



# Plug Into Clean Energy

*The cleanest, most affordable energy is the energy we don't use in the first place—and reducing the amount of energy we waste is the cheapest and fastest way to reduce global warming pollution and achieve greater energy security. That's why millions of Americans are already weatherstripping doors and windows, insulating attics, or otherwise making their homes more energy efficient and thus healthier, more comfortable and less costly to heat and cool. If everyone makes these small changes, they can really add up—to 334 million fewer metric tons of global warming pollution emitted each year, the equivalent of taking 65.5 million cars off the road—and saving \$100 to 400 on the average family's utility bills.*

*Environment New Jersey's Doug O'Malley, left, speaks with an energy efficiency expert at a home in Trenton.*



## Environment Washington Research & Policy Center's Citizen's Guide To Energy Efficiency

America's homes are like cars that only get 10 miles to the gallon. Buildings consume 40 percent of America's energy, and much of that energy is literally flying out the window rather than heating or cooling our homes and businesses. What's worse, energy-wasting buildings are responsible for nearly half of our nation's greenhouse gas emissions.

We all stand to benefit from improving the energy performance of our homes and businesses. **It's simple: Use less energy. Burn less fuel, save money, and reduce pollution.** Makes sense, right?

So, then, if it saves us money, why don't more people do it? Well, while energy efficiency investments save money in the long run, some of them can involve relatively hefty upfront costs.

That's the bad news. The good news is, there are hundreds of resources available to help people overcome these obstacles to improving the energy performance of their homes and businesses—from financing programs to tax credits and rebates for Energy Star appliances, all designed to help families and business-owners deal with these upfront costs and lock in energy savings down the road.

But with so many different options, it can be hard to know where to start. Our Plug Into Clean Energy guide will help you cut through the clutter as you navigate the different resources available and find the options that work best for you and your family.

Whether you're starting small with new CFLs or gearing up to invest in a solar roof, we'll provide the tools you need to start with the easy steps and work your way up. Just turn the page to get started.



### First of all, how much energy do you use?

*The first step in home energy improvement is figuring out how much energy you're using now, and where the best opportunities for reducing your use are hiding. Many utilities provide free or low-cost energy assessments for their customers, to help analyze where energy comes into your home, where it leaks out, and what you can do to make things more efficient. Sign up for one today!*



[www.EnvironmentWashington.org/center](http://www.EnvironmentWashington.org/center)



Visit us online to learn more as we join together, in Washington and across the country, to help lead the way to a cleaner, greener, healthier future.

# Getting started— Our Top 10 easy energy-saving tips

You can make a dent in your home's energy use with a weekend trip to the hardware store and a few hours of work—no professional help required. Here are the Top 10 ways to get started today:

1. Turn lights and appliances off when you leave the room. It only takes a second, and those savings really add up.
2. Scrape—rather than rinse—your dishes, and only run the dishwasher when you have a full load.  
▶ **Savings: Up to 20 gallons of heated water a day**
3. Turn your hot water heater down to 120 degrees (or the “low” setting). If you have an older model, wrap the tank in an insulating blanket.  
▶ **Savings: \$30-90 a year**
4. Replace your old shower head with a low-flow model. This can cut the amount of energy used to heat your water by 25 percent.  
▶ **Savings: Up to 20 gallons of heated water a day**
5. Replace incandescent light bulbs with CFLs to cut your lighting costs by up to 75 percent.  
▶ **Savings: More than \$40 in electricity costs over the lamp life**
6. “Vampire appliances” continue to suck up electricity even when they appear to be off. Plug appliances into power strips and turn them off when not in use.  
▶ **Savings: 5-8 percent of your home's electricity use**
7. Use a laundry detergent formulated for cold water and wash your laundry using cold water only. 90 percent of the energy used to wash clothes goes to heating water.  
▶ **Savings: \$30-40 a year**
8. Consider using a drying rack or clothesline instead of a dryer. If you do use a dryer, keep your lint trap clean.  
▶ **Savings: over \$30 a year**
9. Maintain your systems: Clean or replace the filters in your furnace, water heater, and air conditioner. Keep radiators and refrigerator coils clean and free of dust.
10. For every degree you turn down your thermostat in the winter, you save 3 percent on your gas bill, and in the summer you can save even more by giving your air conditioner a break. You can install a programmable thermostat to automatically adjust the temperature when you leave for the day.  
▶ **Savings: \$180 a year**



▲ Top: Switching to compact fluorescent light bulbs could cut your lighting costs by up to 75 percent.

