

## Luther Place Eco-Tips

This document is a collection of environmentally-friendly lifestyle suggestions. The intent is to share information so that all of us can learn and grow in our stewardship of God's creation. Even the most committed among us would struggle to follow every one of these suggestions, but there are lots of opportunities all around us that are convenient and practical. Most people are open to becoming more sustainable and just need direction. As we share information, we can find sustainable practices that are compatible with our lifestyles, will save us time and money, and make us healthier. Please share these suggestions with others and contribute your suggestions, thoughts, and corrections to Luther Place; send email to [lpmc@lutherplace.org](mailto:lpmc@lutherplace.org). Feel free to copy this list, reproduce it, share it, link to it, or plagiarize it; softcopies are preferred.

### **REDUCE:**

The first pillar of environmental consciousness is reducing our impact on the planet. We do this by reducing the energy we use, reducing our reliance on non-sustainable resources, and reducing pollution, emissions, greenhouse gases, and carbon we introduce to the environment. Below are suggestions for reducing our ecological footprint.

1. [Home/Office: Clean energy](#)
2. [Home/Office: Energy Star Appliances](#)
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### **REUSE:**

The second pillar of environmental consciousness is looking for opportunities to reuse products, extending their functional life and thereby reducing the need to manufacture replacement products. Reusing is one of the easiest ways to help the environment. Reusing products not only reduces trash in landfills, it reduces pollution associated with production and transportation of goods. When purchasing items, consider reusable items, rather than disposables.

1. [Towels and cleaning rags](#)
2. [Clothing](#)
3. [Automobiles](#)
4. [Plates and silverware](#)
5. [Batteries](#)
6. [Shopping Bags](#)
7. [Drinking Water](#)

### **RECYCLE:**

The third pillar of environmental consciousness is recycling. Though reducing and reusing are higher priorities, recycling can reduce the amount of trash to landfills and extend the functional life of raw materials. In the future, recycling technology will continue to improve, becoming more efficient and accommodating.

1. [Consider packaging and disposal when making purchases](#)
2. [Buy recycled content products](#)
3. [Washington DC Recycling](#)
4. [Arlington Va Recycling](#)
5. [Fairfax County, Va Recycling](#)

6. [Prince George's County, Md Recycling](#)
7. [Montgomery County, Va Recycling](#)

## **Links**

Department of Energy: <http://www.eere.energy.gov/consumer/>

Greater Washington Interfaith Power and Light: [www.gwipl.org](http://www.gwipl.org)

American Institute of Architects Committee on the Environment: <http://www.aiadc.com/committees/cote/COTEdc.htm>.

Worldwatch Institute: <http://www.worldwatch.org/>.

100 Mile Diet: [www.100milediet.org](http://www.100milediet.org).

National Zoo's Green Tips: <http://nationalzoo.si.edu/Publications/GreenTeam/>.

Community Forklift: [www.communityforklift.com](http://www.communityforklift.com).

American Water Works Association drip calculator: <http://www.awwa.org/advocacy/learn/conserves/dripcalc.cfm>

## **REDUCE:**

### **1. Home/Office: Clean energy**

Americans, who make up less than 5% of the world's population, use almost 25% of the earth's energy (Source: US Census Bureau, <http://www.census.gov/main/www/popclock.html>; Department of Energy, [http://www.eia.doe.gov/emeu/aer/pdf/pages/sec11\\_7.pdf](http://www.eia.doe.gov/emeu/aer/pdf/pages/sec11_7.pdf)). This lack of restraint means we are not sharing the earth's resources, and serves as a warning. As other cultures struggle to modernize, their energy requirements will also grow. Without restraint, the impact of society will outpace the capability of the planet to support us. In addition to the harmful environmental impacts, there simply will not be enough land to produce food, enough fossil fuels to provide energy.

One option is to use or purchase clean energy. Clean energy initiatives focus on the pollution associated with creating energy sources, and the pollution associated with consuming the energy once the fuel is created. Unlike petroleum, which is consumed significantly faster than the earth replaces it, many clean sources are naturally sustainable: converting solar and wind energy does not diminish the environment's ability to sustain us. The Department of Energy has information regarding many clean or sustainable fuel sources, including biomass, geothermal, hydrogen, hydropower, ocean energy, solar energy, and wind energy. Visit the website [http://www.eere.energy.gov/consumer/renewable\\_energy/](http://www.eere.energy.gov/consumer/renewable_energy/) for more info.

The Interfaith Power and Light is a nationwide movement helping religious organizations reduce their reliance upon nonrenewable energy. (Luther Place is a member of the Greater Washington Interfaith Power and Light.) In Washington, DC, you can find out more by visiting their website: [www.gwipl.org](http://www.gwipl.org).

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### **2. Home/Office: Energy Star Appliances**

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices. Results are already adding up. Americans, with the help of ENERGY STAR, saved enough energy in 2005 alone to avoid greenhouse gas emissions equivalent to those from 23 million cars — all while saving \$12 billion on their utility bills. Energy efficient choices can save families about a third on their energy bill with similar savings of greenhouse gas emissions, without sacrificing features, style or comfort. ENERGY STAR helps you make the energy efficient choice. (source: [http://www.energystar.gov/index.cfm?c=about.ab\\_index](http://www.energystar.gov/index.cfm?c=about.ab_index) )

- If looking for new household products, look for ones that have earned the ENERGY STAR. They meet strict energy efficiency guidelines set by the EPA and US Department of Energy.
- If looking for a new home, look for one that has earned the ENERGY STAR.
- If looking to make larger improvements to your home, EPA offers tools and resources to help you plan and undertake projects to reduce your energy bills and improve home comfort.

