Greening the Lifecycle of Office Equipment:
The State Electronics Challenge

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State Electronics Challenge

State Electronics Challenge

- Voluntary & *free* program targeted to municipal, regional, state, & tribal governments plus non-profits
- 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

Who Can Participate as a "Partner"?

- State & Tribal agencies or departments
- Cities & towns
- Counties
- K-12 schools
- Colleges & universities

- Public utilities
- Public libraries
- Municipal solid waste authorities & districts
- Non-profit organizations

What Does the Challenge Offer?

- **Resources**
  - Free technical assistance & webinars
  - Web-based resources
- **Results based on best practices**
  - Action plan
  - 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

- Program now funded by 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

But There's More to Energy Consumption…. Embodied Energy

- Production may account for ~80% of lifecycle energy of computers due to complex components

  — Fossil fuels to produce PC estimated at 9x its weight compared to 2x weight for auto & refrigerator

- Reuse & product life extension offer significant lifecycle benefits

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

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 fever thermometers)

Why Challenge You?

- Institutional purchasers can impact marketplace

- Energy & cost savings
  - PCs are "on" more than 90% of the time!
  - Activating power management features
    - $10 - $100 per computer system/year, plus $3 - 30 in cooling loads
    - $35 - $60 for imaging equipment/year

- Demonstrate leadership in sustainability & stewardship

Current SEC Partners

135 Partners, 36 states, 170,000 end users

Program Goals

- Promote sustainability for office electronics within Partner organizations through best practices
  - Purchasing
  - Use
  - End of Life management
- Provide assistance to Partners
- Document, recognize, & promote the successes of Partner organizations!

Partner Requirements

- Join
http://stateelectronicschallenge.net/join.aspx
- Choose your focus – one, two 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, printers, copiers, & multifunction devices purchased are EPEAT registered

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 shopping

- 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

Resources to Get the Job Done

- Online resources for each lifecycle phase
www.StateElectronicsChallenge.net

- Free one-on-one technical assistance

- Partner-only webinars

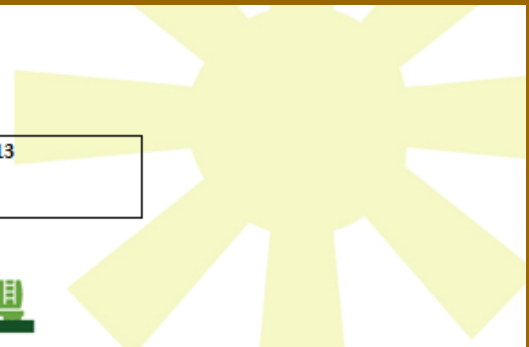- Partner-only listserv

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

Sustainability Reports

ENVIRONMENTAL SUSTAINABILITY REPORT CY2013
Partner: DuPage County, Illinois
Date: March 20, 2013

		PURCHASING	USE	REUSE & RECYCLING	TOTAL BENEFITS	
	ENVIRONMENTAL BENEFITS					
	Reduction in:	HOW MUCH			HOW MUCH	EQUIVALENT TO
	Energy use	66,949 kWh	4.47 million kWh	1.01 million kWh	5.5 million kWh	Electricity to power 434 homes/year
	Greenhouse gas emissions	11 metric tons of carbon equivalents	850 metric tons of carbon equivalents	194 metric tons of carbon equivalents	1,055 metric tons of carbon equivalents	Removing 758 cars from the road/year
	Toxic materials, including lead & mercury	14 lbs.	215 lbs.	28 lbs.	257 lbs.	
	Municipal solid waste	2,168 lbs.	54,071 lbs.	7,539 lbs.	63,778 lbs.	Waste generated by 15 households/year
	Hazardous waste	396 lbs.	5,905 lbs.	879 lbs.	7,180 lbs.	

Calculations for office equipment were made using the Electronic Environmental Benefits Calculator, Version 3.1, dated July 2012, available at www.epa.gov/fec/publications.html#calculator. Calculations for paper reduction were made using the WARM model conversion factors, www.epa.gov/climatechange/wyed/waste/downloads/paper%20products.pdf, February 2012.

Partner Commitments to Green Electronics

EPEAT® PURCHASING:
DuPage County included Electronic Product Environmental Assessment Tool (EPEAT®) registered computer products as a required or preferred standard in bids, contracts, and/or leases for IT equipment in calendar 2012.

Certified Recyclers:
DuPage County used a recycler that was certified to R2, Re/RIOS, or e-Stewards in this calendar year.

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

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!

Contact Information

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www.stateelectronicschallenge.net

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NERC is an equal opportunity provider & employer.