

LABELLING IN THE ELECTRONICS SECTOR – IS EPEAT THE ANSWER?

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Keywords: green electronics; EPEAT; IEEE 1680; green purchasing; eco-label.

ABSTRACT

Recognising and rewarding electronics that have a high environmental performance is challenging. The rapid evolution of electronic products stands in stark contrast to the glacial evolution of product standards. Electronics are constantly redesigned and improved to provide ever new functions to users, and hence use a variety of materials. While product standards, created to define and measure environmental performance, evolve over years. In particular if they are to become accepted by the global market place as credible and scientific. To date, EPEAT occupies a unique space in the world of standards and eco-labels, connecting a product standard to an online registry to support services for purchasers wishing to specify EPEAT products. With its strengths and weaknesses, EPEAT presents an insightful case for study.

THE ELECTRONICS SECTOR

The worldwide market for computers is more than 350 billion US dollars or 350 million PCs and laptops, over 70% of which are purchased for business use (Gartner 2012). Overall, the electronics sector is characterized by rapid product turn-over, high complexity and high configurability. Regulatory requirements are increasing, thinking of the EU RoHS or WEEE Directives, focusing on hazardous substances and the product end-of-life. Customers are demanding products that go beyond legal requirements (Wendschlag 2012) and purchasers are increasingly choosing greener products. A 2012 study of 50 national governments revealed over half have mandates or guidelines for office IT equipment, as well as for food, lighting, furniture, construction, cleaning products, transportation and electricity (O'Rourke et al. 2013). As a consequence, eco-labelling and rating schemes have been developed in an attempt to give market recognition to products that attain higher levels of environmental performance. The Electronic Products Environmental Assessment Tool (EPEAT) is one of them.

THE EPEAT RATING SCHEME

EPEAT is a product rating scheme, which has become the one of the most widely used by purchasers and manufacturers alike. Over 120 million EPEAT registered products were sold in 2011 (GEC 2012). Launched in 2006, it now comprises more than 3,500 products from more than 50 manufacturers registered in 42 countries, which can be publicly accessed and searched for online (EPEAT 2013). EPEAT provides a tool for both manufacturers and purchasers of ICT hardware to assess the environmental impact of electronic products along their life cycle. This voluntary scheme has become adopted as large institutional buyers, such as governments, universities and enterprises, use it to specify electronics.

The EPEAT rating system is based on voluntary consensus standards, the IEEE 1680 family, which builds on international requirements and standards including Energy Star, the EU RoHS Directive, and Blue Angel. The IEEE 1680 series standards were developed by a multi-stakeholder group including manufacturers, recyclers, technical experts, purchasers, environmental advocates and governments. There are standards for three different product categories: computers and displays (IEEE 1680.1), imaging equipment (IEEE 1680.2) and TVs (IEEE 1680.3) – the latter two only released in late 2012. Each standard contains a set of required and optional criteria (s. Table 1), covering specific environmental impacts throughout the product life cycle and the supply chain. The products are rated in progressive tiers: Bronze for products meeting all required criteria and showing a high environmental performance; Silver for products meeting additionally at least 50% of the optional criteria; and Gold for products meeting all required criteria plus at least 75% of the optional criteria.

Table 1. IEEE 1680 Standards – Summary of Environmental Criteria

Performance category	Examples	Computers 1680.1		Imaging Eq. 1680.2		TVs 1680.3	
		Req.	Opt.	Req.	Opt.	Req.	Opt.
Product Specific Criteria							
Environm. sensitive materials	RoHS and beyond	3	8	4	7	3	9
Materials selection	Recycled content	3	3	4	3	3	3
Design for end-of-life	Ease of recycling	6	5	7	2	5	6
Product longevity/ LC extension	Warranties, spare parts	2	2	2	1	3	0
Energy conservation	Energy Star and beyond	1	3	2	4	1	4
Packaging	Recyclable, recycled cont.	3	4	5	2	5	2
Consumables	Paper, cartridges	-	-	4	2	-	-
Indoor air quality	Emission rates	-	-	1	0	-	-
Corporate Criteria							
End-of-life Mgt.	Take-back and recycling	2	1	2	2	2	2
Corporate performance	EMS, env. policy, report	3	2	2	3	2	3
Overall total number of criteria		23	28	33	26	24	29