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### **3. Home/Office: Older Appliances**

Efficient use of older appliances can be more environmentally-friendly than purchasing new ones. If we can extend the life of our appliances, we will spend less energy in creating new ones and disposing of the old ones. Unfortunately, many older appliances are less efficient than the new ones. The Energy Star website has a refrigerator replacement calculator (<http://www.energystar.gov/index.cfm?fuseaction=refrig.calculator&screen=1> ) which can help determine whether it is more efficient to keep an old fridge or buy a new one.

Even if you cannot purchase a new refrigerator or appliance, there are ways to improve the efficiency of older electronic appliances (more than fifteen years old). One option is to install electronic power-controller. These devices better match the power use of the appliance to the electricity supplied to our homes. For as little as \$30-\$60, these devices can reduce the stress on your older appliance and save energy and money. Depending on the efficiency of

your appliance, the return on investment often is less than two years. (source: [http://www.eere.energy.gov/consumer/your\\_home/appliances/index.cfm/mytopic=10060](http://www.eere.energy.gov/consumer/your_home/appliances/index.cfm/mytopic=10060) )

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#### 4. **Home/Office: Light Bulbs**

Maximize the use of natural light in your house. Adjustable blinds and/or translucent window coverings allow you to control and filter natural light. New skylights can be installed in existing homes that funnel light into the home, creating the same effect as an overhead light. Unlike traditional skylights, newer models use aimed mirrors to draw more light into a room.

Traditional incandescent bulbs waste 90% of the energy they use. That means for every \$100 you spend lighting your house, only \$10 goes to creating light. If every family in the US replaced one regular lightbulb with an energy saving model, we'd reduce global warming pollution by more than 90 billion pounds, the same as taking 7.5 million cars off the road. Don't be discouraged by the price at the register; compact fluorescents will save you money. Compact fluorescent lightbulbs last 4 to 10 times longer than traditional bulbs. (source:

[http://www.eere.energy.gov/consumer/your\\_home/lighting\\_daylighting/index.cfm/mytopic=12030](http://www.eere.energy.gov/consumer/your_home/lighting_daylighting/index.cfm/mytopic=12030) )

As a general rule of thumb, turning off every incandescent light you are not using saves energy, even if you are only out of the room for a minute. For fluorescent bulbs, if you plan on returning to the room within 15 minutes, it is often more efficient to leave the light on.

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#### 5. **Home/Office: Washers and Dryers**

Compared to washing machines made in the 1990's, new washing machines save about \$100 a year in utility costs. Older washing machines use 60% more water than newer machines. Certainly, we can't rush out to buy a new washing machine every time a new energy-efficient model hits the market (and doing so isn't a sustainable practice anyway), but we can save energy simply in how we use our washing machines. Washing full loads and using the cold water option increases efficiency regardless of the age and features of an appliance. Front-loading models are typically more efficient than top-loading models: they have greater capacity, use less energy, are more effective at cleaning clothes, and are gentler on clothes. Spin cycles in a washing machine are an efficient first step in the drying process, saving the time and energy associated with dryer cycles. (source: [http://www.energystar.gov/index.cfm?c=clotheswash.pr\\_clothes\\_washers](http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers) )

Clothes dryers are often the second-biggest energy hog in the house (refrigerator is number one). A typical dryer costs \$85 per year to operate. (source: [http://www.sustainablebuildingcentre.com/clothes\\_dryers\\_fact\\_sheet\\_and\\_energy\\_cost\\_comparison](http://www.sustainablebuildingcentre.com/clothes_dryers_fact_sheet_and_energy_cost_comparison) ) While there is usually not a large difference in the efficiency of different models, often adjusting how we use our clothes dryers can greatly save energy. Many dryers have a moisture sensor cycle that will stop the drying cycle when the clothes are dry. This feature will save energy and can extend the life of your clothes; the less time your clothes spend in a dryer, the softer they will be and the less wear and tear they will experience. Dryers use a lot of energy heating the bin; avoid repeatedly opening the door (allows the heat to escape). Running multiple loads consecutively will waste less energy in heating up the dryer from room temperature. Make sure the lint screen is clean, maximizing air flow through the dryer. Ensure loads are loosely loaded into the hopper. Overloading will prevent air flow and room to tumble, which can take longer than two smaller loads. Air drying is a more environmentally-friendly way to dry clothes if you have the space, capacity, and time. Another small appliance called a spin dryer can be used in conjunction with a traditional dryer to save time and energy. By spinning clothes extremely fast for a couple of minutes prior to placing them in a tumble dryer, most of the moisture is removed. Spin dryers cost between \$100 and \$150.

Finally, consider doing laundry early in the morning or in the evening. Traditional power demand peaks in the middle of the day. Even though there is no peak time usage fee in the DC area, lessening the demand during the middle of the day helps local utility companies better manage energy.

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#### 6. **Home/Office: Water Heaters**

Water heating normally accounts for about 13% of the energy consumed in your home. (source: [http://www1.eere.energy.gov/consumer/tips/pdfs/energy\\_savers.pdf](http://www1.eere.energy.gov/consumer/tips/pdfs/energy_savers.pdf) ) Tankless or on-demand water heaters heat water as it's needed, by routing the water through heated coils on its way to your faucet or shower. This saves energy over traditional water heaters that maintain a tank of hot water throughout the entire day, even though you only need hot water for less than 10% of that time. If you already have a tank water heater, you can put a water heater blanket on it to provide insulation and install a programmable water heater thermostat that fits your daily schedule. Other alternatives include solar water heaters and heat pumps.

