



Greening Government Offices

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E2S2
Denver, Colorado
May 2009

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Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE MAY 2009		2. REPORT TYPE		3. DATES COVERED 00-00-2009 to 00-00-2009	
4. TITLE AND SUBTITLE Greening Government Offices				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) US Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD, 21010				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

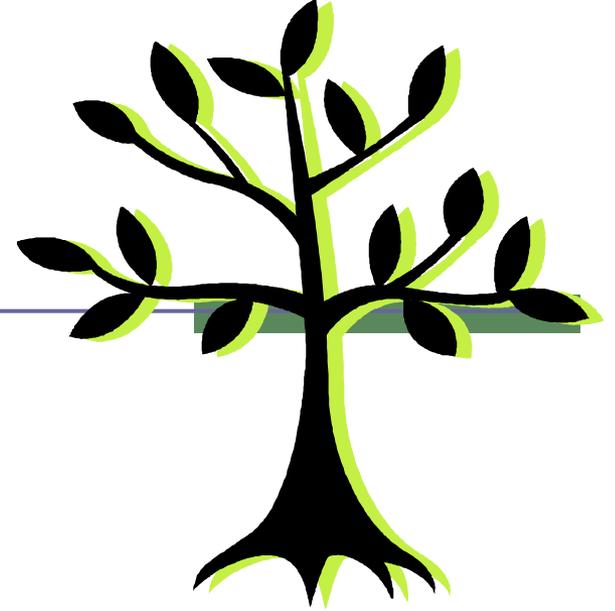
Benefits of a Green Office

- Healthier working environment
- Improves morale (pride)
- Creates recycling markets
- Saves energy
- Conserves resources
- Saves money
- Saves landfill space
- Reduces pollution
- Reduce U.S. dependence on petroleum and other imports



Did You Know?

- Paper accounts for 40% of all waste!
- 60% of office waste!!
- The average person uses 737 pounds of paper per year!



Recycling 1 Ton of Paper...

- Saves about 17 trees
- Saves 24,000 gallons of water
- Eliminates 3 cubic yards of landfill space
- Saves enough energy to power the average home for 6 months
- Saves 4 barrels of oil
- Eliminates 60 pounds of air pollutants

Topics

- The relationship between consumption and waste
- Reducing routine office waste
- Purchasing green office products
- Reducing fuel consumption
- Saving water and energy
- Calculating environmental benefits
- Eliciting behavior change



Consumption and Waste Generation

- Waste generation is dictated by consumption
 - How much we consume
 - What we consume
- To reduce waste generation, we must make changes in what we purchase and use.



Reducing Office Consumption = Reducing Waste

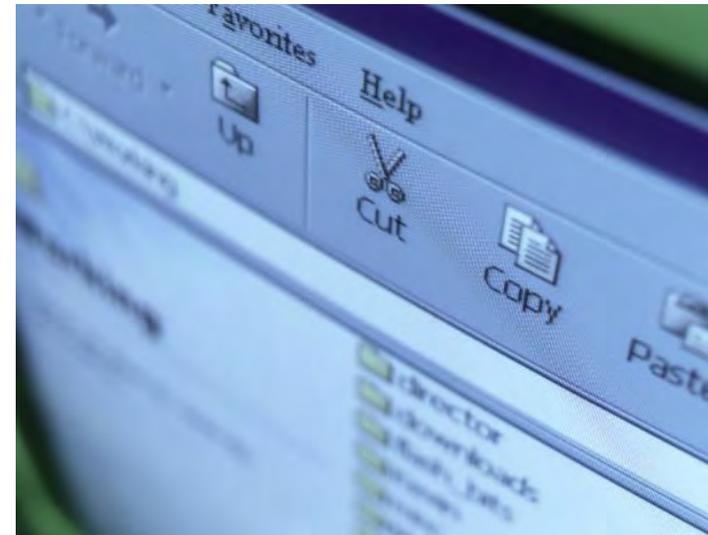
Reducing Routine Office Waste

- Eliminate the purchase of disposable plates, utensils, cups
- Maintain a minimum supply inventory
- Use newer technology toner cartridges and paper
- Stop mail deliveries to departed personnel
- Use tap water or water cooler to reduce bottled water consumption



Reducing Routine Office Waste

- Use e-mail in place of written memos
- Save e-mail messages to files instead of printing them
- Always print and copy double sided
- Conduct document reviews and provide comments electronically
- Use “print view” feature to reduce printing mistakes
- Use less paper and compact disks by drive sharing and posting information to a web site