In order to register products under EPEAT, manufacturers claim the criteria each product meets, confirming that they possess and are able to provide the supporting evidence at any time upon request. Initial registrations are accompanied by a process called Desk Review, whereby the registering organisation working with the manufacturer verifies their comprehension of the standard requirements and capacity to support declared criteria. Based



on this self-declaration the rating is granted. In addition, EPEAT conducts independent and ongoing verification to assure the accuracy of the declarations and thus secure the quality of the registry for purchasers. The verification results are publicly disclosed, revealing any non-conformances.

THE PC INDUSTRY'S PERSPECTIVE

The EPEAT rating scheme impacts businesses in the electronics industry in different ways and the awareness about it varies. This can be seen in the approaches to EPEAT, which are as versatile as the original equipment manufacturers (OEMs) themselves. Some large OEMs strive to register as many of their products in as many countries. Other OEMs chose to go for the high end performance and design all their products in compliance with Gold, but only register in few countries. Such goals are difficult to achieve for the smaller, local OEMs with less knowledge and capacity. Even awareness of the standard is not widespread with 75% of smaller "single country" OEMs knowing little or nothing about EPEAT (Microsoft 2012). Since governments are increasingly incorporating EPEAT requirements into their procurement specifications, EPEAT is decisive for the OEMs to qualify for public tenders. This leads to hotspots of local OEM commitment to EPEAT, so in Brazil of the 11 OEMs with EPEAT registered PCs, 7 are local to just Brazil (EPEAT 2013). Contrast that with Germany that has 8 OEMs registering PCs but all are multinational companies. Informal feedback from local OEMs shows some view the EPEAT standard as another challenge when competing for business competition with multinational OEMs.

EPEAT is an international standard with a global scope. However its origin in the US and its availability in English only means it is sometime perceived as an American standard. This perception is one barrier to its geographic expansion and to date large developing markets, such as India, are still absent in the registry. EPEAT is focused on the commercial rather than consumer space, and manufacturers focus their efforts on commercial products. For example HP's recent citizenship report announced that in 2012, 43.7% of commercial PCs shipped by HP were EPEAT Gold qualified, and an additional 10.9% were EPEAT Silver qualified (HP 2013). With the new certification for printers and imaging devices, and some online retailers such as Amazon (Amazon 2013) promoting EPEAT it may start to become recognised by more consumers. EPEAT is an open model with a publically searchable database of registered devices, enabling consumer access. However, in practise, consumer products may have a product identifier that differs from the product identifiers used in the public technical specifications, making it difficult for consumers to locate EPEAT-qualifying products in the EPEAT registry.

The recent explosion of new form factors, such as tablets, has highlighted the dilemma between offering a stable standard that OEMs can plan with, and the rapid product changes that can make a standard less relevant. The market questions, for example, whether tablets qualify within the standard EPEAT, and new notebook designs are pushing the boundaries of interpretation of the standard on questions on ease of disassembly and repair. Both OEMs and their customers are keen to evolve the standards to reflect this change, and EPEAT has an update process underway for the PC standard, but convening the relevant stakeholders and agreeing on public standards is not a fast process.



CONCLUSIONS

Despite shortcomings, EPEAT remains unique in the market place. Relative ease for purchasers is one key behind the rate of uptake of EPEAT. Specifically, purchasers can easily search for products online, there are a very large number of qualifying products which is key to the competitive bidding requirements in many organisations and the EPEAT organisation provides text that would-be green purchasers can add to their own purchasing contracts. The ongoing verification process is in place to assure purchasers they are selecting high performing products, and to advise manufacturers when a product falls out of conformance or needs updating.

For manufacturers, the intent is to enable fast registration and hence fast recognition in the market which is in contrast to the slow verification procedure behind other traditional eco-labels. The criteria within the EPEAT standards affect manufacturers in the design of products and services, but also recyclers and management of the product at the end of its use. For environmental and advocacy groups, the fact that the EPEAT standards cover multiple phases of the product life cycle and are tiered to promote ongoing improvement, also sets the standard apart.

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