



Office of the
Federal Environmental Executive

Promoting sustainable environmental stewardship throughout the federal government

Recent Developments in Federal Electronics Stewardship



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Why Focus on Electronics?

- **Rapid advances in information technology (IT) have resulted in:**
 - **Increased sales of electronics worldwide**
 - **Increased energy consumption**
 - **A new stream of obsolete and discarded products**

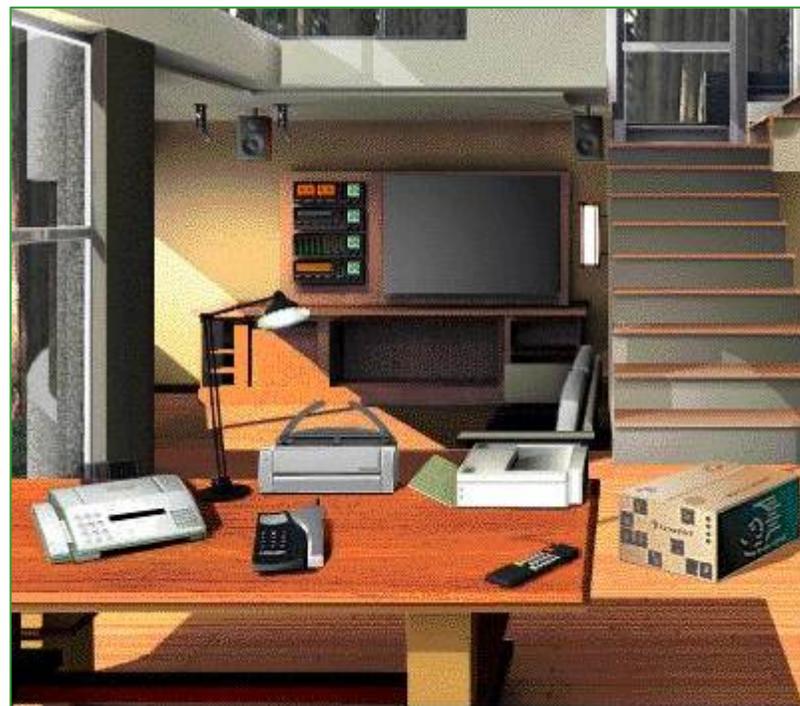




Purchasing Facts

Americans own
some **2 billion**
electronic
products – about
25 products per
home!!!

(Consumers Electronics Association)





Use Facts

- U.S. has more than **180 million** computers in use, which consume nearly 58 billion kWh/year, or about **2%** of the U.S. annual electricity use
- PCs and monitors consume between **5 to 13%** of all the electricity use in the office
- It is estimated that **66%** of the electricity consumed by PCs and monitors is wasted





End-of-life Facts

- U.S. homes and businesses discard an average of **130,000 PCs** a day
- In 2005, only about **330,000 tons** of consumer electronics were recycled (**12.5%**)
- Certain types of electronic equipment contain materials such as lead, mercury, and other toxic constituents
- Potential adverse effects on human health and the environment if improperly managed during disposal





The Federal Electronics “Footprint”

- The Federal government is spending an average **\$68 billion** annually in IT products and services
- While computer hardware is generally expected to last 7 years, federal equipment is normally used for an average of **3 years**
- The Federal government disposes of an estimated **half a million** computers yearly!





Federal Electronics Stewardship

- Eleven Federal agencies and EOP, signed a historic **MOU** on November 15, 2004
- Agencies committed to:
 - **Increase** the demand for greener electronic products
 - **Promote** best management practices
 - **Reduce** the economic and environmental life cycle costs
 - **Encourage** growth of the infrastructure for reuse, demanufacturing, and recycling of electronics





Executive Order 13423

“Strengthening Federal Environmental, Energy, and Transportation Management”

- **Signed on January 24, 2007**
- **Consolidates prior E.O.s and integrates sustainable practices**
- **Adopts Memorandums of Understanding:**
 - **High Performance Buildings**
 - **Electronics Stewardship**
- **Sets goals in several sustainable areas including electronics stewardship**
- **New goals as stringent or more stringent than before**





E.O. 13423 Electronics Stewardship Goals

**Section 2 (h) Goals for Agencies --
ensures that:**

(i) When acquiring an electronic product to meet its requirements, meets **at least 95 percent of those requirements with an **Electronic Product Environmental Assessment Tool (EPEAT)-registered** electronic product, unless there is no EPEAT standard for such product.**





E.O. 13423 Electronics Stewardship Goals

**Section 2 (h) Goals for Agencies --
ensures that:**

**(ii) Enable the ENERGY STAR
feature on agency computers and
monitors.**





E.O. 13423 Electronics Stewardship Goals

**Section 2 (h) Goals for Agencies --
ensures that:**

**(iii) Establish and implement
policies to **extend the useful life** of
agency electronic equipment.**





E.O. 13423 Electronics Stewardship Goals

**Section 2 (h) Goals for Agencies --
ensures that:**

**(iv) Use environmentally sound
practices** with respect to
disposition of agency electronic
equipment that has reached the
end of its useful life.





