

Keeping Your Home Energy-Efficient with Green Techniques

Using Green Energy Effectively in your Home

A Free Gift From Your Friends at Green Power Factor



GREEN POWER FACTOR



POWER FACTOR CORRECTION = SAVINGS

Introduction

Whether you just want to drop a few dollars off of your electricity bill, or are looking for a better way to fuel your home altogether, doing just a few simple things can make a tremendous amount of difference in your home.

Why bother with cost efficiency? You can afford the bills. Many people will be shocked to learn that they can lose up to 25% or more of the energy in their home unnecessarily. You could literally be throwing your money out the window.

There is good news, however; making your home energy-efficient does not have to be overly challenging. It also does not have to be overly costly, either. There *are* some changes that will cost a decent amount of money to implement, but there are always small things you can do to save your hard-earned money.

As you will see in this e-book, there are plenty of simple things that you can do to improve your home's ability to use energy more wisely, and in every area. However, first, we need to take the time to really analyze if making the particular change is worth it.

There are some products (and some companies) that *do* promise that you will save a great deal of money – and sometimes you will spend a lot and end up not saving anything.

The best thing for anyone trying to improve their home's ability to use energy wisely is to take a good look at what the product is, how it is used, the cost of the product (plus the installation), and then determine if, in fact, it will actually earn your investment back through energy savings. Some won't. Others will.

Throughout this guide, you will learn things you can do right away to improve your home's energy-efficiency. You will also learn different ways to save money on your everyday needs. You *will* find yourself saving money, while living in a more environmentally-friendly home.

Chapter 1: Determining Current Costs

One of the first things that you should do when looking at your ability to make your home more cost-efficient is to know just what you are currently paying for the energy you use.

By taking the time to determine what you are currently spending, you can better determine where you have the potential to save. In each area of the country, there are different rates, different providers, and a wide range of different types of fuel to take into consideration.

It is up to you to find out what you are paying, based on your monthly bills.

Look for two things here:

- What is the amount that you pay *per unit that you use* of that fuel type?
- How many units of that fuel type that you use per month? Your goal is to find a way to change these.

Can You Lower The Cost Per Unit?

The first way to lower your costs is to determine if you have the most cost-effective provider of your fuel. In many areas of the country, there are several providers of each type of fuel that you need. For example, you may have a choice in which gas provider you use, or which electric provider that you use. If that is the case, then you should determine who is capable of giving you with the lowest rate per unit of fuel used. Many states are de-regulated, which means you can choose the provider of your gas or electric. Your local utility will still provide delivery and maintain the power and gas lines, but you have the option to choose the source.



To find out if you live in a de-regulated state, simply contact your local government. They can easily tell you which providers are available as well as give you contact information.

Then, give each provider a call and ask them if they do provide services to your home. If so, then ask what their rates per unit are, as well as any transfer or account set-up fees that they have. Do this for all of the providers in your area until you find the most affordable choice.

By doing this, you can instantly save money without having to worry about investing anything except a few minutes of your time.

Can You Lower The Number of Units?

The next step in this process is to determine if you can lower the number of units of your fuel type that you use. The best way is by simply lowering the temperature in your home. Just a few degrees on your thermostat makes a big difference!

One thing people do not realize is just how much it matters that you turn off and unplug any appliances and other tools in your home when they are not in use. Another thing to consider is devices you don't always use that have those black transformers plugged in constantly, sometimes called "wall-warts". If you don't have a need to have them on all the time, consider plugging them into a switched power strip, and just turn on the power strip when you need the device. The wall-wart transformer uses power even when it's device is off.

Start off by investing a few minutes right now. Get up and walk from room to room in your home. Turn off any light, any fan, any appliance that is on. Don't forget to unplug those units that leave LED lights on even when they are turned off (or put them on a switched power-strip). This can save you a great deal of money. Go ahead; you really can save a lot just by doing this.

Chapter 2: Cost Over Savings Analysis

Before we get into saving you money with methods to lower your fuel spending each month, we do need to explain the benefits of energy savings by smart investment.

Because the world is in a fuel crisis and the cost of gas and other energy sources continues to rise, there are opportunistic, unscrupulous vendors out there promoting products that don't save you any money. Some of these products may work, but most probably do not. The trick is determine which actually lives up to its claims, and which are a flagrant waste of money.

We can help you with a few good tips about any item presented to you as a way to save energy in your home. Take some time to do some internet research about what you are investing in before you buy. But don't believe the first thing you read – get a number of opinions from different places. Often a competitor will put up a website for the sole purpose of disparaging a competitor's valid product, or even to cast doubt on entire technologies to activate interest in their own (probably flawed) product. Look up "straw man" on wikipedia for more on this shameful technique. Bottom line: do good research!

