

Acknowledgments



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Comments and suggestions are welcome.

Anyone interested in contributing to the Green Graduates Guide fourth edition for next year's graduating class is encouraged to contact the **Yale Student Environmental Coalition** (www.yale.edu/ysec).

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Letter



Dear Graduates,

Over the past four years, the Yale College Class of 2009 has amassed a wide array of skills and interests that will enable each member to contribute to the world in unique and interesting ways. From molecular biochemistry to art history to linguistics, each of you has learned, as well as contributed, insight into how the world works. As you move beyond this university and find yourself in a new community, we ask you to think about how you want to influence the world around you.

The population of our planet is booming, but our resources are not. As we face the future in a world of limited resources, we must adopt lifestyles that will allow us to sustain our well being. **Sustainability is not about sacrifice. It is about being part of a broader social and ecological community.**

Sustainability means using our resources responsibly and living in a way that protects the environment around us, both for ourselves and for future generations. It is a concept that needs to be incorporated into our everyday consciousness—into our actions at home, at work, and everywhere in between.

Many of us would like to live more sustainably but don't know where to start. That's where this book comes in. We have put together a guide detailing how you can "go green." Inside you'll find useful information and tips about how you can reduce your impact on the Earth without a big impact on your lifestyle. No matter what your career or living situation, implementing some of these suggestions can make a real difference.

As you incorporate these small changes into your life, we hope you will be inspired to think about the personal reasons you have for reducing your



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impact on the Earth. The class of 2009 is passionate about causes as varied as women's rights, species conservation, and cancer research. While some of these passions are more obviously "environmental" than others, when you think about it, everything relates back to the environment in some way. Our environment is where we live, and it influences us in profound ways. We all have reasons for protecting its integrity.

In writing this guide, we were overwhelmed by the wealth of information that is available on how to live a sustainable life. We have included a number of links where you can find more information, but feel free to do your own research and pick up where we've left off. If you have comments or ideas for additions to next year's Green Graduates Guide, please contact us through our website at www.yale.edu/ysec.

Best of luck and congratulations,

The Yale Student Environmental Coalition

Energy



ENERGY SOURCES

In most heavily populated areas, electricity is provided by and purchased from a single grid. Since over 80% of energy in the U.S. is currently supplied by fossil fuels, most of the energy provided through the grid is produced from nonrenewable energy sources. Other **cleaner energy sources**, however, are available and becoming more common.

Solar: Solar power, theoretically, is the most efficient energy source, since almost all energy at the surface of the Earth originates from the Sun. The viability of solar power, however, depends greatly on location; factors such as latitude and cloud coverage are key in determining how effective solar power will be. The hot and dry southwestern U.S. is one area where solar power is very efficient and has enormous potential. Vast solar farms are being planned and built to take advantage of this resource. Solar power is also used throughout the country from northern Maine to southern California.

Wind: Wind power is one of the most rapidly developing energy sources. It provides just over 1% of the world's total power, but 5-20% of the power in many European countries. There is great potential for wind power in the U.S. as well, especially in the Great Plains region and in offshore locations. While there are some concerns regarding aesthetic appearance and danger to birds and wildlife, these are still fairly minimal compared to other renewable and nonrenewable energy generation methods.

Hydropower: Hydroelectric power currently supplies 19% of the world's total energy needs, and is one of the oldest and most established energy generation methods in existence. For the present and near future, hydroelectric power is one of the most powerful and promising renewable technologies; however there are environmental concerns related to human displacement, aquatic wildlife disturbance, and other issues related to the construction and use of dams. There is also the possibility of decomposing vegetation submerged in dam-



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related reservoirs giving off carbon dioxide and methane. This problem can be significantly mitigated by clearing the area before it is flooded. In addition, run-of-the-river hydroelectric systems offer the possibility of capturing energy with less water sequestration and flow disruption than conventional dams.

Nuclear: Nuclear is the most widely-used non-fossil fuel source in existence. It is the largest energy source for many European countries, and in the U.S. it supplies 20% of our energy. That said, there are well-known concerns about nuclear energy, from waste disposal, vulnerability to terrorist attacks to economic viability. At least from a carbon emissions standpoint, nuclear energy is a cleaner alternative to fossil fuels and has the ability to supply a lot of energy. Nuclear energy does require fossil fuels, though, to harvest, refine, and transport uranium.

Biofuel: Biofuels such as corn-based ethanol have been touted as carbon-neutral because the carbon released when burning the fuel for energy is reabsorbed by the fuel crops when they are planted. But this fails to take into consideration the energy input needed to grow the crops (fertilizer), convert the crop to fuel, and the vegetation the crops displace. Biofuels require more land, which takes land away from food crops and provides incentive for deforestation worldwide. This is problematic considering even grasslands in the Midwestern U.S. absorb a whopping 93 times more CO₂ than corn planted for ethanol. There are other crops that are far more efficient for producing biofuels than corn, including sugar cane ethanol, which is used in Brazil, and cellulose-based crops like switch grass, which could provide greater efficiencies for the Midwest. Another biofuel source that has a lot of potential is algae. Photosynthetic algae can grow using carbon dioxide from power-generation facilities, so algae could both provide energy through biodiesel and cut back on emissions from carbon-emitting plants.

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Geothermal: Geothermal installations use the energy from hot rocks deep within the earth to heat water that is then used to generate energy at the surface. Heat pumps are one variation of geothermal that can be used for heating and air conditioning. They take advantage of the fact that the earth's temperature a few feet below the surface stays relatively stable throughout the year. Thus, geothermal energy can also be used to cool buildings in hotter climates.

Biogas: Biogas takes methane from manure on animal farms and waste decomposition in landfills and burns the methane to produce energy. Methane has 20 times the greenhouse effect that the equivalent amount of carbon dioxide has, so even though carbon dioxide is produced, a much more potent greenhouse gas is prevented from entering the atmosphere. As a result, these projects tend to be greenhouse-negative (reducing the net greenhouse effect while producing energy), which is better than even most renewable energy sources!

ENERGY SAVING BEHAVIOR

Here are three ways to reduce your reliance on fossil fuels and your carbon emissions:

1) The easiest step: buy renewable energy for your home from your energy provider. Pick an energy supplier that uses renewable energy sources like solar, wind, geothermal, and hydroelectric. In Connecticut, with New England GreenStart, you can power your home with renewable energy for only an additional \$12 per month. It is as easy as checking a box on your utility bill!

- Find out what green power options are available in your state at www.eere.energy.gov/greenpower.



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Another option is to offset energy usage by buying renewable energy credits or futures:

Renewable energy credits - renewable energy providers sell energy elsewhere in the United States, notably in locations where clean energy facilities are already integrated into the power grid. While you will still receive electricity from your local provider, a designated amount of energy will be able to be sold by a renewable energy provider elsewhere in the United States at the market rate, compensating environmentally for your own (or our institution's) energy use. This indirectly encourages the use and growth of renewable energy.

- Check out Green-E (<http://www.green-e.org/>), the leading independent certification and verification program for proven and quality renewable energy credits.

Energy Futures - takes a direct approach to building renewable energy installations. Individuals or institutions donate money to a company which combines funds from many sources to build a new wind farm, solar installation, or other renewable energy source.

2) Taking it to the next level: buy carbon offsets to account for your energy use outside your home such as driving and flying.

