Green Report

"Conservation is humanity caring for the future."
-Nancy Newhall

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THE RUSH FOR "GREEN"

Why Is It Important?

The world has changed dramatically since the start of the industrial revolution. We've seen more change in the past two hundred years, than the whole of civilized history. This has brought us incredible improvements in healthcare, lifestyle and greater knowledge of the universe. However there have been many unintended consequences which are damaging to our long term health as a society, even putting the lives of our children at risk.

Examples are plentiful. Take for instance, our gung-ho use of DDT for many years to combat insects which is now poisoning nearly everyone to some degree. Or the fact that our factory-style agriculture practices have resulted in vegetables with a small fraction of the nutritional value that they had only 50 years ago. And the way homes and our automobiles have been built over the past 40 years with much greater speed but much less concern for their energy efficiency or their ability to sustain human health effectively.

Of course, there is also the issue of climate change and the strange erratic weather patterns that are increasingly evident across the globe. Most scientists accept that this is a direct result of our rampant emissions of gasses such as Carbon Dioxide (CO_2) and Methane (CH_4) which can trap heat in our atmosphere. Some studies are showing the pace of change increasing at alarming rates. And one study recently demonstrated that much of the change is now irreversible, making it even more urgent that we reverse these emissions now.

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Even if you cannot accept the hypothesis that man's actions are directly responsible for climate change, the source of energy behind almost all of the emissions, fossil fuels, is also polluting our environment at an alarming rate. Toxic pollutants directly associated with petroleum and coal use are leading to increased asthma rates in children, and countless other health impacts. Plus we need to consider that, petroleum is a limited resource which many analysts say has peaked in its production and can no longer keep pace with our growing demand for energy. Imagine the chaos if no viable alternatives emerge and our demand keeps growing!

For all of these reasons and many more, it is important that we do everything in our power to reduce our reliance on fossil fuels and start to adopt new practices that are more thoughtful and considerate of the real long term impact. Often you hear terms like "planet friendly" that imply it's all about protecting the earth. Well that's not true or

accurate. The earth will be fine. No matter what we do, this hunk of rock will continue to exist. It's our own future, humans and the other animals, that is in jeopardy. It is true, however, that protecting the delicate balance of nature is important to our survival. As we annihilate species and destroy mountains to get at fossil fuels or to house our growing population we tear away at the fabric of nature that sustains us. By adopting more mindful practices and being more judicious in our use of natural resources we can still reverse this trend and ensure the survival of our species for millennia to come.

This e-book is about how we can adopt new practical practices at home. I'll provide a range of useful tips and projects that can be done yourself, so you can clearly see what you can undertake to do your part in helping the planet and our survival.

The Truth About "Going Green"

What's the first idea that comes to your mind when we ask: How do you "green up" your life?
For most people, they imagine going "green" as getting solar panels, expensive high efficiency washers and composting everything in their kitchen. Or, they imagine buying an electric-powered vehicle, organic clothing and organic food. Either way, most people imagine green living as an extraordinarily expensive way to live. This can't be further from the truth.

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For many people in this tough economy, it can be daunting to "go green" or practice conservationism. After all, many of the popular "green" products cost more than conventional products. Upfront, the cost of solar power and wind power seems astronomical. With the car industry struggling for cash, it's increasingly difficult to get financing for a "green" vehicle.
Does this mean you can't help the environment? Absolutely not! One of the dirty secrets that businesses in the "green" industry won't tell you is that you can help save the environment for little to no cost without buying their expensive items. That means that anyone can adopt a green lifestyle- young, old, rich or poor. Even if you've recently lost your job, you can go "green". Conversely, if you *can* afford to buy the latest and greatest eco-friendly products, then that's great too!

In this guide, we're going to cover all aspects of green living and what you can do to pitch in to save Mother Earth. Green living can be fun for the whole family and there's ways to live "green" in all aspects of your life.

We're definitely not going to preach to you about buying the fanciest and most expensive hybrid car, or investing your nest egg into solar panels. We encourage you to do both of these things, but we know it is not feasible for most people right now.

Remember: green living isn't about the money you put into new green inventions. Green living is about having the spirit to help control humanity's ecological impact on the planet. Green living is about having the courage to leave the world a better place for our children. Green living is about protecting the resources vital to all life on Earth.

Going Green in the Bedroom

When you imagine the amount of time we spend in the bedroom, it's not hard to imagine that we want our bedrooms to be clean, healthy and relaxing. The average person spends 6-8 hours in their bedroom every day, and that includes just sleeping! We also watch T.V, spend time with our loved ones, get dressed and even surf the 'Net in the bedroom these days.

Most people wash their sheets once or twice a week. Have you ever considered what you wash your sheets with?

One of the biggest culprits of water contamination is the heavy use of detergents and cleaners being expelled from our washing machines. Any detergent that uses dyes and perfumes contributes to the problem.

Laundry detergents trigger a very strong psychological reaction in American culture. When we smell fresh Tide, Gain or All laundry detergent, most of us are taken back to our childhood. For me, I'd walk home from school and be captivated by the fresh smell of clean clothes, which meant "home." Home meant not being in school, playing with friends and a fresh dinner. Over the years, almost all of us have been conditioned to associate the clean laundry smell with happy memories such as this.

The next time you walk down your detergent aisle, pick up an alternative detergent that's dye-free, bleach-free and perfume-free. Make sure you wash your sheets with these "clean" products instead of the "smelly" stuff. I bet they will be a little cheaper too!

You may pause because you want your sheets to smell clean. Well, there are hundreds of ecologically friendly ways to make your sheets smell delectable without using harmful chemically-enriched detergents. Here are just a few:

- Invest in an inexpensive set of lavender or lilac laundry bags. These bags are made out of soft linen and can be used for 4 weeks! Best of all, they're 100% natural with real dried lavender and lilac.
- Mix up your own fabric softener: ½ cup water, 2 table spoons of baking soda, 1 tablespoon of vinegar and 2 teaspoons of essential oil (lavender, vanilla, cherry,

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lilac, citrus- whichever you prefer). You can find essential oils online or at a local health store.
- Dry outside: That's right. There's nothing like the fresh smell of laundry that's been dried in the breeze. You save money on your drying costs too when you opt for this method!

When you're cleaning your bedroom, avoid very strong chemicals that are bleach-based. Instead, opt for pine and fruit oil-based chemicals that are derived from pine or soap-nuts. A great cleaning product that's eco-friendly is the "Bright Green" product line available at Von's. You can also make your own home-based cleaning product from 3 parts water and 1 part vinegar (safe for everything from floors to countertops). Generic brand oil-based products tend to be derived from plain oil, which is harmful to the environment and people.

The bedroom is also one of the top locations for computer use. It's not so much the computer that eats up all the electricity, it's the monitor. If you have a desktop in your bedroom, save energy by shutting off the monitor when you're not in the room. If you're using a laptop, don't leave the laptop turned on all the time. When you're done charging your computer battery (and cell phone battery), make sure you unplug your charger too.
If your children use their video game system in their bedrooms, connect it to a power strip and make sure the strip is turned off when they aren't using their system. An Xbox 360 and Playstation 3 both use a baseline amount of energy even if their completely turned off. You need to unplug them, or keep them on a power strip that you can easily switch off. If you're looking to spend some money, there's tons of green options to give your bedroom and eco-friendly edge.

Here are some of them:

- For floors, utilize bamboo mats instead of fabric rugs that use more energy to create and maintain. Bamboo is all natural, plentiful and very easy to clean!
- If you're re-flooring, look into using bamboo or even re-claimed wood. This way, you won't be using any new wood that's been harvested from valuable forests.
- If you're buying new drapes and/or blinds, make sure you choose organic fabrics and materials. Bamboo shades are stylish as are reclaimed wood shades. Avoid the traditional plastic blinds. As for drapes, choose organic cotton and linen.
- For furniture, use recycled and previously used furniture. My favorite thing to do while re-decorating is visiting local antique and furniture shops. Most of the furniture made 40-50 years ago is higher quality, inexpensive and can be cut with a more modern appeal. Buying used furniture reduces waste and energy costs.

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Going Green in the Kitchen

After the bedroom, the kitchen is the most widely used room in the house. The best part about the kitchen is that there are limitless options for "going green." Almost every part of meal preparation and waste management is perfected in the kitchen. These are the two biggest opportunities to affect the environment around you.

The biggest way to go green in the kitchen is to take up the art of composting. Instead of throwing away your old vegetable and plant matter, you should compost it! Composting cuts down on waste and you'll have fresh soil available instead of buying it from your local store.

If you've never composted before, the overall concept is very simple. You begin with a small pile of leaves and waste, cover it, and after a few months you'll have rich compost material you can use in your garden. During the composting time, you need to stir periodically to provide oxygen to the bacteria inside the pile.

If you shop around at your local Home Depot, you'll find that there are professional bins built for composting. These aren't expensive, but if you're squeezed for money, you can make your own composting bin with a 40-gallon tote, a pair of scissors and duct tape.

First, you need to cut a flap into the side of your tote near the bottom. This allows you to easily pull compost out from the bottom of the pile. To secure the hole, simply use duct tape to keep the cutout flap against the side of the tote to prevent leaves and compost from spilling out.

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Next, add a thin layer of leaves and paper to the bottom of the tote. Wet your base layer down and start adding waste material (any vegetable matter, fiber matter, and biodegradable matter). For around $10 you can buy a special compost stirrer, or you can use a shovel.

If you live in an apartment, you can make a mini-composter out of smaller totes. This is great for small herb gardens and apartment balconies. Just remember to cut out a portion at the bottom and you'll be able to dig out the compost from the bottom (which will be the most decomposed).

Another very easy way to go green in the kitchen is to stop using plastic water bottles. Plastic bottles create an overwhelming amount of waste

in our landfills, even if they're recycled! Use the water from your tap, and make sure any filters you use are salt free. A great alternative to a water softener is the EasyWater Conditioner, which doesn't use harmful ecologically damaging salt to condition our water.
If you need to carry water around, invest in a neoprene bottle. These are easy to clean, anti-microbial and nearly unbreakable.
Instead of buying snack-sized packages, buy bulk and use reusable containers to transport your lunches and snacks. When you forego the small snack sized wrapping and packaging, you decrease the amount of energy wasted on producing such convenient packages!

When you go grocery shopping, there are some ways to go green without breaking the bank. Buy linen grocery bags and transport your food in those instead of plastic or paper bags. When you're browsing the grocery store, buy local produce instead of national brand produce. When you buy local, you're saying NO to the expensive transport costs, gas costs and carbon monoxide produced in transporting those goods. If you can afford organic food, buy organic and buy smaller portions so you don't waste fruits and vegetables if they go bad.
Another way to go green in your kitchen is to use your stove and oven more often! By eating at home more often, you use less gas driving to the restaurant and less plastic packaging in your fast food.

