

POLLUTION PREVENTION ACTIONS

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Energy Use

General

- Track overall energy bills
- Conduct an energy audit to identify efficiency opportunities
- Establish a numeric goal to reduce energy usage over time
- Calculate the environmental impacts of the facility's energy usage by using a pollution calculator
- Use Energy Star's Energy Efficiency Tips for Governments
- Encourage telecommuting, carpooling to meetings and conference calls
- Purchase and use of fuel efficient agency vehicles, including flex-fuel and hybrids
- Encourage employees to save energy by using stairs rather than elevators and manual rather than automatic doors

Heating and cooling

- Install individual thermostats for each room where appropriate; ensure they are correctly adjusted
- Install ceiling fans where appropriate
- Install ENERGY STAR-rated windows and doors
- Perform regular preventative maintenance on HVAC system
- Install a high efficiency HVAC system
- Keep office doors and windows closed if HVAC system is on
- Install geothermal heating and cooling

Source of energy

- Generate electricity from photovoltaic solar panels
- Install a solar water heating system
- Generate electricity from a wind turbine
- Purchase Green Tags or Renewable Energy Certificates to support new renewable energy resources
- Purchase Green Power from utility
- Become an EPA Green Power Partner
- Install geothermal heating and cooling

Building construction and renovation

- Achieve LEED certification during the facility's construction
- Achieve LEED-EB (existing building) certification through operational changes and renovations
- Earn the ENERGY STAR label for building(s)

Lighting

- Use natural lighting (i.e., open draperies and raise shades whenever adequate light from windows is available)
- Use lighting sensors to turn on/off lights
- Use occupancy sensors to turn on/off lights
- Adopt a policy/practice to turn off lights in unoccupied rooms
- Install high efficiency fluorescent ballasts and lamps (T-5 and T-8)
- Install compact fluorescent light bulbs in all rooms and canned lighting
- Install LED Exit Signs
- Install directional (downward-facing) lighting in parking areas and other outdoor areas
- Adopt a policy/practice to minimize the use of lighting during night cleaning

Appliances and electronic devices

- Use ENERGY STAR qualified appliances (commercial kitchens, heating and cooling, consumer electronics)
- Use ENERGY STAR qualified office equipment (computers, monitors, copiers, printers, etc.)
- Adopt a policy/practice to turn off fans, computers, monitors and other devices in unoccupied rooms at the end of the workday or when otherwise not being used
- Have joined ENERGY STAR's Low Carbon IT Challenge

Water Conservation

Outdoors

- Have an effective landscape management plan which includes one or more of the following
 - Utilizes native species
 - Utilizes metering and rain gauges
 - Minimizes lawn areas
 - Implement an effective stormwater management plan which includes one or more of the following:
 - Rain gardens
 - Pervious pavement
 - Minimization of impervious areas (paving, concrete, etc.)
 - Discourage water-based cleanup (sweep first)
- Install a green roof
- Install cisterns
- Install rain barrels
- Install drip line irrigation
- Maintain vegetative buffers around streams and ponds
- Use a nutrient management plan that minimizes the use of fertilizers
- Track overall water usage and wastewater costs
Establish a numeric goal to reduce water consumption over time
- Minimize use of pesticides and herbicides in landscaping
- Reuse cooling tower waters as much as possible and minimizing de-scale and antibacterial chemicals

Indoors

- Perform preventative maintenance to stop drips and leaks
- Use water-flow metering to discover leaks and areas of high use
- Install:
 - High efficiency dishwashers
 - Low flow faucets and showerheads (use less than 2.5 gallons per minute)
 - Low flow toilets (use 1.6 gallons per flush or less)
 - Waterless urinals
 - Composting toilets
 - Automatic faucets or toilets in public restrooms
- Use microfiber technology mops
- Develop policy to use “dry” clean-up methods (versus using spray water)

Waste Reduction

General

- Track overall solid waste costs
- Have a numeric goal to reduce overall materials that go to the landfill

Office

- Set printer defaults to print double-sided.
- For paper copies, send copies to divisions or departments to share with respective staffers.
- Use revision features in word processing software instead of printing out drafts and making hand-written comments
- Reuse draft and computer paper for notes and scrap paper
- Post office announcements in central locations rather than distributing copies
- Reformat faxes to omit cover sheets
- Preview documents before printing
- Print only needed pages rather than an entire document
- Remove facility and staff names from junk mail lists when possible [1](#)
- Reuse scrap paper for notes
- Reuse or donate shipping and packing supplies (peanuts, bubble wrap, etc.)
- Use refillable pens and toner cartridges
- Make double-sided photocopies and avoid making extra photocopies
- Use electronic correspondence and forms when possible

Restrooms

- Use bulk soap dispensers in public restrooms
- Use high-efficiency hand-dryers

Purchasing

- Assess inventory levels and sharpen controls to avoid excess inventory levels.
- Track items w/ expiration dates; don't overstock
- Purchase recycled paper with a high-percentage recycled content.