Carbon offsets - combine the above approaches, usually by supporting a variety of projects. These can include subsidizing the extra costs of existing renewable energy providers and supporting the construction of new installations, but also include funding other activities such as rainforest reforestation that remove greenhouse gases from the atmosphere.

Carbon Footprint - Individuals and companies can calculate their greenhouse gas emissions or “carbon footprint”, and then pay to offset their total carbon footprint, or adjust their impact from certain activities such as travel.

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- Some providers, such as Carbonfund.org are non-profit; others, such as TerraPass.com are for-profit companies. Non-profits tend to give you more bang for your buck (i.e. tons of CO2 offset per dollar), as they have lower overhead costs. These websites (and others) also have carbon calculators where you can calculate your approximate personal carbon footprint.
- Ecobusinesslinks.com is one site that compares different offset providers using criteria including price, project type and whether they are for-profit companies.

Vampire Power

A huge amount of energy can be saved by unplugging appliances when they are not in use

Cell phone chargers continue to drain 95% of their energy use when plugged in to the wall, without a phone

Entertainment systems (televisions, stereos, VCR's/ DVD players) are especially standby energy-intensive, typically accounting for around 61% of standby energy use in homes. VCRs alone use 89.2% of their energy when not in use.

A simple option is to plug appliances into outlets controlled by light switches, to be turned off when leaving the room

"Smart" power strips automatically shut off energy use in appliances that have been idle for a long time



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3) Now you're hardcore: Install your own solar or wind power-generating system.

- Everyday people are installing solar panels and wind turbines on their homes as energy prices go up and technology prices go down.
- If you generate more energy than you use, the energy can often either be added to the grid and possibly deducted from your power bill, or your house can be off the grid entirely.
- Look for tax credits and tax subsidies available in some states, which will offset technology and installation costs.

General Energy Saving Tips

- Turn down the heat and air conditioning. Most rooms will feel comfortable at 68 degrees F (20 degrees C) in the wintertime and 78 degrees F (25 degrees C) in the summertime.
- Turn down the thermostat at night; many people like to sleep at a cooler temperature anyway, and unless it's during a really hot summer this saves energy as well.
- Use room, ceiling, and/or portable fans during the summer; this will make the room feel cooler without actually having to cool down the entire room.
- Open the window curtains during colder months to let sunlight in; keep the curtains closed during the summer months in rooms that aren't in use or when you're away.
- Wash your clothes using the "cold" or "warm" water setting rather than using hot water.
- When possible, cook using the microwave rather than the stove, which wastes more energy through excess heat

Energy



Before you leave home:

- Turn off all the lights.
- Unplug any appliances not in use, especially computers, TVs and chargers. To make this process easier, plug your electronics into power strips that can be quickly unplugged. Or use outlets that are attached to a light switch.
- Turn off the heat/air conditioning. Or set the thermostat higher in the summer and lower in the winter

ENERGY SAVING PRODUCTS

EnergyStar Appliances: When shopping for your next microwave or fridge, be sure to look for appliances that are EnergyStar-certified. EnergyStar models are the most energy-efficient in any product category and exceed the energy efficiency minimums set by the federal government. These products' efficiencies will save money on your monthly energy bill.

Insulation: About 50-70% of the energy consumed by the average American household is from heating and cooling, and inadequate insulation can cause a lot of wasted energy. With improved insulation, less energy is required to heat and cool our buildings. There are several different types of insulation: fiberglass, cellulose, rigid foam board, spray foam, and reflective insulation.

The performance of insulation is measured in **R-value**; the higher the R-value the greater the insulating power. Insulation is most effective when there is no air moving in or around it. Thus, it is best to seal leaks before installing insulation. Especially in homes, attics are critical locations for insulation. For most attics, a rating of R-38 is recommended. In colder climates R-49 insulation is recommended. Remember that insulation is not just for up north because it keeps the cool air in as well as it keeps it out.



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Air Conditioning: Energy efficiency for air conditioners is measured via two rating systems. These ratings are the **Energy Efficiency Ratio (EER)**, which is used for room air conditioners, and the **Seasonal Energy Efficiency Ratio (SEER)**, which is used for central air conditioners. These ratings include how much heat energy is removed per hour for each watt of energy used.

- Look for an EER rating of at least 11.6 and a SEER rating of at least 13. EnergyStar-certified air conditioners have higher EER and SEER ratings.
- Make sure that your air conditioner is appropriate for the size of the room you are cooling. Using a larger unit than is necessary results in lower efficiency and higher energy use.

Types of Lights:

Incandescent - is the most common type of light bulb in use today, but not the most efficient – 90% of the energy it releases is heat, rather than visible light.

Halogen - Halogen light bulbs are generally more efficient than incandescent bulbs, producing higher intensity light with the same power input. However, it also heats up to a higher temperature and can be a potential burn and fire hazard.

Compact Fluorescent (CFLs) - Compact fluorescent light bulbs are 3 to 4 times more efficient than incandescent bulbs, and do not heat up as much as incandescent or halogen bulbs, so they are very safe to use. They also typically have much longer lifetimes than incandescent bulbs (10 to 20 times longer); it's no wonder they are widely considered the standard energy-saving light bulb today.

Light-emitting diodes (LEDs) - They will probably be the standard energy-saving light bulbs of tomorrow. These small lights are currently used as indicator lights and in flashlights, nightlights, and in other low power situations; but are slowly being incorporated into whole-room lighting. These lights have

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very long lifetimes (generally even longer than CFLs), but they are only generally used at low power levels due to their high cost per watt, and their energy efficiency is widely variable.

Batteries: Buy rechargeable batteries and a solar battery charger. Even if a solar battery charger is not available, rechargeable batteries last longer and therefore require less energy to make and produce less waste. Newer models can be recharged and reused more than 1000 times. When the batteries are no longer usable, (which will happen a lot less often with rechargeable batteries), make sure they are disposed of with hazardous/technology waste and not combined with regular trash (more information in Electronics Section).

Dishwashers: The most efficient dishwashers use less hot water, have energy-efficient motors and use sensors to determine the length of the wash cycle and the water temperature needed to wash dishes effectively. Remember to check for the EnergyStar certification to ensure energy efficiency. The latest EnergyStar models use 25% less energy than the national guidelines require.

MORE INFORMATION

General Information:

[Energystar.gov](http://energystar.gov)

U.S. Department of Energy, Energy Efficiency and Renewable Energy, “A Consumer’s Guide”:

www.eere.energy.gov/consumer/

Buying Clean Energy:

<http://www.nrdc.org/air/energy/gcleanen.asp>

Comparison of carbon offset providers:

http://www.ecobusinesslinks.com/carbon_offset_wind_credits_carbon



Water Use

WATER SOURCES

Only 3% of the Earth's water is fresh. Most of the water we use goes towards growing food; smaller percentages are used domestically and in industry. Over 1 million people worldwide lack access to safe drinking water, even though the necessary amount has been estimated at only 20-50 liters per day. In the United States, **average domestic water usage per person per day is 750 liters.** Counting the water used in industry and agriculture to produce the food and products we use, average per capita water use rises to 2500 liters! As climate change alters precipitation patterns worldwide, water conservation will become one of the most important issues of the 21st century.

