



HP Sustainable IT Purchasing Guidance

White paper

Introduction	2
Product attributes	4
1. PCs (desktop & notebook computers) and monitors	4
2. Servers	6
3. Imaging & printing devices	7
4. Printing supplies	8
Generic attributes	10
5. Packaging	10
6. End-of-use services	10
7. Supply chain responsibility	12
8. Organization's performance	12
Environmental standards, self-declarations and eco-labels	13
9. Environmental standards and labels	13
10. Self-declaration vs. eco-labels	15
11. Electronic Industry Code of Conduct (EICC)	16
Appendix—sample questionnaire	17
Product attributes	17
Generic attributes	20
Social & environmental responsibility attributes	20

Introduction

This white paper examines some general principles for developing environmental procurement criteria for information technology (IT) products and services.

As sustainability goals become increasingly important to organizations, HP recommends some broad principles to ensure that procurement guidelines are useful, fair, understandable, and environmentally and economically viable for suppliers. We recommend that procurement guidance be based on the following principles:

Fairness and equitability—Procurement criteria should be fair and equitable, and consider environmental aspects throughout the life cycles* of different product options. Green procurement should not be viewed as a vehicle to favor certain goods and/or services. Rather, procurement criteria should ensure fair treatment for all suppliers.¹

Harmonization and recognition of international standards—Numerous environmental standards exist in the global marketplace. HP supports the general harmonization of the various standards and procurement schemes, particularly in the development of criteria, tools and testing methodologies.

Material restrictions—HP supports eco-label and green procurement criteria that restrict the use of certain substances and materials from use when they are scientifically proven to be a risk through recognized and published studies, restricted by internationally recognized laws, or when a technically feasible alternative exists that has shown to be safer for use and has lesser impact on the environment throughout the product life cycle.

Prioritization—The nature of the procuring organization, and the type and quantity of products purchased, determine the environmental impact associated with the procurement activity. For the criteria to deliver benefit, it should be derived from the overall environmental priorities of the procuring organization. Organizations drafting procurement criteria will benefit most from aligning criteria with the overall environmental priorities of the organization and from prioritizing green procurement specifications, based on good science and with a focus on the areas of greatest risk for the procuring organization. Procurement criteria that cite a maximum number of requirements and that are rated with the same level of importance risk rejecting many environmentally viable products that would otherwise meet the majority of criteria, but which fail on one minor point.

Measurability and verifiability—Environmental criteria should be used only if they are:

- Measurable—refer to an existing standard
- Comparable—allow comparison between competing products
- Verifiable by the purchaser

Examples of verification methods include confirmation from the supplier, self-declaration, and second- or third-party declaration. HP prefers programs in which producers self-certify and self-declare, but supports a number of eco-label programs. Many standards already operate effectively on a system of self-certification, where producers document their conformance through submittals or record-keeping (for example, Germany's

¹ In EU public procurement, the environmental attribute must be directly linked to the pro-cured matter.

Some organizations in the public sector may have internal constraints as to how these principles can be applied under the laws implemented and in force.

Blue Angel). A trail of auditable documents ensures conformance can be enforced. Appropriate weighting should be assigned to the environmental section in the tender. The weighting should reflect the procuring organization's priorities and is likely to differ from one procuring organization to another. Advising suppliers on these priorities and weighting is recommended, as this will help them assess and improve their environmental performance.

Process transparency—To ensure the environmental procurement program has realistic goals and expectations, HP recommends that the procuring organization engage in dialogue with the suppliers and other interested stakeholders. Transparent processes and discussion with stakeholders will give the procuring organization a clearer picture of what is happening in the marketplace and should help assess the impact, measurability and options associated with specific environmental performance criteria.

Compliance verification—In principle, there are two ways to verify compliance—self-declarations and eco-labels.

- Self-declarations are self-declared environmental claims as defined in ISO 14021. HP prefers self-declarations that support the June 2009 International ECMA-370 standard.
- Eco-labels are voluntary third-party systems that include a contractual relationship with an independent eco-label organization. At present, HP supports many eco-labels, including the U.S. EPEAT®-graded eco-label for personal computers and monitors, the TCO eco-label for monitors and German Blue Angel for select imaging equipment products. In some Asian and Pacific countries, eco-labels are a requirement for conducting business with the public sector.

The following sections outline some of the most commonly used sustainable procurement criteria for IT products, as well as HP's recommendations for specifying the criteria that comply with the principles summarized here.

Product attributes

The regulatory or voluntary requirements affecting IT organizations and their suppliers today cover many topics, including environmental management systems, product energy consumption, Design for Environment (DfE) and material content, as well as end-of-use treatment requirements for products and packaging. We recommend referring to these existing requirements and standards. This will help procuring organizations further define best practices and enable an apples-to-apples comparison that supports an informed choice. In addition, the following requirements and standards are commonly recognized by the electronics industry, and internationally accepted testing, reporting and verification processes exist.