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Cleaning

"A great thing about these trees is that they are excellent for cleaning, both groundwater, and of course, air." Mike Lowry

We all want to live in clean houses, and we all want to clean those houses with products that are not going to be harmful for our health. The irony is, that many of the products people use to clean their house is not only harmful to their health, but extremely harmful to the environment as well.

Ocean pollution is a serious problem and one of the biggest causes of it is phosphates, which are very common in cleaning products and laundry detergents. Factor in that the average consumer uses 30 pounds of laundry detergent a year, which adds up to 8.3 billion pounds of powder detergent and billions of pounds more of liquid detergent going into the rivers and oceans every year in the United States. Phosphate kills the life in rivers and oceans, and creates algae blooms that suffocate marine life around the world. These create dead zones where nearly no oxygen exists in the water, killing all marine life in that area.
For the health of your family, it is just as bad. Studies have found that chemical levels

inside the home are 70 times higher inside the home than they are outside. There are over 100 chemicals found in homes that have been linked to birth defects, joint pain, cancer, psychological abnormalities, skin reactions, headaches, depression, fatigue, chest pains, asthma, dizziness and much, much more. Worse, housewives and stay-at-home dads have a 55 percent higher risk of getting cancer than their counterparts outside the home. As for your children, 70 percent of all poisoning accidents occur in children between the age of one and five. Usually the poisoning is from dishwashing detergent but something as simple as dandruff shampoo, if swallowed, can degenerate vital organs. If you mix ammonia and bleach, you can create a toxic substance known as mustard gas, and bug spray can stay in your home for up to 30 years!

Since the fifties, household cleaning products have increasingly been expected to possess super powers. Gone is the notion that a cleaning job might need a bit of elbow grease; these cleaners need to perform with a mere wipe, squirt or dab. Chemicals have blazed a trail, and consumers have been seduced by the hype.

But this has been at quite a cost, and I don't just mean financial. Our health suffers when we use these products and so does our planet. According to the EPA, people can experience "eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to liver, kidney, and central nervous systems" from indoor exposure to these chemicals. We are profoundly affected by the quality of the air that we breathe, the purity of the water we drink and bathe in, as well as the cleaners and creams our skin absorbs. It's not just food that can poison us.

You can easily make your own cleaners with soap, water, borax, baking soda, white vinegar, and essential oils. And if you're thinking "who has the time?" I promise, if you can bake muffins, you can make your own cleaning products.

Mold is a particular problem in humid areas. Before reaching for bleach, which is hazardous and polluting, try one of these several alternatives:

- Full strength vinegar followed with a spray of hydrogen peroxide. Test this first because it could bleach some paints.
- Make a spray from two teaspoons of Tea Tree essential oil with two cups of water
- For stubborn mildew try putting an inch of copper wire in a bottle of vinegar for a couple of days. Pour the vinegar into a spray bottle and clean the mildew. The copper will help prevent the mildew returning.
- Well established mildew can be scrubbed off grout with an old toothbrush and a paste of borax and water. Borax is toxic so be careful and wear gloves.

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Of course, it is important to weigh the health consequences of untreated mold against the occasional use of bleach. Homemade cleaners work, they're easy to make and they save money. As a backup you might keep one or two nontoxic, biodegradable cleaners that are free of synthetic fragrances such as Seventh Generation, Ecover and Charlie's Soap on hand.
Whether you chose to make your own cleaners or buy safe ones off the shelf you'll be looking after your family's health by eliminating VOCs and toxins from your cleaning routine. Below are a few natural cleaners that we have all forgotten about but can be just as effective.

Lemon Juice

There are three amazing products in your home that are perfect for cleaning up nearly any mess, and all three are used in cooking rather than cleaning. The first of these is lemon juice.

Here are a few tips for how to make lemon juice clean your house while keeping you and the environment healthy.

- Many air fresheners carry a particles call phthalates. This particle helps to carry the scent around the room and make you feel like you are sitting next to a spring in the forest. However, those particles are also something that you have to be wary of because they have found to be a possible carcinogen. So, instead of using a dangerous air freshener, just take equal parts lemon juice and water to make a sweet smelling aroma in your home.
- The most common way to deal with ants is with poison. Poison is bad for the environment. A better alternative is to pour some lemon juice in areas where ants are coming into your home. The ants do not like lemon juice and they will stay away.
- A wonderful cleaner that is good for the environment and your body consists of equal parts lemon juice and water. Another alternative is to mix together vinegar and lemon juice. The vinegar is a highly effective cleaner, and the lemon juice will neutralize the smell of the vinegar.
- There is a product on the market that advertises its great ability to clean chrome. What it does not advertise is its harmful chemicals. Instead of using this, just mix lemon juice and baking soda to wipe away any blemishes on copper and chrome with a towel.
- Chopping boards in the kitchen are often full of bacteria. Don't use a disinfectant that carries harmful chemicals in it. Try lemon juice instead.

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- Lemon juice is also highly effective at cleaning glass and mirrors. You can also use it as a top-notch furniture polish.

Vinegar

The second of the big three natural cleaners you probably already have in your home is vinegar. Vinegar is a highly effective cleaner, and it should be used at every available opportunity in your home as an alternative and eco-friendly cleaning product.

- If you have fruit flies you can get rid of them quickly by putting apple cider vinegar in a bowl with plastic wrap over the top. The flies will become trapped and soon you will be fruit fly free.
- Paint thinner is not an eco-friendly product in the least. It can cause several problems for the environment and for yourself. Instead of using paint thinner, just use some vinegar, which can work better than your typical turpentine paint thinner.
- Mix equal parts water and vinegar and you will have a cleaning product that is much better for the environment and just as good as anything you would buy in the cleaning aisle.
- If your dog pees on the carpet, don't use a deodorizer. These contain harmful environment chemicals that get into your lungs. Instead, use vinegar since vinegar will completely neutralize the smell, which will keep your dog from peeing in that same location again. Vinegar is a great stain remover.
- If you need a fabric softener, just use vinegar. It is a better fabric softener than what you will find on the market and it uses half the typical amount.
- Mold, soap scum and stains in the bathroom and kitchen can detract from the look of the room. Use vinegar to get rid of those pesky eyesores of the kitchen and bathroom.
- One of the most environmentally-destructive products on the market is clog cleaners. These products eat away at clogs in the sink and bathtub, and get into our water supply. Instead of buying these products, boil some vinegar and put it down the drain to get rid of the clog.
- Oven cleaner is a dangerous substance. Why else would you have to wear protective gloves while using it? Instead of destroying the cells in your hand, just soak stains in vinegar and then scrub them off quickly and easily.

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Baking Soda

The last of the big three is baking soda, and it may be the best of

the bunch. Baking soda is used in cooking, and we all know that you can use it to deodorize a variety of places in the home as an environmentally-friendly product. However, did you know about this innovative uses?

- If you need to clean your fridge and countertops, but worry about scratching the surfaces with the cleaning product, you can use baking soda on a damp sponge.
- If your microwave is full of gunk, and you don't know how to clean it without some harsh cleaning products, then don't despair. You can just use baking soda. Put a few tablespoons of baking soda in a bowl of water and stick it in the microwave. Bring it to a boil and then let the bowl sit in the microwave for a couple minutes. After this, you should have no problem cleaning out the microwave.
- Worried about pesticides and herbicides on fruits and vegetables? If you do, then just put three tablespoons of baking soda in a pot with the vegetables and clean them off in it.
- Crayon marks on the walls from your children being Little Picasso's? Take baking soda and water and turn it into a paste. Then use an old toothbrush to scrub away the stains in the affected area.
- If there are water stains on your wood floor, baking soda provides an eco-friendly cleaning solution. Put some baking soda on a damp sponge and wipe away the marks.
- Carpet deodorizers have a plethora of harmful chemicals in them. Instead of using them, just sprinkle baking soda over the carpet before you vacuum.
- Baking soda, mixed with some water can be used as an effective cleaner anywhere in the house. Cleaning sinks, toilets, floors, walls and more can all be easily done when you use baking soda.
- Lastly, if you have a clogged drain, you can use vinegar and baking soda to clear it. Vinegar and baking soda react to each other, causing a frothing because of the mixing of the base and acid. That frothing will go down the drain and clear it out for you without the use of any type of typical drain cleaner.

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These three cleaners are highly effective for dealing with nearly any type of cleaning need you have in your home. Without having to use heavy or harmful chemicals, you are able to keep your home clean and smelling great. That is a big plus for your health, and it is also a big plus for the environment. It is important to remember that everything we use in our homes has the possibility of getting out into the environment.

These three products can change the way you clean, and the way you deal with nature. They will also save you money. One container of lemon juice, vinegar and baking soda will cost you just as much as one carpet deodorizer, or one all purpose cleaner.

However, the three cleaners will last longer and have a multitude of uses in your home. Cleaning your home has never been so easy, or so safe, thanks to these three products. Below are more specific recipes for natural and effective cleaning products you can make at home.

Recipes

Most jobs can easily be managed with just these few basics. I would also recommend buying some of these items to properly contain and label your cleaners:
16 oz recycled spray bottles
labels
16 oz squirt bottles
16 oz shaker containers with flip top lids

Bea's Grandma's Dishwasher Powder

1 cup borax
1 cup baking soda
Quarter cup of salt
Quarter cup of citric acid
30 drops of essential oil such as lemon, grapefruit, tangerine
Add the ingredients to a sealable shaker and mix. Use 1 tbsp in each cup of your dishwasher. This works out at 8 cents a load compared to name brands at 22!

All-Purpose Cleaner

For hard surfaces like countertops and kitchen floors, windows and mirrors
2 cups white distilled vinegar
2 cups water
20-30 or more drops of essential oil (optional; lemon cuts grease, tea tree cuts mold and lavender simply smells great)

Creamy Soft Scrub

For kitchen counters, stoves, bathroom sinks, etc.
2 cups baking soda
1/2 cup liquid castile soap
4 teaspoons vegetable glycerin (acts as a preservative)
5 drops lavender, tea tree or rosemary antibacterial essential oil Mix together and store in a sealed glass jar for a shelf life of 2 years.
Tip: For exceptionally tough jobs spray with vinegar first—full strength or diluted—let sit and follow with scrub.

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Furniture Polish

1/4 cup olive oil
1/4 cup white distilled vinegar
20-30 drops lemon essential oil (or 2 tsp lemon juice but then it must be refrigerated)
Shake well before using
Dip a clean, dry cloth into the polish and rub wood in the direction of the grain. Use a soft brush to work the polish into corners or tight places.
Tip: To remove water spots rub well with toothpaste. To remove scratches use 1 part lemon juice and 1 part oil, rub with soft cloth.