Bottled Water vs. Tap Water

Tap Water is **SAFER**

- U.S. public tap water is safe to drink
- US tap water is regulated by the EPA (given daily tests for bacteria and toxic chemicals)
- Bottled water is regulated only if it crosses state lines, and 70% of bottled water remains in state

Tap Water is **CHEAPER**

- A gallon of bottled water (5 cents/oz) can be more expensive than a gallon of gas (2-3 cents/oz)
- A gallon of municipal tap water cost less than 1 cent
- Americans pay \$15 billion a year for bottled water

Tap Water is **BETTER FOR THE ENVIRONMENT**

- The production and transportation of bottles requires a huge amount of energy—more than 17 million barrels of crude oil to manufacture and deliver 29 billion plastic bottles per year in the US
- The yearly energy used to produce bottled water would be enough to power 190,000 homes

In addition, at least 25% of bottled water is just repackaged tap water

SOURCES: <http://lighterfootstep.com/5-reasons-not-to-drink-bottled-water.html>,
<http://www.earth-policy.org/Updates/2007/Update68GA.htm?gclid=CP33IZir7ZICFRMvHgod9w8pcQ>, <http://www.allaboutwater.org/tap-water.htm>

Water Use



WATER-SAVING ACTION

The following simple water-saving tips and information will help you be conscious of your water use.

In the Kitchen:

- Never wash dishes under running water—fill up the sink part-way and wash with that water.
- Filling and running the dishwasher uses one-sixth the water used washing dishes by hand.
- Use the light wash setting when appropriate and always use the air-dry setting on your dishwasher.

In the Laundry Room:

- Run the washing machine only when full and make sure the water level matches the load size.
- Consider using towels and certain articles of clothing (jeans and sweatshirts) more than once before washing.

In the Bathroom:

- Take shorter, more efficient showers, and if you need to shave or leave a hair product in for several minutes, turn off the water.
- If your shower water takes time to warm up, catch the water in a bucket and later use it to water plants or flush toilets.
- Insulate hot water pipes in your house, so less water needs to run before hot water reaches the faucet.
- Identify any leaks in faucets, toilets, or other plumbing and have them repaired.

In the Yard:

- Use native plants, which are adapted to the climate of the area and don't require extra water. In arid climates, **xeroscaping** is a good choice.



Water Use

- When plants and lawns are over-watered, they don't absorb the additional water and water is wasted.
- Set automatic sprinklers to water at night, when it is coolest. Especially in summer, watering during the day leads to excessive loss from evaporation.
- Make sure sprinklers are well-placed so that no water is being wasted on driveways and sidewalks.
- Decrease water runoff by putting mulch around plants and aerating your lawn.

"Grey Water" is wastewater produced from baths, showers, laundry, dishwashing—basically any wastewater that does not contain toilet or food waste. Consider having a plumber reroute gray water from your house to water outdoor plants or to be used in toilets. Check your local city code to find out if gray water rerouting is possible.

WATER-SAVING PRODUCTS

- Most Americans can drink their tap water. For improved taste or additional purification, **water purifiers** can be screwed on to your faucet or found as pitchers to keep in your refrigerator.
- Install shower heads and faucets that use increased pressure to save water.
- Newer models of dishwashers use less water, and don't require dishes to be rinsed before being run.
- **Front-load washing machines** generally use less water than top-load ones, because the clothes can cycle through a small amount of water rather than having to be constantly submerged.
- Replace old toilets with newer toilets that have water-saving technology such as the **dual-flush or pressure-assisted features.**

Water Use



- Dual-flush toilets vary the amount of water used per flush depending on need, and as seen throughout Europe, are very cosmopolitan.
- Install a sprinkler system that uses a sensor to measure the amount of moisture in the soil and waters only as much as necessary.
- Install automatic **rain shut-off devices** for your sprinklers.
- Set up a **rain barrel** to collect water during storms, which you can later use in gardening.

MORE INFORMATION

General:

www.wateruseitwisely.com

www.lenntech.com/water-usage-FAQ.htm

www.watertechonline.com/



Rethinking Recycling

There is no reason not to recycle. In addition to cutting greenhouse gas emissions and reducing the need for raw materials, recycling is also economically smart. Recycling reduces the water and electricity used to make new materials and the cost of landfills. Keeping recyclables out of the trash also reduces the amount of new landfill space required; this is important because landfills produce methane, a potent greenhouse gas.

Reduce, reuse, recycle and rethink is a good overview of the steps you should follow as a consumer. One of the most effective ways to green your lifestyle is to be conscious of your consumption and aware of the processes by which the items you throw away are broken down. The consumer world has also been flooded with disposable items, which require energy to make, are only used once, and then take up landfill space. **Everyone must take responsibility for their waste output**, which can easily be done by recycling, selling used items, properly disposing of all materials, composting, and most importantly reducing one's intake of materials.

How to Recycle:

Most municipal governments provide recycling services along with regular garbage collection, and landlords of large, multi-unit buildings are usually required to provide a recycling service. Some municipalities distribute plastic bins to hold recyclables, while others require that glass and plastics be placed on the curb in blue plastic bags. If your municipality does not pick up recyclables curb side along with normal trash collection, it probably accepts recyclables at drop-off sites. You can often make money by bringing your used cans and bottles! Locations, hours, and acceptable materials for recycling can be found on the waste collection or public works sections of municipalities' websites. A useful website is www.earth911.org. **Enter your ZIP code and it will connect you with recycling resources in your area!**

Rethinking Recycling



What to Recycle:

City recycling programs are often confined to the easiest materials to recycle: newspaper, glass, aluminum, and plastics with the resin codes 1 or 2 (these codes are located on the bottom of all plastic containers). Plastics 3 through 6 can be recycled in some areas, often depending on the market (**when oil prices are higher, a municipality might be more likely to invest resources in recycling grade 6 plastics**). Even if your city does not yet recycle all types of plastic, some cities like New Haven collect all plastics to store until they have the capacity to recycle them. Labels usually do not need to be removed from glass or plastic containers, but rules vary from city to city. Some materials must be recycled in order to ensure safe disposal. For example, electronic equipment contains hazardous heavy metals and must be disposed of correctly (see Electronics section for more information).

The Recycling Process:

Once your recyclables reach a recycling plant, various methods are used to process them. After being sorted by color, glass is crushed, melted, and made into new products. Likewise, **shredded aluminum can be melted to make new aluminum products, producing only a fraction of the carbon dioxide emissions involved in harvesting raw aluminum.**

Plastics can be more difficult to recycle. Dyes, fillers, and additives can be expensive to remove and can present a barrier to effective mixing, which is why many cities do not recycle all seven categories of plastics. Plastics of types 1 and 2, like water bottles and plastic bags, are easier and cheaper to recycle because they contain fewer additives.



Rethinking Recycling

Always Recyclable	Recycle Where Possible
Glass	Mixed Paper
Aluminum	Office Paper
Plastics 1 and 2	Plastics 3-7
Newspaper	Magazines
Grocery Bags	Corrugated Cardboard
	Aseptic packages (juice boxes etc.)

Definitions of the numbers on the bottom of plastics

Type 1	PETE Polyethylene Terephthalate (PET), like soda & water containers, some waterproof packaging.
Type 2	HDPE High-Density Polyethylene, like milk, detergent & oil bottles, toys and plastic bags.
Type 3	V Vinyl/Polyvinyl Chloride (PVC), like food wrap, vegetable oil bottles, blister packages.
Type 4	LDPE Low-Density Polyethylene, like many plastic bags. Shrink wrap, garment bags.
Type 5	Polypropylene, like refrigerated containers, some bags, most bottle tops, some carpets, some food wrap.
Type 6	PS Polystyrene, like throwaway utensils, meat packing, protective packing.
Type 7	OTHER Usually layered or mixed plastic. No recycling potential - must be landfilled.