1. PCs (desktop & notebook computers) and monitors

1.1 ENERGY STAR®

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy that helps save money and protect the environment through energy-efficient products and practices. ENERGY STAR qualification is required for products registered with EPEAT, a U.S.-based, graded eco-labeling system, and it's also a widely recognized standalone benchmark for energy-efficient PC equipment. ENERGY STAR has been adopted by many countries around the world. To purchase the most energy-efficient products, select configurations that meet current ENERGY STAR specifications.

1.1.1

Purchasing flat panels that are ENERGY STAR® qualified pursuant to the latest specification can make a big difference. According to the US Environmental Protection Agency, a monitor meeting

the 5.0 specification is typically about 40% more energy efficient than one meeting the previous specification (at the same resolution).

The Version 5.0 ENERGY STAR Displays specification covers computer monitors, digital picture frames and professional signage. The requirements for displays of less than 30 inches diagonal became effective October 30, 2009. The requirements for displays from 30 to 60 inches diagonal became effective January 30, 2010.

1.1.2

Desktop and notebook personal computers— Desktop and notebook personal computer families offer some configurations that meet ENERGY STAR specifications.

ENERGY STAR Version 5.0 for Computers covers desktop, integrated desktop and notebook computers; small-scale servers; thin clients; and workstations, and became effective December 2010.

1.2 EPEAT®




EPEAT is a U.S.-based graded eco-labeling system that helps purchasers evaluate, compare and select personal computers and monitors based on their environmental attributes. The EPEAT system currently covers desktop and laptop computers, thin clients, workstations, and computer monitors. For inclusion in the EPEAT registry, electronic products manufacturers must meet 23 environmental criteria in these areas:

- **Environmentally sensitive materials—**

Three are required, including compliance with European Restriction of Hazardous Substances (RoHS) directive.

- **Materials selection**—Three are required, including declaration of postconsumer recycled plastic content.
- **Design for end of life**—Six are required, including minimum 65 percent reusable/recyclable.
- **Product longevity/ life cycle extension**—Two are required, including upgradability with common tools.
- **Energy conservation**—One is required: ENERGY STAR.
- **End-of-life management**—Two are required, including provision of product take-back service.
- **Corporate performance**—Three are required, including a corporate report consistent with Performance Track the Global Reporting Initiative.
- **Packaging**—Three are required, including separable packing materials.

Products that meet the required environmental performance criteria may be registered in EPEAT by their manufacturers in 41 countries worldwide. Registered products are rated Bronze, Silver or Gold, based on 23 required and 28 optional environmental criteria.

EPEAT Rating			
Percentage of required environmental criteria met	100	100	100
Percentage of optional environmental criteria met	< 50	50–75	75–100

Source: www.epeat.net/learn-more/criteria-discussion/

1.3 ECMA-370 (The Eco Declaration)

The Eco Declaration provides environmental information for a specific product or product family in an industry-standard format developed by IT organizations in Sweden, Norway and Denmark. In 2006, Ecma International made it an international

standard. The Eco Declaration may be used for any IT product category. For personal computers and workstations, these are for the CPU only and do not include the monitor. Eco Declarations for HP personal computers can be found at: www.hp.com/hpinfo/globalcitizenship/environment/products/msds-specs.html

1.4 Acoustics

HP recommends that suppliers disclose sound power data measured and declared according to ISO 7779 and ISO 9296.

1.4.1

Products with no moving parts are exempt from this criterion.

1.5 Materials

HP recommends that suppliers provide information about their supply chain standards and supplier management processes that aim to keep regulated and restricted materials out of their products.

An example of such a chemical management standard is the HP General Specification on the Environment. The latest version can be found at: www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf

1.5.1

The supplier should provide products that meet material restriction requirements. For an example, procuring organizations should refer to the EU RoHS directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2002/95/EC).

1.5.2

Suppliers should ensure all batteries used in the product conform to the EU Directive on Batteries and Accumulators (2006/66/EC).

1.6 Design for Environment (DfE)

Effective Design for Environment programs typically focus on energy efficiency, design for reuse and ease of recycling, and packaging and materials innovation. Such DfE features can provide value to the user by extending the useful life of a product, making upgrades easier and enabling responsible recycling at the end of a product's useful life.

1.6.1

All molded plastic parts greater than 25 grams should be marked according to ISO 11469 and ISO 1043 parts 1–4.

1.6.2

If post-consumer recycled plastic content is included in the manufacture of the product, product manufacturers should measure the recycled plastic content as a percentage of the product's total plastics.

1.6.3

The product should allow for ease of upgradability, which can extend the product's life.

1.6.4

Manufacturers should ensure spare parts are available for a minimum number of years after purchase—five years, for example.

2. Servers

2.1 ENERGY STAR

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy that has been adopted by many countries around the world. It is a recognized standalone benchmark for energy-efficient servers.

2.1.1

To purchase the most energy-efficient models, select configurations that meet current ENERGY STAR specifications.

ENERGY STAR Version 1.0 for servers became effective May 15, 2009.

2.2 ECMA-370 (The Eco Declaration)

The Eco Declaration provides environmental information for a specific product or product family in an industry-standard format developed by IT organizations in Sweden, Norway and Denmark. The Eco Declaration may be used for any IT product category. Eco Declarations for HP servers can be found at:

www.hp.com/hpinfo/globalcitizenship/environment/products/msds-specs.html

2.3 Acoustics

The supplier should disclose sound power data measured and declared according to ISO 7779 and ISO 9296.

