

Green Practices Guide



**Greening your life through
simple sustainable applications**

*Brought to you by:
Northern Arizona University's Office of Sustainability*



What Impact Do You Have on the Environment???

- * Greenhouse emissions from coal and natural gas-fired generating facilities contribute to urban air pollution, acid rain and climate change. Conserving or reducing energy use lowers the impact of all energy generating sources on the environment.
- * The United States uses roughly 30% of the world's resources but only makes up about 5% of the world's population.
- * More than 40% of our energy consumption goes into the built environment; however, building green buildings optimizes natural energy systems and minimizes resource waste.
- * To manufacture a typical desktop computer produces 139lbs. of waste and more than 49lbs. of hazardous material.
- * Learn more about sustainability by visiting the Office of Sustainability at home.nau.edu/sustain



FACT:

Every kilowatt hour of energy saved corresponds to 1.5 pounds of CO₂ emissions



Check This Out!

Calculate your carbon footprint on the earth by visiting:

<http://www.bp.com>
and clicking on the carbon footprint calculator!

Energy Saving Tips for Computing and Printing

- * **Look for Computers and Copiers that bear the ENERGY STAR® label to ensure an efficient machine.**
- * **If you won't be using a computer or monitor for an hour or so, TURN IT OFF!**
- * **If you are going to buy a new computer, consider a laptop which consumes about 90% less energy than a desktop!**
- * **Make your life more PAPERLESS by sending any documents you can *electronically*.**
- * **Do all editing on screen OR, if a hardcopy draft is necessary, use scrap paper.**
- * **Always utilize the other side of the paper and copy double-sided on your photocopier if it designed for duplex printing.**
- * **Save work to CD or disk rather than printing everything out.**
- * **Choose an Inkjet printer vs. a Laser printer. Instead of drawing 60-100 watts of energy, they only use 10-15 watts. However, be aware that inkjets do not necessarily last as long and will need to be recycled sooner.**
- * **Enable "Sleep Mode" on your computer. This can be turned on and off through the control panel. But even better, turn off your monitor whenever possible as "sleep mode" is less efficient.**
- * **Modern computers are designed to withstand frequent shut downs so whenever you can, shut down your computer and turn off your monitor to save energy.**

Campus life just got a little greener...

Tips to "living green" on campus

1. When on campus, walk, ride a bike (like one from the Yellow Bike Program) or take the bus rather than driving. Chances are it is faster and it definitely improves the campus air quality.
2. Know where you can recycle on campus and hold onto your recyclable soda can or paper lunch bag until you can get to one.
3. Pack lunches and snacks in reusable containers.
4. When printing or copying, consider using both sides of the paper and recycle any scrap paper you don't need.
5. Report leaks and maintenance to FAST – we are all stewards of our campus.
6. If you work on campus, ask to purchase green supplies instead of virgin materials and hazardous chemicals.
7. Reuse, reduce and recycle whenever possible. Learn to rethink and be creative by throwing away waste only when absolutely necessary.





Eating Green



Steps to becoming a sustainable consumer

Buy locally produced foods when possible. Local foods travel shorter distances to reach you so they are responsible for less greenhouse gas emission!

Avoid Disposable Plates, cups and utensils. Instead, consider purchasing reusable cups for weekly meetings and ask attendees to bring them back each week!

Buy a water filter instead of drinking bottled water.

Pack your lunches in reusable containers to reduce waste.

Try organic produce. It is free of pesticides and places less stress on the land.



