



Greening the Lifecycle of Office Equipment: The State Electronics Challenge

Introductory Webinar

March 2013



What is the State Electronics Challenge?

- Voluntary & *free* program targeted to municipal, regional, state, and tribal governments
 - Including public & private schools, colleges, & universities
- Promotes lifecycle stewardship of computers & imaging equipment
 - Buying green
 - Operating efficiently
 - Power management
 - Extending product life
 - Reducing paper usage
 - Managing responsibly
 - Maximizing reuse & using certified recyclers





What Does the Challenge Offer?

- Free assistance & technical resources
- Action plan to achieve proven results
- Tools to track progress & measure results
- Individualized sustainability reports
- Recognition - for new & existing activities



Background

- Adapted from Federal Electronics Challenge
- Piloted in Northeast with funding from EPA - 2007
- Program went national in 2011 - now funded by:
 - EPA Great Lakes Restoration Initiative
 - Private sector sponsors:
Samsung, Panasonic, the Consumer Electronics Association, & ISRI R2/RIOS
- Managed & staffed by Northeast Recycling Council (NERC)



Why Focus on Electronics?

Significant environmental impact from mining through end-of-life

- Energy consumption – production & use
- Toxic constituents – e.g., lead, mercury, cadmium
- Valuable resources – e.g. copper, precious metals, rare earths, steel, aluminum
- Rapidly growing waste stream
- Institutional purchasers can impact marketplace

Greening lifecycle saves energy & resources, & reduces toxics



Environmental Benefits

For every 1,000 “green” computer systems purchased, power managed, & recycled after 5 yrs.:

- ↓ **Energy use** = to power 100 homes/year
- ↓ **Greenhouse gases** = 177 fewer cars/year
- ↓ **Municipal solid waste** by 49 tons =
24 households/year
- ↓ **Hazardous waste** by 15 tons =
112 refrigerators
- ↓ **Toxic materials** by 193 pounds, incl. lead &
mercury (= 13 fewer thermometers)



Energy Consumption

- Office equipment estimated 3% of total annual U.S. energy consumption
 - Approx. 43% of that from PCs
- Production may account for ~75% of lifecycle energy of PC due to complex components
 - Reuse offers significant life cycle benefit
- Fossil fuels to produce PC estimated at 9x its weight
 - Compared to 2x weight for auto & refrigerator

Source: Williams E. & R. Kuehr, *Computers and the Environment*, 2003



Why Challenge You?

- State & local government purchasing power
 - \$35+ billion/yr. on technology
- Energy & cost savings
 - PCs are “on” more than 90% of the time!
 - Activating power management features
 - \$25 - \$75 per computer system/year
 - \$35 - \$60 for imaging equipment/year
- Demonstrate leadership in sustainability & stewardship



Current SEC Partners



111 Partners,
36 states,
151,000
end users



2011 Partner Results*

- ↓ Energy use = to power 6,831 homes/year
- ↓ Greenhouse gases = 7,955 fewer cars/year
- ↓ Municipal solid waste = 472 households/year
- ↓ Hazardous waste by 205 tons
- ↓ Toxic materials by 3,353 pounds

* Based on Partner reporting of EPEAT purchases, average lifespan, power management, reuse & recycling



Partner Requirements

- Join

<http://stateelectronicschallenge.net/join.aspx>

- Choose your focus - any or all lifecycle phases
 - Purchasing
 - Use
 - End-of-life
- Complete *Benchmark Survey of Current Practices*
- Implement program requirements
- Report annual progress
- Apply for recognition (optional)



Program Requirements

Purchasing

- Modify procurement practices to require/give preference to “green” equipment – defined by the Electronic Products Environmental Assessment Tool (EPEAT[®]) standard
- Ensure 95% of desktops, laptops, monitors purchased are EPEAT registered
 - In 2014, also printers, copiers, & multifunction devices



Overview of EPEAT

- Voluntary environmental performance standard for computer desktops, monitors, notebooks & imaging equipment
 - Addresses multiple environmental attributes
 - Three-tier rating system: bronze, silver, & gold
- System for identifying products
 - Searchable product registry - one stop shop
 - 2,300 + computer products (U.S.) & 29 manufacturers
 - 180+ imaging equipment products (U.S.) & 8 manufacturers
- Verification process to ensure conformance

www.epeat.net



Program Requirements

Use

- Establish & promote policy/directive for power management & paper use reduction
- Ensure ENERGY STAR “sleep” function enabled on all computers & monitors
 - Power down features imaging equipment
- Extend life of equipment
- Ensure double-sided printing features used on 75% of printers, copiers, & multifunction devices



Program Requirements

End-of-Life Management

- Establish policy/directive:
 - Promote reuse & donation
 - Require environmentally sound management
- Track units redeployed internally, donated for reuse, recycled
- Use recycler that has earned 3rd party certification:
 - R2, R2/RIOS, or e-Stewards



What is Third Party Certification?