When setting the temperature of your water heater, set it only as high as you need to take a shower without turning on the cold water. (If you have extremely low water pressure, sometimes this may not be practical.) Oftentimes, we spend money to heat up water all day and night; then when we need it, it is too hot, so we cool it off with the cold water faucet in the shower. This is extremely impractical and wasteful. Experiment so that you can take a shower without using the cold water faucet.

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## 7. **Home/Office: Dishwashers**

Oftentimes, being green is actually pretty convenient; using a dishwasher is one of those appliances that actually saves water and energy while making our life easier. But, that savings is only achieved if we are using our dishwashers appropriately. Minimize pre-rinsing of dishes in your sink; instead, simply scrape them off without using water. If you have an older dishwasher, experiment to determine how much rinsing is needed. Try to avoid using the dryer mode, and only run the dishwasher when it is full. Finally, dishwasher detergent is one of the most common sources of accidental child poisoning. Make sure dishwasher detergent is not accessible to children.

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## 8. **Home/Office: Programmable Thermostats**

You can save around 10% a year on your heating and cooling bills by simply turning your thermostat back 10°–15° for eight hours. You can do this automatically without sacrificing comfort by installing an automatic setback or programmable thermostat. Using a programmable thermostat, you can adjust the times you turn on the heating or air-conditioning according to a pre-set schedule. As a result, you don't operate the equipment as much when you are asleep or when the house is not occupied. (source:

[http://www1.eere.energy.gov/consumer/tips/pdfs/energy\\_savers.pdf](http://www1.eere.energy.gov/consumer/tips/pdfs/energy_savers.pdf) )

Over twenty-five years ago, during the OPEC oil crisis, Jimmy Carter advocated wearing a sweater at home on cool nights to save energy. That's still good advice. You can easily save energy in the winter by setting the thermostat to 68°F while you're awake and setting it lower while you're asleep or away from home. By turning your thermostat back 10°–15° for 8 hours, you can save about 5%–15% a year on your heating bill—a savings of as much as 1% for each degree if the setback period is eight hours long. The percentage of savings from setback is greater for buildings in milder climates than for those in more severe climates. In the summer, you can follow the same strategy with central air conditioning, by keeping your house warmer than normal when you are away, and lowering the thermostat setting to 78°F only when you are at home and need cooling. Although thermostats can be adjusted manually, programmable thermostats will avoid any discomfort by returning temperatures to normal as you wake or return home. (source:

[http://www.eere.energy.gov/consumer/your\\_home/space\\_heating\\_cooling/index.cfm/mytopic=12720](http://www.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12720) )

A common misconception associated with heating and cooling is that it is cheaper to sustain a temperature, even when you are away from the house. This misconception has been dispelled by the Department of Energy through years of research and numerous studies. The fuel required to reheat a building to a comfortable temperature is roughly equal to the fuel saved as the building drops to the lower temperature. You save fuel between the time that the temperature stabilizes at the lower level and the next time heat is needed. Every minute the house spends at the lower temperature (in winter) translates directly to fuel and energy savings. (source: (source:

[http://www.eere.energy.gov/consumer/your\\_home/space\\_heating\\_cooling/index.cfm/mytopic=12720](http://www.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12720) )

Finally, one of the most environmentally friendly ways to heat and cool a house is to take advantage of the natural environment. Trees, in addition to helping convert nitrogen to oxygen and being generally more pleasant than a lot of people you meet, can also provide shade. This natural cooling effect can significantly reduce the temperature in buildings. Similarly, for new construction, taking advantage of orientation to the sun, geography can provide heat in the winter and cooling in the summer.

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## 9. **Home/Office: Electronics**

Electronics and appliances make up roughly 20% of your monthly utility bill. (source:

[http://www.eere.energy.gov/consumer/your\\_home/appliances/index.cfm/mytopic=10020](http://www.eere.energy.gov/consumer/your_home/appliances/index.cfm/mytopic=10020) ) Even when they are not

turned on, many electronics continue to use energy in "ghost" modes. Televisions, computers, stereos, and DVD players continue to use a few watts even when turned off. For any given appliance, the cost of this energy seems marginal and probably costs less than \$5 per day, but when considering the many appliances in homes and offices across the world that are using this energy around the clock, a watt here and a watt there quickly adds up.

Unplugging or using a power strip to turn off electronics will ensure the appliance is not using any energy when not in use.

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## 10. **Home/Office: Screen Savers**

The best screen saver is turning off your monitor. If computers employed sleep modes rather than screen savers, Americans would save \$2 billion per year, and take the equivalent of 5 million cars off of the road. Changing your computer settings is easy; from your start menu, select control panel, then display, then the screen saver tab. Select the power settings mode, and select the turn off monitor or power save mode. If your computer doesn't support a sleep mode, simply turn off your monitor if you will not be using it within the next 10-15 minutes. (source: [http://www.eere.energy.gov/consumer/your\\_home/appliances/index.cfm/mytopic=10070](http://www.eere.energy.gov/consumer/your_home/appliances/index.cfm/mytopic=10070) )

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## 11. **Home/Office: Linens and Textiles**

Did you know that growing cotton exhausts nutrients in the soil and uses 25% of the world's pesticides? (source: <http://www.panna.org/resources/documents/conventionalCotton.dv.html> ) From a social justice perspective, the use of these pesticides is a leading cause of fatalities to agricultural workers. These workers and their families are exposed to pesticides without warning or notice. If consumers demand pesticide free organic cotton, the owners and producers will have a greater incentive to treat workers better. Organic cotton is grown without these pesticides, meaning water runoff from organic crops is not harmful to the environment, and we are not exposed to pesticides in our linens. Only a small percentage of the cotton grown is organic, but more organic cotton is grown each year, and it is becoming more and more accessible. Now Wal-Mart has a line of kids clothing made of organic cotton, and select items for adults made of organic cotton. Honeysuckle Dreams in Rockville sells bedding and stuffed animals made of organic cotton. Organic cotton dishtowels, sheets, and other products are available at stores and on-line retailers. An affordable alternative to cotton is Beech. Beech is soft like pima and Egyptian cotton, however growing Beech is much less harmful to the environment. Many large retailers sell sheets and other select items made of Beech.