Rethinking Recycling



Always recycle hazardous materials properly:

- All electronics
- CDs
- Non-alkaline batteries
- Used ink-jet printer cartridges (can be sent back to the manufacturer or refilled)
- Packing peanuts (can be given to shipping companies or stores)
- Compact Fluorescent Lightbulbs (CFLs)-- these contain mercury. Check with your city for proper disposal methods. Do not throw them out!

Check your municipality's website for special collections:

- Hazardous materials pick-up
- Disposable cameras
- Smoke detectors
- Christmas tree recycling
- Phone book recycling
- Yard debris recycling
- Scrap aluminum (lawn chairs, window frames, aluminum siding)
- Alkaline batteries (try to buy rechargeable batteries instead)
- Motor oil

Donate or sell working items whenever possible:

- Cars
- Office furniture
- Working cell phones
- Working computers
- Eyeglasses



Rethinking Recycling

Composting:

A sizable percentage of the waste in landfills can actually be composted at home. For example **18% of the municipal solid waste stream is made up of yard waste alone!** Composting keeps your food and yard scraps out of landfills, where they decompose at a much slower rate due to a lack of oxygen (50% every 20 years). It also provides a rich source of nutrients for your soil, eliminating the need for harmful chemical fertilizers. Even if you do not garden, you can give your compost to your neighbor, community gardens or contact your city for a local composting site. **Composting is much easier than you might imagine and requires minimal attention once you get started.**

- 1) Pick a backyard spot that is not too exposed.
- 2) Add products that can be composted.
Include: food scraps, cardboard rolls, clean paper, coffee grounds & filters, eggshells, fireplace ashes, fur, gray cardboard boxes, hair, leaves and grass, sawdust, shredded newspaper, sticks and yard waste, tea bags, vacuum cleaner lint, vegetable trimmings, wool and cotton rags
Leave out: egg yolks, meats, oil and grease, pesticides, pet waste
- 3) Stir everything around and add in chopped leaves or wood chips to help speed up the decomposition process.
- 4) Your compost pile is working when your food decomposes quickly and the pile is warm; during the winter it will let off a little steam.

A more in depth look at composting can be found at www.howtocompost.org.

- Consider other alternative methods such as **vermicomposting** (composting with worms), which is easier and more manageable in smaller living spaces.
- Composting can help save room in the landfills for items that are not as easily biodegradable
- Many cities/towns have community composting centers to which you can take your yard waste

Rethinking Recycling



MORE INFORMATION

General:

<http://www.earth911.com/>

<http://www.buyrecycled.com/>

Composting:

www.howtocompost.org.

<http://www.composting101.com>

<http://www.epa.gov/osw/conserves/rrr/composting/>

<http://www.cityfarmer.org/wormcomp61.html>



Transportation

After four years wandering the streets of New Haven, you might be looking forward to spending the rest of your life seated comfortably behind the wheel of a car. But car ownership almost always means dealing with the rising price of gas, not to mention contributing to greenhouse gas emissions. City-dwellers have many public transportation options available to them. **You've probably taken the train or bus at some point in your life, but have you considered making it part of your daily commute?**

84% of Americans 18-24 years old live in cities, meaning that they most often have easy access to public transportation.

ENERGY SAVING SOURCES OF TRANSPORTATION

No matter where you end up living, there are easy ways to travel while saving time, money, and the environment.

Subways and light rail:

Whether it's called the subway, the Underground, the Metro, or the "T," the rapid transit system is hugely popular among residents of large cities. With the ability to race under congested city streets at high speeds, most rapid transit systems are not only faster but significantly cheaper. **Here are some reasons to consider public transportation:**

- A car sitting idle in traffic uses up to a gallon of gas, or at least \$3 worth, of gas per hour getting nowhere.
- Most rapid transit systems, on the other hand, have a flat rate of \$2 or less to ride.
- Driving in road traffic has been proven to increase chronic stress, pollution exposure, and the risk of heart attacks.
- To find out more about the rapid transit system in your city, check out www.urbanrail.net (This site has maps as well as links of local transportation agencies that run these systems.)

Transportation



Bus:

Local bus networks are even more widespread and extensive than subways. Usually, city buses make frequent stops that are closer to your destination. Although they must navigate local traffic and are usually slower than subways, buses still save you the cost of parking (and the time spent finding it) in urban areas.

Bus Rapid transit (BRT) - For longer commutes, many cities have also been implementing BRT systems, especially in the western U.S. These systems incorporate some aspects of commuter rail and rapid transit systems, such as specially-built platforms to allow easy boarding and exit and bus-only lanes on the highway.

- To find more information (including iPhone applications) about the benefits of buses and other public transit in your area, go to www.publictransportation.org and select your state from the drop-down menu (U.S. only).

Other Public Transportation:

Commuter Rail - If you find yourself in a suburb of a major city, you may be near a commuter rail system even if you're beyond the reach of the city's bus or rapid transit networks. In addition to bypassing traffic, the cost of using these systems normally costs less than the gas needed to drive the same distance.

Region-Specific Transportation - Some cities have additional forms of public transportation that fit their geography. New York, Boston, and San Francisco, for example, all have **ferries** that quickly link downtown with suburbs across the river or bay.

- To find more information about commuter rail and region-specific transportation like ferries, go http://en.wikipedia.org/wiki/List_of_suburban_and_commuter_rail_systems



Transportation

ENERGY SAVING BEHAVIOR

Ways to make your private transportation less damaging to the environment.

Share Rides: Ridesharing is another convenient way to get to work, and many companies support carpooling networks among their employees. The two main types of ridesharing are carpooling and vanpooling: carpooling is usually an arrangement made between individual employees to share a ride to work, while vanpooling involves renting out a van (often paid for by the company) to transport larger groups of employees. **Some online social networking sites such as Facebook have places to list and search rides in your area.**

- To find out more ways to ride share, go to www.nuride.com

Zipcar: This system allows you to use cars when and where you want to, making it easier to not own a car. A membership allows you to sign up to use cars, often hybrids, in over 50 major cities across the country. Visit. www.zipcar.com for more information.

Bike: Get exercise and help the earth. Especially for commutes under 10 miles, biking is an enjoyable way to get to work while getting exercise and fresh air at the same time. Some cities in the U.S. and Europe have specially designated bike lanes or even separate “cycleways” for cyclists. California is a pioneer in bicycle infrastructure (one of the earliest cycleways was constructed between Los Angeles and Pasadena back in 1897!)

- To find good bike routes and more information about safety, go to www.bikely.com and www.bicyclinglife.com/PracticalCycling/commuteguide.htm

Google Maps: Google now offers directions by foot, bike, and public transit. It even informs you of upcoming public transportation departures. Go to maps.google.com to check it out.

Air Travel: Air travel, like auto travel, uses fossil fuels, and unlike other forms

Transportation



of mass transportation it emits as much or more carbon dioxide into the atmosphere as a car traveling the same distance. This is due to the fact that despite transporting people in larger groups, aircraft must consume enormous amounts of energy to reach the high speeds and high altitudes at which they travel. Though unfortunately there is no such thing as electric- or hybrid-powered flight yet, **there are ways to offset your energy consumption.**

- Check out the carbon calculators at sites such as <http://www.carbonfund.org> to determine the carbon footprint of these trips and offset your personal emissions (also see the Energy section for more information on carbon offsets).

