
**This booklet was written by Dennis Sheppard, a Florida state certified residential appraiser and licensed real estate broker. With over 40 years in the real estate business Mr. Sheppard has picked up lots of hints on how to save not only on utilities but on other household items as well. He was assisted by his daughter Sharon Migala, AIA, a Florida licensed architect who specializes in sustainable architecture. Follow the hints in this booklet and save upwards of $2,000 a year!**

# More than 60 ways

When we were kids our parents would yell at us to shut the refrigerator door or close the door when we came in and went out. Obviously they wanted to save money on the electric bill. The old saying holds true today “a penny saved is a penny earned.”

Researchers say the average family spends about $6,500.00 a year on electricity, gas, water and fuel. With the tips in this booklet you can cut that bill by up to $2,000.00

**Conserving energy:**

In our normal day to day lives we don’t think about saving electricity. It’s only when the two, three or four hundred dollar electricity bill shows up at the end of the month that we say we’ve got to do something about this expense.

Here are some little things you can do to reduce those costs. As your parents said, “turn out the lights, shut the refrigerator door, and get out of the shower.”

The key is to eliminate waste. It is the compiling of small changes that when added together create large savings. For instance, when you go into a room turn on the light, and when you leave turn it off. If you are going to be out of that room more than a few minutes it is more cost effective to turn it off.

Major changes to your lifestyle are not necessary. It is about becoming more aware of your every day items like water, electricity and fuel.

# Taking the first step

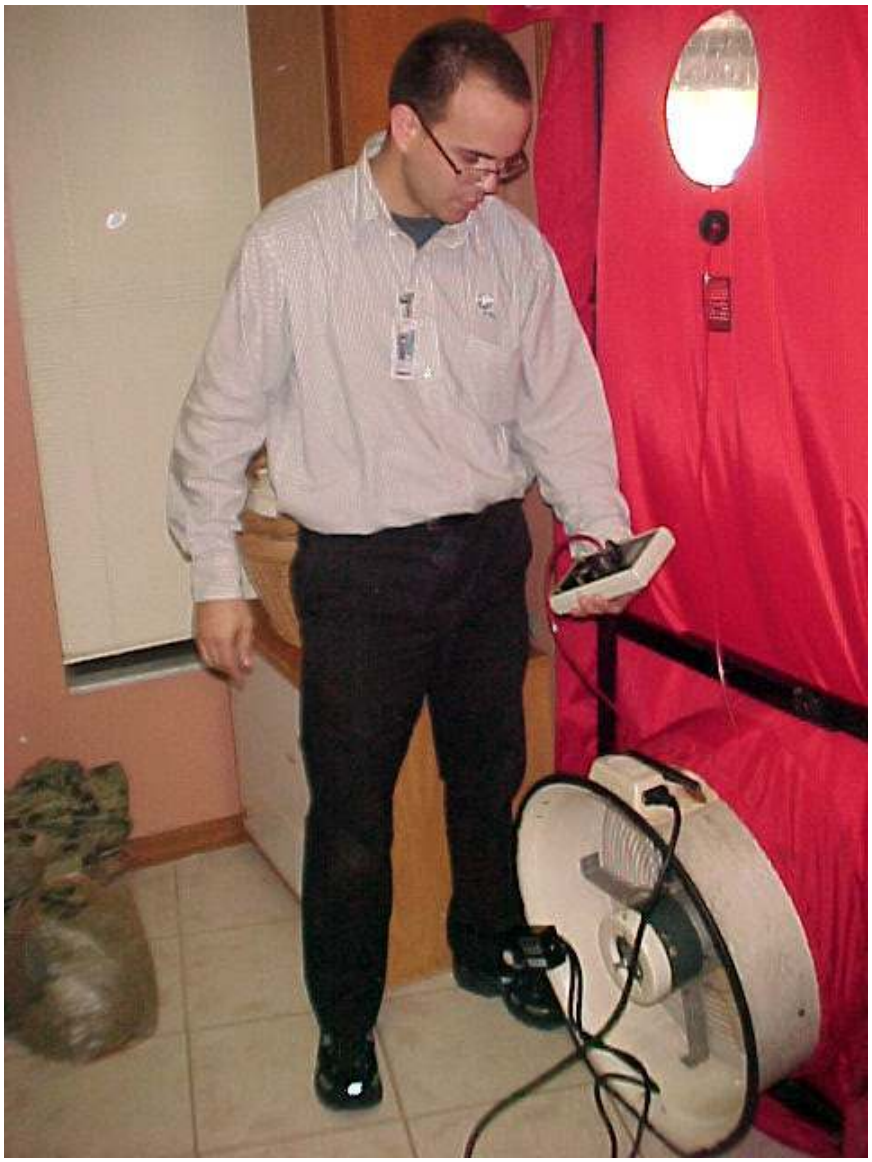
**Do it now!** Pull out last month's electric bill. Note the phone number for customer service. Call that number and tell them you want the free home inspection. Just about all electric companies in the country have a free energy audit. They will send someone out to inspect and give you a **free** report on ways you can save electricity.