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## 12. **Home/Office: Insulation**

Heating and cooling our homes accounts for more than 50% of the energy we use in the household. (source: [http://www1.eere.energy.gov/consumer/tips/pdfs/energy\\_savers.pdf](http://www1.eere.energy.gov/consumer/tips/pdfs/energy_savers.pdf) ) Inadequate insulation and poor seals between interior and exterior spaces are one of the most significant sources of wasted energy. Insulation should be applied to attic spaces, below the floor of unheated spaces (in crawlspaces or between unheated basements and the rest of the house), along the walls of a slab foundation, and exterior walls. Adding insulation to finished walls and attics can be a little harder; an energy auditor can provide an estimated payback associated with a house based on climate, energy use, construction materials, and orientation of the building. Sealing leaks and adding appropriate insulation can save around %10 in annual heating and cooling costs. (source: [http://www1.eere.energy.gov/consumer/tips/pdfs/energy\\_savers.pdf](http://www1.eere.energy.gov/consumer/tips/pdfs/energy_savers.pdf) )

Insulation comes in many forms: billowy fiberglass rolls, foam sheets, blown in fibers/pellets, and even air or other gases. The location and accessibility will help determine which type of insulation is best. Dense insulation materials provide the additional benefit of reducing air leakage. For hard to reach areas, blown in insulation offers an effective but often pricier alternative. An energy auditor can estimate how long it will take for energy savings to pay for the addition of insulation.

Double-paned windows with a sealed air or other gas in between the panes can greatly increase the energy efficiency of a window. A single pane of glass is a terrible insulator. Anyone who stands near a window in winter already knows this. The added air gap provides a simple and effective transparent insulator. Curtains and blinds also provide insulation around windows. Even storm windows can help provide air gaps for better energy performance.

Even easier than adding insulation is ensuring your house is well-sealed. Inspect the weather strips around doors and windows. If the rubber is cracked or not providing a seal, replace it. If you shut your door on a piece of (recycled) paper, and can pull it out easily when the door is shut, you do not have a good weather seal. Using a match or lighter (or your hand), check around window and door edges for evidence of air blowing into or out of your house. If you find any leaks, you can apply a silicone sealant. Sealants are about the same consistency as toothpaste; you can apply them with a caulk gun, straight out of the tube, or even with your finger. Smooth out the sealant for a consistent professional appearance, and clean up any extras. It takes less than five minutes per window, and the savings in February alone will pay for the cost of the sealant many times over. Additionally, reducing drafts will make the house feel warmer, meaning you will be more comfortable at a lower thermostat setting.

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## 13. **Home/Office: Gardens and Landscape**

When planning a garden and a yard, consider local vegetation. Plants that are native to this part of the country generally require less watering and less fertilizer, which is better for the environment and less work for you. Rotating what is planted where each year also helps; for example, choose a different kind of plant from last year for each bed,

or alternate what plants go where. This allows the soil to rebuild nutrients and helps plants grow. For information on what plants are native to the area read "100 Easy-To-Grow Native Plants" by Andrew Leyerle or go to [www.wildflower2.org](http://www.wildflower2.org).

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#### **14. Home/Office: Paper**

Every year, Americans throw away enough paper to build a 12 foot wall from New York to Los Angeles (source: *The Recycler's Handbook*, EarthWorks Group, 1990). (Don't tell Pat Robertson; he may want to use the paper to build a new fence along the Mexican border.) Use email and softcopies as much as possible, reducing the number of memos you print. When you do print, use both sides. Save printed one-side copies to use the backsides for handwritten notes.

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#### **15. Home/Office: Liquids and Chemicals**

Using less is an easy way to help the environment and your finances. Manufacturers profit when we buy their products, so it is in their interest to encourage us to use more. Over the last few decades, manufacturers have gotten us to use more of products like laundry and dish soap, by changing the size of the cap or measuring spoon. Try using a little less laundry soap, dish soap, shampoo, conditioner, or other product, and see if you get the same results.

An easy way to help clean the environment is to reduce the chemicals we throw away. Producing chemicals like cleaning products, soap and shampoo is a very polluting process. When we throw away the final product, we are unnecessarily adding chemicals to the environment. We can reduce the amount of chemical pollution in the water and landfills by using all of a product. When a shampoo bottle is almost empty, add some water, shake the bottle, and use it one more time. When you go to a hotel, bring your own shampoo or soap, or bring home the half used hotel soap and shampoo to finish using it. Don't dump unused cleaning products down the drain; if you no longer need something or are moving, offer the opened bottle to a friend or neighbor.

Think before you wash! We all need to wash, but we don't usually think what happens when the water goes down the drain. Some older cities, like D.C., parts of Northern VA and Suburban MD, have what's known as a "combined water sewer system." This means the storm drains in the streets and the sewer drains connected to our toilets, sinks and washers all flow to the same pipe under the road. During times of heavy rain the system is overloaded and a mix of rain water and sewer water flows into the river. Saving laundry for a sunny day can help prevent or limit the sewer water flowing into the rivers. This helps keep the water clean and preserves the eco-system.