Fuel-Saving Driving Tips - How you drive can also make a difference in your personal fuel efficiency. The following is a list from the Pennsylvania Department of Transportation on how to save gas while driving.

- **Don't be an aggressive driver.** Driving carefully lowers gas mileage by as much as 33% on the highway and 5% on city streets.
- **Replace dirty air filters** that waste gas and cause engines to lose power. Replacing these filters can improve gas mileage by as much as 10%, saving about \$0.26 per gallon.
- **Check tire pressure.** Driving with under-inflated tires can make you lose between 1 and 2 miles per gallon.
- **Replace worn spark plugs** which cause misfiring, wasting fuel.
- **Avoid quick stops and starts** in order to save up to two miles per gallon.
- **Avoid idling.** Sitting idle consumes between 1/2 and 1 gallon of gasoline per hour.
- **Check the vehicle's gas cap.** Loose, damaged, and missing gas caps allow



Transportation

147 million gallons of gas to vaporize every year.

- **Take unnecessary weight out of trunks or back seats.** By some estimates, hauling around an extra 100 pounds can cost 1 mile per gallon.
- **Combine errands** to reduce vehicle miles traveled, and, whenever possible, take public transportation or carpool!

Finally, **carbon offsets** can help mitigate your personal emissions from unavoidable travel by paying to prevent carbon emissions elsewhere. Check out carbon offsetting sites such as <http://www.carbonfund.org> to calculate and offset your emissions, or consult the Energy section of this guide for more information.

ENERGY SAVING PRODUCTS

Cars:

Whether you're buying a car for the first time or looking for a new one, **fuel efficiency is a very important factor**, especially if you expect to own your car for a long time. Today, **hybrid vehicles** lead the market in fuel efficiency. In some cases, these models are up to twice as fuel-efficient as similar fully gasoline-powered vehicles.

- Look at <http://www.fueleconomy.gov> for more information about the fuel efficiency of any car. The site is searchable by make, model, and year, with mileage ratings on cars extending back to 1985.
- **And no, you don't have to plug a hybrid car in.** The battery recharges automatically while driving, so you can park it on the street or anywhere else without worrying about finding an outlet.

Transportation



- You can compare the prices and fuel efficiency of hybrid models (with old and new EPA mileage ratings) at

<http://www.allabouthybridcars.com/comparison-chart.htm>

- For more information on specific models, look at hybridcars.about.com or www.carsmart.com.

MORE INFORMATION

Subways/rapid transit:

<http://www.urbanrail.net>

Buses and bus rapid transit:

<http://www.publictransportation.org>

Other public transportation:

http://en.wikipedia.org/wiki/List_of_suburban_and_commuter_rail_systems

http://en.wikipedia.org/wiki/List_of_ferry_operators

Ridesharing:

<http://www.nuride.com>

Bicycle commuting:

<http://www.bikely.com>

<http://www.bicyclinglife.com/PracticalCycling/commuteguide.htm>

Hybrids and fuel efficiency of cars:

<http://www.allabouthybridcars.com/comparison-chart.htm>

<http://www.greencars.org>

<http://www.fueleconomy.gov>



Conscious Consumers

SOURCES

Everything we consume has to come from somewhere, and once we are finished with it, it will go somewhere else. This seemingly obvious fact is often forgotten when we get caught up in the advertising of products. **When you are buying a product, think about where the materials in it came from and what will happen to them when you are done with it.** The most important thing to consider before you use something is whether you absolutely need to use it, and the most important thing to consider before you dispose of something is whether you can use it again.

The power is with you, the consumer. **Be aware of the environmental practices of the stores and companies you frequently visit.** If a company is not doing its best to minimize its impact on the environment, do not support it. Companies will change if their customers demonstrate that they value environmentally conscious practices. To find out information about the environmental practices of popular companies visit www.ClimateCounts.org.

BEHAVIOR

First reuse products to save on resource use, energy consumption and money!

Questions to ask yourself when you are shopping:

- **Do you need this?** Many times we find ourselves buying things we will never use or end up throwing away shortly. Prevent this added expense and waste by not purchasing unnecessary items in the first place!
- **Where did this come from?** A lot of the products we buy come from far away; try to buy locally made products to support local, family-run businesses and cut down on the energy used in transportation.

Conscious Consumers



- **Does this need to be new?** Less expensive and often more unique items can be found at second hand stores, antique shops and tag sales. Buying something previously used saves you money, and saves materials that would have been used to make a new product.
- **What impact** did this product's production have on the environment? We might not see the damaging effects of production on the environment in our own town, but somewhere the materials and chemicals used in its creation are probably hurting communities.
- **Can this be recycled?** Or is this made from recycled materials?

The best way to reduce the amount you throw away is through minimization:

- Target products that can be safely and easily recycled
- Don't fall for consumer trends, which change quickly requiring you to purchase more products
- Buy products that will last and not have to be replaced
- Buy items that have already been recycled or are slightly used
- Avoid disposable items as much as possible
- Avoid excessive packaging
- Limit your use of non recyclable goods



Conscious Consumers

PRODUCTS

- Look for products with reduced packaging and increased recycled content.

Certifications to look for on product labels:

Fair Trade Certification (www.transfairusa.org): Fair Trade Certification means the product has been produced under conditions that foster fair labor conditions, community development, and environmental sustainability.

Forest Stewardship Council (FSC) Certified : FSC certification means that the wood is from a certified, well-managed forest. The FSC is an independent, international nonprofit organization. FSC certified doors, and other wood products, are available at Home Depot. www.fscus.org

Global Ecolabeling Network: GEN oversees ecolabeling certifications throughout the world. www.globalecolabeling.net

A more comprehensive list of product certifications can be found in this article: www.cleanlink.com/SM/article.asp?id=5821

Greenwashing

“**Greenwashing**” means misleading consumers about the environmental practices of a company or the environmental benefits of a product or service. “**Green sheen**”, a similar concept, is when companies try to appear to have better environmental practices than they really do. “Being green” is hot right now, so do not believe every “Green” sales pitch thrown at you.

Conscious Consumers



MORE INFORMATION

General:

www.ecobusinesslinks.com

www.ClimateCounts.org

Labeling:

www.transfairusa.org

www.fscus.org

www.globalecolabeling.net

www.greenseal.org

www.cleanlink.com/SM/article.asp?id=5821

Where to buy green electronics:

<http://www.mygreenelectronics.org/>



Food

FOOD SOURCES

In our increasingly globalized world, it is important to think about where our food comes from. Does the kiwi you get in the middle of winter have to come all the way from the Southern Hemisphere? Are the vegetables you eat grown in countries with fewer pesticides regulations? Michael Pollan, author of *The Omnivore's Dilemma*, argues, “**The way we eat represents our most profound engagement with the natural world.**” Standing beneath fluorescent lighting in the frozen food aisle, one feels extremely removed from the natural world, but nevertheless the decisions we make there affect not only our health but also the health of the planet.

Labels:

Terms on food labels are not necessarily defined by the USDA (United States Department of Agriculture) or the FDA (Food and Drug Administration), so it can be difficult to know what they mean in each specific case. But **as consumers demand more informative labeling, new information will appear on our foods.** Some states such as California are creating their own quality standards, and some suppliers are filling in where the USDA has left off. In general, labels can have a bias and should be taken with a grain of salt.