Eco-friendly Faxing

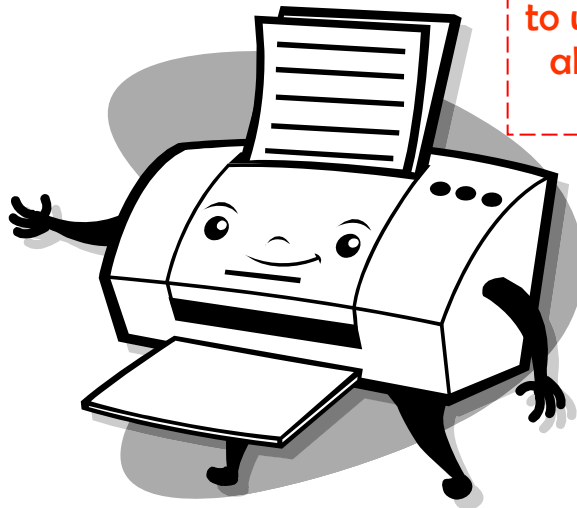
How to make your same old machine a new energy saving tool...

Eliminate the cover sheet-

Companies like Post-it® make small cover sheet adhesives that can save paper and still look professional and complete.

Consider printing faxes on scrap paper -

Fax machines only print on one side of the paper so it's easy to use paper that has already been used once.



Email Instead of faxing whenever possible -

By sending documents through email instead of fax you not only save time, you save paper and energy too!

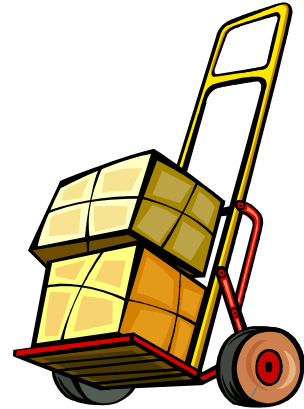
Try adding a fax modem to your computer -

This allows for paperless faxing and electronic storage of faxes received.

Green Mailing and Packaging

Green Mailing and Packaging

Practice Working Green in *your* office by cutting down on waste. Here's How...



- **Buy Products like envelopes and boxes in bulk** – Purchases bought in bulk minimize packaging and often cost less.
- **Team Buy** - If bulk is too much for your office, consider team buying with another office.
- **Use email** – It's faster, easier and even if people end up printing a copy, you have still saved envelopes.
- **Double side it** – For insignificant documents and letters, send correspondences on scrap paper that has already been printed on once.
- **Reuse Envelopes** – If you are sending intercampus or interoffice mail, consider using envelopes that have been previously sent to you.
- **Reuse Packing Materials** – No need to throw out all those packing peanuts! Use them again in the next package you send.



"Clearing Up" the Grey Water Mystery

Waste water in your sink – Don't let it go down the drain! Catch it in a receptacle like ENVROsink® and use it to water your plants or even dishes. This is especially useful when you are waiting for the water to get hot.

Cooking water – Use the water you boil broccoli or pasta in to feed your plants indoor AND out. The extra nutrients make for healthy, happy plant life!

Wash Water – Draw water into a pan or the sink to wash vegetables or anything you would normally wash under running water.



Rain Water – Consider purchasing a 50-gallon plastic barrel from Coconino County for rainwater collection. They have spigots pre-attached for easy use.

A Green Home is a Happy Home

Turn off Space heaters and fans when you leave the room for more than a few minutes.

Put vegetation around the house to keep your home cool and improve the atmosphere in general.

Save water by taking shorter showers, turning off the water when brushing your teeth and only doing laundry when you have a full load (using the cold setting as much as possible).

Use your window shades – In winter open south-facing shades and in summer north-facing shades to regulate the temperature in your house.

Keep your thermostat below 70°F in winter and above 75°F in summer.

Insulation is key to keeping energy costs down in your home. Be sure both your home and air ducts are well insulated.

Keep windows and outside doors closed to keep temperature regulated when air is on.

Unplug appliance that are not being used often like fans, toasters, and space heaters.

