Environmental Benefits of 2008 EPEAT Purchasing

Green IT Procurement System's Success Drives Major Environmental Benefits

GREEN ELECTRONICS COUNCIL

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EXECUTIVE SUMMARY

Information technology has enabled significant improvements in the standard of living of much of the developed 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 directly reduce the lifecycle impacts of their product choices. This is the third annual report on the environmental benefits resulting from the purchase of electronic products registered and evaluated under the EPEAT program

The EPEAT System

The EPEAT program was launched in July 2006 to help purchasers identify environmentally preferable electronic products — starting with personal computers (desktops, laptops) and monitors.

The EPEAT environmental performance criteria and registry system were developed through a multi-year, multi-stakeholder process supported by U.S. EPA that included participants from the public and private purchasing sectors, manufacturers, environmental advocates, recyclers, technology researchers and other interested parties. The system and its environmental performance criteria are embodied in an international standard of the Institute of Electrical and Electronic Engineers (the IEEE 1680 Family of Standards for Environmental Assessment of Electronic Products)

The development of EPEAT was prompted by demand for an easy-to-use evaluation tool to support the comparison and selection of electronic products based on environmental performance attributes. IT purchasers needed a simple way to assess products' environmental impacts, and electronics manufacturers in turn wanted consistent guidance to ensure their green design efforts met with success in the marketplace.

The EPEAT system — 51 environmental performance criteria, a registry where products meeting those criteria are listed, and a verification system for vetting product declarations — established a user-friendly system designed and guided by all stakeholders and accessible to purchasers and manufacturers of any size. As a result, EPEAT has revolutionized the electronic product sector, with significant manufacturer and purchaser participation and an extensive registry of products that meet the system's demanding criteria. (See Appendix A for more details on EPEAT, and Appendix B for Participating Manufacturers.)

Growth and influence of EPEAT

Over the past three years, purchasers' adoption of EPEAT contract specifications has grown steadily. (See www.epeat.net/RFP.aspx for a sampling of purchasers using EPEAT.) International usage has spread rapidly, with purchasers in Asia, Latin America and European markets increasingly using EPEAT to identify green IT products. In August 2009, the EPEAT system rolled out to 38 countries in addition to the US and Canada, to meet international purchasers' demand for EPEAT registrations under local product numbers and with program support in geographies outside the US market. In addition, IEEE work group processes are underway to expand the universe of EPEAT products with new 1680 standards for imaging devices and televisions.

Increasing sales of EPEAT registered products reward participating manufacturers directly for their environmental design and service efforts. Because EPEAT establishes competition among manufacturers to meet higher rating levels, it also pushes innovation and environmental performance improvements forward. Some EPEAT criteria that were met by no products early in the program are now met by significant majorities of registered products (See Appendix D for details). And with more than 1200 base model products currently registered by more than 33 manufacturers, EPEAT has grown to be the most comprehensive and effective environmental purchasing tool available for IT hardware.

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Environmental Benefits of 2008 EPEAT Purchases

The rapid expansion of the EPEAT system is a clear indication of its value in the world of environmentally preferable purchasing. However, EPEAT's real value is measured by its benefits to the environment through energy savings, toxics elimination, materials reduction and other beneficial impacts. Following the creation of EPEAT, U.S. EPA supported the development of an EPEAT-related lifecycle environmental benefits calculator by the University of Tennessee Center for Clean Products. The calculator assesses environmental benefits from electronic product purchases based on specific EPEAT criteria and tiers. By entering information on unit sales of registered products provided by EPEAT subscribing manufacturers, it is possible to estimate the environmental benefits of overall EPEAT purchasing year by year.[i] Because the EPEAT system is in the process of shifting to an explicitly international registry, reporting on worldwide sales was somewhat complicated this year. Perhaps because of this new focus and transition process, voluntary reporting on sales outside the US, which had been robust in preceding years, fell to very low levels of participation in 2008.

With only 20-30% of EPEAT's manufacturer subscribers reporting on sales outside the US, the aggregate sales data reported this year cannot be viewed as representative. For this reason, this year's Environmental Benefits Report focuses primarily on US sales, since full reporting on US sales is obligatory under EPEAT's 2008 subscriber agreement. We anticipate being able to reliably report non-US sales and environmental benefits in future reports.

i For a detailed explanation of how the benefits reported here are assessed, please see the Methodology section and Appendix E..