• **The two terms “organic” and “natural” have specific USDA definitions and are not interchangeable.**

Organic - is defined by the USDA as “food produced by farmers who emphasize the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations.” Before a food can be certified as organic, government-certified inspectors must approve the farm where the food is grown and the facilities that handle the food before it goes to a grocery store or restaurant. **Certified organic products**, or products containing at least 95% organic ingredients (not including water and

Food



salt), may display the USDA organic seal. If a product does not use the seal but states that it is **“made with organic ingredients,”** it must contain at least 70% organic ingredients not including water and salt.

Natural - is also defined by the USDA. According to the USDA, a “natural” product contains “no artificial ingredient or added color and is only minimally processed.” Even though it is defined, its use in brand names and on some packaging can be deceiving.

Fair Trade - is food is grown by those who are paid a fair wage for producing goods under transparent and humane conditions.

MEAT AND SEAFOOD

It is important to remember that raising livestock uses more land, energy, and water per calorie produced than does growing plant foods. To reduce your impact on the environment, consider reducing your consumption of animal products, especially beef and dairy.

Below are some points to consider when making food choices:

Poultry:

USDA-certified organic poultry meets the organic criteria mentioned above.

- Certified organic poultry is raised without antibiotics and growth hormones.
- Growth hormones are illegal in all poultry in the U.S., so a **“no hormone”** label is nothing special.
- When buying “natural” poultry, **look for “no antibiotics”** on the label as well.



Food

- **“Free Range”** and **“Free Roaming”** In these cases, the producer has demonstrated to the USDA that the animals had access to the outside. The degree of access can vary greatly under the same labels.

Beef:

Reducing beef consumption is one of the best things you can do for the environment. If and when you do eat beef, consider these options:

USDA-certified organic beef is hard to come by, but there are other good options.

- **“Grass-fed”** beef comes from animals that have been fed grass at some point during their lives. A better option, **“grass-finished”** beef, comes from animals that have continued to have been fed grass until the end of their lives. “Grass-fed” or “grass-finished” beef contains more omega-3 fatty acids than beef finished on grains.

- Natural beef adheres to the USDA’s definition of “natural”; however, most reputable natural beef companies will specify that the beef contains no antibiotics and no added hormones.

- **“No antibiotics”** means that the cattle never got seriously sick and were fed less grain or corn and more grass (antibiotics are used to enhance the digestion of grain because cattle naturally eat grass, not corn and grain).

- **“No growth hormones”** is also important because in the United States cattle can legally be given growth hormones although they are illegal in Europe because of concerns about the effect of the hormones on human health.

Food



Fish:

Wild or Farmed? As of now, fish does not receive clear government labeling, but independent Marine Stewardship Council certification (msc.org) is a good choice.

- While **wild fish** is generally less processed and less genetically modified than farmed fish, some populations contain toxins such as mercury, and **many populations are in danger of being overfished.**

- **Fish farming** can help avoid overfishing, but some types of farmed fish are actually higher in toxins than wild fish. Fish farms can also reduce genetic biodiversity. Although some farms are becoming more sustainable, consumers should still be skeptical, especially of farmed salmon and farmed shrimp. Choose American farmed tilapia and catfish. Avoid imports; foreign fisheries often have high rates of bycatch of endangered species. A handy, wallet-sized guide, available at <http://www.mbayaq.org/cr/seafoodwatch.asp>, can help you make informed choices about eating seafood.

Trans Fats:

Trans Fats are created when manufacturers add hydrogen to vegetable oil through hydrogenation, increasing the shelf life of products.

- As of January 2006, the FDA requires food products to list their trans fats content in addition to saturated fat and dietary cholesterol.

- Trans fats increase the risk of coronary heart disease, and possibly diabetes, cancer, and Alzheimer's disease.

Chemicals:

Most processed foods contain a variety of chemicals to maintain freshness and appearance. Although all are FDA approved and generally considered edible, heavily processed food can be bad for your body and the environment.



Food

FOOD BEHAVIOR

Buy Local, Seasonal Foods: Buy local foods to ensure freshness and support local farmers. Even organic food should be bought locally if possible. Buying seasonal foods reduce the energy consumed in transporting goods.

- **To find local suppliers**, visit www.eatwellguide.org and simply enter your zip code.

- **To find seasonal items**, visit www.epicurious.com and search for the “Seasonal Ingredients Map”

- If you can't buy local, make sure to buy foods with limited packaging and the brands you trust. The power is with the consumer!

- Buy a smaller amount of food each time you shop. In big shopping trips, you are likely to buy food that will be wasted.

- Bring your own reusable bags with you to the supermarket.

MORE INFORMATION

General/Organic:

Omnivore's Dilemma. A Natural History of Four Meals by Michael Pollan
<http://www.ams.usda.gov/NOP/Consumers/brochure.html>

Local Food:

www.eatwellguide.org

Seafood:

<http://www.mbayaq.org/cr/seafoodwatch.asp>

<http://nmfs.noaa.gov/fishwatch>

Electronics



SOURCES

Many commonplace electronics—such as your computer, television, iPod, cell phone, stereo, and that accompanying tangle of wire—contain metals you would never expect to carry around in your pocket, let alone throw into the trash (antimony, arsenic, phosphorus, boron, gold, and magnesium, to name a few). To manufacture these technological marvels, industries use a dizzying array of acids, chemical solvents, and metal chlorides. Needless to say, we should reduce our use of these chemicals and properly dispose of electronic waste, commonly known as **e-Waste** or **Technoscrap**, by purchasing green, using responsibly, and disposing safely.

BEHAVIOR

To save energy, think simple.

- Turn your computer, iPod, stereo, etc. off when not in use. (See the Energy Section for more information.)
- Try to extend the life of your products. **Opt for repair or upgrades over replacement.**
- For computers, definitely buy the longest extended warranty.
- If your computer is slow, try adding more RAM.
- If your iPod fills up, back up some songs on a CD or on your computer.
- Try to protect your cell phone from scratches and falls.

Electronics can and should last a long time.

Disposal:

When your computer or television comes to the end of its lifetime many options await.

Donate - If an electronic item still works, chances are somebody is willing to take it. Try donating it to a local charity, a school, or the Salvation Army. Often, local computer repair shops know of places where you can donate older pieces of hardware.



Electronics

Try sites such as:

- www.recycles.org Computer & office electronics recycling & reuse
- www.compumentor.org Compumentor provides technology to low-income, under-served populations
- www.computers.fed.gov Computers for Learning (CFL) places computers in classrooms for children to contribute and compete in the 21st century.
- www.techsoup.org A group that connects non profits with donated and discounted technology products.

e-Waste Locations - If your electronics are broken and cannot be donated, recycle them to keep their heavy metals and plastics out of landfills and incinerators. There are many local, state, and federal laws regarding the disposal of toxic and electronics waste. Many times the company that sold you your computer, iPod, cell phone or other gadget will take it back and recycle it for you.

Find a certified e-Waste Recycling Location near you:

- www.ban.org Basal Action Network certifies electronics recyclers.
- www.ecycle.org ERecycle.org is a partnership on Electronic Waster Recycling (especially if you live in California)
- www.earth911.org Earth911 is a group providing community-specific resources, especially recycling sites.

Municipal Recycling Center - Specialty items such as cell phones, laptops, camcorders, digital cameras, power tools, and children's toys—are usually powered by rechargeable lithium (Li), nickel metal hydride (NiMH), Nickel Cadmium (NiCd), or button cell (watch) batteries. These batteries should be recycled through your municipal recycling system, private companies or non-profit groups. Check with your local recycling center to find out how to dispose of these and more common types of batteries.

