

NIH Environmental Management System

Take Action to Protect the Future



Suggested Business Practices for Greening Your NIH Institute or Center

An I/C should consider creating a Green Team. A Green Team would be composed of a representatives from the major activity areas: senior management, procurement, intramural research, etc. The Green Team would provide a mechanism for examining the activities carried out by the I/C and determining which ones are most suitable for greening.

Lab Business Practices

A lab or I/C might consider any of these suggestions for modifying business practices to reduce environmental impact.

- Participation in the Go Greener Lab Challenge would allow I/Cs to create a baseline of existing conditions. Business practices could be modified whether through outreach, training, policy, or procedure modifications, and then the labs can be reassessed. This mechanism allows an I/C to collect data to show how they have improved.
- The Sustainable Labs Working Group has put together a list of six priority chemicals for reduction at NIH. Phenol/chloroform, ethidium bromide, chromic acid, picric acid, phosphoric acid, and ethylene oxide. I/Cs could target labs who use these chemicals to encourage reduction, where feasible. If I/Cs do not use these particular chemicals, they might consider other chemicals that they generate for which there are greener alternatives and initiate programs for reduction.
- Replace wet imaging with electronic imaging.
- Survey number and age of refrigerators and freezers. Create plan to replace old equipment with energy efficient units. Implement and phase in over time.

Minimizing/Substituting Chemicals

- Purchase chemicals in smallest quantities needed - disposal costs for excess chemicals often exceed the original purchase price.
- Order chemicals in reusable/returnable containers.
- Use less toxic alternative chemicals, such as less toxic lab stains or solvent substitutes.
- Reduce use and disposal of radioactive materials by using non-radioactive alternatives, materials with lower activities, or short-lived radionuclides.

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Labs (*continued*)

Minimizing/Substituting Chemicals (continued)

- Replace your mercury-containing equipment with non-mercury substitutes (<http://nomercury.nih.gov>).
- Design your experiments to use the minimum amount of chemicals possible.
- When researching a new or alternative procedure, consider the amount of waste produced as a factor.
- Share your techniques for minimizing wastes with colleagues.

Pollution Prevention and Water Conservation

- Store chemicals properly and use secondary containment to contain leaks or spills.
- Ensure wastes types are disposed of in separate, proper containers (<http://www.orf.od.nih.gov/EnvironmentalProtection/WasteDisposal/Pages/default.aspx>)
- Keep containers of chemicals closed at all times.
- Do not dispose of chemicals down the drain.
- Keep containers labeled to avoid costly analysis required to identify wastes for disposal.
- Recirculate water in cooling water systems.
- Identify and have leaking faucets fixed – For a maintenance request call 301-435-8000 or fill out an online maintenance request at: <http://orf2.od.nih.gov/58000/WRnewX.asp>.
- Use backflow prevention devices to protect potable water from contamination

Energy Savings

- Turn off lights when not in use and use natural lighting when possible
- Turn off computers and office equipment at the end of every workday
- Unplug equipment (e.g., vacuum pumps, heating and cooling equipment) when not in use
- Purchase Energy Star[®] equipment and enable energy savings features where possible

Additional Resources

- International Institute for Sustainable Laboratories (I2SL)
<http://www.i2sl.org/>
- American Chemical Society's Green Chemistry Institute
<http://www.acs.org/content/acs/en/greenchemistry.html>
- Massachusetts Institute of Technology's Green Chemical Alternatives Purchasing Wizard
<http://ehs.mit.edu/site/content/green-chemical-alternatives-purchasing-wizard>



Office Business Practices

Participation in the Go Greener Office Challenge would allow I/Cs to create a baseline of existing conditions. Business practices could be modified whether through outreach, training, policy, or procedure modifications, and then the labs can be reassessed. This mechanism allows an I/C to collect data to show how they have improved.

An office or I/C might consider any of these suggestions for modifying business practices to reduce environmental impact:

Purchase

- Purchase office supplies and furniture that contain recycled and non-toxic content to conserve natural resources and reduce waste (<https://www.gsaadvantage.gov/advgsa/advantage/search/specialCategory.do?cat=ADV.ENV>)
- Purchase Energy Star[®] equipment and enable energy savings features on computers

Reduce

- Double-side all printed and copied materials
- Limit what you print and scan what you can
- Turn off lights when not in use and use natural lighting when possible
- Activate the power down features in Energy Star[®] computers and monitors to enter into a low-power or sleep mode when not in use
- Turn off computers and office equipment at the end of every workday
- Unplug equipment (e.g., phone chargers, radios, coffee makers) when not in use since they continue to drain energy when left plugged in
- Use compact fluorescent lights
- Use the stairs instead of the elevator

Reuse

- Use durable reusable plates, cups, and utensils
- Participate in Transshare – Carpool, bike, or use mass transit to commute to/from work (<http://dtts.ors.od.nih.gov/transshare.htm>)

Recycle

- Paper, binders, folders, catalogs, boxes, bottles, cans, batteries, electronics
- Toner and inkjet cartridges – Profits go to NIH Charities
- Donate used furniture and electronics through the Property Reutilization and Disposal Section (<http://olao.od.nih.gov/division-logistics-services/property-management-branch/property-reutilization-disposal-section>)



Clinical Center Business Practices

Energy and Water Conservation

- Reduce energy consumption and atmospheric pollution, including chlorofluorocarbon (CFC) reductions, renewable energy, reduced energy consumption, green power and reducing ozone. See opportunities under labs and offices for examples.

Indoor Environmental Quality

- Incorporate low-VOC paints, adhesives and materials to avoid offgassing of formaldehyde, toluene and other carcinogenic compounds.

Healthy Hospital Food

- Include access to fresh, local, and organic foods for patient and staff meals.

Green Education

- Train staff in waste reduction, toxics reduction and recycling.

Procurement

- Seek out recycled paper, water-efficient laundering, energy-efficient equipment, low-phosphate or other green products.
- Reduce toxics

Proper pharmaceutical disposal

- Take back programs
- Educating patients on proper disposal.

Green Cleaning

- Use cleaning products that do not release hazardous chemicals.

Animal Care Business Practices

- Use citric acid. NIH could reduce phosphate emissions by roughly 10-12 tons per year simply by changing the soap used in many laboratories. Use of phosphate-free soap at the lab sink or cage washer can help protect the Chesapeake Bay watershed.