Executive Order 13423

- **In implementing the new E.O.:**
 - **Existing and new working groups will help develop the necessary tools and guidance**
 - **FESWG – Federal Electronics Stewardship Working Group**
 - **Progress will be measured and reported by the OMB scorecard process**
-



New OMB Scorecards

- Tracks how well Feds are executing **target** management initiatives:
 - Environmental
 - Energy
 - Transportation
- Resembles scorecard structure in President's Management Agenda (PMA)

		
<p>Agency:</p> <p>Met $\geq 75\%$ green and $\leq 5\%$ red EMS facility-level metrics per the EMS Scorecard.</p> <p>Has a comprehensive, written affirmative procurement program (APP) that includes all green products and services covered in EO 13423, demonstrates compliance in representative acquisitions (e.g., construction, O&M, office supplies, etc.); monitors compliance annually; develops corrective action plans to address shortcomings and conducts training.</p> <p>Demonstrates implementation of guiding principles for new, existing and leased buildings; consistent with EO and EPACT'05; and is on track to meet 15% goal in EO 13423. (Developed and implementing a comprehensive Sustainable Building Implementation Plan (SBIP) for achieving the goal by 2015.)</p> <p>Demonstrates comprehensive implementation of a sustainability program for Electronic Stewardship (ES), that at a minimum promotes the purchase, operation, and use of end-of-life management strategies for electronic assets consistent with EO 13423 Electronics Stewardship goal and implementing instructions.</p> <p>Has a comprehensive Compliance Management Plan (CMP) and implementation strategies in accordance with the 11/04 President's Management Council (PMC) Compliance Initiative Memorandum, EO 13423 & Implementing Instructions, and has implemented at least operational recommendations.</p>	<p>Agency:</p> <p>Has $< 15\%$ red on facility metrics per the EMS scorecard.</p> <p>Has an APP for all green products and services covered in EO 13423; and can demonstrate compliance in representative acquisitions (e.g., construction, O&M, office supplies, janitorial, etc.).</p> <p>Has policies in place for and is incorporating guiding principles into all new design contracts for construction, major renovations and leases (those awarded in FY 2007 and beyond).</p> <p>Has developed an Electronic Stewardship program and is on track in implementing 100% of planned milestones to meet the EO 13423 ES goal, no later than 2010.</p> <p>Has a comprehensive CMP and implementation strategies in accordance with the 11/04 President's Management Council (PMC) Compliance Initiative Memorandum, EO 13423 & Implementing Instructions.</p>	<p>Agency:</p> <p>Has $\geq 15\%$ red on facility metrics per the EMS report card.</p> <p>Has no APP or only has an APP for some products and/or cannot demonstrate inclusion of requirements for green products in representative acquisitions.</p> <p>Cannot demonstrate incorporation or compliance with guiding principles on new construction, major renovations, or leases, and/or has not developed a sustainable buildings program.</p> <p>Does not have a program to implement the EO 13423 Electronic Stewardship goal by 2010 and/or has missed planned ES milestones.</p> <p>If applicable, has not selected initiatives for a CMP and/or developed a strategy with the Federal Environmental Executive in accordance with the PMC Compliance Initiative, EO 13423 & Implementing Instructions.</p>



New OMB Scorecards

- Address existing requirements (E.O.s/ statutes/MOUs)
- Focus on Progress/Results
 - **Green** – successful
 - **Yellow** – mixed results
 - **Red** – unsatisfactory
- Consolidate actions/plans
- Hold agencies accountable
 - Updated every January/ July

Focus on weaknesses and improvements!

		
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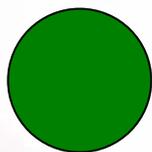


OMB Environmental Stewardship Scorecard

- **Includes 5 metrics:**
 - **Meet Environmental Management Systems (EMS) protocol for Agency and all appropriate facilities**
 - **Comprehensive Green Purchasing Program**
 - **Implement Sustainable Green Building Program**
 - **Implement Sustainability Program for Electronics Stewardship**
 - **Compliance Management Plan & Implementation Strategy**
-



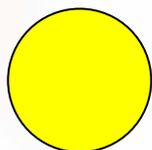
OMB Scorecard Standards for Success



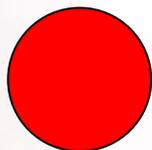
Demonstrates comprehensive implementation of a sustainability program for Electronics Stewardship (ES), that at a minimum promotes the purchase, operation, and use of end-of-life management strategies for electronic assets consistent with the E.O. 13423 ES goal and implementing instructions.