2.3.1

Products with no moving parts are exempt from this criterion.

2.4 Materials

HP recommends suppliers provide information about their supply chain standards and supplier management processes designed to keep regulated and restricted materials out of their products.

An example of such a chemical management standard is the HP General Specification on the Environment. The latest version can be found at: www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf

2.4.1

The supplier should provide products that meet material restriction requirements. For an example, procuring organizations should refer to the EU RoHS directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2002/95/EC).

2.4.2

Suppliers should ensure all batteries used in the product conform to the EU Directive on Batteries and Accumulators (2006/66/EC).

2.5 Design for Environment (DfE)

Effective Design for Environment programs typically focus on energy efficiency, design for reuse and ease of recycling, and packaging and materials innovation. Such DfE features can provide value to the user by extending the useful life of a product, making upgrades easier and enabling responsible recycling at the end of a product's useful life.

2.5.1

All molded plastic parts greater than 25 grams should be marked according to ISO 11469 and ISO 1043 parts 1–4.

2.5.2

If postconsumer recycled plastic content is included in the manufacture of the product, product manufacturers should measure the recycled plastic content as a percentage of the product's total plastics.

2.5.3

The product should allow for ease of upgradability, which can extend the product's life.

2.5.4

Manufacturers should ensure spare parts are available for a minimum number of years after purchase—five years, for example.

3. Imaging & printing devices

3.1 ENERGY STAR

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy that has been adopted by many countries around the world. It is currently the recognized benchmark for energy-efficient imaging and printing

3.1.1

ENERGY STAR standards currently exist for imaging equipment, including ink and laser printers, multifunction devices, copiers, fax machines and scanners. The current ENERGY STAR specification Version 1.2 for imaging equipment became effective on December 1, 2010. ENERGY STAR

Version 2.0 for external power supplies became effective November 1, 2008.

3.2 Chemical emission

All chemical emission data should be measured for the printing system (printer and supplies) and reported in accordance with ISO/IEC 28360:2007 or equivalent standards, such as ECMA-328 and RAL-UZ-122.

3.3 ECMA-370 (The Eco Declaration)

The Eco Declaration provides environmental information for a specific product or product family in an industry-standard format developed by IT organizations in Sweden, Norway and Denmark. The Eco Declaration may be used for any IT product category. Eco Declarations for HP imaging and printing products can be found at:

www.hp.com/go/ecodata

3.4 Acoustics

HP recommends suppliers disclose sound power data measured and declared according to ISO7779 and ISO 9296.

Products with no moving parts are exempt from this criterion.

3.5 Materials

HP recommends suppliers provide information about their supply chain standards and supplier management processes designed to keep regulated and restricted materials out of their products.

An example of such a standard is the HP General Specification on the Environment. The latest version can be found at:

www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf

3.5.1

The supplier should provide products that meet material restriction requirements. For an example, procuring organizations should refer to the EU RoHS directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2002/95/EC).

3.5.2

All molded plastic parts heavier than 25 grams should be marked with material codes according to ISO 11469.

3.5.3

Postconsumer recycled plastic content shall be reported for the product either as a percentage of total plastics or as the total weight contained in the product.

3.5.4

External plastic housing/external parts heavier than 25 grams should contain less than 0.1 percent chlorine and bromine by weight, attributable to brominated flame retardants (BFRs), chlorinated flame retardants (CFRs), and polyvinyl chloride (PVC) with the following exceptions:

- The EPEAT standards guidance states that parts containing 25% or more post-consumer recycled content are permitted up to 0.3 percent bromine and chlorine by weight. However, HP's General Specification for the Environment (GSE) does not allow any. This is an example where HP's standards exceed the eco-label requirement.
- Uses of brominated or chlorinated substances that are not classified as BFRs, CFRs, or PVC are allowed, but shall be disclosed if the bromine or chlorine content exceeds the applicable threshold.

4. Printing supplies

4.1 ECMA-370 (The Eco Declaration)

The Eco Declaration provides environmental information for a specific product or product family in an industry-standard format developed by IT organizations in Sweden, Norway and Denmark.

The Eco Declaration may be used for any IT product category. Eco Declarations for HP printing supplies can be found at:

www.hp.com/hpinfo/globalcitizenship/environment/products/msds-specs.html

4.2 Emissions

See imaging and printing device emission specification above (3.2). The supplies being purchase should have been tested in the printer in which they will be used.

4.3 Materials

4.3.1

The ink/toner formulation should not contain cadmium, chromium VI, lead, or mercury compounds as intentionally added constituents.

The ink /toner formulation should not contain azo-colorants that split into aromatic amines as specified in the EU Directives 2002/61/EC, 2003/3/EC as amended.

The ink/toner formulation should contain less than 1% by weight of short-chain chlorinated paraffins according the EU Marketing and Use Directive restricting the marketing and use of certain dangerous substances and preparations (2002/45/EC, as amended).