Clean and Green

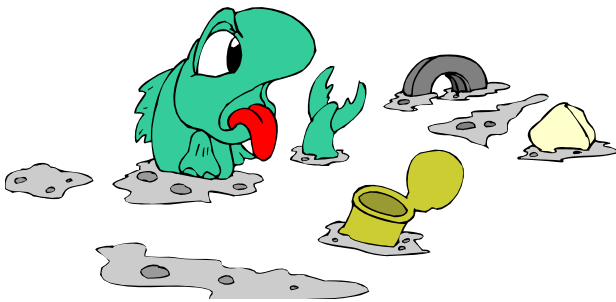
When you or your department purchase supplies, look for at least some of the following criteria on the packaging:



- **Renewable**
- **Non-toxic**
- **Plant-based/Natural Ingredients**
 - **Chlorine and Ammonia free**
 - **Non-Aerosol**
 - **Biodegradable**
 - **Phosphate free**
 - **Locally Grown/Produced**
- **No animal ingredients/cruelty free**
 - **Hypoallergenic**
 - **Upgrade potential**
 - **Recycled/Recyclable**

Scary Eco-Facts You Should Know...

- ☠ **89 tons of plant material is required to produce one gallon of gasoline.**
- ☠ **1 in 10 tree species is currently threatened with extinction.**
- ☠ **51% of all fresh water species are considered threatened.**
- ☠ **If you drive a mid-size car the average 12,000 mi/yr, your vehicle leaves in its wake 4 1/2 metric tons of carbon.**
- ☠ **One ton of virgin copy paper requires 98 tons of resources to produce.**
- ☠ **According to the EPA, the air inside a typical building is on average 2-5 times more polluted than the air outside.**
- ☠ **Some compounds in cleaners are highly toxic and can cause eye, skin, mucous membrane, or respiratory problems or even cancer.**
- ☠ **The U.S. uses ~30% of the world's resources but only contains ~5% of the world's population!**
- ☠ **40% of U.S. energy use is in our homes, offices, and other buildings.**





Walking the Talk



Sustainable Happenings at NAU

LEED Certified Buildings on Campus – NAU is home to three LEED “green” buildings. The Franke College of Business and the Engineering buildings were awarded LEED Gold status while the Applied Research and Development (ARD) building attained LEED Platinum designation. ARD has been named the ‘greenest’ building in higher education by the Chronicle of Higher Education.

Not all construction projects have to be LEED certified to be green. The new Aspen Crossing Residence Hall as well as McKay Village Residence Complex recycled construction materials during building, use efficient heating and cooling systems, and use reclaimed water in their landscaping.

The University’s administration started a pilot program this year by giving all faculty and staff free city bus passes called the ecoPass. This cuts down on commuter emissions and improves traffic issues on campus.

The Office of the VP for Research offers the Hooper Student Fund each year to qualified undergraduate and graduate students interested in receiving funding for sustainability projects. The Hooper Fund particularly encourages projects relating to the environmental needs of Native American communities.

Students for Sustainable Living and Urban Gardening (SSLUG) is a new student group that manages the South Dining composting program and a campus community garden.

Alternative Fuel Facts



	Environmental Impacts of Burning Fuel	Energy Security Impacts	Fuel Availability
Gasoline	Though rapidly improving, produces harmful emissions.	Refined largely using imported oil, which is not an energy secure option.	Available at all fueling stations.
Biodiesel (B20)	Reduces particulate matter and global warming gas emissions compared to conventional diesel. NOx emissions may be slightly increased.	Domestically produced and has a fossil energy ratio of 3.3 to 1, meaning its fossil energy inputs are similar to those of petroleum.	Available in bulk from an increasing number of suppliers. There are 22 states that have some Biodiesel stations available to the public.
Electricity	Electric Vehicles have zero tailpipe emissions; however, some amount of emissions can be contributed to power generation from the recharging of batteries.	Electricity generated mainly through coal fired power plants. Coal is the United States' most plentiful fossil energy resource as well as one of the most environmentally harmful.	Most homes, government facilities, fleet garages, and businesses have adequate electrical capacity for charging, but, special hookup may be required. More than 600 electric charging stations available in California and Arizona.
Ethanol (E85)	Can demonstrate a 25% reduction in ozone-forming emissions compared to reformulated gasoline.	Ethanol produced domestically and is renewable. However, in many cases ethanol is produced from food sources thereby causing competition in the food industry.	Most of the E-85 fueling stations are located in the Midwest, but in all, approximately 150 stations are available in 23 states.
Hydrogen	Zero regulated emissions for fuel cell-powered vehicles, NOx emissions only possible for internal combustion engines operating on hydrogen.	Hydrogen can help reduce U.S. dependence on foreign oil by being produced by renewable resources.	There are only a small number of hydrogen stations across the country. Technology not fully developed.