Odor Control

The market for scented products and home air fresheners runs into the billions. Yet, there's so much you can do naturally to combat odors in the house. Here are a few natural solutions you can easily at try at home.

- Quickly remove the source of any bad smells from your home and keep windows open as much as possible to let fresh air inside.
- A natural air freshener recipe is one teaspoon of baking soda in a spray bottle and add to it two tablespoons of white vinegar and two cups of clean water. After the foaming has stopped replace the spray top and shake well.
- Use baking soda and borax to control smelly areas like trash cans.
- A small bowl of white vinegar in a room will deodorize smells in 2 hours
- Use a natural mineral called zeolite, which absorbs odors when hung in problem areas like musty basements and closets
- Place a few drops of a natural essential oil like lavender in a burner, on a cotton wool ball or in a bowl of water near a radiator
- Bicarbonate of soda and corn starch are both good carpet deodorizers
- Fishy plates and utensils? Add a tablespoon of vinegar to the washing up water. Rinse thoroughly before drying.

With so many simple and natural options available, there really is no need to bring artificial scents into your home.

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Going Green in the Bathroom

When you're in your bathroom, you expect the entire room to be clean and hygienic. Up until now, many people have been using harsh chemicals that were manufactured in a lab. Unfortunately, once these chemicals are tossed down the sink, they are very harmful to our water supply and the creatures that inhabit our rivers and oceans.
Here are some easy (and inexpensive) home recipes for environmentally friendly cleaning in addition to the ones above:

- 1 cup of water and 10 drops of lemon juice- this is perfect for cleaning countertops inside the bathroom. Lemon juice is also a great disinfectant.
- White vinegar - if you have hard water stains, soak them in white vinegar for 1 hour and rinse clean.
- Baking soda, castile soap and essential oil – this is a safe non-abrasive cleaner for toilets and bathtubs. Use for favorite essential oil for a great smelling bathroom!

After you're done cleaning your bathroom, you should re-decorate! First, replace your shower curtain with a hemp shower curtain or a non-PVC curtain. PVC is environmentally toxic and poses a health hazard when it grows mold. Next, shop around for linen drapes and consider using bamboo mats in your bathroom. Bamboo is easy to clean and can be hung up to dry. It's also very resistant to mold and fungus that can grow in the small fabric fibers of conventional bathroom rugs.
Another commonly overlooked green solution in the bathroom is low-flow faucets. Installing these is easy and saves water. Also use your water wisely. If you're saving at think sink, fill up the sink halfway instead of letting the water run. Also turn the water off while you're brushing your teeth. You can save over 200 gallons of water a month with these techniques!
As you can see, going green doesn't have to be an expensive dramatic lifestyle change. It can be as simple as changing your cleaning habits or re-decorating a small part of your home. Best of all, almost anyone can do these steps to improve the environment!

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Water

More energy is encapsulated in every drop of good spring water than an average-sized PowerStation is presently able to produce." Viktor Schauberger

Water is probably the most important thing in our lives. While we do need air to breathe and would die in minutes without it, we would only live a few days without water. In addition, 70 percent of our bodies are made up of water, making us essentially beings of water. Our planet is also covered with water, and that may give us the sense that there is enough water to last us forever here. This is misleading. The truth is that 97 percent of water is water we cannot get to or cannot drink without treating it (like salt water). That means only three percent of the water on Earth is fresh water, and that water is going down greatly in abundance with each decade.

As a result, it is very important that we find ways to make sure we can keep our fresh water plentiful and un-polluted. The tips we will suggest here are not confined just to the home. They can be done in the office, hotels and elsewhere, which is why we have included it in this section.

These tips will save a lot of water for you, and it will help to save the world's water supplies and help the planet in the future by providing fresh water for future generations. By implementing these tips, you can save thousands of gallons of water every single year.

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Water Use In The Bathroom

- When you brush your teeth, and you leave the water running, you can waste seven gallons of water each time. Instead, only turn the tap on when you have to rinse your toothbrush off and to rinse the spit down the drain. This will save hundreds of gallons of water each year for you, allowing that water to be used for something else.
- Put a brick in the back of the toilet. By doing this, you can turn your toilet into a low-flow toilet because you are displacing water so it does not take as much water to fill up the back, thereby saving water. You could also install a low-flow toilet as well.
- Limit your showering to a few minutes. Put a timer into the shower with you that will go off after five minutes. This will cut your water consumption in the shower by half and save you hundreds of gallons of water per month.

- Put a jug under the tap in the shower. When you turn the shower on and are trying to get to the right temperature, you can collect the water in that jug. Then when you turn the shower on and get it, take the jug out. The jug can then be used as animal water (there is no shampoo in it) or in your plants.
- Install a low-flow showerhead. These can often use half or one-quarter the water a typical showerhead would use, while still providing you with a complete shower experience.
- Have cool showers rather than hot showers. You won't have to let the water run as much to get it hot, and you won't use as much energy to heat up the water.
- If you can, shower every two days instead of every day. This is not always an option for everyone but if you work from home or on holidays, you can get by with just one shower for every two days.

Doing this will save even more water than limiting your showers and showering every two days. It is a bit extreme, but extreme environmental times call for extreme measures. It is easy to conserve water and it saves us money. Sure you have to take a shorter shower, and you may not get the water as hot as you want it, but it is the price that you have to pay to have a plentiful supply of water going into the future. We have to stop taking water for granted and that involves conserving it now, rather than later.

Many experts feel that in the coming decades, water may become scarce and the wars that we see over fuel sources right now will be fought over water in the future. For countries with little fresh water, it is going to be a tough 21st century, but for countries like Canada and the United States, where there is a great deal of freshwater, it could be a good century or a bad one, depending how countries acquire the freshwater through possible trades or war.

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We have lots of fresh water right now, but those reserves are getting lower with each year as the water is wasted and polluted. As a result, it is important that we work right now to conserve water so that it is not wasted so that future generations have access to water at all times.

Hot Water

Saving a little money on your hot water can be quite simple. First you can turn down the thermostat setting to 120 degrees F. Most water heaters are set up at 140 degrees, but will run more efficiently at 120. For many homes that can result in savings of up to 10%. However, if you have a lot of occupants it could mean running out of hot water sooner. So, it's not the right solution for everyone, but you might experiment with temperatures in between.

As mentioned above there are steps you can take to reduce your hot water use. Hot water uses a lot of energy. First it uses municipal energy to pump it to your home and then it uses gas or electricity to heat it. Most of us use hot water at times when we could easily use cold. For instance, one study showed that your hands get just as clean with cold water and soap as with hot water and soap. So unless you've been handling raw meats or something particularly nasty, wash your hands in cold and save money.

Just paying attention to your usage of hot water can save a significant amount of energy. If you have an older heater, insulate it. Some of the newer units are made adequate built in insulation. Older ones will benefit from some extra insulation around the tank to reduce heat loss. Buy a ready-made water heater insulation blanket kit. When you wrap the tank, make sure to tape all the seams. You can also insulate all exposed water pipes to protect the water inlet from freezing and to reduce heat loss to some extent. Pipe insulation is usually found in wraparound insulation kits, flexible tubing, or rigid foam type. Choose a size that fits your pipes snugly.

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Elsewhere in the House

- Using a dishwasher is actually a highly effective way to save water and studies have found that washing dishes by hand actually uses more water than washing them in a dishwasher.
- When you wash your clothes, make sure you only wash a full load of clothes. Never put in a small load of clothes because it is just a waste of water if you use anything but a full load. As well, wash your clothes in cold water. About 90 percent of the energy used by the washing machine comes from heating up the water. Using cold water makes your washing machine much more efficient.
- Install an instant water heater in the kitchen sink so you don't have to let the water heat up by letting the water run. This will also reduce the heating costs of your house.
- Insulate your water pipes and water heater so that the hot water heats up faster and you will avoid wasting water. This is a cheaper solution to putting in a new water heater, or installing one under your kitchen sink as mentioned above.

Household Waste

Waste is an increasing problem for municipalities and our entire culture. In the US, we use a phenomenal amount of stuff every day just in get by. And the rate at which we use our resources is increasing. The average American now consumes twice as much as they did 50 years ago. And the average American makes 4.5 pounds of garbage every day, which is double the figure from 30 years ago. For a real awakening about the stuff we use see www.storyofstuff.com, a brilliant 20 minute video you can watch online.

What can you do? Lots. Here are a few ideas:

- Buy fewer packaged goods and recycle everything you can
- Try buying bulk, or at least larger packages
- Don't buy what you don't need
- Buy second hand if possible
- Printing on both sides of your paper
- Avoid paper and Styrofoam cups by carrying your own cup
- Take your own shopping bags to the market
- Avoid bottled water
- Compost kitchen waste
- Grow your own vegetables
- Keep chickens – great eggs and compost too

It's critical to stop wasting natural resources since by some estimates we've consumed one-third of the Earth's resources in the past 30 years. And landfill sites are getting harder to find.

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Reducing Costs

When you're in your home, take a close look at your lifestyle. There are many habits you have right now that are probably reducing your green lifestyle.

Here are some great easy ways to reduce your green costs:

- Open the drapes: When you wake up in the morning, do you open the curtains in your home? You may go green by buying compact fluorescent lights, but do you use them when you could be using natural lighting?
- Open your windows: Instead of running the fan in your bathroom, open your windows. Instead of using your high efficiency air conditioning so much, trying opening the windows at night and maximizing cool air when it's available.
- Utilize what you got: If you have ceiling fans, use them! They use 1/10th the electric power of air conditioners.

- Cool your roof: When you replace your roof, consider using light-colored material, which reflects sunlight and keeps the inside of your home cool.
- Protect south-facing windows: If it's hot outside, keep your south-facing windows closed and covered. This protects your home throughout the hottest part of your day.
- Turn down the sprinklers: Instead of running your sprinkler system for an hour every morning, turn it down. Half of water is wasted because once your lawn becomes saturated the rest of the water evaporates or flows into the street.

Recycling

"I only feel angry when I see waste, people throwing away things we could use."
-- Mother Teresa

One of the most important things we can do in our home and at our work is recycling. With recycling, we are not just throwing something away; we are creating a new use for it. Recycling has taken off all over the world in the past few decades, and has helped to keep millions of tons of garbage out of the landfills.

On a whole, Americans generate 256 million tons of garbage per year. That is a staggering amount and it has helped to make the United States one of the biggest garbage producers on the planet. However, while the United States creates a lot of garbage, it also recycles a lot of it too. Here are some interest figures about recycling in the United States for 2005 (the last year the EPA has stats on recycling):

- Overall data analyzed shows that the amount of recycling done increased from 2003 to 2005.
- Recycling recovered 32.1 percent of the trash created in the United States, which amounts to 79 million tons.
- There are 8,550 curb-side recycling programs in the United States
- Roughly 40 percent of all container and packaging products are recycled.
- Over 62 percent of all yard waste is composted.
- Half of all paper products, about 42 million tons, were recycled in 2005.
- Between 1990 and 2005, the amount of garbage in landfills decreased by nine million tons and continues to decrease every year.