4.3.2

All plastic parts heavier than 25 grams should have material identification marking according to ISO 11469.

Newly manufactured parts should not contain substances above the following threshold concentrations:

Cadmium: 100 ppm
Chromium VI: 1000 ppm
Lead: 1000 ppm
Mercury: 1000 ppm
PBBs and PBDEs: 1000 ppm

For cartridges for electrophotographic systems, the

photoconductor drum should contain less than the following, by weight:

Cadmium: 100 ppm

Selenium: 1000 ppm

4.3.3

Both the retail packaging and the print cartridge should be clearly labeled with the name of the entity placing the product on the market.

4.4 Assessing print cartridges

In evaluating and selecting a print cartridge provider, there are numerous considerations to ensure the best performance, smallest environmental footprint and lowest total cost.

Sustainable manufacturing process—Cartridge manufacturing facilities certified under ISO 14001 meet an internationally recognized standard of environmental management systems.

Print quality and reliability—Reliability and print quality are key aspects of print cartridge performance, value and total cost. For example, multiple reprints as a result of poor print quality increase paper and energy consumption.

Cartridge print yield—Cartridges for high-volume printing produce more pages per cartridge and require less intervention, resulting in fewer cartridges that need to be recycled.

Cartridge packaging—Packaging is minimal, recyclable and/or made from recycled content.

Final cartridge disposition—Consider how print cartridges are processed after use, and look for vendors with an established, effective and transparent recycling program to ensure materials recovery /reuse and responsible disposal of residuals.

Generic attributes

5. Packaging

5.1 Material content

Ozone-depleting substances in packaging materials—Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) must not be used in plastic foam packaging materials; for example, as foaming agents. Methyl bromide sterilization must not be used on wood packaging.

Heavy metals in packaging materials—Packaging materials should not contain more than 0.01 percent (100ppm) by weight of lead, mercury, cadmium or hexavalent chromium.

Recycled content in packaging materials should be the highest percentage available in the market where the packaging is produced. Note that in some cases, high levels of recycled content in corrugated containers can significantly increase the weight of the container and not yield the lowest overall impact on the environment. Package designers should ensure that recycled content in packaging does not compromise product protection.

Suppliers should have already eliminated PVC in all packaging materials. However, if they have not, they should be able to demonstrate a thorough process for doing so, and in a reasonable timeframe.

HP's position on this is clear: the company has phased out PVC in all packing materials used to ship components either into HP, or into HP's partner factories.

For paper based packaging materials use of certified fiber is strongly encouraged to most effectively insure

the use of legally harvested fiber.

5.2 Recyclability

Package designers should select materials based on factors such as recyclability, which varies from region to region, and on the size and weight of the packaged product, which impacts the carbon footprint of transportation.

HP recommends avoiding the use of permanent adhesive to affix dissimilar materials together, because this will cause issues in material separation for recycling.

For materials used in packaging, the applicable recycling coding should be embossed or marked on all packaging components. The symbol, not including the lettering, must be between 1.27 cm (0.5 in) and 2.54 cm (1 in) in height. Smaller symbols are permitted when the part size does not allow the above minimum sizes requirements to be met. Parts that are too small to allow a readable symbol are exempt. The symbol and the lettering must be printed, molded or embossed into the base of a component or labeled. The coding must be durable, clearly visible and easily legible when the packaging is opened, and the abbreviations must appear in capital letters.

5.3 Packaging Efficiency

Packaging designers should select materials based on factors such as recyclability, which varies from region to region; and on the size and weight of the packaged product, which impacts the carbon footprint of transportation.

6. End-of-use services

Equipment that has reached its end of useful life and is unsuitable for reuse or resale should be dismantled and recycled responsibly in accordance with the R2 and/or e-Stewards recycling standards. Providers of this service should accept the responsibility for the equipment and recycling processes, and specify how and where the equipment will be processed and what will be done with the recovered materials (tracked all the way to final disposition).

6.1 Recycling

A supplier managing its own vendors should ensure that the vendor providing the recycling service has established transparent recycling standards or is certified to widely accepted recycling standards such as R2 or e-Stewards standards. Suppliers should also audit, qualify and measure recyclers against these standards to ensure they are met and understand how they are met.

A key element of high-quality recycling standards is that suppliers demonstrate that materials of concern are moved across country boundaries only in accordance with laws in importing, exporting and transit countries. It is also important to understand the overall technical knowledge and experience a supplier or recycling vendor has, and whether there are any serious recycling violations that are in legal litigation. Finally, a recycling vendor should be able to provide certificates of destruction if required.

6.2 Reuse

Extending the life of IT equipment, reducing environmental impacts and making products accessible to more people through hardware repair and refurbishment programs should be a priority. Several aspects should be taken into account when assessing reuse capabilities. A few examples include the redeployment of end-of-use equipment to be considered within the organization, or if the reuse supplier accepts used equipment in part for trade, replacement equipment or a monetary rebate.

Many organizations contribute the value of their

surplus equipment to nonprofit organizations as possible charitable donations. If an organization is considering partnering with a supplier or service provider, processes should be established for testing, evaluating and refurbishing the equipment, and if applicable, loading it with new software before marketing it.

