

Green Irene Guide to an Energy Efficient Home



This is an area where you may have the greatest potential to impact the planet and your wallet. The topic also has great potential to make your eyes glaze over. It is a lot more fun to pick out a cool reusable shopping bag and peruse the organic section of the grocery store than it is to talk about wrapping your water heater pipes. If you really want to make an impact, however, stay with me at least long enough to remember the words “Energy Star”.

Your Parents Were Right

“Turn off the lights” and “Close the refrigerator door” were common refrains as I grew up. As it turns out, it was great advice. This is one area where starting to sound like your parents is a good thing. The typical U.S. family spends more than \$1,600 a year on home utility bills. Unfortunately, a large portion of that energy is wasted. Fossil fuels, like coal, petroleum and gas, dominate our nation’s electricity production, supplying 70% of our power needs. Fossil fuel combustion results in CO2 production, which leads to greenhouse gases, which leads to global climate change. That is the connection between leaving your cell phone charger plugged in when not in use and the melting icecaps.

Small Steps are an Important Start

Don’t be discouraged by thinking little steps you take around the house will not make a difference. If your house is like ours, there are LOTS of little steps, which will add up to big steps, which will make a difference. Don’t make the mistake of underestimating the implications of small changes that are adopted several million times a day by people other than you! Some things you can do today. Let your Green Irene Eco-Consultant help start the process of creating a truly energy efficient living space. You will save money, reduce your family’s CO2 emissions, and increase the value of your more efficient home. Other steps will take more planning and probably involve calling professionals. Let your Green Irene

Eco-Consultant direct you to a Certified Home Energy Auditor, and specialized energy technicians, in your area. A typical Japanese citizen uses 4,000 kilowatt-hours of electricity, a Californian 8,000 and other Americans 14,000 kWh per year. It is possible to use less energy if we give it the attention it deserves.

Keep the Air In and Keep It Out

Air leaks, drafts and poor insulation let warm air out in the winter and hot air in during the summer. Up to 50% of a home’s annual energy use is for heating and air conditioning. Your heating and cooling systems have to work extra hard to keep up with this constant air exchange. If your systems are working harder than necessary, it will cost you too much in terms of dollars and CO2 production. Reducing air leakage is a simple home improvement that will deliver big benefits. Your Green Irene Eco-Consultant can help determine the products you need to start sealing leaks. How about an inexpensive “door sweep” to keep cold air from pouring in from under a door to an unheated garage or to the outside? Green Irene also carries an air conditioner cover that will help to prevent drafts through most window-mounted air conditioners during the winter months. The hidden holes, gaps and cracks around window frames, electrical outlets, plumbing lines, under the siding, in the basement, and through your window AC, can add up to the equivalent of a window open to the outside world at all times!

Insulation Installation

Increasing the amount of insulation in the attic and walls will dramatically reduce the air escaping from the living areas of your home. Your home will be less drafty, more comfortable year-round and your heating AND cooling bills will shrink. There are two main options for attic insulation: loose-fill/blown-in material, which usually requires a contractor, or blanket insulation which is sold in rolls and can be installed on a do-it-yourself basis. Wall insulation is also an effective energy saver, especially if you live in a colder climate. You will need a contractor to blow insulation into your walls. Your Green Irene Eco-Consultant can direct you to qualified professionals in your area. They can also help to provide more details on your insulation choices, including new eco-friendly insulating materials.

You and Hot Water

The water heater is one of the major energy users in the home. Make sure the heat it works so hard to create stays where it belongs. Your Green Irene Eco-Consultant carries an insulating blanket for the whole tank as well as foam sleeve insulation to cover the pipes coming out of your water heater. The sleeves are pre-slit and easily slide over the pipe like a big long bracelet. At least the first five feet of piping should be insulated. The insulation will pay for itself in just a few months with reduced energy bills. While you are at your hot water heater, turn the thermostat down to 120 degrees from the standard 140 degrees. If you have had your hot water heater for a while, consider a "tankless" hot water heater as a replacement. It delivers an on demand supply of hot water saving a lot of energy since you are only heating the water at the moment you need it.

If you have a water bed, go make it. Simply pulling up the covers will cut your water bed's energy usage by 30%. I don't actually know anyone with a water bed, but I do have a few friends with pools. Pool and hot tub covers minimize evaporation from both outdoor and indoor pools. Covering a pool, when it is not in use, is the single most effective means of reducing pool heating costs. Savings of 50%–70% are possible. Think of all the new floating toys you can buy!

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Heating and Cooling Issues

Chances are your HVAC (Heating, Ventilation and Air Conditioning) system needs a checkup. I know you are good about scheduling other annual appointments, so call your HVAC guy as well. A basic tune-up ensures that your air conditioning unit and heating unit are running at top efficiency. During this visit, the refrigerant charge is checked and adjusted if necessary. The condenser coils are cleaned and the furnace boiler is checked. These steps will prolong the life of your system, save energy and reduce your utility costs.

Give your HVAC system some free natural assistance. On sunny summer days, close your drapes to keep out the heat. On sunny winter days, let the sun shine it. Close your drapes after sunset in the winter to keep all that warm air inside. This makes sense and quickly will become a habit. Substitute a fan on milder summer days and reduce your energy use by 60% or more. Close the vents in rooms that you don't regularly use.

A Few Degrees Make a Difference

In the summer, set your AC to 78 degrees when you are home and 85 degrees when you are away. In winter, set thermostats to 68 degrees when you are home and 55 degrees when you go to bed or leave the house. You only have to think about this one time if you install the new "simpler to program" thermostats. Your Green Irene-Eco Consultant can show you how to program them.