WHO TURNED OUT THE LIGHTS!?!?

Hopefully You! Use these tips to save energy and \$\$\$

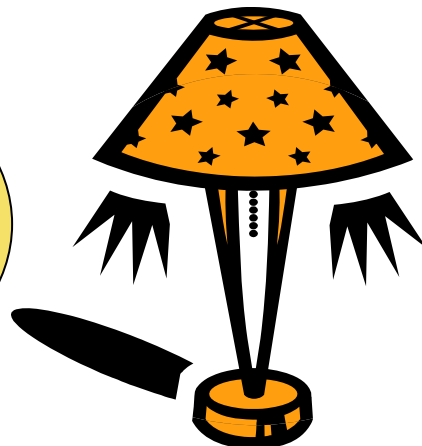
Contrary to popular belief, if you will be gone for more than two minutes, it is more energy efficient to turn the lights off.

Utilize natural light from windows instead of overhead lights. If you feel you need a small lamp on your desk, you are still saving energy.

Solar and photovoltaic lighting are becoming more and more affordable and more accessible to the common U.S citizen. Consider lighting your yard or even your home with solar lighting.

To ensure lights are only in use when needed, look into installing occupancy sensors in your home or office. They will turn lights on only when they detect motion in the room.

When your normal incandescent light bulb burns out, consider replacing it with an energy efficient compact fluorescent lamp (CFL). A 25-watt CFL has the same light output as a 100-watt incandescent!





"On the Move" with Green Transportation

- Get a Tune up and you will see significant increases in miles per gallon fuel savings and emissions reduction.
- Remove excess weight from your car. For every 100 lbs. in your vehicle, your mpg is reduced by 2%.
- You consume gas much more quickly when you accelerate quickly - so consider gradually taking off when you get the green light for improved overall mileage.
- Keep windows closed at highway speeds – air drag can reduce gas mileage by 10%.
- Pick a lane! Studies have shown that switching lanes frequently does not significantly save trip time. Instead, stop the constant surging to get into the empty lane and relax in cruise control.
- Ride your bike or walk on campus as often as possible and you will be making a major contribution to the environment and your health!
- Take the bus when possible – it's the ultimate carpool.
- If you must drive, combine trips and carpool as much as possible.
- If you are planning on buying a car, ask your dealer about hybrids and other fuel-efficient vehicles.

How Do I Recycle This!!!!!!!

Old Computers:

Most cities have drop off locations that will take used computers and either properly recycle them or donate them to local charities. For a drop off location near you, visit www.rbrc.org.

Old Appliances:

"One man's trash is another man's treasure." Take old appliances to a collection agency like Goodwill Industries. Broken items will be fixed and resold or scrap materials will be sold for recycling.



Batteries:

Household batteries and car batteries alike contain hazardous materials that **MUST** be disposed of properly. Check your yellow pages or city website to find a local hazardous materials collection center.

Used Carpet:

Natural fiber carpets can easily be composted. Synthetic carpet can be recycled but it is usually easiest to do so through an installation or renovation company who can do it on a large scale. Just call and ask!

Cell Phones:

Cell Phones contain toxic materials and can easily be reused. Consider donating to a local charity that may have use for it. Or, take your phone and phone parts to any Sprint PCS or Staples store where it will be properly recycled.

Northern Arizona University's Green Practices Guide Bibliography:

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