The service provider should have specialized skills, including secondary market knowledge and data privacy standards.

6.3 Leasing

When equipment is leased, asset disposal or recovery usually becomes the responsibility of the lessor. HP recommends considering the following environmental concerns related to leasing:

6.3.1

The lessor may offer management of all IT equipment and not just what is obtained from a new purchase.

6.3.2

At the end of the lease term, the equipment could simply be returned to the lessor company. If returned, they should accept and manage disposal responsibly in accordance with applicable environmental laws.

6.3.3

Inquire whether the lessor possesses its own disposal capabilities and maintains strict business and process controls, or whether everything is outsourced.

6.3.4

Find out how the lessor manages returned equipment and assures that the chain of custody is tightly controlled and handled in accordance with applicable environmental regulations.

6.3.5

Check whether the lessor arranges for all logistics, including data privacy assurance, and can offer return options for obsolete, end-of-use or scrap equipment that is not leased. For example, check whether the leasing company offers revenue sharing for resold assets, offers cash for unwanted equipment and offers proof-of-destruction documents that include serial numbers of equipment that has been scrapped.

6.4 Data security

Computers, servers, cell phones, personal digital assistants and other intelligent devices are more than business tools; they're libraries filled with potentially sensitive information about the organization, employees and customers.

6.4.1

Secure disposal of retired equipment requires chain of custody and control as the hardware is inventoried, stored, shipped and evaluated for resale or disposal. Physical storage must be destroyed or thoroughly erased (wiped) to ensure information stays out of the wrong hands.

6.4.2

The service provider should offer flexible data erasure options that are compliant with the DoD 5220.22-M recommendations (or equivalent) for both PC and server technology with validated processes. Non-functional drives should be physically destroyed, and this process should be validated.

7. Supply chain responsibility

Any organization must consider several factors when selecting a socially and environmentally responsible vendor of electronic equipment. An organization's strength and experience in social and environmental responsibility and the way it manages its suppliers can be compared with other companies by asking for information about its commitment, activities and implementation, and how it demonstrates and reports results.

7.1 Code of conduct

The procuring organization should verify the supplier has rigorous supply chain standards and programs in place for ensuring its suppliers follow appropriate social and environmental practices, including:

- Policies
- Contract clauses

- Implementation tools
- Conformance monitoring/onsite audits
- Corrective actions
- Capability building to help suppliers improve
- Results reporting

7.2 Standards

Organizations may ask suppliers to self-declare the relevant processes, provide demonstrable results and refer to any existing supply chain codes suppliers require their own suppliers to meet. The Electronic Industry Code of Conduct (EICC) is an example of an industrywide supplier code that is widely recognized and adopted by office equipment suppliers.

7.3 Supply chain data

With complex global supply chains, it can be virtually impossible for the procuring organization to ascertain and verify the manufacturing practices applied throughout the entire product supply chain in all locations at any given time. Suppliers should be asked to provide data about or from other suppliers only in strict accordance with all applicable laws. Some information, such as audit reports, may not be available due to contractual requirements for confidentiality. As such, in some instances a procuring organization may need to limit its request to information not considered contractually confidential. Any requested information should also be easily comparable from one supplier to another. However, suppliers should expect to provide detailed reporting on their own company programs. It is the procuring organization's prerogative to request this information of suppliers.

8. Organization's performance

8.1 Environmental policy

Suppliers should have a written corporate environmental policy in place consistent with all aspects of the requirements laid out in the environmental policy section of ISO 14001.

Environmental standards, self-declarations and eco-labels

9. Environmental standards and labels

Over the past two decades, many standards and eco-labels have been developed in response to the increasing demand for information on the environmental attributes of products. Today there are a number of regional and national labeling programs in place with differing scopes and applications. HP, together with other suppliers, is actively involved in efforts to encourage and drive global harmonization and acceptance of environmental criteria.

The following schemes do not represent a complete list of available programs, but are chosen to demonstrate a selection of internationally recognized environmental self-declaration standards and labels HP recommends.

9.1 ENERGY STAR

ENERGY STAR is a United States government program to promote energy-efficient products. It is well known for its logo, which appears on many computer products and peripherals, as well as household appliances. The United States government and European public customers require the purchase of ENERGY STAR qualified products for its own use. The EPA has international country partnerships with Australia, Canada, European Union countries, Japan, New Zealand and Taiwan. More information can be found at:



- www.energystar.gov/index.cfm?c=products.pr_find_es_products for qualified products, general information about ENERGY STAR and office equipment

- www.energystar.gov/index.cfm?c=product_specs.pt_product_specs#off for office equipment product specifications
- www.eu-energystar.org/en/database.shtml for the EU database of compliant products

9.2 IEEE 1680—EPEAT

EPEAT, which stands for Electronic Product Environmental Assessment Tool, is designed to help purchasers in the public and private sectors evaluate, compare and select desktop computers, notebooks, thin clients, workstations and monitors based on their environmental attributes. There are 51 total environmental criteria in IEEE 1680; 23 are required, and 28 are optional. The U.S. government requires the purchase of EPEAT registered products for its own use. The IEEE 1680 standard for imaging equipment is in development and expected to be finalized in mid- to late 2012. An IEEE 1680 standard for server products is planned for the future.