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#### **16. Automobiles: Hybrids**

Unlike petroleum vehicles, driving electric cars produces almost no pollution. If the electricity itself is also generated through clean sources (wind/solar), the process is extremely green. Unfortunately, a pure electric car does not have enough charge to meet the needs of most motorists, takes a long time to charge, and cannot sustain high speeds/acceleration for extended periods of time. An increasingly popular alternative is a gasoline-electric hybrid vehicle. These vehicles have a traditional gasoline engine to augment the electric car. By minimizing use of the gasoline engine, the vehicle reduces emissions and uses less gasoline. Many hybrids get twice the gas mileage of a comparable gasoline vehicle. The benefits of hybrids decrease with engine size and vehicle weight, meaning the difference between a hybrid SUV and the same gasoline powered SUV is not as great as the difference between a hybrid sedan and the same gasoline powered sedan. (source: <http://www.howstuffworks.com/hybrid-car.htm> )

Gasoline has a greater energy density than electric batteries. It would take about 1000 pounds of batteries to equal the energy in one gallon (seven pounds) of gasoline. This would tend to make hybrids and electric cars impractical. However, automobile engineers have found opportunities to make hybrids a viable vehicle. By using electricity to augment a gasoline engine, hybrids have smaller engines, which are significantly more efficient than larger engines. When energy requirements are at their lowest, a hybrid will often shut down its gasoline engine. Finally, many hybrids use mechanical energy associated with vehicle operation (such as braking) to charge the batteries. (source: <http://www.howstuffworks.com/hybrid-car.htm> )

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#### **17. Automobiles: Bio Diesel**

Biodiesel is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is safe, biodegradable, and reduces serious air pollutants such as particulates, carbon monoxide, hydrocarbons, and air toxics. Blends of 20% biodiesel with 80% petroleum diesel (B20) can generally be used in unmodified diesel engines. Neat biodiesel (100% biodiesel) usually requires an engine modification and may not perform as well in cold environments. B20 reduces the carbon dioxide emissions over

traditional diesel by 15%; neat biodiesel reduces emissions by 75%. Biodiesel has a lower flashpoint, meaning it is less flammable than traditional diesel gasoline. (source: <http://en.wikipedia.org/wiki/Biodiesel> )

Diesel and biodiesel vehicles have three inherent advantages over traditional unleaded gas vehicles.

1. Diesel has a higher energy density: a gallon of diesel or biodiesel fuel has more energy than a gallon of traditional unleaded gasoline due to the compression achievable within an engine.
2. Diesel fuel requires less energy to refine.
3. Diesel engines achieve greater compression within the engine cylinders

The result is that diesel engines are more efficient and get better mileage than traditional engines. The environmental benefit is a significant reduction in carbon emissions. (source: <http://www.howstuffworks.com/diesel.htm> )

The environmental drawback comes in terms of nitrogen oxides. Diesel engines hurt overall air quality because they produce twice as many nitrogen oxides, a main source of smog. B20 biodiesel cuts the nitrogen oxide emissions by an additional 50%. Biodiesel is the only alternative fuel to meet all requirements associated with the Clean Air Act. It is more efficient than unleaded gasoline and generally more environmentally-friendly than both diesel and unleaded gasoline. (source: <http://www.biodiesel.org/resources/faqs/> )

The National Biodiesel Board (1-800-841-5849; [www.biodiesel.org](http://www.biodiesel.org)) has additional information for converting diesel engines or finding registered fuel marketers.

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## 18. Automobiles: Ethanol

From the Department of Energy's website (<http://www.eere.energy.gov/afdc/altfuel/ethanol.html> ): "Ethanol is an alcohol-based alternative fuel produced by fermenting and distilling starch crops that have been converted into simple sugars. Feedstocks for this fuel include corn, barley, and wheat. Ethanol can also be produced from "cellulosic biomass" such as trees and grasses and is called bioethanol. Ethanol is most commonly used to increase octane and improve the emissions quality of gasoline. Ethanol can be blended with gasoline to create E85, a blend of 85% ethanol and 15% gasoline. E85 and blends with even higher concentrations of ethanol, E95, for example, qualify as alternative fuels under the [Energy Policy Act of 1992](#) (EPA). Vehicles that run on E85 are called flexible fuel vehicles (FFVs) and are offered by several vehicle manufacturers. "

"Estimates show that ethanol represents about a 75% reduction in petroleum use and a 35% reduction in fossil energy use. Ethanol can also reduce the creation of greenhouse gases by 15-20%."

Critics of ethanol are concerned with the energy required to grow corn and other ethanol sources. If the net effect is negative and unsustainable energy is needed to create the fuel, ethanol will not be a viable alternative fuel. Emerging data refutes this claim, showing that corn ethanol is currently yielding energy at an input to output ratio of 1.6. (source: [http://www.eere.energy.gov/afdc/altfuel/eth\\_energy\\_bal.html](http://www.eere.energy.gov/afdc/altfuel/eth_energy_bal.html) ) Technological gains in the processing and refining will hopefully improve the energy efficiency of the process; creating an ethanol market will provide financial incentives for such research and development.

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## 19. Automobiles: Diesel

Diesel and biodiesel vehicles have three inherent advantages over traditional unleaded gas vehicles.

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2. Diesel fuel requires less energy to refine.
3. Diesel engines achieve greater compression within the engine cylinders

The result is that diesel engines are more efficient and get better mileage than traditional engines. The environmental benefit is reduced carbon emissions. (source: <http://www.howstuffworks.com/diesel.htm> )

The environmental drawback comes in terms of nitrogen oxides. Diesel engines hurt overall air quality because they produce twice as many nitrogen oxides, a main source of smog. Diesel pollution is closely linked to decreased life expectancy for those exposed to diesel emissions. Diesel emissions are also linked to cancer and asthma. (source: <http://www.catf.us/publications/view/83> )

The Environmental Protection Agency is working with the industry to improve the environmental impacts of diesel engines. According to the EPA's website (<http://epa.gov/cleandiesel/> ), "Reducing emissions from diesel engines is one of the most important air quality challenges facing the country." The National Clean Diesel Campaign hopes to reduce the particulate matter and nitrous oxide emissions by 250,000 tons and 4 million tons per year respectively. The savings associated with public health costs will amount to over \$140 billion per year, but will likely take another 20 years to realize.