Recycling at your work is very important because you are helping to set an example for the other people in your office. By recycling your garbage, you educate your co-workers and you help make the entire company greener.

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Paper

Each year, the average office worker in the United States goes through 10,000 sheets of copy paper. That is an incredibly high amount of paper to go through for one person. In one year, for an office of 100 people, that amounts to 1,000,000 sheets of paper for just one office. Obviously, you can recycle the paper by putting it in a paper recycling bin, and most offices do this, but here are a few tips to go beyond that and recycle your paper for your own uses, before you recycle it for society's use.

- Print on both sides of the paper.
- Use the backs of old documents for faxes, scrap paper and drafts.
- Try to avoid color printing and print in draft mode whenever you can.
- Use chlorine-free paper that has a high post-consumer recycled content.
- Switch to a lighter stock of paper that uses less paper in its production.
- Buy bamboo, hemp, organic or kenaf paper.
- Make it a habit to read and store documents online rather than printing them off.
- Post employee manuals and other similar products online rather than printing them off.

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Office Products

While most people think about recycling in the office as dealing with paper products, there are plenty of other products in the office that can be recycled into a variety of new products. An office that wants to call itself a 'green office' needs to have policies that include recycling products beyond paper. The more an office can recycle, the more those habits will translate to the employee's homes and the better off our planet will be. Here are a few tips for recycling other products in the office:

- Toner and ink cartridges can be recycled on a regular basis. Just take them into a company that refills the cartridges.
- Buy re-manufactured ink cartridges. By doing this, you can save 2.5 pounds of metal and plastic from going into the landfills, and save half a gallon of oil.
- Recycle out-dated and old cell phones, PDAs and pagers in the office.
- Place all recycle bins, including paper, in high traffic and accessible areas where there is information on what can be recycled and what cannot.
- Have pop can and pop bottle recycle set up in the office break room.
- Set up a composting program in the break room to recycle the organic waste generated by employees.

- Try and have an office policy implemented that requires office supplies and furniture to be bought from recycled materials.
- Bring your own mug and dishware to the office for your lunch.
- Try and have a policy implemented that requires reusable dishes, glasses and utensils. Use filtered drinking water in the office rather than bottled water as well.

Recycling is a very important tool for fighting waste in our world. It is refreshing to hear that each year, millions of people are choosing to recycle their waste rather than just throw it away.
By recycling in the office and convincing others to recycle, you are helping to create a better world for everyone for years to come.

Going Green With Food

"If organic farming is the natural way, shouldn't organic produce just be called "produce" and make the pesticide-laden stuff take the burden of an adjective?" - - Ymber Delecto

When you look at the food that is out there, only a small portion of it is natural. The rest is made up of a soup of chemicals, some good and some bad, to create products that we probably shouldn't be eating. As for fast food, the less said about that the better.

Beyond just what happens to your body when you eat bad food, think about what happens with the environment. The dairy industry creates a huge amount of carbon dioxide, while at the same time polluting ground water and rivers. Vegetables and fruits are covered in herbicides and pesticides to the point where we have to wash them off before we even think about eating them. The meat industry is just as bad as the dairy industry for pollution.
So, what can we do? Well, the two biggest things you can do are to buy organic and buy local.

Buy Local

When you make a dinner, you can have food that comes from all over the world. You may have rice from China, potatoes from Idaho, corn from Mexico, meat from Russia and dessert from Europe. All that food has to be transported to where you can buy it and that creates a lot of carbon dioxide emissions which go into the atmosphere and damage our planet's climate.

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Instead of getting food from all over the world, a much better alternative is to go and get your food from a local producer. Get your eggs from a local farmer along with some meat as well. Your produce can come from a local greenhouse and nearly everything you need for your food can be found within about 100 miles of where you live.

This is called the 100-mile diet and it is becoming very popular. The less distance your food has to travel, the less CO2 the process is going to emit and the better off our planet will be. In addition, when you buy your food local, you are not only helping the Earth but you are helping local producers as well. You are helping your local economy by buying your food from someone in your area, and that is just as important as helping the Earth.

Buy Organic

Organic food is not just a new craze with going green; it is something that can literally change your life. When you go green by buying organic food, you are helping your body and the environment. Buying organic means the following:

1. Organic food is grown in a way that ensures the soil can be used for many generations without the use of fertilizers.
2. Organic food is grown using natural soil organisms and not pesticides, unlike traditional growing.
3. Any manure created, and any extra organic materials that are created are recycled, including crop residue. This allows for composting the by-products into something that can be used to help the crops in future years.
4. Crop rotation is used to control weed growth and insect infestation.
5. No genetic engineering is used when something is grown or made as organic. It is all natural.

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To be deemed organic, a product must go through a wide variety of tests to ensure that everything has been done in an organic way. In addition, there are many companies out there that tout their product as 'all-natural' and some people confuse this for being organic. In truth, organic food carries a certification that ensures you know that what you are buying is organic. You can see the symbols here. Check with your local government to see what organic specifications and symbols they use in your area.

Stats and Figures

Organic food is a growing trend around the world. Each year, more and more people are choosing to be organic because they know it is not only a better solution for them, but for the environment as well. Here are just a few very interesting statistics concerning the organic food industry:

- The sales of organic foods worldwide increased from $23,000,000,000 in 2002 to $40,000,000,000 in 2006.
- The worldwide organic market has been growing by 20 percent per year since the early 1990s. Future growth projections range from between 10 and 50 percent depending on the country that is growing the organic food.
- Organic food is the fastest growing American food marketplace sector.
- In the past few years, organic food sales have grown by 17 to 20 percent each year, compared with two to three percent for conventional foods.
- In recent years, 73 percent of conventional grocery stores carry organic products.
- There are 20,000 natural food stores in the United States.

Why Pay More?

You may be wondering why you should be paying more for organic food, when you can just as easily have the conventional food. This is an excellent question, and the best answer comes in the benefits it creates for you and the environment.

- Organic food farms have been found to be much more energy efficient than conventional farms. This saves energy, which puts less carbon dioxide into the atmosphere.
- Studies on pesticide use of farm workers have found that even when used correctly the pesticides stay in the air and affect the bodies of farm workers. Farmers who use pesticides have been found to carry a large array of health symptoms including respiratory problems, memory problems, dermatologic conditions, cancer, depression, birth defects and miscarriages.
- Fruits and vegetables that come from South America have high levels of pesticides, including some pesticides banned in the United States.
- For children and infants, the largest source of exposure to pesticides comes from fruits and vegetables. When 23 schoolchildren were switched from traditional food to organic food, the pesticide levels in the children dropped immensely.
- Some pesticides used by farmers who are not organic have been found to create Parkinson's disease in rats.
- Organic food has 40 percent more anti-oxidants, with organic milk having 60 percent more anti-oxidants.

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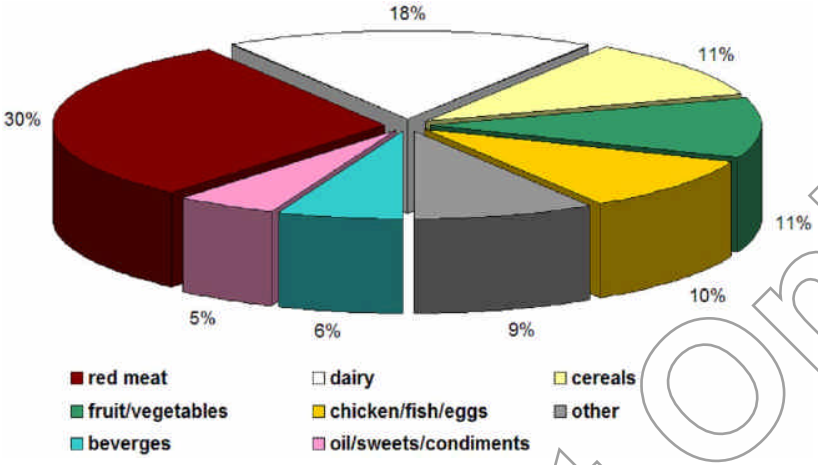
- Organic fruit like apples taste sweeter and are firmer than those grown conventionally.

Green Diet

One of the biggest impacts you can have with your buying decisions is in your diet. Since food travels an average of 1000 miles to your plate these days, any effort you make to eat local food can be helpful. And the best choice is home grown fruits and vegetables. Not only are they not being trucked across country, but they taste better too.



Aside from eating local, eating less red meat and dairy can have an enormous effect. The chart shows the amount of greenhouse gasses associated with each food type. Red meat and dairy together account for 48%!

A recent study released in Environmental Science & Technology found that transport contributes just 11 percent of all food-related greenhouse gas (GHG) emissions. This study is very thorough in accounting for all of the GHGs like nitrous oxide and methane, not just carbon dioxide (CO2) like some studies. 11 percent is less than I would have guessed, but here's the big number, a monstrous 83 percent of GHGs is a result of the production process itself. That comes mostly from fertilizer and animal digestion and is very much higher for red meats than chicken, fish or vegetables.

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To put food consumption into perspective, the author of the study, Christopher Weber of Carnegie Mellon University, and colleague Scott Matthews conducted a life-cycle assessment of greenhouse gases. This encompassed all stages of growing and transporting food consumed in the U.S. They calculated that the average U.S. household generates 8.1 metric tons of greenhouse gases (in CO2 equivalents) annually, as a result of food consumption. That's almost twice the output of a typical car – typical being 25 MPG, 12,000 miles per year generating 4.4 metric tons of CO2.

Weber says that simply eating less red meat is a more effective way of reducing our food-related GHG footprint. In fact, if U.S. consumers simply eat at least one- seventh of their weekly calories from chicken, fish or vegetables rather than red meat or dairy, they can do more to reduce GHGs than if they bought all local foods.

Going Green with Beef and Dairy

On average, Americans eat a large amount of beef. This can cause several problems for them and the environment due to the massive number of cattle in the United States, as well as the large number of hormones and other drugs in cattle, pigs and chickens.
For one thing, the livestock production industry is responsible for an astonishing 20 percent of all greenhouse gases on the planet. On top of that, vast areas of forest are decimated every single year for the expressed purpose of creating area for livestock to feed.
To help make the cows produce more milk than they naturally should, the animals are pumped full of hormones in an effort to get them producing large quantities of milk. These hormones are playing havoc with our systems, especially children as they develop into young adults.
One of the biggest things you can do to help the environment is to give up beef and eat meat on a rare basis, only a few times a month. If you need a burger, then get an organic beef burger, or better yet, a buffalo burger.