Environment Massachusetts Advocate Ben Wright releases a report in Boston on zero net energy buildings. >>



# Taking it to the next level

Now that you've gotten your home energy assessment and taken the easiest energy actions, it's time to take the next step by investing in your home's long-term energy efficiency.

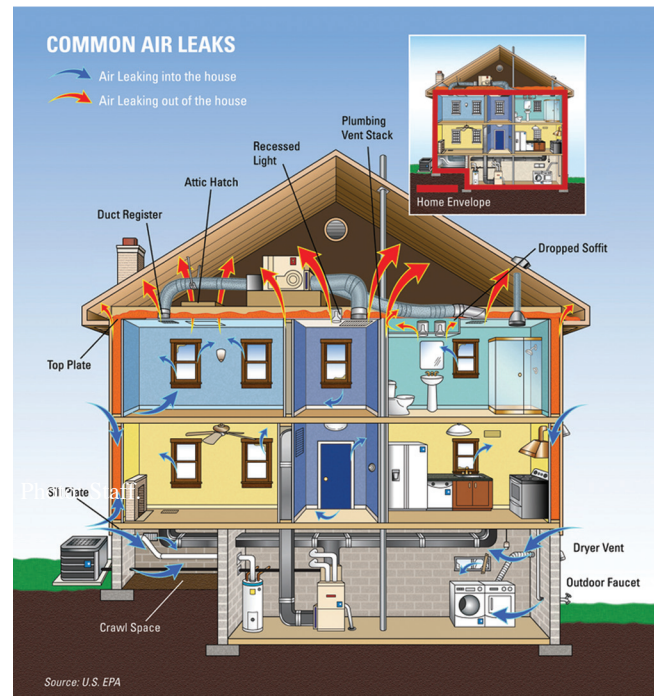
## Energy efficiency upgrades: Where can you get the biggest bang for your buck?

While your certified energy inspector can tell you for sure after your home energy assessment, it's likely that sealing up energy leaks is going to be one of the most effective ways to lower your utility bills. If you plug all the little holes, fewer of your energy dollars will leak from your walls, roofs or floors. Participants in the Department of Energy's Weatherization Assistance Program save an average of over \$400 a year at current energy prices, and those savings will increase over the years as fuel prices continue to rise.

Here are some common fixes:

- ▶ Seal hidden air leaks from drafty places like chimneys, attic and crawlspace entrances, and around windows and doors. Your inspector may also recommend adding insulation to your attic, crawlspace or basement.
- ▶ If you're already planning a renovation, it might make sense to incorporate efficiency improvements—like adding more insulation to the walls—at the same time.
- ▶ Adding storm windows and doors can have a big impact on energy use in a building, without the high upfront cost of replacing the windows outright. And trading out single-paned windows for double-paned Energy Star windows can make a difference as well, with energy savings ranging from \$125 to 450 per year.

Taking these simple steps may mean even greater energy savings later. When buildings are properly insulated and sealed, they need smaller heating and cooling systems—so you can purchase a less costly system when it's time to replace your furnace boiler.



▲ Top: Some of the most common places for homes to leak air are doors, windows and attics. Above: A well-insulated colonial home, thanks to the Home Performance with Energy Star program.

### A classic country home, now cutting edge

Cold, upstate New York winters will be less of a problem for Simon St. Laurent and Tracey Cranston this year, thanks to their energy performance upgrade, conducted with the help of the Home Performance with Energy Star program. Simon and Tracey sealed up energy leaks in their attic and basement, installed more insulation in the walls and attic, and upgraded their old, inefficient furnace. The result is a beautiful 1930s-era colonial house that uses one-third of the energy that it did when they moved in! The Home Performance with Energy Star program is available in 25 states across the country to help homeowners finance these improvements.

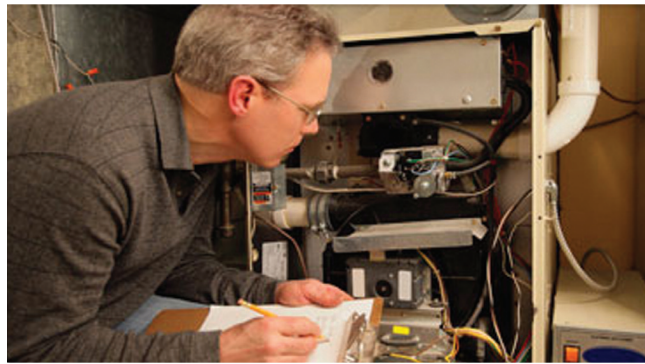
Environment Ohio's Julian Boggs, right, releasing a clean energy report card for local utilities. >>



## Focus on heating and cooling

Heating and cooling systems account for about 40 percent of a home's energy use, so you can make a big difference by ensuring those systems are as efficient as possible. Some fixes are easy, like sealing and insulating ducts to make sure that conditioned air moves around your building more efficiently. This, coupled with regular maintenance (like switching out filters every few months), can improve the performance of your system by up to 20 percent.