Reducing Routine Office Waste



- Send internal mail in reusable envelopes
- Reuse file folders by using stick-on labels
- Use routing slips instead of making multiple copies
- Reuse plastic and paperboard binders, binding combs, and report covers
- Stop mailings from unwanted magazines and catalogs
- Place 1 copy of community references (phone book, SOPS, atlas, etc.) in common area
- Extend life of computers to at least 4 years

Reducing Routine Office Waste

- Properly segregate recyclable materials
- Properly prepare recyclables, i.e.,
 - Disassemble boxes
 - Rinse bottles and cans
- Participate fully in the Recycling Program (recycle all accepted materials)



Smart Purchasing Choices

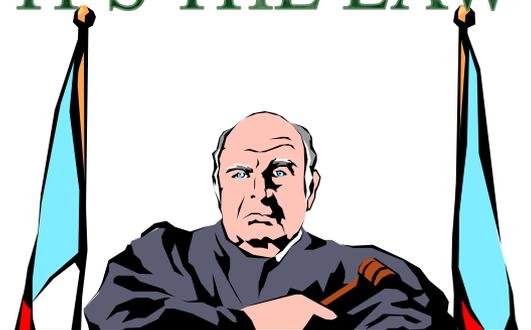
- Purchase items with less packaging
- Purchase products made with materials that will be recycled rather than disposed after use
- Purchase products with recycled or biobased content
- Purchase energy efficient and water saving products
- Purchase products that do not contain ODS or hazardous substances



Green Procurement

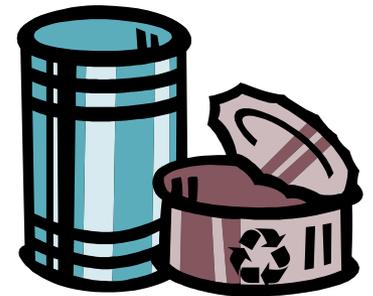
- There are specific requirements for the purchase of products that have/are:
 - Recycled content (Resource Conservation and Recovery Act, Executive Order (EO) 13423, and the Federal Acquisition Regulations (FAR))
 - Biobased (Farm and Security and Rural Investment Act, EO 13423, and FAR)
 - Energy efficient (Energy Policy Act of 2005 and EO 13423)

IT'S THE LAW
IT'S THE LAW



Green Procurement Requirements

- EPA's "Buy Recycled" Program
 - Products designated since 1995
 - Currently 62 designated products
- USDA's "BioPreferred" Program
 - 49 items designated since March 2006
 - 9 more proposed



EPA's Buy Recycled Program: Comprehensive Procurement Guidelines (CPGs) and Recovered Materials Advisory Notices (RMANs)

- CPGs designate the products that must contain recovered material
- RMANs provide recommended recycled-content percentages and guidance on buying recycled-content products

Example:

Recycled paper

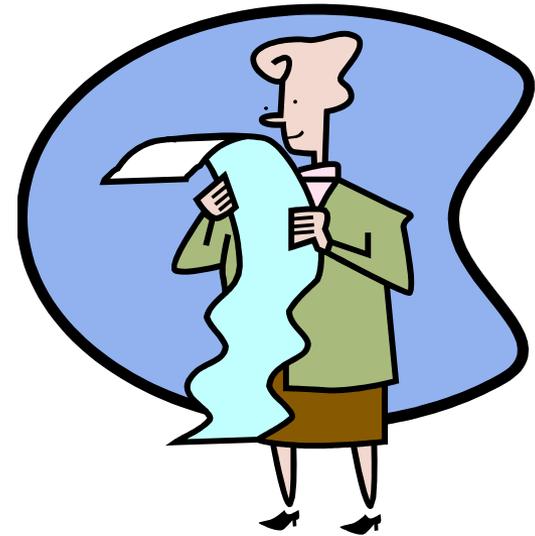


**Example:
30% post
consumer**

EPA-Designated Products under the Buy Recycled Program

Product Categories:

- ➡ ■ Construction
- Landscaping
- ➡ ■ Non-paper Office Products
- ➡ ■ Paper and Paper Products
- Parks and Recreation
- Transportation
- Vehicular
- ➡ ■ Miscellaneous