Tips For Analyzing Benefit – take these tips to heart:

- What is the product promising to do for you? What have others said about the product who are already using it?
- What is the initial cost of this product? How much will it cost you to purchase, install and then use this product?
- Does the product immediately save money on your energy needs?
- How long will the product take to pay for itself with the savings? If you cannot get your costs back quick enough, it may not be the right choice for your needs.



When you take these things into consideration, you will find yourself better able to discover the truth about any supposed energy savings gadget out there. Of course there are those products that do actually work. But you need to find them *before* you invest your money.

Know Before You Buy

There are several things that you need to know about before you invest in any energy-savings products. Especially when considering replacing or amending any major systems in your home, such as your furnace, then it's just smart to educate yourself by discovering all the options and possibilities you have available to you.

Once you find a product you like, discover as much as you can about the company offering the product. Log into the Better Business Bureau's website and find out if they have had any claims put in against the company or person that has anything to do with the product.

You can also search for reviews of the product by using your favorite search engine, with the name of the product followed by the word "review." When you do, you may find several different websites all providing a different look at what this product will or will not do for you. Take the time to analyze all the viewpoints, and try to determine who's telling the truth and who's just bad-mouthing the product to prop up their competing product (or technology).

Also discover how the product's manufacturer backs up their claims. If you find that the product does not work as effectively as was promised, can you return it? What are the warranty and return policies? For example, do you pay for shipping or do they?

Doing these things is a must when you are purchasing from a company that you have not heard about in the past, or cannot find real testimonials for actual users.

Is It Worth The Cost?

There are plenty of traps you may not initially see that could prevent you from gaining any benefit from a given product. The product that you are purchasing to help you to save money has to be able to actually do so. Also, the product must be able to pay for itself within a reasonable time with its savings.

Finally, although we have said quite a few negative things here regarding products on the market that are not be all they claim to be, it is important to note that there are plenty of great companies and services that actually do provide high-quality products and services that will lower your costs. Such as our own Green Power Factor!

For example, solar panels wouldn't be around if someone hadn't thought to use the sun's power to heat us. There also would not be a plethora of the other items we use every day, if someone hadn't thought that it was a great idea and then made it happen.

Therefore, it does make good sense to take the time to consider what the product is and what it is promising. While there are scams out there, you'll also find quite a few beneficial products that can help you save money on your home's energy needs.

Chapter 3: Getting Started By Discovering Your Biggest Needs

Now that you have an idea of how to go about considering any and all products that you may put into your home, you should be discover what needs attention first.

When you learn how much you are spending each month on your energy needs, you'll discover what you're buying the most of. For most people, this is fossil fuels; home heating oil, (which is essentially the same as automotive diesel fuel), automotive gasoline, and natural gas.



Fossil Fuels

Fossil fuels are quite expensive, and there is no doubt that in the future prices will continue to rise. However, there is more to consider. Think about that within the next sixty years, scientists believe that we will have exhausted our crude oil supplies around the world, leaving us to face the fact that there may not be any left in the future. As the supply of any product dwindles, the costs of it go up. To make matters worse, we continue to use more and more each year.

In addition to that, burning fossil fuels is not the world's healthiest fuel choice. It harms the environment when we burn it daily in our cars and to heat our homes. Two good reasons to stay away from using gas are; depleting the limited resources we have, and hurting the environment.

So, what does this mean? It means that now is the time to look at how you can save gas costs within your home. The prices are going to continue to rise. Yet this may not mean that you have to keep losing a great deal of money. There are plenty of ways to save on fossil fuel, as you will see. If it is your biggest fuel usage in your home, this is where you must start.

Others To Think About

Of course, fossil fuel is not the only type of fuel that you use in your home. Electricity can be big money-saver if you learn to use it wisely. All you need to do is to discover where you use these fuel sources, and how you can use less of them.

What Do I Do Now?

Once you have discovered what your fuel costs are and where your largest potential money saver is, you can begin to look for answers to your specific needs in energy savings. But, there are some other things to think about too.

Making the big changes can be costly. Therefore, you will want to do all of our little changes first so that you can go back later and make larger ones with the funds that you save. Here's what we mean.

If you take the time to install some added insulation in your home, you will begin to reap the benefits of needing less fuel to cool or to heat your home. Now, take this savings and consider stockpiling it, so to speak. When you can, down the road consider solar panels for your roof so that you can begin using literally free power instead.

