



# Environmentally Preferable Computers

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## INTRODUCTION

Computers and peripherals often contain toxic materials and are energy intensive. Environmentally preferable purchasing of electronics considers advanced product designs, technology and manufacturing processes that have less impact on the environment, better energy efficiency, longer product life and trade-in or trade-up value. They're also more easily recycled and it is the producer's responsibility to offer proper end-of-life disposition of obsolete equipment.

According to a recent Consumer Electronics Association (CEA) report *"Going Green: An Examination of the Green Trend and What it Means to Consumers and the Consumer Electronics Industry,"* consumer electronics and computers account for approximately 15% of your household energy consumption. Of that energy, at least 35% of it is used when your devices are sitting idle or turned off. Now consider that the average U.S. household now owns approximately 27 consumer electronics devices (and growing). It's expected that over the next 5 years this percentage will increase to 20%, which is the same energy consumption used for heating/ cooling, or lighting your homes. According to this same report, 89 percent of households want their next television to be more energy efficient.

## GUIDELINES AND CERTIFICATIONS

Increasing numbers of organizations are becoming involved in the analysis of environmental attributes of products. Among the proliferating "green" labels in the marketplace are Blue Angel, Nordic Swan, Energy Star, EPEAT and many others. Manufacturers and trade associations are making their own initiatives, as well. For example, Fujitsu Siemens has launched its own "Green IT" label

There are now tools available to help assess energy consumption and other attributes of environmentally preferable products:

### **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 protects the environment through energy efficient products and practices. Energy Star covers many product categories, such as electronics, appliances, heating and cooling and lighting, etc, not just computers.

### **Energy Star Low Carbon IT Campaign**

The EPA has a new “Energy Star Low Carbon IT Campaign,” where organizations take an online pledge to activate power management features on their monitors and computers to save energy and reduce their carbon footprint. Organizations can increase energy savings further by purchasing Energy Star qualified computers and monitors. When organizations join this campaign, EPA provides free assistance to help implement power management, provides an estimate of the organization's energy and carbon savings, and affords official recognition from the agency.

### **Electronic Product Environmental Assessment Tool (EPEAT)**

Electronic Product Environmental Assessment Tool (EPEAT) is a procurement tool to help institutional purchasers in the public and private sectors evaluate, compare and select desktop computers, notebooks and monitors based on their environmental attributes. EPEAT also provides performance criteria for the design of products, and provides an opportunity for recognition for a manufacturer's efforts to reduce the environmental impact of its products.

There are 23 required criteria and 28 optional criteria. They are divided into the following eight categories:

- Reduction/Elimination of Environmentally Sensitive Materials (3 required; 8 optional)
- Material Selection (3 required; 3 optional)
- Design for End of Life (5 required; 6 optional)
- Product Longevity/ Life Extension (2 required; 2 optional)
- Energy Conservation (1 required; 3 optional)
- End of Life Management (2 required; 1 optional)
- Corporate Performance (3 required; 2 optional)
- Packaging (3 required; 4 optional)

EPEAT identifies EPEAT registered products in one of three environmental performance tiers -- Bronze, Silver or Gold.

- Bronze: Product meets all 23 required criteria
- Silver: Product meets all 23 required criteria plus at least 14 optional criteria.
- Gold: Product meets all 23 required criteria plus at least 21 optional criteria.

### **Electronics Environmental Benefits Calculator**

Supported by US EPA, the University of Tennessee Center for Clean Products developed an Electronics Environmental Benefits Calculator (EEBC) which allows purchasers or other parties to calculate the specific environmental benefits from the purchase of EPEAT registered computers and monitors.

## **EcoLogo**

EcoLogo is a North American standard and certification program (originated in Canada). They have set criteria for hundreds of categories and certified thousands of products. EcoLogo's environmental standards are verified by a third party auditor. They recently teamed up with EPEAT.

## **Nordic Swan**

Nordic Ecolabelling is a voluntary license system where the applicant agrees to follow certain environmental and health criteria

## **Blue Angel**

The Blue Angel (Blauer Engel) is a German certification for products and services that have environmentally preferable aspects.

## **TCO Development**

TCO labelling is an international company that certifies products to be environmentally preferable.

## **Green IT**

This is a self-certification of products from Fujitsu-Siemens. They base some of their product points on Energy Star, TCO and other labels.

## **Verdium**

Computer software that places PCs into lower power settings when not in use. This helps reduce CO2 emissions by reducing PC energy consumption. There is a program for home use and a networked software program called "Surveyor." The program will help quantify savings and payback periods.

## **80 Plus**

80 PLUS is an electric utility-funded incentive program to integrate more energy-efficient power supplies into desktop computers and servers. Participating utilities and energy efficiency organizations across North America have contributed over \$5 million in incentives to help the computer industry transition to 80 PLUS certified power supplies.

Sample Procurement spec/guideline:

### *Energy-Efficient Power Supplies*

Preference will be given to bids that include 80 PLUS® certified power supplies in desktop computers, and servers with non-redundant power supplies (desktop-derived and 1u).