The effect that the livestock industry is having on our planet cannot be ignored, and it is time people look at how the animals are being treated and how the industry is affecting our earth. Only then will we realize the cruelty of our livestock harvesting methods. It is amazing to realize that there are 98,000,000 cows in the United States. That is one cow for every three Americans, while other countries barely have one cow for 1,000 or 10,000 people.

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It Doesn't Have to be Boring!

Going green can be fun for the whole family, from your youngest child to your grandparents. When you first decide to go green, you may encounter some sarcasm and innate cynicism from your spouse and co-workers. Some people have a set image of a "hippie" in their heads when you mention going green. Others bemoan the idea of going through trash and separating plastics for recycling. Still others feel embarrassed when they take their cloth bags into grocery stores.
When you make going green fun, you can defeat someone's embarrassment and resistance to lifestyle changes.

The easiest people in your family you'll be able to convince are your younger family members. Children are very open to change and here are some fun activities you can encourage to make them think about an eco-friendly lifestyle.

- **Encourage recycling:** Recycling doesn't just mean recycling plastic bottles and glass, it also means buying used items. New items require energy to create and

transport. When you buy used you forego this energy. To get your kids thinking about recycling, go on a thrift shop scavenger hunt. Make a small list of common items, set a modest spending limit and let your family go wild looking for the most items. The winner can choose where you go out to eat that night.

- **Make a light bank:** Every time your children remember to turn a light off, they get a nickel. When they forget to turn a light off, they pay a nickel to the "light bank."
- **Home-made Chemistry:** When you mix together ingredients for cleaning products, let your children participate! Children love seeing the foaming and effervescent action you get with many of the home made cleaning products. Best of all, these home-made cleaning products are safe and effective so your children can even help use them!
- **Gardening:** Teach your kids the value of growing your own garden. Start with something simple like sage or a tomato plant. Your children will love getting dirty in the backyard and enjoying their home-grown vegetables.
- **Outside Play Date:** Turn off the T.V., computer, the lights and go outside. Play ball, catch or go on a walk. Do something with your children outside without using power and take the opportunity to teach your children important ecological lessons.
- **Crafts:** If you enjoy doing arts and crafts with your children, use items that would be considered "junk" by most. Use old clothing to make a quilt or in your scrapbooks. Use old magazines and coloring books to make collages.
- **Buying local produce saves energy.** If you haven't explored your local farmer's markets, go out and see what they have to offer! National brands require excessive energy to transport their goods and this taxes the environment greatly. Take your children along and encourage them to speak to the various artisans and vendors. It will be a very educational experience!

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What's wrong with your house?

Your home is a great place to start considering how to "go green." That's because it's more than likely the most wasteful and inefficient, as well as most unhealthy machine that you own. Most houses today are woefully under-insulated, poorly sealed and often unhealthy for a wide variety of reasons. Looked at another way, homes and other buildings are an excellent opportunity to achieve cost savings and to make improvements that enhance the health of the occupants.

Insufficient insulation

One of the most problematic aspects of most modern homes is their inefficiency. Most home heating and cooling bills could easily be 35% lower with proper insulation and sealing. Built properly from the start, well sealed and well insulated they could deliver 50% lower energy use than the typical homes built today.

So one of the most important things you can do to go green and to lower your costs is to insulate your home better. The main choices you have in insulation materials are fiberglass, cellulose, cotton and spray urethane foam.

Fiberglass could be dismissed as being toxic and unpleasant, but it is the most cost effective way to cut your energy costs, though far from the most effective. Another problem is that it tends to sag or droop or otherwise lose its insulating properties. So, old fiberglass insulation can be next to useless.

Leaky

Modern homes are also notoriously leaky. However, a certain quantity of air change is still necessary. The National Association of Homebuilders (NAHB) guidelines call for at least 7.5 cubic feet of fresh per minute of outside air to be introduced per occupant. For older homes it's very difficult to seal them that tight, so it's not generally an issue to worry about when renovating a home. But if you seal it very well it's worth testing the house and, if needed, install appropriate ventilation measures.

Energy Star, (a joint program of the US Department of Energy and the Environmental Protection Agency) estimates that a typical home can save 20% of its heating and cooling costs with sealing and insulating. My experiences suggests it can be more like 30-35%, but that depends largely on how well you insulate and seal plus how bad the problem was to begin with.

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Toxic

The Environmental Protection Agency (EPA) has identified indoor air quality as one of the top health risks we face today. Since most Americans are spending 90% of their time indoors and buildings are generally better sealed now, the problem is exacerbated.

Indoor air quality issues can come from the land your home is built on, the home itself or your lifestyle choices. Radon is the principal concern from the land. Fortunately, most homes are inspected for Radon at the time of sale where that is considered to be a problem. If in doubt, get a professional test done.

Air quality issues from the home itself are principally from the building materials where the major offender is formaldehyde from certain wood products, certain furnishings and drapes and older foam insulation made with urea- formaldehyde. Issues can also arise from poor design that leads to moisture infiltration and mold growth.

Where lifestyle choices come in is mainly the cleaning products you use or behavioral patterns that allow moisture to accumulate leading to mold growth. Unless, of course, you smoke, in which case that too is an indoor environmental toxin that can affect you and anyone else in the house.

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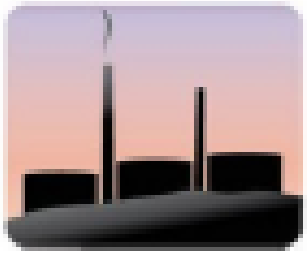
What's Wrong With Your Utility Power?

So you switched on the lights – big deal. Well yes, in a way it is a very big deal. It's a kind of miracle that we can draw on energy sources far away like that - one that we don't often appreciate these days. Only a hundred years ago, that would have been the height of decadence, while today everyone has that convenience. But the idea to build electricity generators very large and put them far from where the demand is has meant that we don't see the source of our energy, or in many cases even value it. Most people have no idea where their electricity comes from or what source of fuel they are drawing on.



Over half, 52% to be exact, of US electricity comes from coal. The next biggest source at 20% is nuclear, then natural gas at 15% followed by Hydro and Oil. Only 2% of our energy comes from renewable sources according to statistics from the US Department of Energy. Coal mined mainly from the Appalachian Mountains results in incredible environmental devastation.

For the real story behind coal see www.kilowattours.org and the film Kilowatt Ours.

And if you've heard of "clean coal" and thought that might be an answer, take a look at the Washington Post article written by Jeff Biggers from March 02, 2008 titled "Clean Coal? Don't Try To Shovel That." The term "clean" is misleading as it suggests that all the pollutants and toxins are removed, but that is far from the case. And the technology – if it can really be called that yet – is mainly theoretical and not tested. In October of 2008 the Union of Concerned Scientists published a report that found that carbon-capture-and-storage technology ("clean coal") is saddled with many unanswered questions about scale, safety and cost. Plus any efforts to minimize the emissions impact of coal use completely ignores the enormous environmental and social damage being done by coal mining.

Our reliance on coal is polluting our air, our water, our land, destroying mountains, devastating natural habitats and poisoning everyone, our children and elderly most of all. Any action you can take to use less electricity produced from coal, is a positive step to take.

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Efficiencies

Efficiency is the "low hanging fruit" of greening your home. It's far cheaper to save energy than it is to install a solar panel or a wind turbine or any other form of power generation. And the payback is considerably faster on efficiency projects.

Every dollar you save on your energy bill will equate to watts that do not have to be generated at your local power generation plant or it may equal natural gas that does not have to be produced and piped to your home. That means less nonrenewable coal or gas used. It can also mean, on a larger scale, power plants that do not need to be built. Mr. Amory Lovins of the Rocky Mountain Institute, one of the main proponents of efficiency in America, has called this idea "NegaWatts" meaning negative watts. Watts that don't need to be produced, particularly in the peak consumption periods, mean major savings in the big picture.

As a homeowner you can gain valuable efficiencies in many different ways in a home or business. Even a modest effort and expense can mean up to 20% savings. With the average home utility costs around $150 per month that can mean a savings of $360 per year – every year. And with energy costs rising over time, the savings will mean more and more each year.

So how can we start reducing energy use at home? The main areas where you can save money are heating, cooling, lighting, refrigeration and water use. There are dozens of ways to start being more efficient with our use of both energy and water. The fact that you only see the bill once a month, if at all, and it comes well after the time that you incurred the use, makes it difficult to appreciate the small actions that use energy – and cost money. So one small positive action is to invest in one of the many power strips or meters, such as a "kill-a-watt" that can show you how much energy you're using as you use it. That makes it more like watching the fuel gauge go down in your car so you can learn how to change your behavior. And it can help you focus your attention on the areas that will pay off most quickly in your home and your lifestyle.

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Air Conditioning

If you live in a hot climate, like the South, then this is likely to be your biggest single energy expense over the course of the year. It's worth understanding that the air conditioning system is there to do two jobs – control heat and reduce humidity. Your personal comfort is determined by both. So the lower the humidity is, the higher the temperature that you will feel comfortable with. So one of the easy efficiency measures you can take is to be aware of this and manage any activities that make your indoor air more humid in the summer. The main culprits are bathrooms and kitchens where we generally produce moisture taking showers, boiling water and other activities.

Extractor Fans

The way to manage humidity in your home is simply to use effective extractor fans to remove moist air at the source. Test your extractor fans to check how effective they are by holding a sheet of toilet paper or a single ply of tissue a few inches below the fan to see how much it pulls. If it falls to the floor then it's time for a new fan! Newer fans can really pump the air out quickly with very little noise, so if your fan is very noisy you might want to replace it anyhow. Also, be certain that your fan is ducted to the exterior. I often see houses where kitchen extractors simply channel the air through a filter and back into the house again, or where bathroom fans exhaust into the attic. That's absolutely useless, though it meets code in many places. You need to get that moist air out of your home quickly to reduce the load on your air conditioner. One of my favorite bathroom fans because it's so quiet and powerful is the Panasonic. Compare the sound ratings and the cubic feet per minute (CFM) to choose one that's right for your bathroom.

Especially in kitchens, be careful not to oversize your fan. If they're anywhere near a combustion appliance like a gas water heater or gas oven a too strong fan can cause too much negative pressure in your home and cause these appliances to backdraft.

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Air Conditioner Sizing

Another reason it is important to know about the two roles of your air conditioner (cooling and dehumidifying) has to do with sizing your unit. Air conditioners are measured in "tons" of cooling capacity. Never assume that bigger is better. Some technicians will use a rule of thumb of around 1 ton per 450 square feet of conditioned space. The sizing should be calculated properly using something called a "manual J" method that results in an appropriate size for your air conditioner. A correctly sized unit should engage and run for long periods of time – ideally all through the day. A unit too large will come on and off in short bursts. Since an air conditioner achieves its

maximum performance slowly and only then begins to effectively reduce humidity, the longer it runs the better. A unit running in short bursts will not reduce your humidity very well and will be very inefficient and costly as a result.