There is no doubt that some changes are going to be costly, but if you can find them beneficial in the long run, they may be well worth it.

Chapter 4: Start Small For Big Savings

Throughout the next chapters in our guide, you will find many different tips and tricks to help you to save money on your home's energy needs. But, as we mentioned, it is smart to start small and work up to larger changes in your home. That does not mean that you cannot do both, but we will begin talking about some of the small, inexpensive ways that you can begin to see energy-efficiency in your home.

In the next pages, you'll discover some simple things you can do to get started at saving your hard-earned money.

Insulate Your Water Heater

There are several things that you can improve with your water heater to achieve energy savings. First off, do you realize that you are heating water to a certain temperature for your shower or your washing machine, only to bring that temperature down by mixing it with cold water to



make it usable? Most people can't use straight hot water, and that's where savings may be. Lower the hot water temperature to the lowest comfortable setting for your needs.

If you have an energy-efficient hot water heater, you can save a great deal of money just not heating the water as hot as you normally would. Most hot water heaters have dials that you can use to control the temperature. You can lower it just a bit or a good amount, just do not drop it below 120°F, as this is an unsafe level for bacteria and sanitation reasons. This is especially helpful if you have an electric hot water heater.

Another thing to consider doing is to install a timer on your water heater. What is the sense of warming water over and over during the day if you are not home? Have the water heater timer kick on an hour or so before you come home from work, so that hot water is ready and waiting for you. Even better, is making the timer keeps the heater off during the night when you know you won't be using it.

One of the biggest benefits you can make to your water heater is to have it insulated. Most of the time, your water heater will already be insulated, you just need to take it to the next step. By adding insulation around the outside of your water heater (like a jacket), you are keeping the heat inside the water heater, reducing the need for the heater to turn on. This especially effective if the water heater is in the basement or anywhere that is not heated.

There are two solutions here. First, you can purchase hot water heater insulation kits that are easy put on. They fit snugly over it like a jacket, and take just minutes to install.

Another option is to consider making your own with strips of insulation cut the size of the circumference of the water heater. Use duct tape to keep it in place. Just be careful not to cover the areas where gas, piping, or ventilation ports are, otherwise the water heater will not function properly. You can find DIY videos on the internet to help you do a good job.

Your Piping

The next big (and easy) energy-saving solution to consider, is to insulate your home's piping. Piping carries hot water to and from the various faucets in your home. The route that it takes is important. In addition, it is important to insure that while the hot water is traveling to its destination, it stays as hot as possible. If not, you will be tempted to just up the temperature on your hot water tank. All you need to do is to insulate the pipes to insure that the water temperature does not drop when traveling from the hot water heater to the actual place where you will use it.

This can be especially beneficial to those that have piping that runs through areas that are not heated, such as the basement or even outside. The temperature of those pipes can become very cold, especially in winter months, drastically lowering the temperature of the hot water you need inside the pipes. To fix this, just install insulation for your hot water pipes. Pre-made foam pipe insulation is readily available and easy to use. Just cut down one side of the insulation with a sharp knife and insert it over the top of the piping. Make sure to measure for a snug fit. Snap it onto the piping. When you come to a corner, joint or other angle, all you need to do is to bend the foam tube to form-fit over the piping. Then, just use duct tape to cover any of the joints and slits you have made to make it fit.

It also pays to insulate your cold pipes as well. These pipes often sweat condensation, and drip onto the other hot pipes, lowering the temperature in them. In addition, insulating them can help to protect them from freezing and possibly breaking during winter months.



Your Furnace

Your furnace is probably one of the largest consumers of energy in your home. One of the simplest yet most effective methods to keeping your furnace running efficiently is to just change the filters often. Both furnaces and central air-conditioners have filters that clean the air that passes through them. When they get clogged with dust, the unit has to work harder. The harder it works, the more energy it needs. In fact, if they are overly clogged, you can cause your entire unit to become overheated and then cause major problems that could be easily prevented by just changing the dirty filter. You should check your furnace and air-conditioning filters each month (obviously, during their usage seasons).

There are two basic types of filters you can use. The first is the standard disposable type and are very inexpensive. Many people replace these each month just to make it easier on themselves, instead of having to bother with checking them.

The other type is a more expensive allergen and small particle filter. You may not want to replace it each month. Hold it up to the light to see if light can make it through. If not, then it is time to replace them, likely once every three months or so.