## **USAGE HISTORY AND EXPERIENCE**

King County purchases most desktop computer equipment through centralized contracts. The county uses the Electronic Products Environmental Assessment Tool, or EPEAT, an environmental procurement tool sponsored by the Environmental Protection Agency (EPA) and managed by the Green Electronics Council to evaluate, compare and select desktop computer, laptops and monitors based on their environmental attributes. The county has a policy to encourage agencies to buy EPEAT compliant products.

In 2008, the primary vendor for purchases of desktop computers, laptop computers and monitors supplied the county with 3,200 EPEAT compliant products. 80% of the desktops and laptops met the EPEAT gold rating, which means they met the 23 required criteria plus at least 75% of the optional criteria.

The Electronics Environmental Benefits Calculator developed for the EPA, estimates the environmental and economic benefits of purchasing EPEAT-registered products. According to its calculations, King County saved energy equivalent to powering 108 US households per year and achieved greenhouse gas

reductions equivalent to 73 passenger cars. To find out more about the calculator, visit [Electronics Environmental Benefits Calculator](#).

In 2008, the Office of Information Resource Management (OIRM) installed energy savings software on networked computers that powers them down when not in use. Although too early for statistics, the software seems to be performing as intended.

## **BID AND CONTRACT LANGUAGE**

King County adopted Executive Policy “[Empowering Development and Implementation of Strategies for E-Waste Reduction](#)” in 2007 that encourages agencies to purchase environmentally preferable computers with a certification such as EPEAT:

King County plans to do a large procurement in 2009 for a new five year computer contract. In the mean time, the county has drafted the following language for small purchases:

### **Bid Language**

#### **One Time Buy**

All desktops, laptops, computer monitors and other electronic equipment eligible for registration under the Electronic Products Environmental Assessment Tool (EPEAT) program, are required to have achieved Bronze registration or higher. The registration criteria and a list of all registered equipment are provided at <http://www.epeat.net>. All equipment offered must be registered at the time bids are due.

#### **Reporting**

Contractors are required to provide quarterly reports quantifying the EPEAT registered and unregistered products purchased under this contract. The report, in a format acceptable to King County, shall identify the detail required by King County, which may include but is not limited to, type of product, quantity of product purchased, whether it is registered or unregistered and at what level it is registered with EPEAT.

### **DRAFT language from EPEAT**

#### **Recommended Contract Language**

U.S. Federal Agency purchasers are encouraged to use the contract language developed by the U.S. Federal Electronics Challenge network when referencing EPEAT. (See below.)

All other purchasers are encouraged to use the following contract language to ensure the products they buy meet the EPEAT standard:

All desktops, laptops, and computer monitors provided under this contract are required to have achieved Bronze registration or higher under the Electronic Products Environmental Assessment Tool (EPEAT). EPEAT is a procurement tool designed to help large volume purchasers evaluate, compare, and select desktop computers, laptops, and monitors based upon their environmental attributes as specified in the consensus-based IEEE Standard for the Environmental Assessment of Personal Computer Products (1680).

Additional consideration will be provided for products that have achieved EPEAT Silver or EPEAT Gold registration. The registration criteria and a list of all registered equipment are provided at <http://www.epeat.net>.

In addition to requiring EPEAT registration, purchasers are also encouraged to track their EPEAT purchases. The information requested in the contract language below can then be used to calculate the environmental benefits of an organization’s EPEAT purchases using a calculator being developed under an EPA grant.

Suppliers are required to provide quarterly reports quantifying the number of EPEAT registered products purchased under this contract. The information must be reported in a matrix providing the following data for the current quarter, the fiscal year, and the duration of the contract.

**Draft Reporting document from EPEAT**

	Unregistered		EPEAT Bronze		EPEAT Silver		EPEAT Gold		Total	
	No. of products	\$ Spent	No. of products	\$ Spent	No. of products	\$ Spent	No. of products	\$ Spent	No. of products	\$ Spent
Desktop Computer Units										
Laptops / notebooks										
Monitors (LCD)										
Monitors (CRT)										
Total										

**RECYCLING INFORMATION**

**King County**

King County recycles obsolete electronics equipment through a local recycler using the State of Washington Contract #11601: [Spent Lighting, Computer and Electronic Equipment Collection, Reuse, Recycling and Disposal Services](#). Please see the [Electronics Recycling](#) page for more information.

**State of Washington**

The State of Washington implemented a free electronics recycling plan in 2009. Money from manufacturer’s have been set aside to pay for the recycling of computers, monitors, laptops and televisions from residents and small businesses. There is no charge for consumers.

- [FREE Washington State Electronics Recycling](#)

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- [Nordic Swan](#)
- [Green IT](#)
- [Verdium](#)
- [80 Plus](#)
- [Greener Computing - free weekly newsletter](#)
- [Consumer Electronics Association \(CEA\)](#)
- [Climate Savers](#)