Heating

This is probably your biggest single energy expense if you live in the colder northern climates. Heating is a simpler problem than cooling because you don't have to worry about humidity. And since the type of heating you have is largely determined by your region, there may be less you can do to improve your lot other than seal and insulate. Sizing can be important for heating units as well as air conditioners. An oversized unit will work its blower fan harder wasting energy, and will operate at higher pressures causing greater duct leakage.
One type of heat to avoid is electrical, because it is so inefficient. And if you rely on coal power electricity, that would compound the negative environmental impact.

Insulation

If you're current HVAC system is relatively new and you're not ready to replace it then one of the best ways to reduce your cooling and heating bills is to insulate your home better. Rarely is it cost effective to try to insulate existing walls. So the best place to concentrate is in the attic or roof area to stop heat gain from the roof.
The most common approach is to insulate the attic as well as you can afford.
Insulating an attic can pay for itself in a few years. The more extreme your climate, the quicker it will pay back in savings.

Sealing

Tightening or sealing your home can dramatically improve the efficiency of both home heating and air conditioning. Many home sealing projects are viable do it yourself projects for anyone with even basic skills – though, if you have a crawlspace you might want to hire someone to seal that for you as it can be a dirty and very laborious project. Look at the section titled "Testing For Leaks" and "Fixing Air Leaks" for details on sealing your home yourself.

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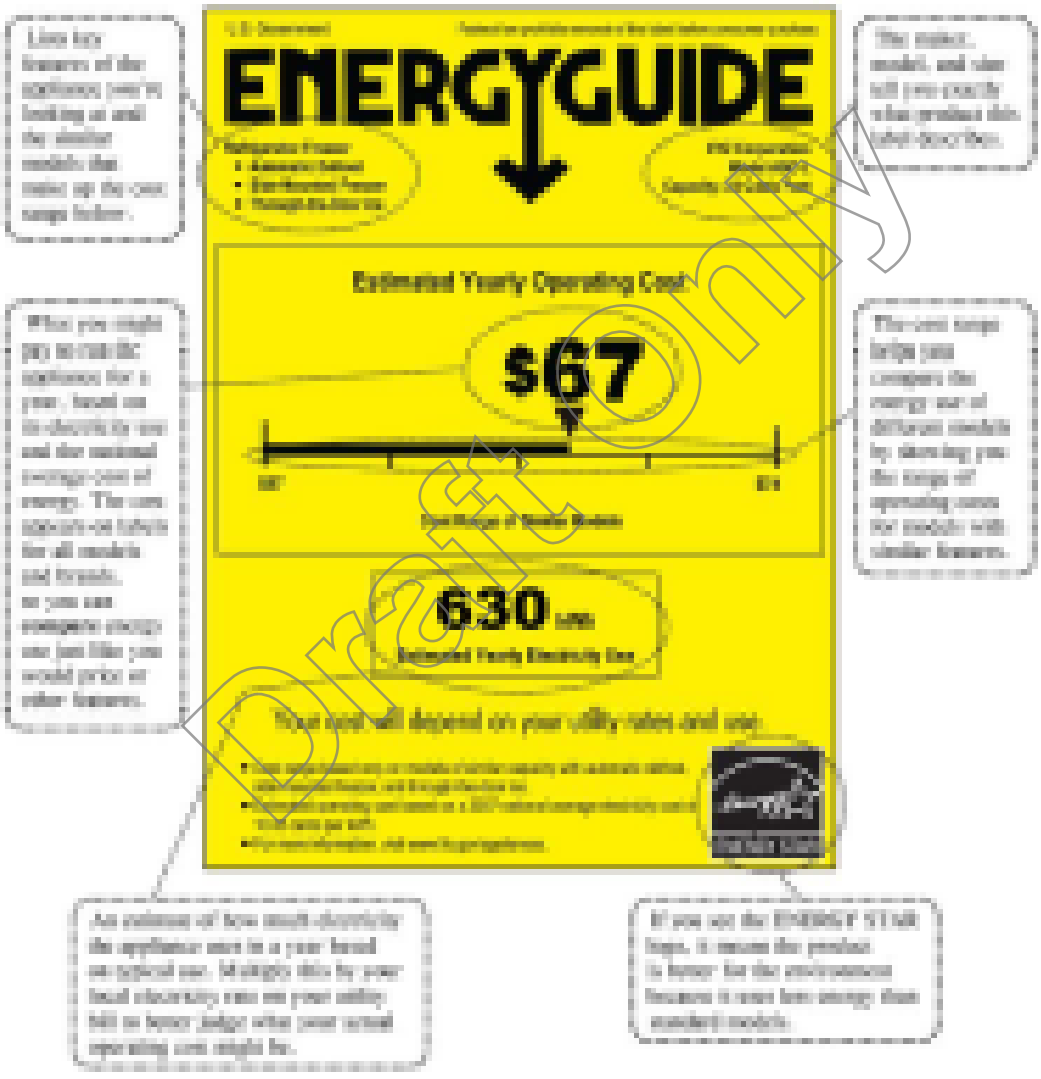
Electrical Appliances

As your appliances age it's wise to replace them with Energy Star certified units. These are generally 15% more efficient, though are sometimes much more efficient even than that. By comparing the EnergyGuide labels on units you can quickly identify the best value for your needs.

The yellow EnergyGuide label helps you compare units by showing their estimated cost to operate per year and the estimated electricity usage per year, along with other details.



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Lighting

Most homes can save a great deal on lighting costs by simply turning lights off more diligently. Using compact fluorescent lights (CFLs) can also save over $30 per bulb over its lifetime. How many light bulbs do you have in your house? I count 44 in my house – and that doesn't include the lights in the fridge or the oven. Switching to CFLs will also reduce internal heat and save on air conditioning costs in the summer months. You can now buy CFLs in a wide range of sizes as well as dimmable and three-way bulbs. So there's no excuse left to continue using incandescent bulbs in your home. This is one of the cheapest and easiest greening steps anyone can take in their home.

Halogen lamps are not as efficient as most people are led to believe. The bulbs themselves are efficient, but they require transformers that use a lot of energy (even more than incandescent bulbs). These transformers need energy even when they're turned off. So once again, compact fluorescent bulbs are the best option.

Another rising star in the bulb industry is LED lighting. These are generally clustered bulbs that have been used for small battery powered items such as flashlights. Today, LED bulbs are made using as many as 180 bulbs per cluster, and encased in diffuser lenses which spread the light in wider beams that cover a larger area. Now available with standard bases which fit common household light fixtures, LEDs are the next generation in home lighting. One of the main problems with LED lighting was the cost but as with any worthy innovation the cost has been decreasing and this promises to bring LEDs into competitive pricing with CFLs and fluorescent lighting. LEDs may soon become the standard for the most energy efficient lighting.

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DIY Home Greening Projects

Testing for leaks

Leaks are the main cause of energy loss and can be dealt with relatively easily. The main items you need for fixing leaks are caulk, (as a friend of mine says, "caulk is cheap") expanding spray foam and foam or rubber weather stripping. Some rigid foam insulating board may also come in handy if you have larger openings to seal up.
To help identify leaks you will want a smoke source or some sort. An incense stick can work fine. Or purchase a Wizard Stick for around $13 from a toy store or online store. This is a child's toy that produces artificial smoke at the press of a button, which is exactly what you need for hunting down air leaks.

The main places to check for leaks are around door openings, window frames, fireplaces, skylights, outlets, switches, faucets and along the top, bottom and corners of walls.

A visual check around doors and windows should come first. If you can see daylight through a crack then it's a leak that needs attention. Use weather stripping around the top and sides of doors and windows to close the gap. Along the bottom of doorways, if you need and don't already have one, get a threshold strip to fit your door.
Next close all doors and windows, and turn off combustion appliances (furnace and water heater). Close any fireplace dampers, vents and skylights. Next turn ON any exhaust fans you have such as bathrooms and kitchens. Now inspect the house with a smoke source to show signs of leaks. Take this around all windows and door frames, outlets, switches around faucets and corners, to show leaks which will show as inward trails now. Leaks will find the largest holes first so once you've gone around and fixed every leak you find, test it again to find smaller leaks.

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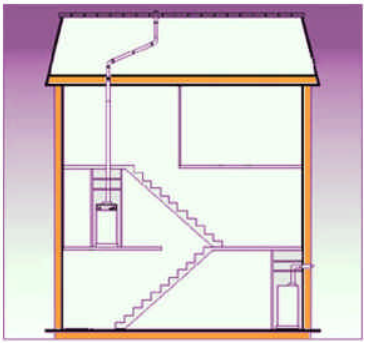
Fixing air leaks

Even before you start testing for leaks as described in the previous section, you should go ahead and repair any obvious leaks in the thermal envelope. The thermal envelope is the



insulated boundary of the house that separates your conditioned interior space from the outside. This is shown by the orange lines in the image. It can differ from one house to another but the typical home will have its top boundary as the ceiling of the top floor. Most homes tend to have insulation in the attic "floor", leaving the attic space as unconditioned

space.
Where this is the case, it is best to start sealing from the top. Take your caulk and expanding foam along with a flash light or work light if needed to inspect the attic area. Wear knee pads to help with crawling on attic joists, and a lightweight coverall, gloves, and hat to keep insulation off your skin. Be very careful where you step when working in an attic as many people have stepped through the ceiling plaster board and even fallen through to the floor below. It may be useful to have loose boards to walk around on. And watch out for nails in the trusses or poking through from the roof deck above.

Start by pinpointing all of the ceiling light fixtures from the floor below. Then locate the areas where walls below meet the attic floor. Also note any knee walls if you have them. These are all common areas of leakage. It may help to draw a diagram. If you flooring boards cover the points above the light fixtures you may have to lift them up to access the areas. Look for any gaps or crevices where the light fitting is mounted and seal them with caulk, or with expanding foam.

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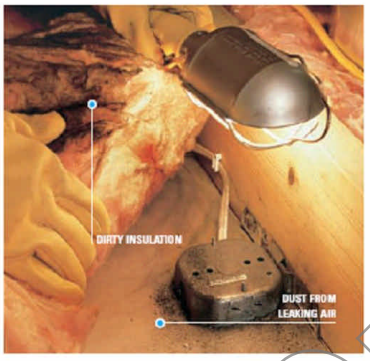
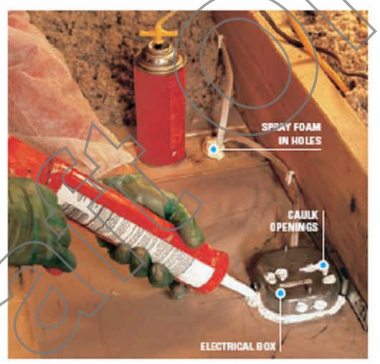
FIND ATTIC BYPASSES



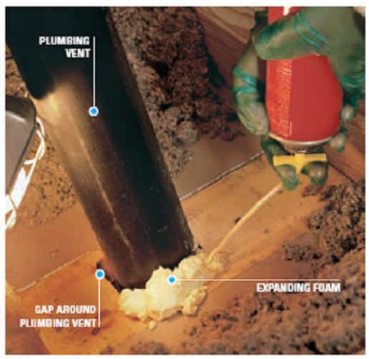
Check for gaps in your attic that facilitate air movement by checking for dirty insulation. Seal the gaps with caulk or expanding foam. When complete and dry, push the insulation back into place.