Your furnace may also have a self-charging electrostatic filter, check the manual to see if this is the case. These filters still need your attention at least once a month. With these, you will want to clean them by rinsing them from the clean side. These usually need to be replaced once every few years. You must also get your furnace checked and cleaned every year. This is important for safety reasons, and to improve its overall efficiency.

Ceiling Fans

Another way you can save some money is with ceiling fans. Many homes have these throughout. If you don't, consider adding them. They are not too costly, and can save a great deal of money if they are used right.

In the summer, use your ceiling fan in a counterclockwise direction, moving air downwards. Moving air feels cooler and so you won't use your air-conditioning as much, saving money because a ceiling fan uses much less energy than air-conditioning.

In the winter, have them spin clockwise at their lowest setting, to push the hot air that rises to the ceiling down into the main area of your home. At the lowest setting, it will not cause a breeze but will help relieve the burden on the furnace during the winter months.

Chapter 5: Your Window Savings

Windows can cost you a great deal of money when it comes to energy. The fact is that most older windows allow air to pass through them easily, which is a major waste of your heating or cooling dollars. Even as much 35 percent!

Should You Replace?

There are several things you can do. You want to carefully balance the pros and cons of replacing your windows. If you have older windows, it will probably be necessary to replace them. Windows should be replaced between every ten to twenty years, depending on the type of window and its insulation. It is not so much their age, though, as the way they work. Those that have only one pane of glass should certainly be replaced, if you can. Of course, if there are cracks, breaks and other areas where the window is compromised, these must be replaced.

When it comes to replacing windows, it is not necessary to get the most expensive ones available; but since your windows have such a large impact on the energy that you use every day, you clearly need to get the best quality, most energy-efficient windows that you can.



The cost of replacing windows is large, yet the facts are they can save you a great deal of money. Your circumstances may delay your replacing windows, but in the meantime, consider these clever window-optimization tips to save money!

The Candle Check

We can't always feel or see a draft caused by your window. To help you to discover if there is air coming through any area of your windows, use the candle check.

- Take a candle to your windows. Do this on a windy day where the trees are moving. Obviously, be careful not to set the drapes on fire!
- Run the candle along the edges and the panes. Do this slowly so you won't move the candle fire any more than necessary. Notice where the candle moves. If there is movement from an area, then this is an immediate problem that needs to be addressed.
- In places where you see movement, repair this damage right away. You are literally throwing money out the window!

Once you know where the problem areas actually are, you can remedy them. If you need to replace caulking around the interior or the exterior of your home's windows, you should remove the window pane and completely clean off any old caulk first. A clean layer will insure a snug fit for the new application.

Consider the weather-stripping as well. You can purchase self-stick foam as well as rolled-up rubber weather stripping that can be added to virtually any window that's simple to apply and can *instantly* save you a lot of money on your energy bill.

The Winter Plan

Let's say that you have an older window problem in your home but cannot currently replace your existing windows. You know that during the winter months heat is escaping, what can you do? One effective solution that many people turn to is using thin, clean plastic films to place over the window. These really do a lot of good when applied correctly.

Buy these inexpensive (usually just a few dollars) film kits for the windows in your home. You can get them in any hardware or home improvement store. Follow the directions on the package carefully, but essentially you'll apply double-sided sticky tape around the perimeter, and then stretch the film tightly over the window. Lastly, use a blow dryer to remove any wrinkles and make the plastic sheeting tight as a drum. Do it right and you won't even know it's there! You'll find plenty of good DIY videos on the internet to help you with this. It's an excellent solution for those that cannot replace drafty windows in their home right away.

Window Decoration Tips

What most of us do not realize is that our windows can allow a lot of air to escape, especially larger ones. The way that you decorate your windows can be a good way to keep heat in.

The more layers of protection on a window, the more air will stay out. Make sure your blinds are lying flat and that they cover the entire window. Also, your shades should be pulled all the way down.

Finally, decorate your windows with drapes and curtains that are lined. These are a bit more expensive than unlined drapes, but they provide a great deal of protection. A heavy drape covering the window can save energy costs all winter long.



Chapter 6: The Fireplace Advantage

When most of us think about a fireplace, we think about a warm fire blazing on a cold winter night. If that is the case, then you should take into consideration how the fireplace can affect your home's energy usage and cost effectiveness.

A fireplace can be a blessing. If you use it correctly, it can generate a good deal of heat to use throughout your home during those cold winter months. Since wood is a renewable energy source, it is not hard to find, not overly costly and certainly doesn't hurt the environment.

Yet, there are issues with fireplaces you must consider. You don't want your hard earned money rising up through that chimney!