One of the largest wasters of electricity in our homes is in the design of our air conditioning layouts. Ducts leak. It is inevitable. We can reduce the amount of leakage and keep the waste to a minimum but if our ducts run through a hot attic with the insulation between our cool home and our cool ducts then any cold air, that we have paid big bucks to enjoy is wastefully leaking into our hot attic. To reduce the amount of cold air that leaks you can have the electric company come out and do a leaky duct test; usually for a small charge of $30 or so. Yes, this will help. If you really want to make a difference, consider making the attic space as part of the conditioned envelope by placing your insulation at the roof deck level. Speak with someone knowledgeable about the placement of insulation and enclosing your attic space as part of the conditioned envelope for more information on this cost saving tip. Not all architects or mechanical engineers are familiar with this practice so ask first if they are familiar with this practice before getting advice. It is particularly useful in hot humid climates where conditioned air is a major commodity.

If you start your savings endeavor with the inspection, you will also see the inspector check your window seals, door seals, filters, coils and reflectors to see if they need cleaning. A little duct tape, some door strips and you can begin to realize savings on your electric bill. This inspection also gives you the knowledge of what items in the house are using the most power and how this can be reduced. In my case the biggest power user is the air-conditioner. Having a programmable thermostat brings large savings. I can save even more by raising the temperature whenever I go out. Also important is insulation. We have a rating of 19, which is very good. If you have a rating of 10 or 12 you will want to add insulation. Also important is the