FILL HOLES WITH CAULK

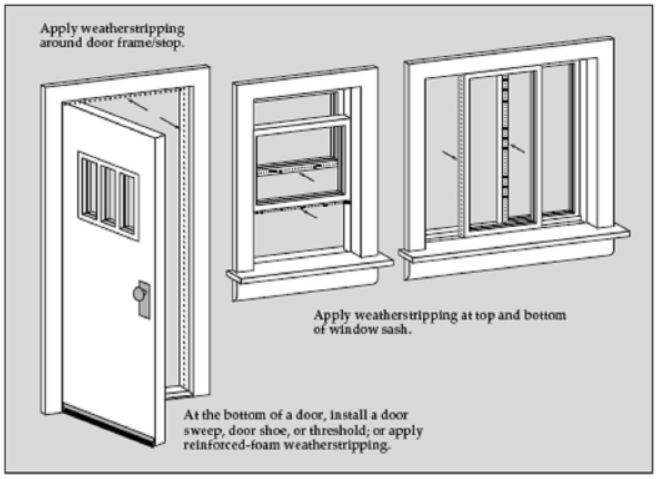


Fill wiring and plumbing holes with expanding foam. Caulk around electrical junction boxes, and fill holes in box with caulk.

STUFF GAPS WITH INSULATION



If the space around your plumbing pipe is wider than 3 inches, you may need to stuff some fiberglass insulation into the space to serve as a backer for the expanding foam. Once the fiberglass insulation is in place, follow the directions on the can to foam the space around the pipe.



Where the walls below meet the attic floor is sometimes a cavity that allows air to flow down from the attic and through your interior walls, heating or cooling your home. If you have this situation you'll need some rigid foam insulating board to help plug these gaps. Cut pieces to fit over the gaps and use caulk to glue them in place. Alternatively, you can cut

sections of fiberglass batt insulation, place them into a plastic trash bag fold it over and stuff it into a cavity. But avoid compressing the fiberglass because it's the air that provides insulation so compressed batt looses its insulating qualities.
Now look for signs of dirty insulation which can indicate areas of leakage where the attic air is literally being filtered by the insulation as it rushes into your home.

Next consider your attic entry way. If you have a pull down hatch there are two ways to improve the air and thermal seal. First is to build a hatch cover out of two 8x4 sheets of 2" rigid foam board. See the next page for instructions and a cut-sheet to make your own cover. Second is to purchase a zip cover such as an Attic Tent cover which can be stapled into position and caulked.
Coming down from the attic examine your windows and exterior doors for the condition of the weather stripping. Replace or add weather stripping as needed. And, if needed, add a door sweep to the base of your doors.

Areas to Foam or Caulk

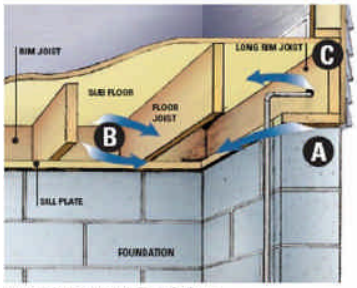


ILLUSTRATION BY DALE HOFFMEYER

- **A** Along the gap between the sill plate and the foundation
- **B** At the bottom and top of the rim joist on each end of the house
- **C** All electrical, water, or gas penetrations and any venting ducts that pass to the outside

In the basement or crawlspace you'll want to seal any penetrations that go through the ceiling to the floor above. Generally, these are holes are for wires, water supply pipes, water drain pipes, the plumbing vent stack (for venting sewer gases), and the furnace flue (for venting furnace exhaust). Then seal up the top and bottom of rim joist cavities. Rim joist air sealing is especially important at bump out areas such as bay windows that hang off the foundation. These areas provide greater opportunities for air leakage and heat loss. Caulk is best for sealing gaps or cracks that are 1/4 inch or less. Use spray foam to fill gaps from 1/4 inch to about 3 inches.

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Attic Hatch Cover

Most homes that have a pull down stair (or hatch) to the attic do not have any sort of insulation or sealing there. Sometimes insulation companies after blowing insulation in your attic, will push sections of a fiberglass batt into the hatch cover under the stairs. If you have one of these you might as well pull the fiberglass out and get rid of it, or perhaps reposition and re-cut it so none of it is compressed. Since most of it is being compressed it looses its insulating qualities. **Fiberglass only works well if it's fully fluffed out, not squished up in any way.**

To get started with this project check your hatch measurements. Then see the cut sheet you'll need. You can pretty much follow that cut sheet for instructions. First, you'll need to mark out the two sheets of rigid foam insulating board according to the cut sheet. You'll need a measuring tape and a long piece of straight wood to mark the lines on the sheet before cutting.

Use a regular wood saw or a box cutter to cut the sheets into the shapes according to the cut sheet. You might want to do the cutting outside then do the assembly in the attic if you have enough room up there. Otherwise make sure you can get the full sized box into position once it's made up.

Now assemble parts A1, A2, A3 and A4 into a rectangular box shape, putting the short sides to the inside of the long sides. Join the seams with latex caulk and use masking tape to hold it together until the caulk cures. Lay the box down flat on the floor so the top and bottom are the open sides and insert parts D1 and D2 into the box, making a bottom for it. Caulk the edges to hold it in place. Next, put part E into the box directly on top of D1/D2 then caulk all the edges to secure it.

Now lay part B on the floor and assemble all of the C parts so that they cover it neatly. Tack it all together with caulk. You should have a 4" thick slab that's 29 3/4 by 59 7/8 inches. Flip the box over and place this part B/C onto the top so you have four 2" thicknesses stacked up on sides that are now about 7 inches on the inside.

Finish it off with some weather stripping along the bottom edge to stop drafts. The picture shows a hatch cover box sitting on its side.

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Sealing Ducts

Your air ducts are almost certainly leaking – around 90% of homes have leaky ducts. This makes your blower fan work harder to circulate air and means efficiency loss for both heating and air conditioning. What's more it means your indoor air quality may be compromised. Leaking ducts can mean conditioned air getting out as well as outdoor air from the attic or basement getting into your house. That can mean more dust, pollen, mold and other outdoor contaminants in your home. It can also mean dry air in winter as cold outdoor air merges with your indoor air dropping the relative humidity. I sealed my ducts in December and immediately noticed the air in my home no longer felt dry.

If you choose to take on duct sealing as a do-it-yourself project, start by getting mastic sealant and metal tape. Never use duct tape because it will dry out, crack and peel off within a few years. Apply the mastic with a cheap brush or with your hand covered in a cotton glove to all of the accessible seams and joins in your ductwork. Make sure to seal the connections at vents, boots and registers where they meet the floors, walls, and ceiling. These are common locations to find leaks in your ductwork.

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Major Greening Projects

There are many larger greening projects that you might prefer to have done by a professional. In this section I'll discuss some of these projects and provide some tips to help you make an educated decision about which professional you want to work with.

Crawlspaces

Homes are built on one of several foundation types. The most common foundations are basements, crawlspaces and slabs. If your home is built on a crawlspace foundation it is most likely ventilated around the perimeter. This design was based on an assumption that ventilation was needed to rid the space of accumulated moisture. However, research by Advanced Energy and other building science teams has demonstrated that ventilation does not help crawlspaces and that sealing and insulating them is a better choice. Ongoing crawlspace studies have shown us that ventilated crawlspaces actually promote moisture build up and breed mold. Some consultants even started to call them Mold Acceleration and Amplification Devices. Studies have also shown that a sealed crawlspace can improve energy efficiency by up to 18%. A sealed crawlspace becomes a semi-conditioned space. It is now within the thermal envelope but there are no registers for conditioned air to enter the space directly.

The key advantages of a sealed crawlspace are:

- Better overall performance of heating and cooling systems
- Reduced moisture in the crawlspace
- Reduces rot in wood areas
- Improved indoor air quality

How is the crawlspace sealed? There are various approaches but the main points are to close off existing vents, lay a plastic liner over the ground surface and apply insulation to the perimeter wall, then sealing columns and piers. The liner needs to be sufficiently thick to withstand occasional walking or crawling, and it needs to be sealed tightly at any seams. Typically, a de-humidifier is also installed with a drain to the outside.

The cost of hiring an experienced contractor to seal an existing crawlspace should run you anywhere from $3.5 to $8 per square foot of area. Be sure to work with a company that is experienced with sealed crawlspaces and check references.

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Insulation

Insulating your home is one of the "no-brainer" projects that will typically pay for itself quickly in the savings you achieve from your heating and cooling bills. With an existing structure your best options is generally to insulate the attic which is where most of the heat escapes in winter and where much of the heat is gained in summer. On term to get familiar with in insulation is R-value. This is a measurement of a material's resistance to heat transfer. You should also understand that heat transfers by three different ways:

- Convection - the way heat moves through air or a fluid. It literally moves from molecule to molecule and disperses.
- Conduction - the way heat moves through a solid. Each solid material has a different r-value, or resistance to the transfer of heat.
- Radiation - how a hot body or surface literally emits heat as electromagnetic radiation such as a hot electric stove element.

To illustrate these differences imagine it's a hot day and you open a window - warm air flows into the room. That's convection. The sun is beating down on the house, you put your hand to the wall and it feels warm. That's clearly a poorly insulated wall, but the heat is being transferred by conduction through the wall. Now you turn on the electric stove and as the element turns red you feel the heat as you're standing at the stove. That's thermal radiation.

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Attic

Your attic is very likely to be losing loads of energy all year round. Sealing the penetrations and gaps in the floor can help a great deal. But to get the maximum efficiency you need to insulate it as much as possible. The building code in most areas calls for R30 for new construction – though sometimes the requirements are higher. Insulation in the roof can stop heat loss in winter and it can slightly slow heat gain in summer. However since the sun's heat is transferred by radiation, insulation alone does little to stop your attic heating up in the summer. But there are other solutions. More new homes are being built with a radiant barrier product such as TechShield as part of the roof decking itself. This can really help keep your attic cool in summer. For an existing home, however, short of tearing the roof off and starting over, there are some products that can be applied to the underside of the roof deck that can help too. These are usually foil coated. Tests have shown that radiant barriers in the attic can reduce summer cooling bills by up 17% in the hotter climates. Installing radiant barriers as a retrofit is often time consuming so while the material is inexpensive, the labor can make it expensive. It's not overly difficult to do, so you might consider doing it yourself.