OMB Scorecard Standards for Success



Has developed an ES program and is on track in implementing 100% of planned milestones to meet the E.O. 13423 ES goal, no later than 2010.



Does not have a program to implement the E.O. 13423 ES goal by 2010 and/or has missed planned ES milestones.



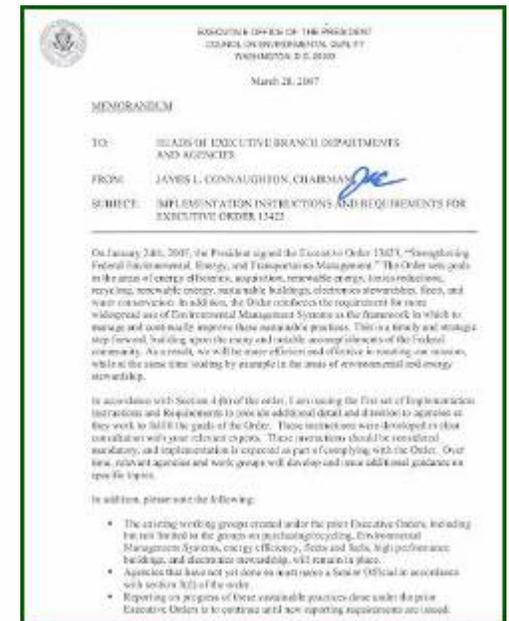
E.O. 13423 Implementing Instructions ***Electronics Stewardship Plan***

- **Each agency shall develop and submit to OFEE a plan to implement electronics stewardship practices for all eligible owned or leased electronic equipment in support of the goals in section 2(h) of the E.O.**
 - **The plan shall:**
 - **Address the three life-cycle phases for electronics assets: acquisition, operations and maintenance, and end-of life**
 - **Be developed and implemented in coordination with the energy, environmental, information technology, acquisition, financial and property officers, and facility managers and maintenance personnel, within each agency**
-



EO 13423 Implementing Instructions *Electronics Stewardship Plan*

- The Plan shall address how to:
 - Acquire 95 percent EPEAT™ registered products
 - Ensure that ENERGY STAR® features are enabled on 100 percent of computers and monitors
 - Have policies and programs to extend the useful lifetime of electronic equipment
 - Ensure that all non-usable electronic products are reused, donated, sold, or recycled using environmentally sound management practices at end of life
 - Address reporting procedures to be used in measuring progress toward meeting goals





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Federal E-initiatives





Electronic Product Environmental Assessment Tool (EPEAT™)

- **EPEAT is an easy to use environmental procurement tool designed to help institutional purchasers compare and select desktop computers, laptops and monitors based on their environmental attributes**
- **Standard comprised of 51 environmental performance criteria (IEEE 1680 American National Standard for the Environmental Assessment of Personal Computer Products)**
- **System for identifying and verifying products which meet these criteria (www.epeat.net)**





EPEAT™ Tiers



- EPEAT Bronze – Meets all **23 mandatory** criteria



- EPEAT Silver – Meets all mandatory criteria and at least **50%** of the optional criteria



- EPEAT Gold – Meets all mandatory criteria and at least **75%** of the optional criteria
-



EPEAT™ Next Products

- **EPEAT solicited input from stakeholders to identify and prioritize the next product sets**
- **The four priority product categories are:**
 - **Imaging Products (Printers, copiers, etc.)**
 - **TVs**
 - **Servers**
 - **Handhelds (cell phones, PDAs, etc.)**

***To join a workgroup, please send an email to
Holly Elwood at elwood.holly@epa.gov***



Design for the Environment (DfE)

- **EPA's DfE program has worked closely with the electronics industry to help green the manufacturing of electronics:**
 - **Greening the manufacture of printed wiring boards**
 - **Assessed the life cycle impacts of CRTs and flat panel displays**
 - **Assessed the life cycle impacts of tin-lead and lead-free solders used in electronics**
 - **Evaluating flame retardant options in printed circuit boards**





ENERGY STAR® Qualified Products

- **EPA and DOE's ENERGY STAR program defines specifications for energy efficient products and qualifies products that meet those standards**
- **Recently revised specification (Tier 1) for desktop and notebook computers, workstations, integrated computers, desktop-derived servers and game consoles**
- **Currently revising specifications for computers (Tier 2), monitors, imaging equipment (Tier 2), and televisions**
- **Developing a new specification for enterprise servers**





