ENVIRONMENTAL MARKETS ADD BUSINESS VALUE

AN OVERVIEW OF EPEAT®

Wayne Rifer
Agenda

• EPEAT in Brief
• Growth of EPEAT
• A case in Point – Use of Recycled Plastics
• Questions
What is EPEAT?

EPEAT is “a comprehensive environmental rating that helps identify greener computers and other electronic equipment”

– The most impactful green purchasing system for electronics
– System that …
  … rates individual products …
  … as Bronze, Silver or Gold …
  … based on a broad range of environmental criteria contained in international public consensus standards.
– Rates products as sold in 42 countries
– Registry: www.epeat.net
– Now covers PCs & Displays, Imaging Equipment, TVs
The EPEAT System

Standards + Registration = Registry
# IEEE 1680.1 Environmental Criteria for Computers

<table>
<thead>
<tr>
<th>Performance Category</th>
<th>Example</th>
<th>Required</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product-Specific Criteria</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmentally Sensitive Materials</td>
<td>RoHS &amp; beyond</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Material Selection</td>
<td>Recycled content</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Design for End-of-life</td>
<td>Ease of recycling</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Product Longevity/Lifecycle Extension</td>
<td>Warranties, spare parts</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Energy Conservation</td>
<td>ENERGY STAR &amp; beyond</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Packaging</td>
<td>Recyclable, recycled content</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Corporate Criteria</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End-of-life Management</td>
<td>Take-back and recycling</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Corporate Performance</td>
<td>EMS, environmental policy, report</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>Overall Total Number of Criteria</strong></td>
<td></td>
<td>23</td>
<td>28</td>
</tr>
</tbody>
</table>
Environmental Performance Tiers

- **EPEAT Bronze**—Meets all required criteria

- **EPEAT Silver**—Meets all required criteria and at least 50% of the optional criteria

- **EPEAT Gold**—Meets all required criteria and at least 75% of the optional criteria

<table>
<thead>
<tr>
<th></th>
<th>Desktops</th>
<th>Notebooks</th>
<th>Displays</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required</strong></td>
<td>22</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td><strong>Optional</strong></td>
<td>25</td>
<td>28</td>
<td>26</td>
</tr>
</tbody>
</table>
How do stakeholders use EPEAT?

- Institutional purchasers of electronics use EPEAT as a specification on purchase contracts to meet their green purchasing policies.
- Consumers increasingly use EPEAT to inform their purchase decisions.
- Electronics manufacturers use the standards as a guide to design greener products and services.
- Resellers, e-tailers, retailers use EPEAT as a simple way to identify and message greener electronics.
Purchasers that Specify EPEAT

- US Federal Government, all agencies
- Other national gov agencies: Canada, Australia, New Zealand, France, Brazil, Singapore, Mexico, Poland, etc.
- States/Provinces: 38 US states, most Canadian provinces, many other worldwide
- Municipalities: King County, LA County, Cities of San Jose, Seattle, San Francisco, Phoenix, etc.
- Higher Ed: University of California, Yale, Cornell, Penn State, U. Washington, etc.
- Private Sector: Nike, Microsoft, KPMG, McKesson, Kaiser Permanente, HDR, etc.
Number of Registered Products
Growth in Manufacturer Participation
## Global Unit Sales of EPEAT Registered Products

<table>
<thead>
<tr>
<th>YEAR</th>
<th>DESKTOPS</th>
<th>NOTEBOOKS</th>
<th>DISPLAYS</th>
<th>INTEGRATED SYSTEMS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>12,100,081</td>
<td>8,858,208</td>
<td>15,602,431</td>
<td>In DT number</td>
<td>36,560,720</td>
</tr>
<tr>
<td>2007</td>
<td>35,865,425</td>
<td>24,156,128</td>
<td>48,709,354</td>
<td>1,196,680</td>
<td>109,927,587</td>
</tr>
<tr>
<td>2008</td>
<td>19,512,831</td>
<td>31,671,055</td>
<td>38,612,720</td>
<td>1,145,067</td>
<td>90,942,673</td>
</tr>
<tr>
<td>2009</td>
<td>7,904,561</td>
<td>40,298,554</td>
<td>30,617,703</td>
<td>1,629,802</td>
<td>80,450,620</td>
</tr>
<tr>
<td>2010</td>
<td>8,021,529</td>
<td>61,694,686</td>
<td>20,115,100</td>
<td>3,532,100</td>
<td>93,363,415</td>
</tr>
<tr>
<td>2011</td>
<td>13,211,272</td>
<td>65,977,390</td>
<td>30,863,890</td>
<td>10,758,426</td>
<td>120,810,978</td>
</tr>
<tr>
<td>Cumul. TOTAL</td>
<td>96,615,699</td>
<td>232,656,021</td>
<td>184,521,198</td>
<td>18,263,075</td>
<td>532,055,993</td>
</tr>
</tbody>
</table>

*EPEAT OVERVIEW*  
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Product Standards in EPEAT

• Current
  – IEEE 1680.1 for PCs and Displays
  – IEEE 1680.2 for Imaging Equipment (printers, copiers, etc.)
  – IEEE 1680.3 for TVs
• In Process
  – UL 110 for Mobile Phones
  – NSF 426 for Servers
Do Markets Respond to Environmental Standards?

• A case in point – Requirements for use of post-consumer recycled plastic
PCR Criteria in the Three Active Standards

- **IEEE 1680.1 (computers, monitors), 2006**
  - Required – report amount of PCR in product
  - Optional – declare 10%+ (1 point) or 25%+ (2 points)

- **IEEE 1680.2 (printers), 2012**
  - Required – report amount of PCR in product
  - Required – Minimum PCR content
    - Amount is small – 5g PCR if >100g plastic in product
    - Accounts for supply disruptions
  - Optional – 5% or 10% depending on amount of plastic in product
  - Optional – 25%

- **IEEE 1680.3 (TVs), 2012**
  - Same as printers, except no required minimum criterion due to aesthetic concerns

- Server standard – under development
PCs & Displays Using Some PCR

- Desktops
- Notebooks
- Displays
- Total Products with PCR Content
PCs & Displays – Optional Higher Levels

10%

25%

- Desktops
- Notebooks
- Displays
- Total Products
Some PCR in Comparison with Total Products Registered
Conclusions:

In EPEAT optional criteria drive the market.

But incorporation of PCR takes time.

But PCR use is definitely practical in electronics.