CONSTRUCTION PRODUCTS

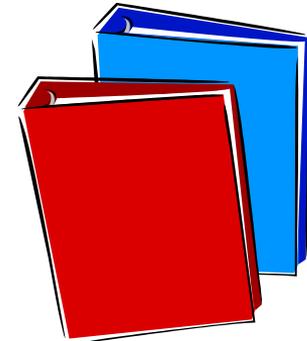
DESIGNATED CPG ITEMS:

- Building insulation
- Carpet
- Cement and concrete
- Consolidated and reprocessed latex paint
- Floor tiles
- Laminated paperboard
- Patio blocks
- Shower and restroom dividers
- Structural fiberboard
- Carpet cushion
- Flowable fill
- Railroad grade crossings/surfaces
- Modular Threshold Ramps
- Nonpressure Pipe
- Roofing Materials

NON-PAPER OFFICE PRODUCTS

DESIGNATED CPG ITEMS:

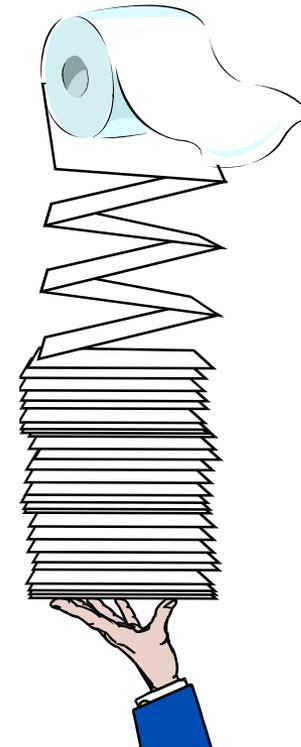
- Binders (paper, plastic covered)
- Office recycling containers
- Office waste receptacles
- Plastic desktop accessories
- Plastic envelopes
- Plastic trash bags
- Printer ribbons
- Toner cartridges
- Office furniture
- Solid plastic binders
- Plastic clipboards
- Plastic clip portfolios
- Plastic file folders
- Plastic presentation folders



PAPER AND PAPER PRODUCTS

DESIGNATED CPG ITEMS:

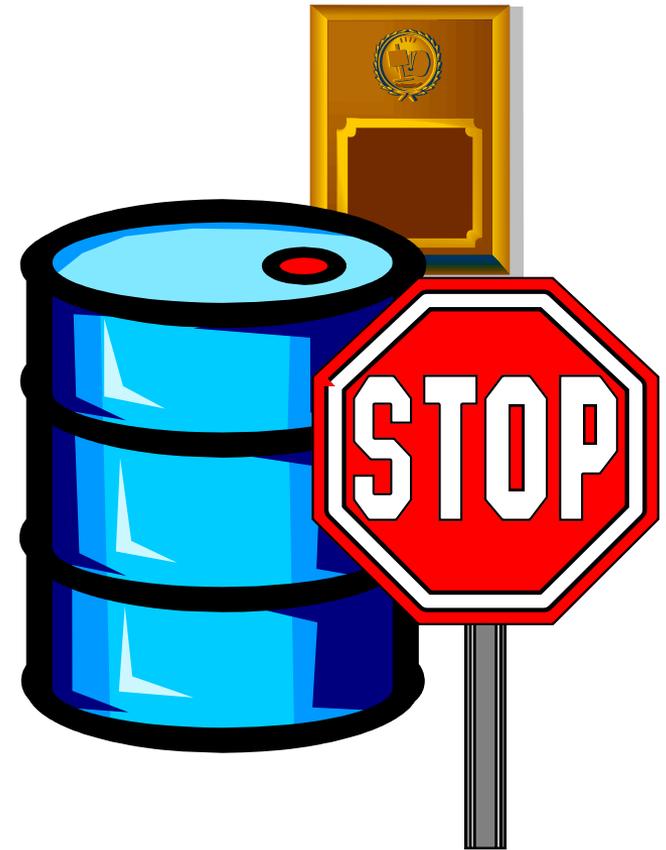
- Commercial/industrial sanitary tissue products
- Miscellaneous papers
- Newsprint
- Paperboard and packaging products
- Printing and writing papers



MISCELLANEOUS PRODUCTS

DESIGNATED CPG ITEMS:

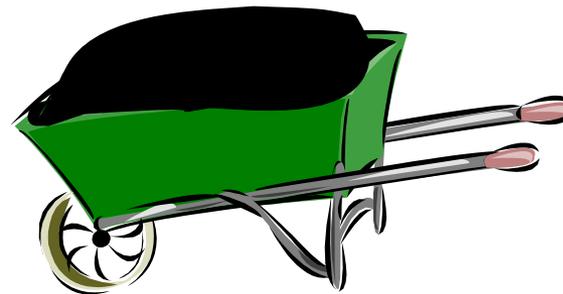
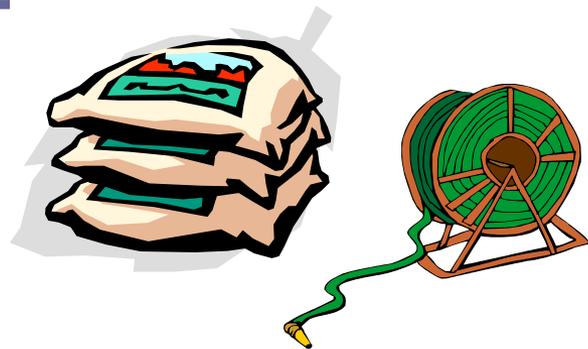
- Pallets
- Sorbents
- Awards and plaques
- Industrial drums
- Mats
- Signage, including supports
- Strapping and stretch wrap
- Bike racks
- Blasting grit



LANDSCAPING PRODUCTS

DESIGNATED CPG ITEMS:

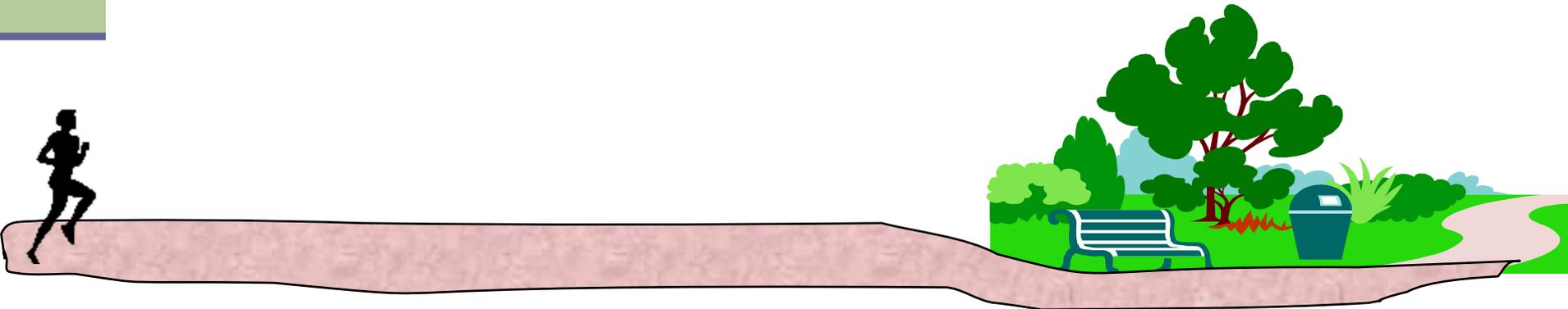
- Garden and soaker hoses
- Hydraulic mulch
- Lawn and garden edging
- Yard trimmings compost
- Food waste compost
- Landscaping timbers and posts (plastic lumber)



PARK AND RECREATION PRODUCTS

DESIGNATED CPG ITEMS:

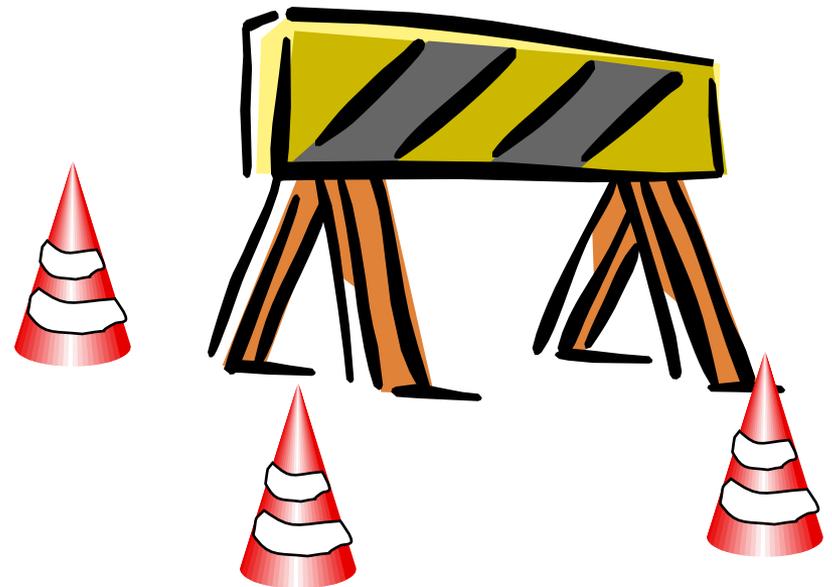
- Plastic fencing
- Playground surfaces
- Running tracks
- Park and recreational furniture
- Playground equipment