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## **20. Automobiles: Proper Tire Inflation**

We all know that walking or taking public transportation is better for the environment than driving, but sometimes driving is necessary. Something many people do not know is that keeping car tires inflated to the right pressure and getting regular tune-ups as recommended by the manufacturer increase the fuel efficiency of cars. Rolling down the windows instead of using air conditioning is another way to save energy while driving.

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## **21. Lifestyle: Local foods and products**

Most foods we buy and eat must travel more than 1500 miles to get to our dinner plates. (source: <http://100milediet.org/home/>) That uses a lot of energy and contributes to traffic, road costs, and pollution. Buying locally grown food is good for the environment in many ways, and is healthier for you. Food grown locally is allowed to ripen on the plant and shipped to you quickly. Food grown farther away is often picked early, ripens on the truck, and is less fresh by the time you purchase it, meaning it has less nutritional value. More energy is needed for trucks and trains to transport the food from farther away, and more packaging is needed to keep the food from being damaged. Transportation of local foods can save around 10% of the gasoline otherwise used to ship foods around the country and world. Food grown locally is also less likely to be grown on large, corporate farms, which generally means fewer pesticides, fertilizers and chemicals are necessary. When you buy food, look at the sticker or the display box, to see if it comes from our region, or country, or even our hemisphere! Visit the website 100 mile diet for more info: <http://100milediet.org>

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## **22. Lifestyle: Junk Mail**

Not only is junk-mail annoying, but the junk-mail industry uses millions of trees and billions of gallons of water every year. And most of it ends up in landfills. That amounts to 4 million tons of wasted paper. (Unfortunately, DC recycling does not accept junk mail on glossy paper but does accept mixed paper.) This whole industry costs taxpayers over \$300,000,000 every year. (source: <http://www.stopjunk.com/environment.html>) What can you do?

Step one, get off credit card company mailing lists. Call 1-888-567-8688 to stop receiving credit card company offers.

Step two, get off of catalog mailing lists. Whenever you make a catalog purchase, you are added to the Abacus mailing list. Send an email to [optout@abacus-us.com](mailto:optout@abacus-us.com) with your name (and nicknames) and address. Do not send SSN or phone numbers to them or anyone else.

Step three, to halt sexual-oriented material, visit a post office and fill out either a Form 2150 or 1500.

Step four, contact your bank, insurance company, credit card companies, and anyone else who have an account with. Ask them to refrain from sending you offers or better yet, try online bill-payment and account management.

Step five, all the other junk. The most effective way to get off of junk mailing lists is to contact the marketing company directly, by phone (talk to a supervisor) or letter, and inform them that you would like to be removed from their mailing list. They are required by law to honor your request. Alternatively, you can sign up for the National Do Not Mail list ([https://www.directmail.com/directory/mail\\_preference/?ref=G](https://www.directmail.com/directory/mail_preference/?ref=G)). Another popular service is the Direct Marketing Association. Their service costs \$1 and can be submitted via form or online: ([www.dmaconsumers.org](http://www.dmaconsumers.org)). The Consumer's Research Institute (a private for-profit company) sells a Stop Junk Mail Ebook for \$10.95 with postcards you can print out and mail to the junk mail distributors: [www.stopjunk.com](http://www.stopjunk.com) These services often take months to take effect and will not eliminate all junk mail.

Step six, don't give out personal information. When buying items at a store, when telemarketers call, or when filling out information online.

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## **23. Lifestyle: Concentrates**

Buying products in concentrate saves money and helps the environment. Manufacturers are selling more products such as laundry soap, dish soap, and juice, in a concentrated form. Concentrated products have less water, which requires less volume, less packaging, and less weight. The difference in weight is very substantial; adding water at your home rather than at the manufacturing plant saves a lot of energy. Products like Tide and All laundry detergents are now commonly available in concentrate at grocery and drug stores. Don't be fooled by the price; even though the smaller bottle appears to be more expensive, if you compare the costs per load of laundry, the concentrate is cheaper. If you buy concentrated liquid laundry soap instead of regular liquid soap, you will notice the difference right away – it takes less room on your shelf, and is easier for you to carry home!

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## **24. Lifestyle: Air Quality**

When people think about pollution, they usually think water pollution, landfills, air pollution and the ozone layer. More recently they have begun to think about indoor air pollution. Indoor air can be just as dirty, even dirtier than outside air. Ironically, we often “dirty” the air intentionally with air fresheners and scented cleaning products. These chemicals can be harmful to people as we absorb them through the air we breathe, through our skin and the food we eat. They also pollute the environment when they are produced and disposed of. Even scents we associate positively, like the new car smell or new carpet or new shower curtains, are actually the off-gassing of toxic chemicals.