If you want to improve the insulation in your attic your three main choices of material are fiberglass, cellulose and spray foam. These are in ascending order of cost with fiberglass being the least expensive. Cellulose has the advantage of being a recycled material that's a bit more environmentally friendly. Spray foam has the major advantage of

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good performance. The reason spray foam products such as Icynene, are better is that they seal as well as insulate, so they can stop heat transfer by convection and losses from leakage too.

Walls

Unless they're insulated, the exterior walls of your home are losing energy daily. During the winter, your heat travels right through your walls to the outside. Insulation slows this down and saves you money. Typical building code requires an R-value of at least 13 for exterior walls.
There are three main ways to insulate the exterior walls of an existing home:

1. Fill the wall cavities with insulation.

2. Apply insulation to the exterior of the walls before re-siding.

3. Add insulation to the interior surface of the walls and refinish with sheetrock.

The most economical, as well as the least disruptive method is to blow insulation into the wall cavities. Of course, it can only work if your home's walls have cavities, which is the case for stick framed and concrete block walls - brick or cement walls may not. If you're unsure what type of walls you have try removing a light switch to peek inside your wall. You can also check from the attic to see if the tops of exterior walls can be seen from up there. If the cavities between studs already have insulation, it may be too difficult or expensive to add more. If they are empty your house is a good candidate for wall insulation. Check if there is any local assistance program to help pay for the cost of insulation before you hire a contractor.
Blowing insulation into the wall cavities is done with special equipment. It's usually done from outside, so doesn't disrupt your living space. The crew may remove part of the exterior siding and then drill holes through the wall sheathing to blow in the insulation material which is typically cellulose, glass-fiber or mineral wool loose-fill insulation. Once the insulation is blown in, the crews plug the holes and remount the siding.

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Windows and Doors

Even if you have double pane windows, they still leak hot and cold air. So it can pay to use window coverings or treatments that add thermal resistance. One of the best solutions for windows is honeycomb or cellular shades. These can provide and Rvalue of 3.5 to 5.5 to help hold the energy in your home. The air pockets created by the honeycomb shape are what make them energy efficient.

If you have single pane windows, it might be worth it to replace them. If that's out of the question and you live in a hot climate consider a radiant film that can be applied to the windows. 3M makes one of the best products on the market for this. It can dramatically reduce the heat gain through your windows and can even increase security by strengthening your windows.

Wooden doors are not particularly energy efficient, but after making sure they are well sealed with weather stripping, you might consider hanging a heavy curtain on the inside of the door itself. Attach a thin rail to the top of the door and hang a curtain from the top so that it opens and closes with the door. The weight of the fabric and the air space between the door and the curtain will help insulate it.

Heating Ventilation and Air Conditioning (HVAC)

If your current HVAC system is more than 15 years old you might want to consider replacing it, or parts of it, with a more efficient system. Air conditioners in particular have become more efficient in the past few years and building code regulations have raised the bar of efficiency in most areas to a 13 SEER equivalent. SEER stands for Seasonal Energy Efficiency Ration and a measure of efficiency for air conditioners. The higher the number is the more efficient the unit – at least in principle. Energy Star rated units must have a rating of at least 14 SEER.

Be sure to use a properly licensed heating and ventilation contractor and make sure that the system is sized right for your home and that the contractor has a good reputation. Get recommendations if possible.

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Myths and Facts About Power Consumption

There are a lot of well-meaning guides out there about power consumption. Many businesses will tell you that you need to buy expensive "high efficiency" appliances and tools to become truly energy efficient. Some of this is true, but you can always conserve power no matter how old your appliances are!

Another great way to conserve energy is to invest in a solar panel system or even a personal wind system. These have a high upfront cost, but there are many incentive programs that make these very attractive options.

First, let's start with the simple stuff: conserving energy without buying any new appliances.

One of the biggest myths about energy conservation is that turning off an appliance takes more electricity than leaving it running at an ambient energy. This couldn't be farther from the truth! The best way to save electricity is to hook up your appliances to power strips, and switch the power strip off when you're not using them. This completely cuts energy costs and will save as much as 2-3 kWh a day.

Another myth is that sealing your ducts with duct tape and using foam gaskets on your light switches will save energy. Unfortunately, duct tape is very inefficient at controlling energy leaks because it needs to be reapplied often as it falls off. Also, less than 1% of your home's energy is lost through light switches. You should invest your money into attic insulation instead to maximize energy savings. Also, attic insulation does not cause leaky windows (another myth).

Another common myth revolves around fluorescent and halogen lighting. The first is that fluorescent lighting is bad for your health. A decade ago, this was true. Today, fluorescent lights have fuller spectrums and lower mercury levels than ever. Plus, they use much less energy and produce much less waste than incandescent bulbs.

The second myth is the halogen lamps are highly efficient. The bulbs themselves are efficient, but they require transformers that use a lot of energy (even more than incandescent bulbs). These transformers need energy even when they're turned off!

To immediately save energy, the best thing you can do is to replace all your incandescent bulbs with compact fluorescent bulbs. The demand for these bulbs is high enough that you can buy them very cheaply in bulk! Best of all, they last for years and use much less electricity than globe bulbs or incandescent bulbs.

Watch yourself around your high energy appliances. Never leave your fridge open for more than 1 minute, and avoid using electric heaters during the winter (bundle up instead). Remember when your parents told you to put on a sweater rather than turn up

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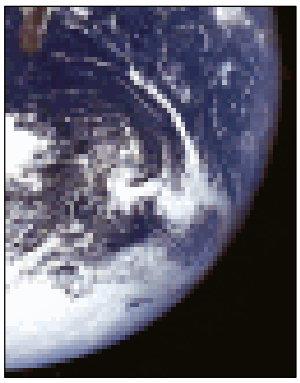
the heat? Well it really does make sense!

How You Can Affect the Globe

After reading this guide to going green, if you're still not convinced that it's important, let's take a look at the impact the average adult has on the world.

Have you ever considered your carbon footprint? You carbon footprint is the measure of the impact your activities have on the environment. It takes into account everything you do in your everyday life, things such as your home's gas and electric, transportation (private and public), food and drink, clothing, your home's construction and maintenance, recreation and leisure, financial services, and public services.



When you look at each of these things individually, it may be hard at first to understand how they could possibly affect the environment.

Just take a moment and think about what has to happen in order for you to be able to do any one of those things. The short answer is that every one of those activities in our modern world requires energy; energy that in almost every case comes from the burning of fossil fuels.

There are many sites out there that allow you to calculate your carbon footprint and offer suggestions on how to make it a bit smaller. Look at your carbon footprint and extrapolate that by the number of people in your town, city, state, or country – you will quickly begin to see the problem. Just by living our everyday lives we are having a significant impact on our environment. The number of people across the globe burning fossil fuels by virtue of simply living a modern lifestyle is astonishing. Something needs to happen now.

Another thing to consider is your garbage. We've talked about recycling before, but even if you are a recycling madman chances are you're still creating trash - trash that will still be in a landfill long after you are dead and buried. We are stuck in a cycle in which we are depleting our planet's natural resources and replacing them with useless trash and waste.

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It's true: we couldn't destroy our planet, even if we wanted to. **We are not destroying our planet, we are destroying our habitat.** Some might say that we deserve it after all we have done, but that sort of defeatist attitude will do nothing for all the other species that we are going to take with us if we don't change the way we are treating our habitat and the environment. We have adapted to the new habitat we have created, but many species have not. Many animal species have dwindled, becoming extinct with more on the list of endangered species.

If we do not take action than it's just a matter of time that our habitat will no longer

support *our* lives, to say nothing of all the other species we share the Earth with. Western countries are some of the wealthiest nations on the planet, and we have no excuse for not living green. We can afford to make the small changes, whereas many in more impoverished nations obviously cannot. We need to set a good example, set the precedent, and show others how it is done and how we care about this planet.

So you've seen how you can affect the globe in a negative way, but how can you affect the globe in a positive way? Well, you've taken the first step by taking the time to read this guide. Take the things listed here to heart and try and make them a part of your everyday life. It can be habit forming; if you do these things enough they become second nature to you.
The next step is to get the word out, mention the changes you have made in your life and how easy it was to friends, family, and coworkers. If you are a real "do-er" you could take it upon yourself to set up a recycling bin at your workplace. If one already exists, put yourself in charge of recycling and make sure that everything that *can* be recycled *is*.

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Summary

Modern life can seem very demanding and stressful. Many times we take easy pre-packaged and quick options because we don't have time for anything else. Many times we simply aren't aware of the other choices or how easy they really are. Companies who sell easy, quick and pre-packaged alternatives spend billions of dollars in advertising each year to create, then reinforce, negative perceptions of cleaning, fixing etc. for our homes. This can lead to us as consumers believing that we have to use expensive solutions and toxic chemicals to clean our house and make our homes energy efficient. So it can seem like swimming upstream when you consider taking some of the actions or projects outlined in this book.

It's well known however, that while we may feel stressed and busy, no other generation in the history of mankind has had so much free leisure time available. So it's a question of choosing to spend your time wisely.

The concepts and projects in this book are all within the reach of most people and many of them are very easy to integrate into your life. The real issue will come down to approaching your life in a more mindful or conscious way. This means paying attention to the little things you do and don't do, considering the overall impact and always asking yourself if you'd doing the right or most efficient thing in the big picture.
The payoffs for this sort of focus on your life and actions are many. For starters you'll

save money – which is always good.
You'll contribute toward the survival of mankind and to keeping the planet's climate comfortable and safe. You can be a leader and encourage others by example. Most of all, you'll connect more fully with your own life and purpose by choosing to take positive actions that help your family, your community and even your country.

Going green is really very easy, all it takes is a little conscious effort on your part and you will make a difference! If we can get everyone to do the little things that it takes to "go green" we will all leave a brighter future and better planet for our children.

Resources

Environmental Protection Agency (EPA) www.epa.gov
EPA Indoor Air Quality www.epa.gov/iag
Energy Star www.energystar.gov
Kilowatt Ours (advocating conservation of power) www.kilowattours.org
Advanced Energy (building science research) www.advancedenergy.org
Building Science www.buildingscience.com
Database of State Incentives for Renewable Energy www.dsireusa.org
Consumers Guide to Renewable Energy and Efficiency
http://apps1.eere.energy.gov/consumer/your home/
Practical Eco (green building blog) www.practicaleco.com
Green Cleaners www.coopamerica.org/pubs/realmoney/articles/greencleaners.cfm
Renewable Energy – Home Power Magazine www.homepower.com
The Story of Stuff www.storyofstuff.com

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