2008 US Sales Benefits

Despite the economic downturn and generally flat computer sales in 2008, more than 44 million EPEAT-registered products were sold in the United States in 2008 — an increase of more than a million units over 2007, with a very significant — 57 percent — increase in sales in the notebook category paired with declines in both desktops and displays. The lifecycle environmental benefit of 2008 US sales of EPEAT products, compared to the purchase of conventional products, is huge.[ii] 2008 US purchases of EPEAT registered laptops, desktops, and monitors over conventional products will:

- Reduce use of toxic materials, including mercury, by 1021 metric tons, equivalent to the weight of 510,949 bricks
- Eliminate use of enough mercury to fill 149,685 household fever thermometers
- Avoid the disposal of 43 thousand metric tons of hazardous waste, equivalent to the weight of almost 22 million bricks.
- Eliminate 14,353 Metric Tons of solid waste, equivalent to what 7202 U.S. households generate in a year

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

- Savings of over 8.39 billion kWh of electricity — enough to power over 700,000 US homes for a year
- Reduction in use of 14.8 million metric tons of primary materials, equivalent to the weight of more than 114 million refrigerators
- Avoidance of 34.2 million metric tons of air emissions (including greenhouse gas emissions) and over 71,000 metric tons of water pollutant emissions
- Reduction of over 1.57 million metric tons of greenhouse gas emissions — equivalent to taking over one million US passenger cars off the road for a year

ii For a detailed explanation of how the benefits reported here are assessed, please see the Methodology section and Appendix E.

Remarkably, these benefits will not come at a cost premium — in fact, manufacturers and purchasers will actually save almost $794 million US dollars over the life of the EPEAT products sold in 2008, primarily from reductions in energy use throughout the product lifecycle.

In addition to these benefits, reported global sales demonstrate EPEAT's potential for reducing the environmental costs of computing worldwide. Despite only 27% of participating manufacturers reporting on their Canadian EPEAT sales and only 20% reporting on their Rest of World sales, the estimated benefit of EPEAT sales to these regions is still significant:

- Reduction of 2.8 million metric tons of primary materials
- Elimination of over a million kilograms of toxic materials, including enough mercury to fill 157,311 household fever thermometers
- 16,297 Metric Tons of solid waste eliminated
- Greenhouse gas emissions equivalent to removing 2.3 million US cars from the road for a year

Conclusion

The immense volume of EPEAT registered products sold in 2008, and the very significant environmental and financial benefits resulting, confirm the EPEAT system's success as a driver for environmental change in the electronic products market. Credit for these benefits goes to the many purchasers who are demanding EPEAT products, and to the manufacturers who are developing products and services to meet EPEAT's requirements and reduce environmental impact.

The year 2008 has seen robust continued growth in EPEAT product registrations. As more products are designed to meet the current EPEAT standard, as the current computer standard is updated, and as standards covering additional electronic products come on line these tangible benefits will continue to grow. Finally, EPEAT's expansion from a single registry to one that encompasses 40 countries will enable purchasers worldwide to buy more EPEAT registered products more easily, increasing the EPEAT system's impact over the coming years.

ABOUT THE GREEN ELECTRONICS COUNCIL

The Green Electronics Council is a program of the International Sustainable Development Foundation which is a 501(c)(3) not-for-profit organization located in Portland Oregon. The GEC was established in 2006 with a mission to inspire and support the effective design, manufacture, use and recovery of electronic products to contribute to a healthy, fair and prosperous world. Through its partnerships with the electronics industry and environmental organizations, government agencies, manufacturers and other interested stakeholders, the GEC:

- Implements market-driven systems to recognize and reward environmentally preferable electronic products; and
- Builds the capacity of individuals and organizations to design and manage the life cycle of electronic products to improve their environmental and social performance.

EPEAT is currently GEC's major project. However, in September of 2008, in partnership with the Yale Center for Green Engineering and Green Chemistry, GEC is hosting a forum to develop a vision and definition of "Sustainable Information and Communications Technology." In addition, GEC also conducts and publishes research related to electronics and the environment.

For more information, see www.greenelectronicscouncil.org.