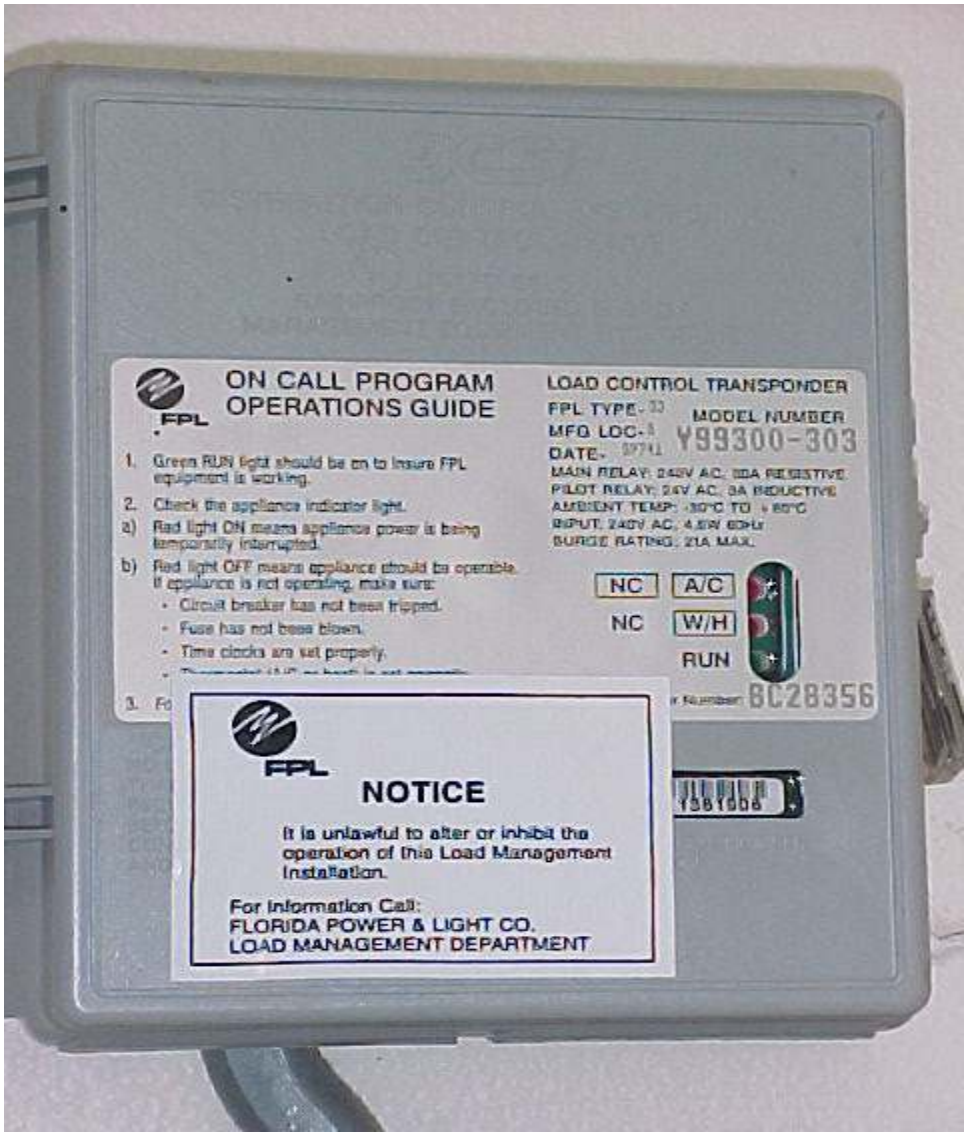
age of the a/c unit. If it's over 15 years old, newer units will bring you greater efficiency.

Hot water, the garage refrigerator, pool pump, and house appliances all use electricity. How to save on these and other tips will be covered in the following pages.



**Power company inspector checks how well A/C units works by pressurizing the house.**

Most electrical companies offer a peak demand system. Our electric company pays us $6.00 a month to be able to shut off our power for a fraction of a second during peak demand. We've had the system for years and have never noticed when the power goes off because it is for a fraction of a second. It is not even enough to set off the various devices we have in the house that have to be reset when we lose power. We have had our system for six years and have received $772.00 in reductions during that time. That's closer to $10.70 a month instead of the $6.00 a month they promised when we installed the system.




**Peak demand box saves more than $72.00 a year**

# Light bulbs

**Little things can make a difference**


**Low wattage Universal light bulbs**

## Compact fluorescent lamps

There are a number of different types of the new low energy light bulbs. We are going to talk about five different types. The three U

bulb pictured above produces the same lumens or visible light of a 75 watt bulb while only using the energy of a 20 watt bulb. You've probably seen them in the hardware, discount and grocery stores selling for $4.00 to $10.00. They last at least 6,000 hour or about six times longer than your average incandescent light bulb. Some tests here in the USA show the bulb going over 10,000 hours. You can save big with these bulbs. Plus you don't need a new or special light fixture. Just take out your old incandescent bulb and screw in the new energy saving one. Simple!

The mini spiral bulb pictured here is very popular. This bulb gives off the light of a 50 watt bulb while only burning 11 watts. They come in various sizes and are

priced about the same as the spiral series above.

Do you have those Hollywood globe bulbs lined up across your mirror in your bathroom? Not only are these bulbs energy hogs but they also emit large amounts of heat (incandescent bulbs are really no

more than inefficient heaters). This heat puts an even greater load on your air conditioning (usually the greatest energy user in our homes). Thankfully, even these antiquated bulbs can be replaced with new energy efficient compact fluorescent globes.