Electronics



Find a location near you:

- The Rechargeable Battery Recycling Corporation offers directions for recycling a range of rechargeable batteries. **You can search for collection sites by zip code.** www.rbc.org
- Earth911 a group that provides community-specific resources, especially recycling sites. www.earth911.org
- The Environmental Protection Agency Universal Waste Regulations www.epa.gov/epaoswer/hazwaste/id/univwast/battery.htm

• **Most cell phone companies will take back old cell phones, batteries, chargers and other wireless devices (such as PDA's).** Most companies both recycle and reuse phones, often donating the items to charities.

Verizon: aboutus.vzw.com/communityservice/hopeLineRecycling.html

Cingular: www.cingular.com/about/community-support/recycling.jsp

Sprint: www.sprint.com/community/communities_across/index.html

T-Mobile: www.t-mobile.com/

- EBay's Rethink Initiative www.rethink.ebay.com
- Best Buy's Community Recycling Events www.communications.bestbuy.com/communityrelations/recycling.asp
- Dell Computer recycling or Donation www1.us.dell.com/content/topics/segtopic.aspx/dell_recycling
- Apple Computer Take-back www.apple.com/environment/recycling/nationalservices/us.html
- Hewlett-Packard Recovery and Recycling programs www.hp.com/hpinfo/globalcitizenship/environment/recycle/index.html



Electronics

PRODUCTS

When you purchase electronics, buy green! Check out the companies' records. Do they have an environmental responsibility statement? There are many certification standards, both voluntary and mandatory, that technology producers can agree to meet.

Look for these standards:

- The Green Electronics Council's Electronic Product Environmental Assessment Tool www.epeat.net
- Germany's Blue Angel Standard www.blauer-engel.de
- Swedish TCO Development standard www.tcodevelopment.com
- Japan Electronics and Information Technology Industries Association's Eco-Mark www.pc3r.jp

Buy Refurbished:

You can both save money and protect the environment by purchasing refurbished electronics. Refurbished electronics often can be purchased at a significant discount. In addition, using refurbished electronic devices rather than buying new ones prevents perfectly functional electronics from becoming e-Waste. **Most electronics companies—including Apple Inc., Dell, Lenovo, and Sony—offer refurbished products.** Refurbished electronics include a range of products, including devices that were returned before use and products that have been rebuilt to newer standards. Refurbished computers, for example, are typically unused returns, rebuilt systems, or machines that have slight blemishes on the cases. **Companies often provide similar or identical warranties for refurbished systems.** Buying refurbished items can simultaneously pad your wallet and keep working components, and the metals and plastics they contain, out of landfills.

Electronics



MORE INFORMATION

General:

www.epa.gov/epaoswer/hazwaste/recycle/ecycling/donate.htm

Reuse:

rethink.ebay.com

www.techsoup.org

E-Waste:

www.ban.org

www.earth911.org

recycles.org

www.rbrc.org

www.eiae.org

Computers:

Dell - www1.us.dell.com/content/topics/segtopic.aspx/dell_recycling

Apple - www.apple.com/environment/recycling/nationalservices/us.html

www.compumentor.org

www.computers.fed.gov

Cell Phones:

Verizon - aboutus.vzw.com/communityservice/hopeLineRecycling.html

Cingular - www.cingular.com/about/community-support/recycling.jsp

Sprint - www.sprint.com/community/communities_across/index.html

T-Mobile - www.t-mobile.com/



Workplace

Twenty-first-century environmental struggles require interdisciplinary solutions, and there is an overwhelming need for action in all fields. Below are a few careers with some information on how you can begin to use your job as a means to create a more sustainable world.

Academia:

- Raise awareness by explaining to your students' and fellow faculty members how nearly every academic issue can relate to the environment. For more ideas or to get more involved in teaching about environmental issues at your school, contact your institution's environmental studies group or department.

Resources - the **Earth Portal** and the **Encyclopedia of Earth**, which is part of a resource run by the National Council for Science and the Environment (www.ncseonline.org). This site contains a collection of articles written and contributed by only scientists and scholars who are widely recognized as experts in their respective fields. The articles in the Encyclopedia (www.eoearth.org/) are on a wide variety of topics including agriculture, marine ecology, and sustainable development, among others. The Earth Portal is a related resource, which has news articles and search engines dedicated to various earth-related fields (www.digitaluniverse.net/portal/earth).

- **Union of Concerned Scientists** - One non-profit that focuses on representing and helping researchers (www.ucsusa.org/).

Architecture and Construction:

- Try to use sustainable building supplies.
- Design the building to take advantage of passive solar heating and lighting.
- Add a green roof (covered in plants) for aesthetics, insulation and a longer building life span.
- Recycle grey water from sinks and water fountains and add occupancy sensors to reduce energy.

Resources - The U.S. Green Building Council has developed a rating system

Workplace



based on how energy-efficient and environmentally-friendly new buildings are, known as the **Leadership in Energy and Environmental Design (LEED) Green Building Rating System**. Some areas of the country offer incentives for building to LEED standards. Yale itself requires that all new or renovated buildings meet at least LEED Silver. There are five different categories that determine a building's LEED rating:

- sustainable site development
- water savings
- energy efficiency
- materials selection
- indoor environmental quality.

There are also four different levels of LEED certification: Certified, Silver, Gold, and Platinum. www.usgbc.org/

Business Management:

- Whether you manage a small business or a multinational corporation, devise strategies and invest in technology that increases energy efficiency.
- Design a business plan that includes environmental costs in your price calculations and invest in renewable resources and technologies.
- In manufacturing products, try to reduce pollution, waste, packaging, and offer programs to recycle those goods when their lifetimes expire.
- Replace mailings with e-mailings and distribute investor-relations materials online to save paper.
- Use conference calls and video meetings to cut back on travel.

Resources - The World Resources Institute (WRI) is an environmental think tank in Washington D.C. that is looking into ways that market forces can be used to confront significant environmental problems such as climate change and deforestation. They are currently running a number of projects to not only find such market-driven methods, but to seek out and highlight successful “green” business models that already exist. www.wri.org and specifically the Markets & Enterprise section at www.wri.org/markets.



Workplace

- Most environmental groups have experienced professionals who are eager to help you craft an environmentally-sound plan for your company. Check out the **Natural Resources Defense Council** (www.nrdc.org), **Environmental Defense** (www.ed.forg), and the **Sierra Club** (www.sierraclub.org).

Investments:

Founded 20 years ago, **Ceres** describes their group as “a national network of investors, environmental organizations and other public interest groups working with companies and investors to address sustainability challenges such as global climate change.” www.ceres.org. They have done everything from starting the Global Reporting Initiative, an international standard environmental, social, and economic corporate reporting to **developing sustainable strategies for companies such as Nike, Dell, and AIG.**

Law:

- When settling with a business, try to work environmental remediation into the requirements.
- When advising corporations, suggest they develop long-term, environmentally sustainable strategies.
- When litigating, take the side of the planet.
- Donate your expertise and time, pro bono, to environmental groups like Earth Justice or the Natural Resources Defense Council, two of the leading nonprofit environmental law firms in the country.