Other Waste Reduction Ideas

- Plan green meetings and conferences, using electronic means to publicize them, eliminating unnecessary handouts, limiting use of non-recyclable food service items and providing recycling opportunities for attendees.
- Encourage employees to bring washable mugs to work rather than using disposable cups.
- Encourages employees who bring their lunch to work to carry it in a lunch box and use

- Purchase recycled-content paper-towels and toilet paper.
- Consider the following when making purchasing decisions: the quality of performance and durability of product, with the cost of supplies and maintenance and any disposal costs.
- Establish exchanges for reusable or surplus items; set up a room or area for this purpose.
- Write into contracts that vendors will take back packing materials, and pallets. Request that they refill containers.
- Purchase in bulk and avoid individual packaging, where feasible.
- Consider trade-in agreements for equipment and materials to avoid disposal issues and related costs.
- Plan ahead and back haul materials whenever possible to avoid unnecessary delivery trips.

Office Recycling (with clearly marked bins)

- Paper recycling: white, mixed, general, confidential, newspaper, cardboard, telephone directories, magazines, brochures, publications, etc.
- Bottles/Cans: glass, plastic, aluminum, tin/steel cans
- Composting: food waste and yard waste
- Electronic wastes (computers, faxes, monitors) *[required to be recycled or e they must disposed of as "hazardous wastes"]*
- Batteries (NiCd & lead-acid) *[required to be recycled or e they must disposed of as "hazardous wastes"]*
- Printer Cartridges
- Fluorescent lamps & ballasts *[required to be recycled or e they must disposed of as "hazardous wastes"]*
- Miscellaneous Materials: carpeting, construction debris, electronics (computers, phones, etc.), glass, textiles, tires, wood pallets, plastics (PETE #1, HDPE #2), plastic drums, ferrous scrap metal, non-ferrous metal washable containers rather than in plastic wrap or sandwich bags.
- Buy sugar and creamer in large packages; avoid single serving sized packets.

Waste Reduction Actions for Specialty Areas:

Guest rooms

- Use bulk soap dispensers instead of individual soaps/shampoos in guest rooms
- Use refillable shampoo bottles rather than single-use bottles
- Instruct housekeeping staff to save and reuse unopened items

Kitchen (or meetings/events)

- Recycle fryer grease
- Donate excess food from events
- Compost food waste and other compostables
- Have an effective food inventory control system to minimize waste

Meetings & Events

- For conferences and meetings held outside of state facilities, strive to select a Virginia Green facility for meetings up to 50 people and select a Virginia Green facility for meetings over 50 people
- Do not procure water in individual serving-sized containers made of plastic
- Avoid the use disposable containers, dishware, cutlery, or cups
- Avoid the use foamed polystyrene containers, plates, or cups
- If disposable foodservice items are necessary, choose those that are made from renewable materials (not petroleum-based)
- If disposable foodservice items are necessary, choose those that are made from recycled content
- If disposable foodservice items are necessary, choose those that are recyclable (in your area!)
- If disposable foodservice items are necessary, choose and compost those that are made of compostable material (corn, bamboo, potato starch, sugarcane, etc.)
- Use cloth napkins
- Use reusable coffee filters
- Use non-bleached napkins and coffee filters
- Provide condiments, cream and sugar, etc. in bulk
- Use water pitchers to minimize the use of single-use bottles

Vehicle Maintenance

- Recycle vehicle fluids [*required to be recycled or e they must disposed of as "hazardous wastes"*]
- Use aqueous parts cleaners versus hazardous solvents
- Preventative maintenance of all vehicles
- Cover, distill, and reuse solvents

Green Building Maintenance:

- Perform preventative maintenance on all appliances, HVAC systems, plumbing, and vehicles
- Use indoor plants to assist in indoor air filtering
- Use last-in/first-out inventory systems to reduce unnecessary waste
- Develop an effective systems of storage, labeling, handling of hazardous materials
- Use latex, low or no-VOC paints
- Minimize the use of HVAC/cooling tower chemicals through magnetic or ionic-flux mechanisms
- Use reused building materials or those from sustainable sources
- Use green cleaning products that are dispensed in bulk
- Install carpet with sustainable or recycled content and low-VOC adhesives
- Re-use paint thinners
- Properly recycle and/or dispose of thinners and solvents (required by law)

Travel

- Encourage employee to use public transit/ridesharing
- Encourage telecommuting, carpooling to meetings and conference calls
- Purchase alternative fuel, hybrid-electric, or electric vehicles
- Provide preferred parking for electric or natural gas vehicles and bicycles

Other Resources

Green Buildings www.usgbc.org/

Environmentally Preferable Purchasing Information from EPA:

- Carpet
www.epa.gov/opptintr/epp/pubs/products/carpets.htm
- Cleaning Products
www.epa.gov/opptintr/epp/pubs/products/cleaning.htm
- Electronics
www.epa.gov/opptintr/epp/pubs/products/electronic.htm
- Fleets
<http://www.epa.gov/opptintr/epp/pubs/products/fleets.htm>
- Food Service
<http://www.epa.gov/opptintr/epp/pubs/products/foodservice.htm>
- Landscaping
<http://www.epa.gov/opptintr/epp/pubs/products/landscaping.htm>
- Meetings & Conferences
www.epa.gov/opptintr/epp/pubs/products/meetings.htm
- Office Supplies
www.epa.gov/opptintr/epp/pubs/products/offices.htm
- Paper
www.epa.gov/opptintr/epp/pubs/products/paper.htm