Plants are a more natural and healthy air freshener, recycling carbon dioxide into oxygen and reducing the presence of harmful chemicals. Effective “air fresheners” include Chinese evergreen, peace lily, arrowhead vine, English ivy, devil’s ivy, corn plant, spider plants, chrysanthemums, and daisies. Aim for 1 plant for every 100 square feet of living space. Dust them with a damp cloth and keep their soil and root areas clean. Another healthy option is to boil water with cloves or other natural herbs. Alternatively, you can drop a few drops of essential oil or natural extracts on a light bulb. Rather than plug in an air freshener that uses energy to create heat, you can use the heat the bulb creates. Some oils and herbs also serve as natural deterrents to bugs and rodents. Peppermint is displeasing to mice and rats, flies don’t like basil, and ants avoid cinnamon and cayenne pepper. Roaches are harder to expel through natural means, but a combination of eucalyptus and pennyroyal will deter many insects. These tips and others are available in *Green Clean* by Linda Mason.

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## **REUSE:**

### **1. Towels and cleaning rags**

Washable kitchen towels and rags can be used for cleaning rather than paper towels. Brooms and vacuums are reusable and produce very little if any waste, however products like the Swiffer cleaning pads are not reusable and produce garbage with each use.

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### **2. Clothing**

Buying second-hand clothes or selling and donating second hand clothes is environmentally-friendly, cost effective, and charitable.

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### **3. Automobiles**

You don’t have to buy the latest hybrid car to be environmentally conscientious. With the surge in leases over the last decade, there are numerous late model vehicles on the market. Buying a used car will save money on the depreciation associated with new cars, which gives you more options for your spending dollar. The key to responsible car ownership for older cars requires proper maintenance and care. And, as always, we should try to minimize our reliance upon automobiles. Walking, biking, and public transportation prolong the life of your car and the planet.

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### **4. Plates and silverware**

If you spend time socializing during the LP coffee hours, you probably noticed our switch from Styrofoam cups to our LPC coffee cups, but you may not have known why. Generally speaking, disposable products are not environmentally friendly. The energy cost of creating a ceramic cup is 70 times that needed to make a Styrofoam cup and 25 times more than needed to make paper cups. (source: <http://www.ilea.org/lcas/hocking1994.html>) Assuming each cup is used at least 70 times, the energy savings of a ceramic cup are preferable. There are a couple of other issues to consider: Ceramic, glass, and a silverware require cleaning, which means hot water and soap. Soap is not an environmentally-friendly product. However, the transportation/distribution and disposal of paper products and Styrofoam pushes the balance toward reusable products. Neither paper products nor Styrofoam is recyclable. They can be reused, for packing materials and secondary products, but the vast majority end up in landfills. Over the lifetime of the product, disposable products generally use more wood or petroleum, require additional transportation to support replacement, and take up more volume in our landfills.

Please do not place disposable food containers into recycling containers. The glues and exposure to liquids prevent them from being recycled, and they can contaminate other recyclable materials in the bin. The extra effort needed to separate them adds to recycling costs.

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## 5. **Batteries**

If you use batteries often, rechargeable batteries can save money and the environment. Rechargeable batteries should NOT be used in smoke detectors because the smoke detector may not beep to indicate the battery is losing its charge.

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## 6. **Shopping Bags**

Plastic bags have infiltrated the core of our lives, from the newspapers that show up on our doorsteps to the grocery store to the department store and every other store. These bags often end up in landfills or in our ecological system, where they can get wrapped around tree limbs, suffocating the trees. Easy ways to reuse plastic bags include bringing your own plastic or cloth bags or backpacks to stores, returning your extra bags to the store, and reusing plastic bags within your home. If you have spare bags in your home, roll them up into a tight roll and keep them by your door or in the car, so you can reuse them rather than bring other bags into your home.

Though paper bags are less harmful to ecological systems, one 15-year-old tree only provides about 700 bags. (source: <http://www.epa.gov/reg3wcmd/solidwasterecyclingfacts.htm> ) If you go to the store twice a month and use 4 bags each trip, then you are using 100 paper bags a year. A tree that took 15 years to grow only supported your grocery transportation for seven years. Now consider all of the people at the grocery store every time you go. That's a lot of trees, and we are certainly using them up faster than we can regrow them.

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## 7. **Drinking Water**

Plastic bottles of water are a fairly recent extravagance that has inserted itself in our daily lives. All of this water must be shipped thousands of miles in separate containers. Due to the weight of water, that is a huge expense in terms of money and energy. Rather than buy little bottles of water, try to drink filtered tap water out of reusable glasses or water bottles. A Britta or Pur filter pitcher is easier and more convenient than buying water at the store. Alternately, filters can be added below your sink or directly onto your kitchen faucet. If you have to buy bottled water due to health concerns with DC's pipes or the availability of water in an office, please consider buying the larger 5-gallon containers which require less plastic. If you do find yourself drinking out of one of the individual water bottles, be cautious of reusing it multiple times. The Department of Health warns that the plastic used in individual water bottles degrades over time. The same is not true for sports bottles.

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## **RECYCLE:**

### 1. **Consider packaging and disposal when making purchases**

What you buy affects the environment, but the packaging of the products and what you throw away also has an effect. An easy way to help reduce pollution is to consider a product's packaging when you decide what to buy. Buying eggs in a cardboard container that is biodegradable and recyclable is much better for the environment than buying eggs in a Styrofoam container.

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### 2. **Buy recycled content products**

Recycling only works if people and businesses find ways to use recycled materials and are willing to buy recycled materials. Recycled computer paper, paper towels, and many other paper products are available at many stores or online. Recycled carpet and tile products are also available but are sometimes more expensive.