It's Drawing Away Your Heat

One of the largest problems with a fireplace in a home is that it can actually draw the heat inside a home up through the chimney and out the house. This is not what you want. You will lose a lot of energy quickly. However, short of giving up your fireplace altogether for a lower fuel bill, you can take steps to still use it and save money with it.

First, determine if you actually use the fireplace. Many people like the idea of having it there but never actually use it. If it is there for decoration, then seal it. You can have your fireplace sealed off at the top. But you must have some ventilation into this area. If you don't, condensation will form in your chimney, causing mold and other problems. Once the fireplace is sealed, have the chimney insulated as well. Adding a layer of insulation there is an important factor in keeping the home warm. Have all this done by a professional.

If you want to start using the fireplace again, remember to have that insulation removed, and also the seal at the chimney top. Otherwise, you can easily set fire to your home.

Other Fireplace Tips

If you do use your fireplace, make sure that you have a damper. This will help to keep the heat in when there's no actual fire burning, while still allowing the necessary ventilation. Make sure that you use it correctly. There are good videos about best-practices for fireplaces on YouTube.

Of course, you should have your fireplace checked out every year. Doing so will make sure that the fireplace is working correctly and that there is no build-up of soot or carbon in the actual chimney. If there is, it must be removed. This will insure that the fireplace is keeping you safe while keeping you warm!

If you do not have any, add glass doors to the front of your fireplace. As the fire dies down after you have used it, the glass doors will help to keep the heat from being lost altogether. Keep ash and debris out of the fireplace as much as possible too. If these build up in your fireplace, it can cause problems with its ability to generate heat.

Yet another option to consider is the heater insert. This is the ideal choice for those that are looking for a way to get the most benefit from their fireplace. In this case, you will need a well-designed, efficient model. It should come with blowers as well as thermostats.

For your insert, consider one that is both tube and glass. The glass doors of your fireplace will actually keep you from losing too much heat. In addition, though, when you add on a tube and blower to your fireplace, you can keep the glass doors closed and force the heat out into the home, allowing for better and more energy-efficient use of the heat. In other words, you get more from the fire.



Simply place them into your fireplace and they will allow you to increase your heating efficiency because it will help to maintain the heat there. You do not lose the effect of the fireplace that we all love so much either.

Don't give up your fireplace; just make sure that you get the most from it without losing from it.

Chapter 7: Energy Saving Habits To Develop

There are small, simple things to incorporate into your everyday life to see improvements in your energy usage. In fact, all you really need to do is to get yourself into some good habits, and within a month you will notice changes.

While switching one light off isn't going to make a huge deal on your bill, combining this with other habits will show some real signs of improvement; and quickly, too. To help you, here are some of the best habits that you can form to gain great energy-saving benefits.

Your Shower and Bathtub

You probably do not realize how this affects your energy bills, but it certainly does. Unless you take a very long shower, a shower is much more effective and uses less hot water than a bath.

To make it even a better option, install a water-saving shower head. These are inexpensive and will reduce the amount of water that comes through. You simply use less water and thereby reap the benefits of lower consumption. Because you do not use as much hot water, you are reducing the workload of your hot water heater and saving energy.

Appliance Use

Next, take a look at your appliance usage. There are certain appliances that generate heat more than others. The washer-dryer and your oven produce the most heat.

In the summer, use them during the cooler parts of the day such as the morning and in the evening, to keep your air-conditioning from having to kick on. If it is already hot and you are heating the air with them, the air-conditioning units have to work harder, costing you more.

During the winter, doing this will help to keep your home warmer in the coldest times of the day, therefore keeping your furnace from having to work as hard.

Washing Clothing

When washing clothing, there are some great practices for energy savings to use here too. First off, only run full loads of laundry. If you run just a few items, you are simply wasting energy. In addition, make sure you take the weight of the clothes into consideration. Keeping like weights together can help to reduce the amount of time that is needed in the dryer. For example, if you wash towels together, which require longer periods of time to dry, you can save energy when you wash light-weight t-shirts.

Another tool that has been put onto the market is cold-water detergent for your washer. These chemicals claim to work well in cold water. Without using hot water, you lessen the demand on your hot water heater, and therefore lower your costs significantly.

Keep the units working at their best. That means cleaning out the dryer filter. There are two things to consider here. First, clean the interior filter after every load. Second, clean the tubing that runs from the dryer to the wall also, it should be cleaned out every six months.



Cooktops

Cooktops that are electric can be a problem for saving energy, as they pull quite a bit of electricity. To help to keep this to a minimum, make sure that you select the right size burner for the pot that you are using.

