Greening the Computer Lifecycle: The State Electronics Challenge

Introductory Webinar

April 2012

What is the State Electronics Challenge?

- Voluntary & *free* partnership program targeted to state, regional, local, & tribal government
- Supports government management of computer equipment for reduced environmental impact.
- Promotes lifecycle stewardship of computers
  - Purchasing green computers
  - Use
    - Power management
    - Extending product life
    - Reducing paper usage
  - Reuse & responsible recycling

What Does the Challenge Offer?

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

Background

- Adapted 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, Sims Recycling Solutions, Metech Recycling, & ISRI R2/RIOS

- Managed & staffed by Northeast Recycling Council (NERC)

Current SEC Partners

89 Partners, 31 states, & 135,000+ end users

- State gov't /depts.
- Cities & Towns
- Solid Waste Authorities
- K-12 Schools
- State Coll. & Univ.

Why Focus on Computers?

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 - impacts

…..Bottom line: greening lifecycle saves energy & resources & reduces toxics

Energy Consumption

- Office equipment estimated 3% of total annual U.S. energy consumption

- Approx. 43% of that from PCs

  AND

- Production may account for ~75% of lifecycle energy due to complex components –25% use

- 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 the Public Sector?

- State & local government purchasing – $35+ billion/yr. technology spend

- Cost savings

- Environmental benefits & sustainability goals

- Leadership – creating economies of scale

Environmental Benefits

For every 1,000 "greener" computer systems purchased & units recycled:

⬇ Energy use = to power 105 homes/year

⬇ Greenhouse gases = 113 fewer cars/year

⬇ Municipal solid waste by ~ 40 tons = 18 households/year

⬇ Hazardous waste by 19 tons

⬇ Toxic materials by 164 pounds, incl. lead & mercury

Cost Savings

Activating power management features
$25 - $75 per computer system/year

A recent study showed PCs are "on" more than 90% of the time!

QDI Strategies, Oct. 2010

Partner Requirements

- Join
http://stateelectronicschallenge.net/join.aspx
- Choose your focus - any or all lifecycle phases
  – Purchasing
  – Use & Operations
  – End-of-life
- Complete *Baseline Survey of Current Practices*
- Implement program requirements
- Report annual progress
- Apply for recognition (optional)

Program Requirements
Procurement

- Modify procurement practices to require/give preference to "green" computers – defined by EPEAT® standard

- Ensure 95% of desktops, laptops, monitors purchased are EPEAT registered

Overview of EPEAT

- Voluntary environmental performance standard for computer desktops, monitors, & notebooks
  - Addresses multiple environmental attributes
  - Three-tier rating system: bronze, silver, & gold

- System for identifying products
  - Central, searchable product registry (www.epeat.net) - one stop shop
  - ~ 2,000 + products (U.S.) & 30 manufacturers
- Verification process to ensure conformance

Program Requirements
Operations & Maintenance

- Establish & promote policy/directive for:
  - Power management
  - Paper use reduction
- Ensure ENERGY STAR "sleep" function enabled across all client devices
- Ensure double-sided printing features are used on 75% of printers & copiers

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, E-Steward, or R2/RIOS

Track Progress & Measure Results

- Partners submit:
  - Baseline Survey of Current Practices
  - Annual Reporting Form
- SEC commits to:
  - Calculate environmental benefits of Partner activities
  - Prepare customized sustainability report

Reduction In	Purchasing EPEAT Products	Operations & Maintenance	Equipment Reuse & Recycling	TOTAL BENEFITS	
	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	

SEC Tools to Get the Job Done

- Online resources

    www.StateElectronicsChallenge.net

- Free one-on-one technical assistance

- Partner-only Webinars
    - Upcoming: virtual desktops as part of power management, virtual tours of electronics recyclers

- Partner-only Listserv

SEC
STATE ELECTRONICS CHALLENGE

SEC is administered by the Northeast Recycling Council, Inc.

- Home
- About SEC
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  - Becoming a Partner
  - Current Partners
    - 2008-2010 Total Results
    - 2010 Environmental Results
  - SEC Sponsors
  - Become a Sponsor
- Join SEC
- Program Requirements
  - Program Requirements Checklist
  - Baseline & Annual Reporting Form

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.

State Electronics Challenge Sponsors

Distinguished Sponsor

Quick Links/News

Introduction to the SEC Webinar, June 16, 3 p.m. eastern. Click here to sign up.

2010 Partner Accomplishments & Recognition now posted.

The SEC Now Has 63 Partners in 23 States! Welcome to SEC's most recent partners, Boulder County, Colorado, the Village of Grafton, Wisconsin,

www.StateElectronicsChallenge.net

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

Why Participate?

- Support provided to help you reach goals
- Potential cost savings
- Demonstrating leadership in best practice
- Quantifiable environmental benefit - climate change & sustainability goals
- Recognition for your accomplishments

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!

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.,
  - Buying power management software
  - Paying for recycling

Contact Information

info@stateelectronicschallenge.net

802-254-3636

www.stateelectronicschallenge.net

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