Energy star's website is a great tool to help you understand the new energy efficient bulbs. See http://www.energystar.gov/index.cfm?C=cfls.pr_cfls_shapes for more information. To purchase these new bulbs on line go to: http://www.greenproductswarehouse.info

According to energy star "if every american home replaced just one light bulb with an energy star qualified bulb, we would save **enough energy to light more than 3 million homes for a year,** more than **$600 million in annual energy costs,** and prevent greenhouse gases equivalent to the emissions of more than **800,000 cars."** Wow!

**Reflector and par spot type**

This does not look like a low energy light bulb but it is. Just like the spiral. This bulb lights comparably to a 75 watt bulb while only

consuming 20 watts of power. In stores these bulbs might be a little more expensive but still available for under $5.00 a bulb at www.greenproductswarehouse.info. And that includes shipping. Purchasing energy saving products online is easy and at the right site, even more economical than driving out to the nearest discount store. Buying in volume can bring even more savings. For instance, at green products warehouse if you buy a dozen or more they reduce the price to a $1.00 a bulb. That makes some of these bulbs less than $2.00 each.

The new energy saving bulbs actually bring both reduced energy use and a reduction in the replacement of your bulbs. These bulbs can last 10 times longer than an incandescent, saving you time in replacement, cost in getting those new bulbs and the convenience of not having to deal with finding and changing a burnt out bulb so quickly. This is especially convenient in exterior fixtures that you may run all night for safety lighting.

**The clear dimpled spot**

This is just like the reflector bulb except it has the dimple pattern just like many of the popular regular spotlights. The only difference is it uses 60% less energy than the old type and lasts eight times longer. Not a bad deal! www.greenproductswarehouse.info even sells them for less than the old *burn a lot of electricity* type.

Fluorescent lights also last longer and burn less energy than incandescent bulbs. Congress recently passed a law that within five years incandescent bulbs will be banned. You may have heard that fluorescent lights are dangerous because they contain mercury. The amount of mercury in these bulbs is miniscule*. It is not a safety hazard*. Businesses have been using florescent lights for over 30 years. I've had them in my home since 1980. Why wait? It is worth the savings!


**Par series**

This spot type bulb will last over 10,000 hours and uses 25% of the electricity of a similar regular spot. There are also low energy compact fluorescent decorator bulbs. I am sure by now you get the idea. Go online, get the light bulbs that can bring you savings and keep $$ in your pocket! www.greenproductswarehouse.info is a great place to start.

## Timers

Put your lights on timers so that after a certain time they all go out. We use timers at our house for the outside low energy lighting, the water heater, swimming pool pump and the lawn watering system. We recently replaced our water heater with a tankless water heater. So we don't use that timer for anything at the moment. Timers are inexpensive and return their cost in less than a year. (I have one use for a timer that returns the cost of the timer in less than a month. See the refrigerator section.)


**Timer for lawn sprinkler**
**Set for 20 minutes per zone twice a week**

**This is a simple timer for turning off lights, TV or other equipment inside the house. It's perfect for Christmas lights.**

## Motion sensors

Install motion sensors for outside lights. This way when you come home or have a visitor the light goes on for only a few minutes and shuts itself off. There are motion sensors for inside too.


**Small photocells sell online for less than $10.00.**

**Return on investment is only a few months.**

## Photocells

These photocells mix well with timers. In my commercial properties I like to have the signs and outside lights come on by photocell. In this way whenever it started to get dark even in a rainstorm the lights would come on. To shut them off I used a timer, which gave me better control of my energy use. Other wise if I turned them off by photocell, which is doable, I would have to burn the lights all night. Photocells and timers can be purchased at most home supply or hardware stores.

## Low energy lights

Most people like to have their sidewalks lighted at night. We use a low level lighting set to a timer for both turning on the lights and shutting them off. If you live in a sunny climate, solar outdoor fixtures along the walkways and flowerbeds bring illumination and no additional cost to your energy bill. They come on by themselves and go off when it gets light or when they run out of power. On average they will go about eight hours on a full charge.