More information can be found at the official EPEAT website and product registry: www.epeat.net/

9.3 ECMA-370—The Eco Declaration

The Eco Declaration is self-declared by the manufacturer and provides environmental information for a specific product or product family in an industry-standard format developed by IT organizations in Sweden, Norway and Denmark. Ecma International made it an international standard in 2006. The Eco Declaration may be used for any IT product category. For personal computers and workstations, these are for the CPU only and do not include the monitor.

More information can be found at: www.hp.com/hpinfo/globalcitizenship/environment/products/ecolabels.html

● THE ECO DECLARATION

9.4 Blue Angel—RAL-UZ 122 for printers & copiers; RAL-UZ 78 for computers

The Blue Angel is a German environmental certification for products and services. Introduced in 1978 as the world's first eco-label, it is well known in many countries, particularly in Europe.



More information can be found at:
www.blauer-engel.de/en/index.php

9.5 TCO

The Swedish TCO eco-label has criteria for IT products like displays and personal computers and is most commonly associated with computer monitors. These standards were formerly named by years, but since 2009, they have been named by version number. The latest version for monitors is TCO 5.0.



9.6 European country- or region-specific eco-labels

Some IT companies in the European market offer products that meet the Nordic Swan and EU eco labels (the Flower).

9.7 Asia-Pacific country-specific eco-labels

China, Korea, Japan and Taiwan have country-specific eco-labels that are required for government purchase of IT electronics products.



More information about other eco-labels and HP products can be found at:
www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html?jumpid=reg_R1002_USEN



9.8 LEED

LEED is a third-party certification program and the U.S.-accepted benchmark for the design construction and operation of high-performance green buildings. The rating system is managed by the U.S. Green Building Council, a nonprofit organization based in Washington, D.C. IT products are not LEED certified, but procurement of ENERGY STAR qualified products and printer supplies with recycled content, as well as use of recycling programs for hardware and supplies, impact credit points in the LEED Standard for Existing Buildings. More information can be found at:



www.usgbc.org/DisplayPage.aspx?CategoryID=19

9.9 Company-created environmental labels

Company-created environmental labels, like the HP Eco Highlights label, are used to promote products that meet environmental standards. These standards are determined by the company itself, and can include items such as energy savings, innovative material use and other environmental attributes. Typically, these types of company-owned labels are not considered ecolabels but rather communications tools to succinctly describe a product's environmental characteristics and benefits to the customer.



10. Self-declaration vs. eco-labels

Manufacturers and other organizations often address environmental design of products and packaging through voluntary eco-labels such as Blue Angel, Taiwan Green Mark, Canada's Environment Choice and many more. Many organizations see eco-labels as an easy way to identify products best suited for green procurement efforts. However, there are some shortfalls to today's eco-labeling methods.

Many of the eco-label criteria do not fulfill the general principles outlined in this document. It is common for eco-labels to include a maximum number of possible environmental criteria, rather than prioritizing the most important aspects. This leads to technical and practical issues within the method and makes it difficult for the methods to handle the number and the variety of products in the marketplace.

There are numerous environmental labeling schemes and procurement standards in the global marketplace for IT products. Many of these schemes have different environmental criteria; some have different measurement methodologies. This means that to obtain certifications for the different eco-labels around the world, global suppliers applying for such labels must duplicate the registration and testing process several times for the same attribute in order to meet the criteria for the differing national and regional requirements. When a manufacturer adopts a particular eco-label certification in one country, but not in another, the situation can create market confusion.

For example, a PC supplier that wants to apply for a specific eco-label must meet all the criteria for that method. The label is warranted only when all criteria are fulfilled.

All of these issues typically lead to added cost not only for the supplier, but also to the procuring organization, with no commensurate benefit for the customer or the environment.

HP recommendations on self-declaration

Based on these issues with existing eco-labeling methods, HP recommends the system of self-declaration, in which suppliers self-declare compliance of their products against pre-defined and harmonized criteria. The main benefit of this system is to maintain the most efficient procurement and supply processes.

Self-declaration is a common practice even within the aforementioned eco-labeling methods. Many of those methods operate effectively on a system of self-declaration, where suppliers document their conformance through submittals or record-keeping (for example, EPEAT, Blue Angel and Japan Green Purchasing Law). A trail of auditable documents ensures that conformance is verifiable. If verification is deemed necessary to check these documents, self-audits should be conducted on a random basis, which keeps the cost manageable but still provides the required assurance. Discovery of nonconformance to self-declared criteria could be subject to harsh penalties, and provides a clear incentive for accurate and true self-declaration.

One of the most comprehensive forms of self-declaration is The Eco Declaration (see section 9.3), which includes information on the environmental practices of the supplier as well as product features in areas such as environmental design, batteries, acoustic noise, electrical safety, energy consumption, chemical emissions, substances and materials included, and packaging.