Another trick with these units is to insure that the bottom of your pan is flat. Those that are rounded have less surface area actually touching the cook top, causing it to take longer to heat and therefore requiring more energy use for the same meal.

Keep the surfaces cleaned and wiped down after each use. If you have a gas stove, keep the carbon buildup around the actual burner holes clean. They will work better and use less gas in the process, lowering your costs.

Lights

Throughout your home you will find various lights on and off at all times of the day, right? Make it a habit to turn them off each time you leave a room. In addition, you will want to make sure that the smallest comfortable light is in use at all times, not necessarily the light that is going to fill the room.

In addition, as you replace bulbs as they burn out, begin replacing them with compact fluorescent bulbs. Although they will cost more, they will benefit you. Compact fluorescent bulbs put out as much as four times as many lumens per watt. So, if you purchase a 25 watt fluorescent bulb, you are getting as much light as if you were using a 100 watt incandescent bulb. Therefore, you use less electricity and save money.

In addition, these light bulbs will last almost ten times as long as a standard light bulb. You probably won't have to replace them for years! This is definitely worth the investment. Do this slowly as the others die out so it to be less of a cost shock.

Exhaust

Your home needs exhaust systems in it. But some older homes may not have them. This is one system you will want to consider adding, if that is the case. You will benefit from an exhaust fan in your kitchen area to pull out the heat and humidity from the area as you are cooking. In the summer, it is imperative to use your range-hood exhaust fan in the kitchen, to keep your air-conditioning working less.

The bathroom is another area of your home for an exhaust system. Here, the humidity can be pulled out before causing the air-conditioning to kick on.

But be careful. Do not use these systems as often during the winter months; they can pull the heat out causing your furnace to work harder.

Window Tips

If you want to use your windows during the summer months to bring in air, do so! This is a great way to bring in free, fresh air to your home. But do not turn off the air-conditioning and open the windows. Instead, open them once the effects of the air-conditioning have worn off and the home has started to heat up. This way you don't lose the benefits of all the work your air-conditioning has already done.

In addition, during winter months, keeping the drapes and blinds closed can significantly lower the energy need for heat throughout your home, especially during dark hours and colder periods. But, you can benefit from opening up those drapes when the sun is shining, allowing the home to get some free heat from the sun.



During the night, the drapes will act as insulation for the windows, keeping heat in during the winter and cool air in during the summer.

In summer months, if there is a breeze or if there is a temperature drop to a comfortable level, ease off the air-conditioning and let the cool night air help cool down the home.

Chapter 8: The Thermostat

Your thermostat is another aspect of your home that needs careful consideration. What temperature you set it at is really a personal comfort choice. Yet, more and more, people are discovering cost savings in using the right thermostat to attain the right level of comfort.

For example, during the summer months, do you have the air-conditioning set low enough that it feels comfortable to wear a long sleeve shirt or pants? Do you grab for a blanket? This is a signal that perhaps you could raise the thermostat and still be quite comfortable. In the winter, you shouldn't want to put the fan on or want to wear shorts. You can see how just lowering the heat a bit can save you a good deal of money. Yet, there is no magic number here.

The Right Temperature

Finding and setting your home at the right temperature is the first goal. It is said that during the winter, setting the heat at 68° F is the best starting point. In the summer months, your goal is 76° F. Every time that you can either move this number up or down for cost savings; you will save a good amount of money per two-degree movement.

Therefore, if you are in the winter months and you have your thermostat set at 70° F normally, if you can still feel comfortable by lowering it to 68° F, you will be able to save a good deal of money.

In the summer, keep the air-conditioning set at just 76° F and turn on a fan. Doing this will pull out all of the humidity in the air and keep the temperature at a comfortable level.

As the air in the home cools down; it does not take as much energy to keep it at that level. But, if you raise the temperature and the home heats up, the air-conditioning needs to work twice as hard to get it back down. This causes quite a bit of money to be lost in the turn. Pick and stay at the right temperature in the home and you'll benefit from energy savings.

Programming Help

One thing that you really do want to take into consideration is that of programmable thermostats. These are not too expensive. They are probably just a few dollars more than a standard model and make a large difference.

What can they do? First off, they still work the same as other thermostats do. When the home's temperature changes so much so that there is a need to call to the air-conditioning unit or the furnace to balance it out, they do so. Yet, they have additional features as well.