Appliances and the Energy Star Label



When your appliances need replacing, or you just feel like an upgrade because the new colors are cool, think Energy Star. Energy Star is a joint program of the U.S. Environmental Protection Agency and

the U.S. Department of Energy. When buying an appliance, remember that it has three price tags: what you pay to take it home, what you pay for the energy and water it uses, and the cost to the environment from that energy production. EnergyStar qualified appliances incorporate advanced technologies that use 10–50% less energy and water than standard models. The money you save on your utility bills will make up for the cost of a more expensive, but more efficient, Energy Star model.

When you are shopping, look for (and more importantly, read) the yellow Energy Guide label affixed to the appliance. This label lists approximate annual operating costs and energy usage. This will allow you to easily compare appliances. Products in more than fifty categories are eligible for Energy Star rating. Make sure you check them all out if you are starting from scratch and building a new home.

If New Appliances Aren't An Option...

If new isn't an option, make the most energy efficient use of the appliances now in your home. Your Green Irene Eco-Consultant may be aware of energy saving settings on your current appliances that you are not using. I am guessing you didn't read your appliance manuals. I certainly didn't. Dig them out of the shoebox and read them for possible energy saving options. In your kitchen, only run the dishwasher when it is full. The same amount of energy and water is used for one wine glass or a full load. Turn on the automatic air-dry switch, and let dishes dry by air. If your machine doesn't have an air-dry switch, turn off the control knob after the final rinse and prop the door open a bit so the dishes will dry faster. Avoid using "Rinse-Hold". This uses 3 to 7 gallons of hot water each time it's used.

Clean the coils on your refrigerator regularly so the compressor motor does not have to work as hard. Lower the temperature of the freezer and raise that of the refrigerator. You can keep the freezer as cold as 0 degrees F, but it may take a long time to thaw foods. Keep the refrigerator at 38 degrees F or colder (any warmer will allow foods to spoil). Keep the refrigerator and freezer doors closed as much as possible. The cold air that escapes when the door is opened is replaced by warm air that must be cooled all over again. Keep the freezer full but don't stuff the refrigerator. Though frozen items in the freezer help keep neighboring items frozen, a full refrigerator has to work harder to stay cool than a moderately full one.

About 90% of the energy used for washing clothes is for heating the water. There are two ways to reduce the amount of energy used for washing clothes—use less water and use cooler water. Unless you're dealing with oily stains, the warm or cold water setting on your machine will generally do a good job of cleaning your clothes. Switching your temperature setting from hot to warm can cut a load's energy use in half. Wash your clothes in cold water using cold-water detergents whenever possible. If you are washing a small load, use the appropriate water-level setting.

When you are drying clothes, don't over do it. If your machine has a moisture sensor, use it. Green Irene carries a very cool dryer ball that reduces drying time and the need for any fabric softeners. As the dryer balls tumble around they lift and separate fabrics allowing air to flow more efficiently and

reducing drying time. Anything involving “lift and separate” has to be good. Clean the lint filter in the dryer after every load to improve air circulation and prevent your vent from catching fire. Consider air-drying clothes on clothes lines or drying racks. (Can you imagine some “planned communities” actually ban the drying of clothes on a line in the backyard?)

Garlic Can't Keep Away These Vampires

Beware of energy vampires. That's what experts call the things plugged into a wall socket “sucking” power all day, all night, and probably all year. Overly dramatic, I agree, but descriptive. Vampire power is the power consumed by electronic devices while they are switched off or are in standby mode. You may assume, as I did, that when something was “off” it was off and stopped drawing power. That is not how most household electronics work. Your TV and computer monitor, for example, remain in standby mode, silently sipping energy (to continue the vampire theme), awaiting your signal to turn back on.

Very common “electricity vampires” are the little black box power adapters which have no power-off switch. These silent energy users include the chargers for devices that run on batteries, like cellphones, iPods and personal digital assistants, and all the other devices around the house that have adapters because they run on direct current, like answering machines. Experts call these adapters “wall warts.” The constant consumption of power, a phantom load, may be used to provide useful functions in some appliances such as remote controls and digital clocks. An example would be my automatic coffee maker having a pot ready when I wake up. What could possibly be more useful? Most power consumed by non-operational devices, however, is wasted.

In the average home, 40% of the power going toward home electronics is consumed when the products are turned off. The cheapest and cleanest new source of energy is...the watts we don't waste in the first place!

So Just Unplug It?

Simply unplugging is not a convenient option for most home electronics. I know that your audio-visual equipment is all in a giant piece of furniture which stands squarely in front of the outlet. Your Green Irene Eco-Consultant has some very good options for you. There are a variety of power strips, and surge protectors that allow you to conveniently shut things down when not in use and decrease your power usage. Green Irene products can also help you consolidate power cords, organize your “chargeables” and eliminate phantom loads. Green Irene offers a Kill-A-Watt energy consumption monitor to help you determine if that fish tank is costing you \$400 annually in electricity. For about \$50 it might be a useful tool for you to own so you can see what every appliance is really costing you each year.

Plan, Pay Less, Feel Good

An energy efficient home can be a reality for you. Your home will be more comfortable, your bills will be lower and your carbon footprint will quickly shrink. It does take careful evaluation of many aspects of your home. Let your Green Irene Eco-Consultant help you get started today. Let someone else crawl around in your attic, while you congratulate yourself on taking small steps toward home energy efficiency and a giant step toward going green!

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Featuring our Green Home and Office Makeovers, GO GREEN Workshops and over 100 of the best green products available. Your local Green Irene will be there to be that Green Friend you wish you had, and can give you the advice you need to move your family toward a more healthy, green, low-impact lifestyle.

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