TRANSPORTATION PRODUCTS

DESIGNATED CPG ITEMS:

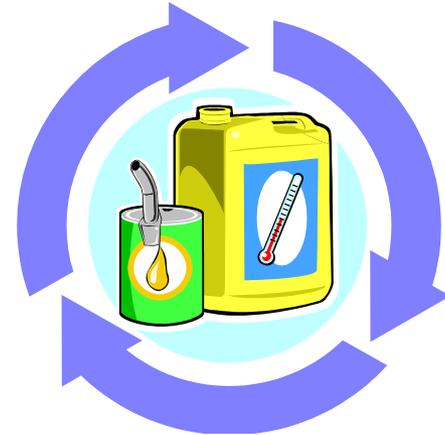
- Channelizers
- Delineators
- Flexible delineators
- Parking stops
- Traffic barricades
- Traffic cones



VEHICULAR PRODUCTS

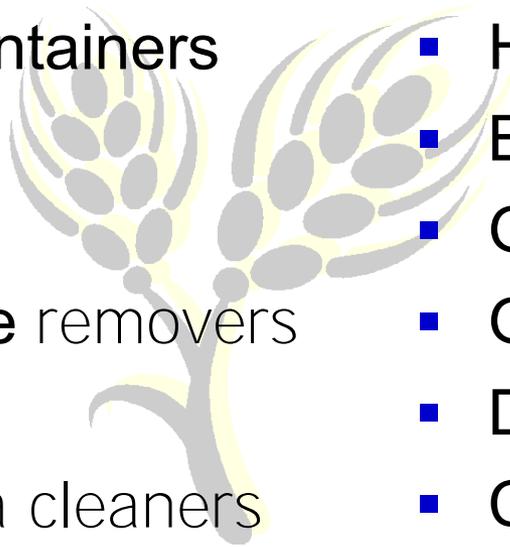
DESIGNATED CPG ITEMS:

- Engine coolants
- Re-refined lubricating oils
- Retread tires
- Rebuilt vehicle parts



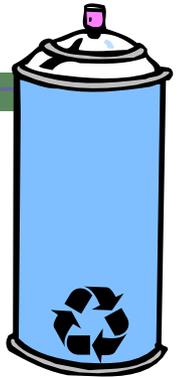
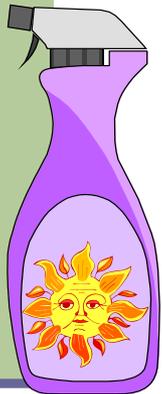
Examples of Designated Items under the BioPreferred Program

- Adhesive and mastic removers
- Hand cleaners/sanitizers
- Biodegradable containers
- Fertilizers
- Sorbents
- Graffiti and grease removers
- Laundry products
- Bathroom and spa cleaners
- De-icers
- Films
- Lip care products
- Biodegradable films
- Hydraulic fluids
- Biodegradable cutlery
- Glass cleaners
- Greases
- Dust suppressants
- Carpets
- Carpet and upholstery cleaners

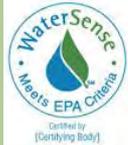


What's On The Label?