For example, you can program them to turn on before you come home from work. Let's say that you are at work most of the day and the kids are at school. There is no one in the home. Why keep the heat on full blast? If the period of time is longer than a couple of hours, these programmable thermostats are a blessing.

You simply set the time in which you will be home (usually about an hour or so before so) and at that time they will kick on. Better models will be able to be programmed for various days of the week too (such as Saturdays when you may be home all day.)

When the time comes, they turn on, and get the home to the right temperature. You do not notice any difference until you notice your heating or cooling bills have dropped.



You can also program them for different temperatures at night, when you are sleeping. By raising the temperature in your home during the summer a couple of degrees, or lowering it a couple of degrees in the winter, you can save a great deal of money.

If you are looking to save money in energy costs, installing a programmable thermostat is one of the best moves for you to make. It is simple to install and easy to use.

Chapter 9: Energy Star: Understanding What It is

Have you heard of Energy Star? If you are purchasing any new unit for your home, from a dishwasher or refrigerator to the hot water tank and the furnace, you'll want to get an Energy Star certified model.

The Environmental Protection Agency and the US Department of Energy is the sponsor of Energy Star programs. Their goal is to help each person to save money as well as to help us protect the environment by using energy-efficient products and energy-benefiting practices.

The Energy Star program has been able to help people to save quite a bit of money. The EPA claims that in 2005, Americans saved somewhere around twelve billion dollars by using Energy Star products.

But it does not stop there. They also claim that by using these products, Energy Star has helped to avoid greenhouse gas emissions that would be about the same as that of 23 million cars in 2005 alone. The program is in place to allow people to save money, but how much money can you actually save by using Energy Star products? The EPA estimates that in most cases, by choosing an Energy Star product, you can save about a third or more of your energy bill. And you help to cut down on greenhouse emissions by about a third as well.

When Purchasing New Appliances

If you are purchasing a new appliance, you can save a good deal of money with a product that is Energy Star approved. Most of us have seen the yellow tags on appliances to show us just what the benefits to our energy bill will be. In order for an appliance to get this tag, it must pass some comprehensive tests to insure that it is efficient enough to be considered an Energy Star product.

In A Home

Something that has been just becoming available is the ability to tap into Energy Star benefits through your actual new home purchase. As you will see in later chapters, you can now purchase homes that are Energy Star efficient. If you do this, you will save a great deal of money.

Other Benefits

You can also go to the EPA's website to see tools that will help you to design and fix problems related to energy needs as well. You can find how to lower your energy bills while still providing a great deal of comfort to you and to your family.



Chapter 10: Outside The Home: Landscaping For Energy Benefits

Have you thought about the outside of your home for energy-efficiency?

Landscaping a home can be done in such a way as to save energy. In fact, you can save about 25% of your household energy consumption with a landscaping design that incorporates just the right placement of trees.

Good landscaping can do several things:

- It can help you to lower your heating and cooling costs dramatically.
- It can help you to protect your home from wind damage and sun fading your paint.
- It can help to lower the costs related to the amount of water, fuel and even the number of pest control products you need to use.
- It can help you with less noise and even improve the air quality in your home.

All this from energy-efficient landscaping; and it results with a great looking yard, too.

What You Need To Do

So, how can you get this done correctly? The Department of Energy in the US says that if you place just three trees surrounding your home, you can save yourself anywhere from \$100 to \$250 a year on your energy bills.

Winter

In the wintertime, the right placement of a tree can keep out some of the cold, but will still allow the warm sunshine of the winter day to stream in.

If you know what wind chill is, you can see another benefit of trees. Wind chill is the way that the wind cools things down. In the winter months, the wind chill is a secondary temperature. While the actual temperature can be 20° F, wind chill can knock it down considerably, making it feel as if it is much colder than it really is.

When you add a tree, shrubs or other structures outside of your home, the wind is stopped and cannot hit the home, therefore reducing the wind chill factor for your home.

If you install what are called windbreaks (or any item that can stop the wind before it hits the home) you can reap benefits of up to 40% less fuel consumption in heating. If you live in a very windy area, you can lose even more, up to one third of your winter fuel costs this way.

Summer

In the summertime, you will reap the rewards of cooler air. This happens due to evapotranspiration (the process of the tree moving and letting off water vapor), and shading from the tree. It can lower the temperature up to nine degrees in this way.

Another key point is that in a shaded area underneath a large tree, the temperature can be as much as 25° F cooler than just above a layer of blacktop on your street.

All of this equals about 15% to up to 50% less need for air-conditioning in the summer months. This can keep your costs down considerably. All of this just from a beautiful-looking tree!