The Eco Declaration scheme makes it easy to compare different suppliers and their products, because they all present the environmental features of their products in the same way, through a common industry-standard reporting form. The declaration has the advantage of being developed in accordance with international standards. It contains as many or more criteria than typical eco-label methods.

Because The Eco Declaration covers the most comprehensive set of criteria, HP recommends using it when prioritizing and setting threshold criteria for the environmental procurement of IT products.

HP recommendations on eco-labels as part of supplier verification

If a reference to an eco-label method is required as part of the supplier verification, HP recommends the requirements not be limited to one or only a few eco-labeling methods, but that they accept any recognized eco-label or self-verification system. Eco-labels in most countries and regions are voluntary systems. However, exclusively preferring an eco-label developed by an individual country for procurement guidance is not recommended, as this practice may be considered to create barriers to free trade and competition in some jurisdictions. HP recognizes the efforts to harmonize the eco-label criteria across the different eco-labeling programs. We believe that harmonization will make it easier for organizations to integrate environmental criteria into their procurement practice. Should an eco-label method be considered the means of eco-verification, we recommend that an eco-label list be provided as guidance of the range and type of eco-labels in existence and not as a complete and exclusive list of labels deemed acceptable. Other means of verifications, such as the ECMA-370 self-declaration standard, should also be accepted.

11. Electronic Industry Code of Conduct (EICC)

The Electronic Industry Code of Conduct outlines standards to ensure working conditions in the electronics industry supply chain are safe, that workers are treated with respect and dignity, that manufacturing processes are environmentally responsible, and that business practices are ethical. The goal is to improve conditions in the electronics supply chain. Development of the code was a multi-stakeholder effort, influenced by internationally recognized standards. More information is available at: www.eicc.info

Appendix

Sample questionnaire

Product attributes

		Y	N	N/A	PCs & Displays	Printing & Imaging	Supplies	Enterprise Servers
1. Multi attribute								
1.1	Is the product in the EPEAT registry?							
2. Materials								
2.1	Does/Do the product/products comply with EU or EU RoHS-like regulations (such as the EU RoHS Directive 2002/95/EC and its amendments)?							
2.2	Products do not contain asbestos (76/769/EEC, amendment 1999/77/EC).							
2.3	Products do not contain ozone-depleting substances: chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), halons, carbon tetrachloride, 1,1,1-trichloroethane, methyl bromide.							
2.4	Products do not contain polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), (76/769/EEC).							
2.5	Products do not contain short-chain chloroparaffins (SCCP) with 10–13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP as specified in Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002.							
2.6	Parts with direct and prolonged skin contact do not release nickel in concentrations higher than specified in 76/769/EEC, amendment 94/27/EEC.							
3. Batteries								
3.1	If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See 2006/66/EC.)							
3.2	Button cells used in the product do not contain more than 2% by weight of mercury. Other batteries or accumulators do not contain more than 0.0005% of mercury or 0.002% of cadmium. (See 2006/66/EC.)							
3.3	If batteries are permanently installed in the product, information on the environmentally hazardous substances and safe removal method is listed in the WEEE disassembly instruction. (See 2006/66/EC.)							
4. Consumable materials								
4.1	If a photo conductor (drum, belt, etc.) is used in the product, it does not contain cadmium in concentrations higher than specified in EU Directive 76/769/EEC and 91/338/EEC.							
4.2	If ink/toner is used in the product, it does not contain cadmium in concentrations higher than specified in EU Directive 76/769/EEC and 91/338/EEC.							
4.3	If the ink/toner formulation/preparation is classified as hazardous according to EU Directive 99/45/EC, and as amended, the product/packaging is labeled and a material safety data sheet (MSDS) in accordance with EU Directive 99/45/EC and 2001/58/EC is available.							

	Y	N	N/A	PCs & Displays	Printing & Imaging	Supplies	Enterprise Servers
5. Product packaging							
5.1							
5.2							
5.3							
5.4							
5.5							
5.6							
5.7							
5.8							
6. Treatment information (recycling/reuse/leasing)							
6.1							
6.2							
6.3							
6.4							
6.5							
6.6							
6.7							
6.8							
6.9							
6.10							
6.11							
6.12							
6.13							
6.14							
6.15							
6.16							

		Y	N	N/A	PCs & Displays	Printing & Imaging	Supplies	Enterprise Servers
6.17	Does the lessor possess its own disposition capabilities and maintain strict business and process controls, whether processed internally or outsourced?							
6.18	How does the lessor manage the returned equipment to assure the chain of custody is tightly controlled and handled in accordance with applicable environmental regulations?							
6.19	Will the lessor arrange for all logistics, including data privacy assurance?							
6.20	Can the lessor offer equipment return options for obsolete, end-of-use or scrap equipment that is not leased?							