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### 3. **Washington DC Recycling**

Reducing and reusing are the first options for environmental stewardship. But when you must discard of used products, please recycle. Although DC does not require a DC-issued recycling bin, you can request a free bin by calling 202-727-1000 or pick one up at 2750 South Capitol St SE. Currently, DC's recycling program accepts newspaper; direct mail (as opposed to junk mail); corrugated cardboard; computer, office, or mixed paper (magazines, catalogues, telephone books, paperback books); steel, aluminum, tin cans; clean pie or baking pans; aluminum foil; plastic and glass jars, bottles and jugs; paper board (shoe boxes, cereal boxes, etc). Items should be rinsed and caps removed. DC does not recycle pizza boxes or juice boxes, motor oil containers, hardback books (covers can be removed), light bulbs, window glass, glass cookware, styrofoam, yogurt containers, butter tubs, peanut butter jars, or carryout containers. Finally, following these steps helps make recycling cheaper and more efficient for the city to support. Place newspapers, office paper, telephone books and catalogues in paper bags or tie into bundles with

string. Place bundled paper items either on top of the bin or next to it. Place newspapers in brown paper bags or tie newspapers with string. Flatten corrugated cardboard and place in brown paper bags or tie with string. For more information, call the Recycling Hotline at (202) 645-8245 or visit the website:

<http://dpw.dc.gov/dpw/cwp/view,a,1202,q,518052,dpwNav,%7C31202%7C.asp>

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#### 4. **Arlington Va Recycling**

Arlington County provides weekly curbside recycling collection services (through a private contractor) to all single family and duplex residences. Recyclable materials are collected on the same day as regular refuse collection. The curbside recycling program has been expanded to include the collection of corrugated cardboard. The curbside recycling program requires customers to separate specific materials from one another. Please remember that containers that once held toxic or hazardous materials, including automotive products, herbicides and pesticides, medicine, chemical cleaning products and paint solvents, should **not** be included with recyclables.

Place recyclable materials at the curb no later than 6:00 a.m. on your collection day. Secure materials to prevent from blowing and becoming litter. Place metal containers, glass bottles and jars, and plastic bottles and jugs in the recycling bin. Mixed paper (including newspaper, magazines, catalogs, paperboard, office paper, phonebooks, etc.) should be placed in a paper grocery bag (not plastic) or tied with twine and placed beside your recycling bin.

Recycling bins containing both mixed paper and food and beverage containers or "unacceptable" materials will be tagged and left at the curb. Corrugated cardboard must be flattened and reduced to a size less than 3 feet by 3 feet. Material should be set out loose or tied into bundles no thicker than 6 inches.

For more information, visit

<http://www.arlingtonva.us/Departments/EnvironmentalServices/swd/EnvironmentalServicesSwdRecycling.aspx?tab=R recycling>. Each residence is provided with a yellow recycling bin. (If you do not have a yellow recycle bin, or your bin is cracked or broken, please call the [Customer Service Call Center](#) in the Solid Waste Bureau at (703) 228-6570 or [request a new recycling bin on-line](#))

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#### 5. **Fairfax County, Va Recycling**

Visit the website <http://www.fairfaxcounty.gov/dpwes/trash/recyclingtrash.htm> for information on Fairfax County recycling.

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#### 6. **Prince George's County, Md Recycling**

As a County homeowner, you pay a fee for recycling and other waste management programs through the Solid Waste Charge that appears on your property tax bill. Recycling is your opportunity to keep Prince George's County a clean and healthy place to live. It's easy, saves energy and is good for the environment. By placing your recycling bin at the curb once a week on your regularly scheduled collection day, you can help reduce the amount of trash that is disposed of at the landfill. These items are accepted: Cans (aluminum, steel and bi-metal), Glass (clear, brown and green), Newspaper, magazines, small catalogs, telephone books and glossy inserts should be placed in paper bags or tied securely and placed next to or on top of your recycling bin (plastic bags are not acceptable)

Narrow-neck plastic containers such as milk and water jugs; beverage containers; detergent bottles; and bleach bottles are acceptable.

Remove all caps and rinse thoroughly before placing in recycling bin. Only glass food and beverage containers are accepted. Remove caps and rinse before placing them in your recycling bin. Rinse all beverage and food cans before placing them in your recycling bin. Remove all lids from food containers.

County residents may place a request for a recycling bin online. Requests are limited to two (2) bins per year. Visit this website to order a bin online: [http://www.co.pg.md.us/Government/AgencyIndex/DER/Forms/recycle-bins.asp?nivel=foldmenu\(8\)](http://www.co.pg.md.us/Government/AgencyIndex/DER/Forms/recycle-bins.asp?nivel=foldmenu(8)).

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#### 7. **Montgomery County, Md Recycling**

Montgomery County provides once-a-week curbside recycling collection service to all residents of single-family and town homes, except for those in [municipalities](#). Place all recyclables at the curb by 7 a.m. on your recycling day. Unsure about your recycling day? Use our [Collection Day Lookup](#) or call 240-777-6410.

Items accepted (in blue bins):

All metal food, beverage, and pet food cans.

Aluminum foil products. (examples: foil wrap, pie plates, and other food trays) Please clean and wipe off foil.

Tins from cookies, fruit cakes, popcorn, and similar items.

All food and beverage jars and bottles made of glass. Please rinse out, and place these in your blue bin for collection.

Metal lids from glass bottles and jars.

All clear and colored plastic bottles with necks; all resin numbers (#1-7) are accepted.

Labels and the little rings around the neck from the lid/cap are ok.

Items not accepted:

No other plastics

Yogurt containers, margarine tubs, pint-sized baskets for fruit, beverage cups, salad bar containers, flower pots

No bottles from hazardous products

Automotive and garden products

Any other glass or ceramic products

Window glass

Mirrors

Plastic lids

For additional information, visit the website:

[http://www.montgomerycountymd.gov/swstmpl.asp?url=/content/dpwt/solidwaste/collection\\_services/index.asp](http://www.montgomerycountymd.gov/swstmpl.asp?url=/content/dpwt/solidwaste/collection_services/index.asp)

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