Assessment done by independent, 3rd party organization that is qualified & accredited to issue certification to a specific standard.

– For SEC, qualified electronics recycling standards are:

- R2,
- R2/RIOS, or
- e-Stewards



Why it is Important to Use a 3rd Party Certified Electronics Recycler

- Be sure what you expect to happen, happens
 - Avoid negative publicity
 - No federal requirements for electronics recyclers; very few state regulations
 - “Self certification” is unreliable and risky
- Certifications set reliable performance standards
- Ensure safe & responsible handling of hazardous components



Why Participate?

- Demonstrating leadership in sustainability and stewardship
- Potential cost savings



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- Quantifiable environmental benefits
 - E.g., energy, climate change, toxics



Track Progress & Measure Results

- Partners submit:
 - Benchmark Report of Current Practices
 - Annual Reporting Form
- SEC commits to:
 - Calculate environmental benefits of Partner's activities
 - Prepare customized sustainability report



Sample Benefits

	Purchasing “Green” Products	Operations & Maintenance	Reuse & Recycling	TOTAL BENEFITS	
Reduction In	How Much			How Much	Equivalent To
Energy use	1.5 million kWh	3.3 million kWh	21.6 million kWh	26.4 million kWh	Electricity to power 2,211 households/year
Greenhouse gas emissions	279 metric tons of carbon equivalents	631 metric tons of carbon equivalents	1,170 metric tons of carbon equivalents	2,080 metric tons of carbon equivalents	Removing 1,399 cars from the road/year
Toxic materials, including lead & mercury	343 lbs.	463 lbs.	474 lbs.	1,280 lbs.	
Municipal solid waste	6,849 lbs.	123,259 lbs.	235,935 lbs.	366,043 lbs.	Waste generated by 83 households/year
Hazardous waste	13,424 lbs.	9,768 lbs.	43,659 lbs.	66,851 lbs.	



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- Potential cost savings
- Quantifiable environmental benefits
 - E.g., energy, climate change, toxics
- Recognition for your accomplishments – including what you've already done



Annual Recognition

- Eligible for:
 - Gold: **All three** lifecycle phases
 - Silver: **Two of three** lifecycle phases
 - Bronze: **One of three** lifecycle phases
- Achievements recognized
 - Award
 - The media
 - SEC website
 - Build internal support for activities



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- Recognition for your accomplishments – including what you've already done
- Support provided to help you reach goals



SEC Tools to Get the Job Done

- Online resources for each lifecycle phase
www.StateElectronicsChallenge.net
- Free one-on-one technical assistance
- Partner-only webinars
 - E-Scrap Demonstration & Certification – May 15
- Partner-only listserv



SEC is administered by the Northeast Recycling Council, Inc.

- ▶ [Home](#)
- ▶ [About SEC](#)

- [Why Participate](#)
- [Fact Sheet](#) 
- [Current Partners](#)
- [SEC Environmental Results](#)
- [SEC Sponsors](#)

- ▶ [Becoming a Partner](#)

- ▶ [Getting Started](#)

- [Program Requirements Checklist](#)
- [Benchmark & Annual Reporting Form](#)

- ▶ [Recognition](#)

State Electronics Challenge

Collectively, state and local government purchase several billions of dollars worth of technology equipment annually, and has the opportunity to provide leadership in the environmentally sound and cost effective management of electronic assets.

The State Electronics Challenge (SEC) is a voluntary program that encourages state, tribal, regional, and local governments, including schools and other public entities, to:

- Purchase greener electronic products.
- Reduce the impacts of electronic products during use.
- Manage obsolete electronics in an environmentally safe way.

The SEC provides resources to help state, tribal, regional, and local government and agencies to become leaders and face the new challenges posed by the electronics waste stream.

The SEC is modeled after the very successful [Federal Electronics Challenge](#) (FEC), which was created by the U.S. Environmental Protection Agency and the Office of the Federal Environmental Executive.

Quick Links/News

Free SEC Introductory Webinar: March 14, 3 p.m. eastern. [Click here](#) to register.

Partner Only Webinar: Green Purchasing Using EPEAT, February 25, 3 – 4 pm eastern. [Click here](#) for more information.

Partners come from 36 states and



How Much will this Cost?

- “Nothing!” The SEC is free:
 - No cost to join
 - No cost for technical assistance & support
 - No obligation on your part
- SEC *does not* pay for the cost of implementation., e.g., paying for recycling



How Much Work will it Take?

It depends on:

- Goals - what you choose to work on
- Partner preparation - how much progress you've already made
- People
 - Who's on the team (or is there a team?)
 - Who you need to enlist to help out

It's up to you!



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