- Look For Specifics
 - “50% Post-Consumer fiber” says more than “made with recycled products”
 - Meets EO 13423 or CPG requirements
 - Watch Out For Misleading Claims
 - “Now with higher recycled content”
 - Beware of Ambiguity or Advertising Ploys
 - “Environmentally friendly”
 - “Green”
 - Symbols depicting the earth or trees
 - Unexplained recycling logos
 - “Recyclable” – may not be recyclable
- In your community



Product Certifications



- WaterSense labeled products are generally 20 percent more water-efficient than similar products



- Green Seal Assesses a broad range of environmental impacts



- Scientific Certification Systems (SCS) certifies a wide variety of claims related to environmental performance



- Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI) certify paper and wood products



- Energy Star identifies energy-efficient products



- Biobased Manufacturer's Association (BMA) self-certification program

Energy Myths*

- It takes more energy to turn lights on and off than to just leave them on
- Computers last longer if left on all the time
- Batteries and film need to be refrigerated
- Maintaining a constant temperature uses less energy
- Outside lighting is required for security reasons

* Reference “Taking the Myths Out of Energy Consumption,” Don Juhasz

Reducing Fuel Consumption

- Participate in meetings via telephone
- Telecommute
- Carpool
- Bike or walk around post or to and from work
- Do not leave vehicles idling
- Maintain proper tire pressure



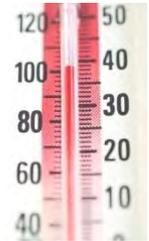
Saving Energy

- Purchase energy-consuming equipment that is EPEAT-registered, Energy Star, and/or FEMP-certified
- Be sure energy saving features are turned on
- Turn off lights when not needed
- Use occupancy sensors
- Turn off energy using equipment after hours (use power strips)
- Turn down heat or AC after hours or use programmable thermostats
- Close blinds after hours
- Close off unused offices/rooms



Saving Energy and Water

- Lower temperature of hot water
- Use energy efficient lighting where possible (including exit signs)
- Ensure outside lighting is off during the day
- Request an energy audit (free)
- Use multifunctional equipment (fax, print, copy, scan)
- Install low flow toilets in renovations
- Use water saving shower heads and faucets



Tools for Calculating Environmental Benefits



- EPA's Durable Goods Calculator – energy savings and greenhouse gas (GHG) reductions for household goods
- EPA's Waste Reduction Model (WARM) – energy savings and GHG reductions for waste management practices
- NRC Recycling Calculator – fun statistics on resource savings from recycling
- Electronics Environmental Benefits Calculator – calculates savings in nine different categories
- Northeast Recycling Council's (NERC) Environmental Benefits Calculator – energy and resource savings and GHG reductions for recycling various commodities

Tools for Calculating Resource Savings and Environmental Benefits

Paper Calculator Powered By Environmental Defense - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <http://www2.edf.org/papercalculator/process.cfm?calcType=1> Go Links

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LIFECYCLE ENVIRONMENTAL IMPACTS AND EQUIVALENTS

	Baseline Paper	Target Paper I	Difference (Baseline - Target)	Target Paper II	Difference (Baseline - Target)
• Wood Use	7 tons	5 tons	2 tons 14 trees	0 tons	7 tons 48 trees
• Total Energy	77 million BTU's	67 million BTU's	10 million BTU's <1 homes/year	43 million BTU's	33 million BTU's <1 homes/year
• Greenhouse Gases	11,380 lbs CO ₂ equiv.	10,116 lbs CO ₂ equiv.	1,265 lbs CO ₂ equiv. <1 cars/year	7,164 lbs CO ₂ equiv.	4,216 lbs CO ₂ equiv. <1 cars/year
• Wastewater	38,150 gallons	32,900 gallons	5,250 gallons <1 swimming pools	20,650 gallons	17,500 gallons <1 swimming pools
• Solid Waste	4,557 pounds	3,883 pounds	674 pounds <1 garbage trucks	2,309 pounds	2,247 pounds <1 garbage trucks

Display results as: chart graph

Show: basic comprehensive

Download data as: [Excel file](#) [printable PDF](#)

[Tell us about yourself](#)

START OVER **EDIT PAPERS**

The Paper Calculator is based on research done by the [Paper Task Force](#), a peer-reviewed study of the lifecycle environmental impacts of paper production and disposal. The underlying data are updated regularly.