7. Disassembly, recycling, product life, material and substances

7.1	Parts that have to be treated separately are easily separable.							
7.2	Plastic materials in covers/housing have no surface coating.							
7.3	Plastic parts >100g consist of one material or of easily separable materials.							
7.4	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.							
7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.							
7.6	Labels are easily separable. (This requirement does not apply to safety/regulatory labels.)							
7.7	Upgrading can be done (e.g. with processor, memory, cards or drives).							
7.8	Upgrading can be done using commonly available tools.							
7.9	Spare parts are available for 5 years after end of production.							
7.10	Service is available for 5 years after end of production.							
7.11	Electrical cable insulation material of power cables are halogen-free (including PVC).							
7.12	Electrical cable insulation material of signal cables are halogen-free (including PVC).							
7.13	All cover/housing plastic parts >25g are halogen-free.							
7.14	All printed circuit boards (without components) >25g are halogen-free.							
7.15	Chemical specifications of flame-retardants in cover/housing plastic parts >25g are in accordance with ISO 1043-4.							
7.16	Chemical specifications of flame retardants in printed circuit boards (without components) >25g are in accordance with ISO 1043-4.							
7.17	Plastic parts >25g are free from flame retardant substances/preparations above 0.1% classified as R45, R40, R46, R48, R50, R51, R53, R60, R61 and any combination of these (67/548/EEC).							
7.18	Light sources are free from mercury. If mercury is used: Number of lamps: _____ and max. mercury content per lamp: _____mg							

8. Energy consumption

8.1 The product meets the energy requirements of ENERGY STAR or others.
Specify: _____

9. Emissions

9.1 The product acoustic noise is tested according to ISO 7779 and declared in accordance with ISO 9296.

9.2 The product chemical emission is tested in accordance with ECMA-328.

	Y	N	N/A	PCs & Displays	Printing & Imaging	Supplies	Enterprise Servers
10. Consumable materials for printing products							
10.1							
10.2							
10.3							

Generic attributes

	Y	N	N/A
1. Organization information			
1.1			
1.2			
1.3			
1.4			
1.5			
1.6			
1.7			

Social & environmental responsibility attributes

Example questions that can provide value-added differentiators that could make one or two brands stand out as a partner of choice.

	Y	N	N/A
1. Commitment			
1.1			
1.2			
2. Governance			
2.1			
2.2			
2.3			
2.4			
2.5			

3. Activities / Implementation

- | | | | | |
|------|--|--|--|--|
| 3.1 | What is the company's total supply base (how many suppliers)? | | | |
| 3.2 | How many factories manufacture your products? | | | |
| 3.3 | In which countries are the products manufactured? (Be specific as to which products.) | | | |
| 3.4 | What proportion of internal commodity managers/buyers have been trained on social and environmental responsibility requirements for suppliers? | | | |
| 3.5 | How do you assess risk in the supply chain? Describe your social and environmental responsibility risk assessment process. How is it applied? | | | |
| 3.6 | Do you have social and environmental responsibility requirements in your supplier contract clauses? (Provide copy of contract clause.) | | | |
| 3.7 | How many suppliers are engaged in the social and environmental responsibility program and have received SER requirements? | | | |
| 3.8 | How many suppliers have completed the Electronic Industry Code of Conduct (EICC) self-assessment questionnaires? | | | |
| 3.9 | What do you do with the results of the self-assessment questionnaires? | | | |
| 3.10 | How many supplier factories have you physically audited to review their social and environmental responsibility practices? | | | |
| 3.11 | What is your corrective action plan process after you visit the suppliers' factories? | | | |
| 3.12 | What are the findings of the visits/audits? | | | |
| 3.13 | What is your process for managing your suppliers' suppliers? | | | |

4. Demonstrable results

- | | | | | |
|------|--|--|--|--|
| 4.1 | Does your company publicly report results of its supply chain social and environmental responsibility program? (Global citizenship report, etc.) | | | |
| 4.2 | What changes have been made in the supply chain because of your program? (Case studies, etc.) | | | |
| 4.3 | How does the company measure progress? | | | |
| 4.4 | Does your company have third-party validation of supplier audit results? | | | |
| 4.5 | Have press releases, nongovernmental organizations accounts or reports been published about the company's social and environmental responsibility program? | | | |
| 4.6 | What external social and environmental responsibility activities is your company involved in? (EICC, Global e-Sustainability Initiative, Ethical Trading Initiative, etc.) | | | |
| 4.7 | Number of suppliers trained to implement social and environmental responsibility requirements and improve SER practices? | | | |
| 4.8 | Number of workers in factories that have been provided with social and environmental responsibility worker training programs? | | | |
| 4.9 | Are nongovernmental organizations working directly with your company on factory programs and improvements? | | | |
| 4.10 | Are metrics collected to validate the business case of social and environmental responsibility? | | | |

5. Additional considerations

- | | | | | |
|-----|--|--|--|--|
| 5.1 | Environmental differentiation of products (EPEAT, packaging materials, power consumption, TCO for monitors, Blue Angel for some imaging equipment, etc.) | | | |
| 5.2 | Energy and climate change programs | | | |
| 5.3 | Product take-back programs (recycling, reuse, etc.) | | | |
| 5.4 | Company has comprehensive environmental life cycle of product (design for environment through to end of use). | | | |



Note: In EU public procurement tenders, several of the listed product environmental attributes and company programs might not be appropriate in EU Public tenders.

ENERGY STAR and the ENERGY STAR mark are registered U.S. marks

© 2011 Hewlett-Packard Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

September 2011 Revision