Resources - Environmental Law Institute (ELI) www.eli.org which promotes environmental awareness among lawyers. ELI leads environmental professionals in industry, public interest groups, government, and academia and publishes the Environmental Law Reporter and The Environmental Forum. Check out the **environment section of the American Bar Association**'s website (www.abanet.org/environ/) for more information on practicing and incorporating environmental law into your legal future.

Workplace



Medicine:

- While a student, check out the **American Medical Student Association's activities on environmental health** (www.amsa.org/cph).
- The **National Institute of Environmental Health Sciences (NIEHS)** is a branch of the National Institutes of Health (NIH) that performs and publishes studies concerning health problems that could be the result of environmental factors. Their studies, as well as employment opportunities for researchers, can be found at www.niehs.nih.gov/.

CONSERVATION IN THE WORKPLACE

The American workplace has reduced its dependence on paper in recent years, but today's offices and businesses are still far from the completely "paperless" environments predicted back in the 1970s. **Below are some tips on how to make the workplace less ecologically wasteful, and to promote conservation practices.**

Paper:

- Buy **post-consumer fiber paper**, which is made from previously used paper.
- Use paper products labeled **totally chlorine-free (TCF)** or **processed chlorine-free (PCF)** to help reduce the amount of harmful chemicals that end up in our water and air.
- Collect paper that has been used on one side and reuse as draft paper in printer, copiers and scratch pads (in printers/ copiers with multiple trays, one tray can be stocked with this draft paper).

Printing:

- Proof documents on screen using techniques such as Word's track changes.
- Preview documents before printing.



Workplace

- **Set up computers to print two-sided automatically.**

- Buy printers/ copiers that print two-sided copies reliably.
- Use vegetable-based inks when printing.

Correspondence and Mailing Lists:

- Remove duplicate names and out-of-date entries from mailing lists.
- **Take steps to reduce unsolicited mail** (companies like mailstopper.tonic.com will do the work to remove you from junk mail lists for you).
- Print directly on envelopes rather than using labels.
- Reuse envelopes by placing a label over old or wrong addresses.
- Set policies to keep as much of your business online (paper-free) as possible.

Workspaces:

- Provide desk-side recycling containers for employees.
- Provide clearly labeled recycling bins near copiers, printers, shipping and receiving areas, and employee eating areas.
- Encourage employees to keep reusable cups, plates, and silverware at the office.
- Encourage biking and walking by providing bike racks and showers.
- Set policies of powering down the office when you leave.

Other Tips for your Workplace:

- Invest in equipment that is high quality, durable and repairable. Purchase and use remanufactured office equipment where possible.
- Request that carriers ship all of your deliveries in returnable containers.
- Rent any office equipment that you use only occasionally.
- Encourage employees to take public transportation by offering discounted tickets or passes; or start a carpool or vanpool with some of your colleagues.
- Update staff and management about the results of their environmental efforts.

Workplace



MORE INFORMATION

Academia:

www.epa.gov/greenchemistry
www.ncseonline.org
www.eoearth.org/
www.digitaluniverse.net/portal/earth
www.ucsusa.org/

Architecture and Construction:

www.usgbc.org/

Business Management:

www.wri.org
www.wri.org/markets

Investments:

www.ceres.org

Law:

www.eli.org
www.abanet.org/environ/

Medicine:

www.amsa.org/cph
www.niehs.nih.gov/

Workplace:

www.nrdc.org/paper
<http://mailto:stopper@tonic.com>
www.ciwmb.ca.gov/BizWaste/FactSheets/Offices.htm



Get Involved

After reading this guide, **if you find that simply integrating sustainability into your everyday life is not enough**, there are many things you can do to engage yourself fully in the environmental cause. And the cause needs you! **Here are five things, some simple and others more complex, you can do to take the extra step and get involved.**

Volunteer:

A few hours of your weekend can do a lot of good. Find an environmental non-profit in your area, or a different organization that interests you. Volunteer with local youth groups, so you can help impart knowledge about protecting the environment to our nation's young people. Or get outside by volunteering at a local or national park—whether by giving tours, helping clean up, or even being a volunteer park ranger—you can help to preserve a place of natural beauty and share it with your friends and neighbors.

- Non-profit groups like the Sierra Club (www.sierraclub.org), The Nature Conservancy (www.nature.org) and local groups provide many local and regional volunteering opportunities.
- To find out about volunteering at your local national park, go to www.nps.gov/volunteer, or call your local regional or state park to see if they need volunteers.

Educate Your Friends and Co-workers:

One of the biggest impacts you can have in terms of protecting the environment can come from influencing the people around you. It's up to those who understand to spread the word about how it is much better for human health and for the planet to live in an environmentally friendly way. Engage people in discussions about pollution, global climate change, and social welfare. Help inform people about the reasons to live sustainably, and make sure they see that it's possible (after all, you're doing it) and that it's not as hard as it sounds. **You are all going to be leaders wherever you are, so use**

Get Involved



your charisma to get the word out.

Join a Nonprofit Group:

Non-Governmental Organizations are some of the best places to direct your time and money in the fight for a healthier planet. Countless groups with a range of goals and constituencies, such as the Audubon Society, Environmental Defense, Greenpeace, the League of Conservation Voters, the National Wildlife Federation, the Natural Resources Defense Council, The Nature Conservancy, the Sierra Club, the Union of Concerned Scientists, and the World Wildlife Fund strive daily to educate people, talk to your representatives in government, and convince corporations to change their behaviors—all by using money that has been donated to them by people who are as passionate about the environment as they are. They are always looking for liaisons and volunteers.

- We mention this short, non-comprehensive list above to convey the breadth of different groups that are accessible to normal people and effective at exciting change.
- To discover more groups in the environmental NGO community, go to redskyatmorning.com/resourcesforcitizens.html and www.grinningplanet.com/5005/environmental-groups-ngos.htm. Both are great places to find links to groups with diverse approaches to environmental protection.

Change Your Business Or Companies Practices:

Everyday more and more businesses and companies are realizing the benefits of considering their environmental impact. These benefits do not stop with the environment, but often are economic as well. Individuals like you are spearheading company overhauls to lessen environmental impact, and they are revolutionizing the way the world does business.

- Visit greenbiz.com a site dedicated to **“Business. The Environment. The Bottom Line”**



Get Involved

Get Politically Active:

Exercising your rights as an American citizen is the most important thing you can do to make a difference in the environmental struggle. **The government has long lagged behind when it comes to making effective environmental policy decisions**, largely because too few passionate people vote for candidates who take action. It's important to be an active participant by watching debates, learning about the issues, and researching the candidates. You should know who's funding the candidate you're planning on voting for, and you should make sure you know his or her track record on the issues you care about (one of which is keeping our planet healthy). Your single most important right in this country is to vote.

- Visit www.lcv.org and www.climatevoters.org to learn more about candidates' environmental records and network with other people who are committed to voting green.

Apart from voting, there are other things you can do to be politically active.

- Join environmental chat rooms and blogs.
- Go to protests to make your voice heard, and write to your candidates and your representatives to make sure they know what you care about.
- Politicians need your input to help them do the right thing, so it's important to communicate with your political leaders in order to keep them working for you.

Get Involved



MORE INFORMATION

General:

www.sierraclub.org

www.nature.org

www.nps.gov/volunteer

Finding Non Profits:

www.redskyatmorning.com/resourcesforcitizens.html

www.grinningplanet.com/5005/environmental-groups-ngos.htm

Business:

www.greenbiz.com

Politics:

www.lcv.org

www.climatevoters.org



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