

Greening Gadgets: Lifecycle Considerations for Smaller Electronics

FEC Partner Teleconference
December 6, 2007





What are “smaller” electronics?

- Personal or mobile electronics, “gadgets”
 - Cellular/mobile phones, SmartPhones
 - Personal digital assistants (PDAs)
- Includes devices less frequently purchased by the federal government
 - Digital cameras and camcorders
 - Digital music players

Does the FEC address smaller electronics?



- Yes!
- Why?
 - Smaller electronics may contain the same toxic constituents as larger electronics
 - Smaller electronics use energy
 - Smaller electronics have an even shorter lifespan than larger electronics: 1.5 years
- Federal partners can improve their life-cycle management of smaller electronics



Acquisition and Procurement

- Incorporate FEC's Key Environmental Attributes for Electronics Acquisition into procurement specifications
- Require ENERGY STAR® qualified battery charging systems and external power adapters
- Consider environmental standards



Key Environmental Attributes

- Reduced toxics constituents
 - Batteries
 - Circuit board
 - Liquid crystal display
 - Plastic housing
- Increased recycled or biobased content
 - Plastic housing
- Energy efficiency or alternative energy sources
 - No ENERGY STAR® standard for mobile devices
 - Solar powered

Key Environmental Attributes

(continued)



- Reduced materials use
 - Less of an issue with smaller electronics
 - Buy what you need

- Extendable product life
 - Removable/replaceable memory cards
 - Firmware/software updates available
 - Extended warranties

- Designed for upgrade and recycling
 - Easily disassembled into component parts
 - Reduced number of plastic types

Key Environmental Attributes

(continued)

- Take back options
 - Manufacturer take-back programs
 - Follow due diligence processes

- Environmentally Preferable Packaging
 - No or reduced toxic constituents
 - Reusable
 - Recycled or biobased content
 - Recyclable
 - Bundling or multipacks

- Positive Corporate Environmental Policy

Battery Chargers and Power adapters



- ENERGY STAR does have standards for:
 - Battery charging systems
 - External power adapters
- Require included peripherals to be ENERGY STAR qualified





Standards for Mobile Devices

- Existing
 - Blue Angel (Germany)
 - TCO (Sweden)

- Future
 - EPEAT standard to be developed
Summer or Fall 2009



Operations and Maintenance

- Follow manufacturer instructions for charging the battery
- Unplug charged devices
- Keep firmware/software updated
 - Many providers can wirelessly deliver upgrades
- Handle with care!



End-of-Life

- Smaller electronics are just like larger electronics
- Reuse
 - Internal reuse
 - External refurbishment
 - Donation
 - Not eligible for Computers for Learning

End-of-Life

(continued)

○ Recycle

- Obsolete or broken small electronics should be recycled
- Use the same guidance as larger electronics

○ Always follow property management procedures

- Take-back and donation

Data Security and Media Sanitization



- Smaller electronics may contain memory which may contain sensitive data
- Follow your agency or facility media sanitization procedures
- ReCellular hosts a database of cell phone data eraser instructions at http://www.recellular.com/recycling/data_eraser/default.asp



References

- FEC's Key Environmental Attributes for Electronics Acquisition
<http://www.federalelectronicschallenge.net/resources/docs/topenv.pdf>
- FEC's Understanding Eco-labels
<http://www.federalelectronicschallenge.net/resources/docs/ecolabel.pdf>
- ENERGY STAR Battery Charging Systems
http://www.energystar.gov/index.cfm?c=battery_chargers.pr_battery_chargers
- ENERGY STAR External Power Adapters
http://www.energystar.gov/index.cfm?c=ext_power_supplies.power_supplies_consumers



Contact Information

- FEC Champions

- <https://db2.erg.com/fec/champions.asp>

- Partner E-mail

- partner@electronicschallenge.net

- Cate Berard

- berard.cate@epa.gov
- 202-564-8847