- Make sure that water drainage is draining away from your home with a natural landscape that moves away from the home. This will allow for better protection of your foundation.
- When it comes to installing a new roof, look for Energy Star choices. This is the perfect time to consider solar panels, and what they can do to lower your electricity consumption.



Chapter 11: Alternative Sources Of Fuel

Are you looking for a new way to provide energy to your home? In today's world, the race is on for the next fuel-efficient energy source.

One thing that you are likely to do is to keep on eye out for what is new when you are purchasing something new. For example, let us say that you are looking to purchase a new hot water tank. There are plenty of hot water tanks that work off of gas or even electricity. But, this would be a great time to consider a solar powered one as well.

There are many appliances being made each year that offer a new and improved type of fuel source. You will find these are more expensive, in many cases, than a standard tool. Yet that does not mean they should not be considered.

Alternative Options

There are many different types of alternative fuel options on the market. For example, one of the most widely known and fast becoming popular type of alternative is solar. This type of fuel comes from the sun, a renewable source that is also free to use.

There are plenty of solar-powered products available from lighting fixtures for outdoors to solar-powered hot water tanks and much more. These all work in the same way. They take in the solar rays from the sun during the daylight hours and store them so when you call for energy, you can easily access it any time it is needed.

While they may cost more initially, just consider that they really cost nothing to use. The better quality products are even reliable in areas where there is not a lot of sunshine all day either.

Yet, beyond solar power, there are other fuel sources that are coming about. There are cars and other appliances (including your furnace) that could soon be run on corn power. Corn, yes the stuff you eat! This too is another renewable source of fuel.

In some areas, restaurants are getting their power from fuel that is directly related to waste. By burning waste, in the right type of facility of course, there is the ability use waste as fuel.

Still, consider water and wind power. These are natural and completely clean fuel sources that are likely to be used in our products for our homes for many years to come.

In fact, some homes are being heated through a combination of these methods. For example, an energy-efficient home can have water heated through solar power. This water is then circulated throughout the home, from the floor-boards up, to generate warmth throughout the home. It moves back to the solar area in a large loop to start all over again.

If you are considering the purchase of a new product or a new appliance, why not consider what these types of products can do for you? While they may not be readily available everywhere, they are definitely going to be. If you are looking for an upgrade to a more energy-efficient fuel source, you will find excellent products and companies installing them throughout the web. Take some time to research. In fact, you will see some of these products at your local department store too.

Chapter 12: The Energy-Efficient New Home

The Energy Star program that we talked about earlier also provides for Energy Star new homes. If you have a home that has been certified as an Energy Star-efficient home, then you are well on your way to saving a great deal of money.



These homes are becoming more and more popular choices. That's because people realize that the way that their home is laid out, designed and landscaped all plays a large role in how costly it will be to power and run that home.

What They Can Offer

There are plenty of benefits that can come from an Energy Star home. Each home has to abide by the guidelines set forth, but the type of benefits that they offer can still differ from one home to the next.

You may find benefits such as:

- Better insulation in the home's structure.
- The construction has been done in such a way as to make it tighter and neatly fitting.
- The duct work is tight and better for energy benefit.
- The windows on Energy Star homes are usually a large plus as they are generally very high-performance because they allow very little energy to get in or out.
- The heating and air-conditioning units are Energy Star-approved for energy-efficiency.
- The appliances in the home are all Energy Star-approved appliances.
- Even the home's landscaping can help it to qualify for this certification.

Energy Star products are designed to be both energy-efficient and user friendly. In fact, there is really no reason not to take full advantage of products like this.

Conclusion

Is your home energy-efficient? Have you learned any ways that you can better your home through this e-book? You may have the feeling that you just want to do everything in this book and all of a sudden, reap the rewards.

But in that case it is a costly process. Why not tackle one project at a time, finding and improving the efficiency of your home gradually? There are some small things that will take only a few minutes to improve, and there are those projects that can take much longer. How can you find the right ones to do?

Remember that we talked about which were your biggest energy draws. Use that as a starting point. If winter is on its way, it pays to pay attention to the windows in your home and the furnace. If summer is quickly moving in, think about planting a few trees to save you countless of dollars over their lifetime.

The bottom line is that fuel costs continue to rise. As much as we like to complain about this, the best thing for us to do is to find ways to use as little fuel as possible. When we do that, we can find many benefits overall in the way that our home looks and the way that it functions.

Making your home energy-efficient is a process and one that is definitely worth it every step of the way. Start now and keep working at it. Keep your money in your pocket instead of having it leak out of your home! ■