Eliciting Behavior Change - Turning Ideas Into Action

- Provide training
- Reach the proper audience
 - Get their attention
 - Appeal to their values
 - Solicit their ideas
- Measure benefits using available tools
- Publicize the benefits
- Set the example
- Reward new ideas



Eliciting Behavior Change - Turning Ideas Into Action*

Social Marketing

- Identify barriers through surveys, focus groups, literature search, observing behavior
- Identify and publicize benefits
- Seek commitments – start small
- Use prompts



Please turn off lights



* Reference "Fostering Sustainable Behavior," Doug McKenzie-Mohr and William Smith

Eliciting Behavior Change - Turning Ideas Into Action*

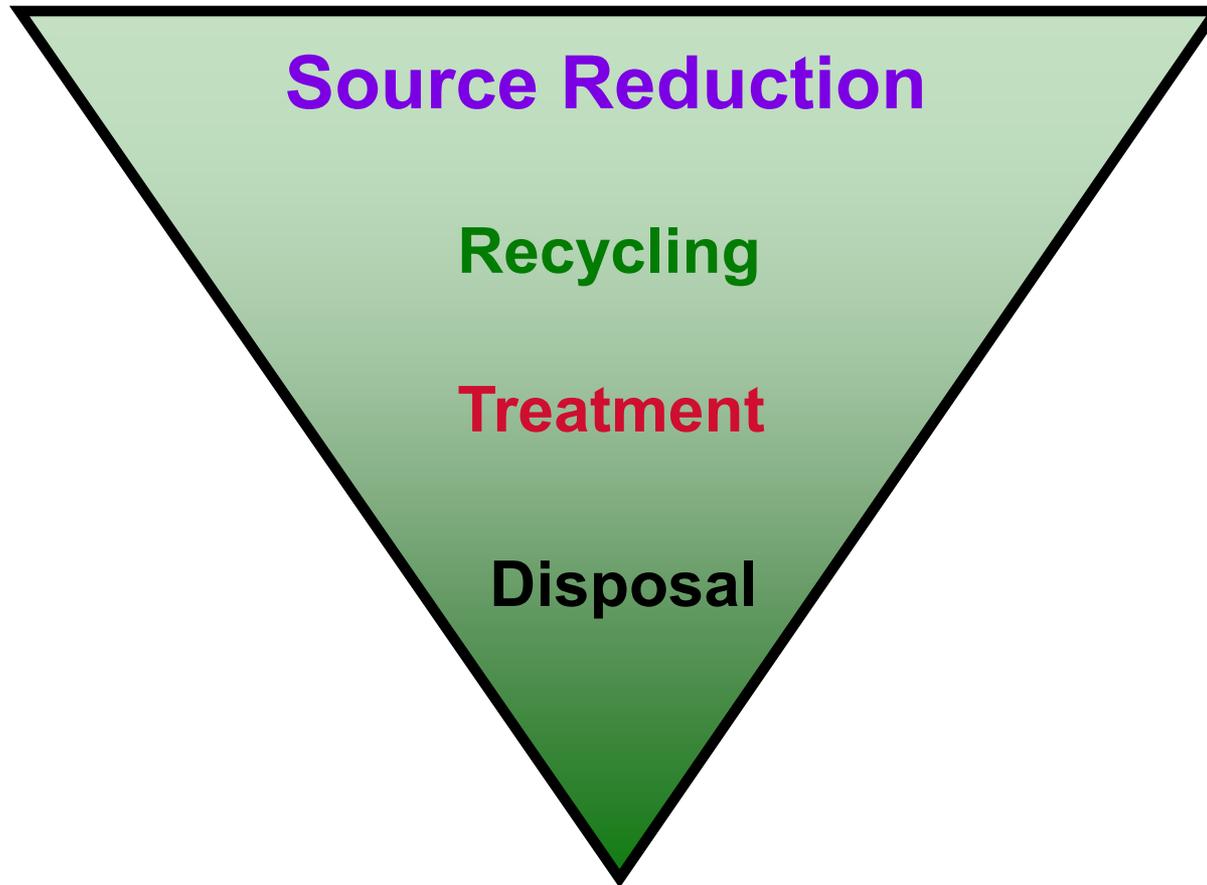
Social Marketing



- Communicate Effectively
 - Capture attention
 - Know the audience (attitudes, beliefs)
 - Use a credible source
 - Frame the message (losses and savings)
 - Ask for their input
 - Be clear and specific
 - Provide installation or activity goals
 - Provide feedback and incentives

* Reference "Fostering Sustainable Behavior," Doug McKenzie-Mohr and William Smith

EPA Pollution Prevention Hierarchy



Let's get our priorities straight!

For More Information:

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Related Services:

- Integrated Solid Waste Management Plans
- Green Procurement Plans
- Green Procurement Training and Audits
- Sustainability Climate Surveys
- Solid Waste Characterization Studies
- Recycling and Composting Consultations