold — to enable more precise evaluation of environmental benefits
- Subscribers are now required to report all sales to the US Federal Government, by tier

NOTE: The significant reduction in geographies reported on, as well as the restriction to countries where a given Subscriber is actively registering, means that reported sales for territories outside North America ("Rest of World") show a reduction in 2009 in comparison with previous EPEAT Environmental Benefits reports. However this reduction is largely a reporting artifact due to the increased specificity of reporting and reduction in covered territories.

2009 EPEAT Purchasing Volume and Benefits

Reported unit sales of EPEAT registered products in 2009 were very strong, despite the fact that 2009 reporting covered only 40 countries:

- Unit sales of EPEAT registered products in the US grew by 10%, to a total of 48.5 million products. In Canada, sales increased by more than 25% to over 3 million EPEAT registered units.
- Combined unit sales of EPEAT registered notebooks and desktops (including integrated systems) constituted close to 17% of sales of notebooks and desktops worldwide, and 42% of combined product sales in the US.
- EPEAT rating continues to play a significant role in the notebook space, with EPEAT registered products constituting more than 50% of notebooks sold in the US and nearly a quarter (23.46%) of notebook sales worldwide

Combined 2009 purchases of EPEAT registered notebooks and desktops constituted close to 42% of total US sales and approximately 17 percent of worldwide desktops and notebooks unit sales.

The lifecycle environmental benefits linked to EPEAT purchasing reached remarkable levels in 2009. Over their lifetime, compared to products that do not meet EPEAT criteria, EPEAT registered notebooks, desktops, and monitors purchased worldwide in 2009 will:

- **Reduce use of primary materials by 19 million metric tons, equivalent to the weight of more than 148 million refrigerators**
- **Reduce use of toxic materials, including mercury, by 1537 metric tons, equivalent to the weight of 768,000 bricks**
- **Eliminate use of enough mercury to fill 372,000 household fever thermometers**
- **Avoid the disposal of 72,000 metric tons of hazardous waste, equivalent to the weight of 35 million bricks.**
- **Eliminate the equivalent of more than 14,500 US households' annual solid waste — over 29,000 metric tons of waste**

In addition, due to EPEAT's requirement that registered products meet the latest ENERGY STAR efficiency specifications, these products will consume less energy throughout their useful life, resulting in:

- **Savings of over 10 billion kWh of electricity — enough to power 900,000 US homes for a year**
- **Avoidance of 44 million metric tons of air emissions (including greenhouse gas emissions) and over 93,000 metric tons of water pollutant emissions**
- **Reduction of over 2 million metric tons of greenhouse gas emissions — equivalent to taking nearly 1.4 million US passenger cars off the road for a year**

Because EPEAT's underlying standard (IEEE 1680.1) was designed to reduce duplicative effort and streamline environmental reporting, many of EPEAT's environmental criteria align with the requirements of other programs or regulatory schemes, such as ENERGY STAR® and the EU's RoHS regulations. While some of the changes in product design and delivery that enable EPEAT registration may thus not result from EPEAT alone, each EPEAT registered product purchase results in environmental benefits specific to that purchase. This report measures those benefits.

Conclusion

In 2009 the EPEAT system, newly enhanced with country specific registration, continued to serve a significant global role in motivating and measuring reduction of electronic products' environmental impact. That constructive role will continue and increase as EPEAT expands to additional geographies and product types in 2010 and 2011.

More broadly, EPEAT's novel approach to environmental assessment — rating based on public, stakeholder consensus-based standards, tiered rankings that encourage competition and continuous improvement, pre-market declaration followed by ongoing independent verification, and easy access to a single registry of qualified products to compare and select among them — continues to show its merit, by engaging dozens of manufacturers of all sizes and differing nationalities, and thousands of purchasers worldwide, in a complementary process of creating and rewarding more sustainable product design and delivery.