And, when your heater or air conditioner needs to be replaced, think about two things. First, make sure your new model is the right size; no need to install something with more capacity than you can use. And second, choose an Energy Star model. They're widely available and offer the biggest energy savings.



## Smarter lighting and appliances

Lighting is one of the simplest places to make an impact on energy use. Lighting generally accounts for more than 10 percent of the total energy used in a home, and we can cut those costs by 75 percent simply by installing CFLs; that's about \$40 in energy savings over the life of the CFL. If every American home replaced just one frequently used incandescent light bulb with a CFL, we would conserve enough energy to light 3 million homes for a year, save about \$600 million in annual energy costs, and prevent 9 billion pounds of global warming pollution—the emissions from about 800,000 cars.

Appliances are another potential area for improvement. Refrigerators and freezers consume more than 10 percent of the energy in a typical home. One major reason is the widespread use of second refrigerators and freezers, which are often older models that are moved to a garage or basement when a newer one is purchased. Getting rid of this second refrigerator can save around \$150 annually, and many local utilities have refrigerator recycling programs to help families get rid of their extra appliances.

Another way to improve the energy performance of your appliances—refrigerators, freezers, washers, dryers, air conditioners and more—is to replace them with more efficient models. As your appliances reach the end of their useful lives and need to be replaced, be sure to purchase products with the Energy Star label, which will provide significantly better than average energy performance.



▲ Heating and cooling systems account for as much as 40 percent of a home's energy use. Environment Washington Research & Policy Center's partner Top Ten USA is a nonprofit organization that identifies the ten most efficient appliances in a range of categories, from TVs to washers and dryers, even including cars. Check them out at [www.TopTenUSA.org/](http://www.TopTenUSA.org/) [EnvironmentWashington](http://EnvironmentWashington.org)

Environment California Clean Energy Advocate Bernadette Del Chiaro inspecting a solar home. 



# Become a clean energy pioneer— Generate your own renewable energy

Imagine meeting all your home's energy needs with clean renewables. Not all energy can be conserved. But, **buildings can be so efficient that they can easily generate all the energy they need** from renewable sources right on site.

Even in urban areas, where residents don't have a ton of extra space, rooftop technologies like solar panels and solar water heaters are great options. Up to 40 percent of existing homes and about 60-65 percent of commercial buildings nationwide are suitable for solar panels. By taking advantage of America's full potential to produce hot water for homes and businesses from solar energy, we could reduce America's natural gas consumption by 2.5 percent and electricity use by nearly one percent, while reducing global warming pollution by 52 million metric tons per year – the equivalent of the annual emissions from 13 coal-fired power plants or 9.9 million cars.

There has never been a better time to make the commitment to reducing energy use in your home or business. Programs are available across the country to help you tap into efficiency as a cost-effective way to lower your energy bills. Upgrading your building doesn't have to be a complicated or intimidating process, and by taking it one step at a time, we can make a big impact on energy use and global warming pollution.

Plus, installing these systems may be easier and less expensive than you think! Check out our Plug Into Clean Energy website to learn more about how you can invest in clean energy improvements right at home:

[www.EnvironmentWashington.org/  
center/plug-into-clean-energy](http://www.EnvironmentWashington.org/center/plug-into-clean-energy)



▲ *Top: An energy-efficient home in New Jersey generates power on-site from rooftop solar panels. Above: Magnify's office building in Florida generate more energy than it actually uses.*

## Saving money thanks to the Florida sun

*A credit union branch located in Lakeland, Florida, is learning the benefits of zero net energy buildings firsthand. Magnify's office building features an array of rooftop solar panels that generate more energy than the building actually uses: 45 percent of their solar energy goes back into the grid. Proper insulation, efficient cooling and heating equipment, and shades to protect the building from Florida's warm sun are a few of the improvements that have helped Magnify's branch conserve energy. The highly efficient building not only helped brand the credit union as environmentally responsible, but fiscally responsible as well.*

*Environment Texas' Alejandro Savransky (left), at Texas' largest solar farm with Rep. Charlie Gonzalez and ally Karen Hadden .*



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