ENERGY STAR Power Management

- **ENERGY STAR also provides support for the enabling of power management features on qualified electronics**
 - **Open source and commercial software solutions**
 - **ENERGY STAR contractors can also provide free technical assistance**

- **Power management can save an organization \$25-\$75 per computer per year!**





Computers for Learning (CFL)

- **GSA's CFL program transfers excess Federal computer equipment to schools and educational nonprofit organizations**
- **During FY 2004 - 06, CFL successfully transferred a total of 7,035,472 computers and 7,088 printers to schools and educational non-profit organizations**





Plug-In To eCycling

- **EPA Plug-In To eCycling is a partnership program with the consumer electronics industry to increase the amount of electronic devices collected and safely reused and recycled**
- **In 2007, Plug-In To eCycling partners reused and recycled over 47 million pounds of electronics**
- **Plug-In To eCycling also provides the Guidelines for Materials Management, which Federal agencies are required to use when selecting electronics recyclers**





Recycling Electronics and Asset Disposition (READ)

- **READ is EPA's government-wide acquisition contract (GWAC) for electronics recycling services that provides a procurement tool to properly manage and recycle electronics and in a responsible manner**
- **The READ GWAC consists of five-year multiple awards contracts to seven small businesses**
- **READ has issued more than 15 task orders to seven agencies, and recycled more than 25 million pounds of electronic scrap**





UNICOR

- **Federal Prison Industries (FPI), under its trade name UNICOR, recycles computers and other electronic items while fulfilling the Agency's mission to train prison inmates**
- **UNICOR processes computers and electronic equipment from anywhere in the U.S., refurbishes equipment for resale, and recycles millions of tons of electronics material annually**
- **UNICOR's recycling program gives more than 1,000 Federal inmates at seven computer/electronics recycling locations an opportunity to voluntarily participate in a work program**





Federal Electronics Challenge (FEC)

- The **FEC** is a partnership program that encourages Federal procurement of environmentally preferable electronics, and reduction of the impacts of electronics during use and disposal
- Approximately **190 Federal facilities**, covering more than **644,000 employees**, have signed up for the challenge
- The FEC provides resources and technical assistance for improving electronics management practices, and gives annual recognition to Partners that have achieved program goals





FEC Provides Resources and Training



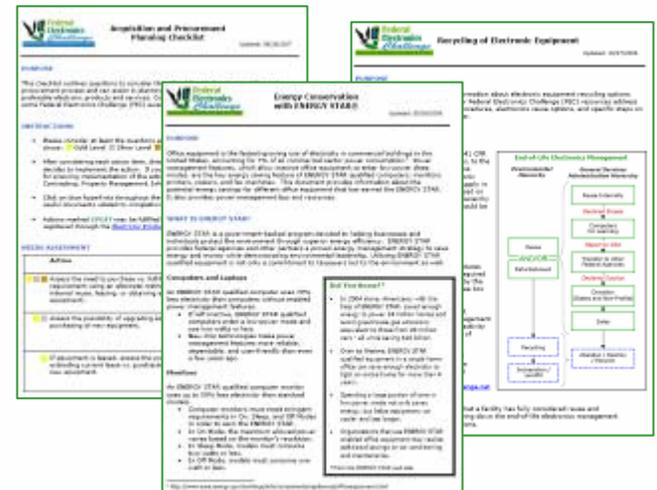
FEC Web site



FEC Monthly Partner Conference Calls



Federal Environmental Symposia



FEC Resources



Electronics Reuse and Recycling Campaign (ERRC)

- The **ERRC** encourages Federal facilities to reuse and recycle their used computers and other electronic equipment
- In 2006-07, 14 winners were selected from 12 agencies and **124 facilities** that participated in the campaign
- The program successfully reused and recycled approximately **2.4 million pounds** of electronics during the five-month period between America Recycles Day 2006 and Earth Day 2007
- **ERRC 2007-08 is a year long challenge!!**





ERRC Highlights Model Programs



**DOI, USGS, Menlo
Park Campus**



**US Air Force,
Francis E. Warren
AFB**



**DOE, Strategic
Petroleum Reserve
(SPR)**



FEC and ERRC Reward Efforts



2007 FEC Award Winners



2005-06 ERRC Award Winners



Leading by Example

- **Federal agencies and their facilities are committed to:**
 - **Promoting** the designing and purchasing of environmentally preferable electronic products
 - **Extending** the useful life of electronic equipment
 - **Improving** on sound end-of-life management practices
 - **Saving** energy, and conserving natural resources





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