## Heating water

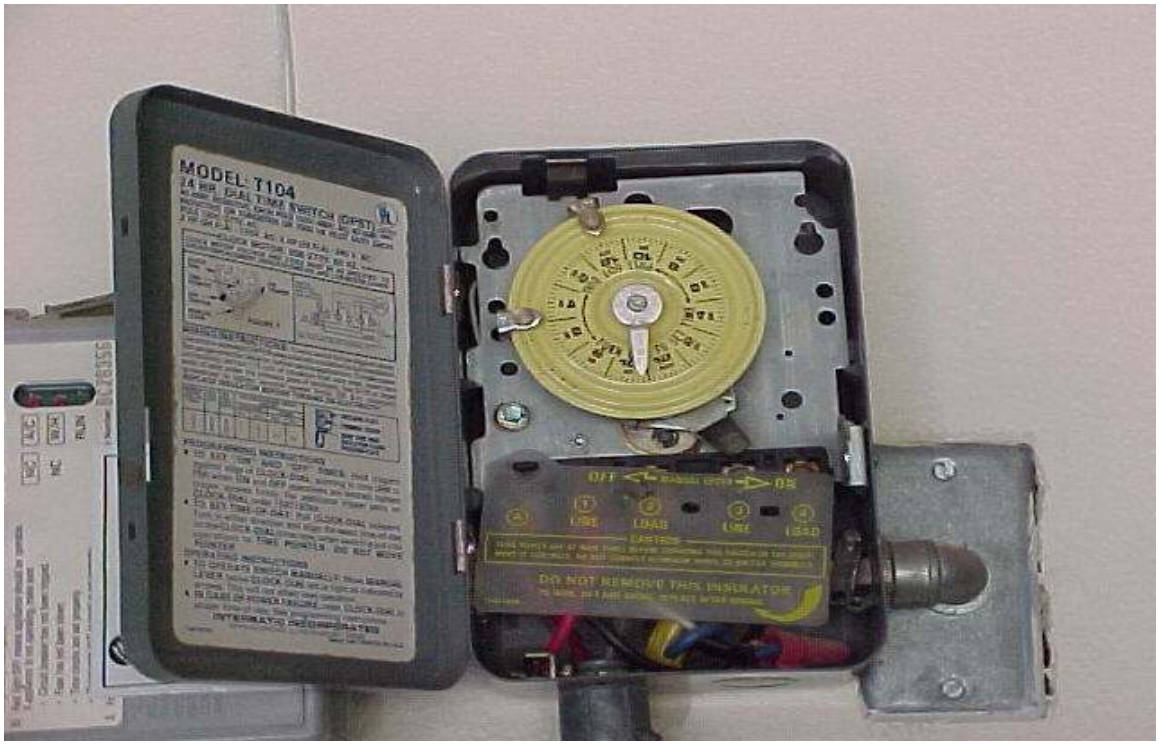
It costs a lot to heat hot water. There are a number of things you can do to reduce this cost. The quickest and cheapest is to take shorter showers. Also spend a few dollars and insulate the first six feet of the pipe going in and out of the tank.

Years ago it was recommended to insulate the entire tank. The problem was that this accelerated the exterior rusting of the tank. Now the most cost effective suggestion is to insulate the hot water side going out of the tank. You can buy insulation at most home centers and hardware stores.

Another freebie is to turn the hot water heater off at the panel when you go away for more than a few days. Most people forget this. I'd

put a note on the refrigerator to remind you. When you go away turn up the ac and turn off the water heater. Why not turn the a/c off too? If you live in a southern climate you may create a mildew and mold problem if you turn the a/c off completely. Better to set it at 82 degrees.

At our house before we installed a tankless water heater we used a timer on the water heater. For the cost of the timer it really saves. You need one with two on/off settings. They are available at your home center or hardware store.




**This is a typical water heater timer. This one is has just one set of on and off clips. You can get two more clips so it can be turned on and off twice a day**.

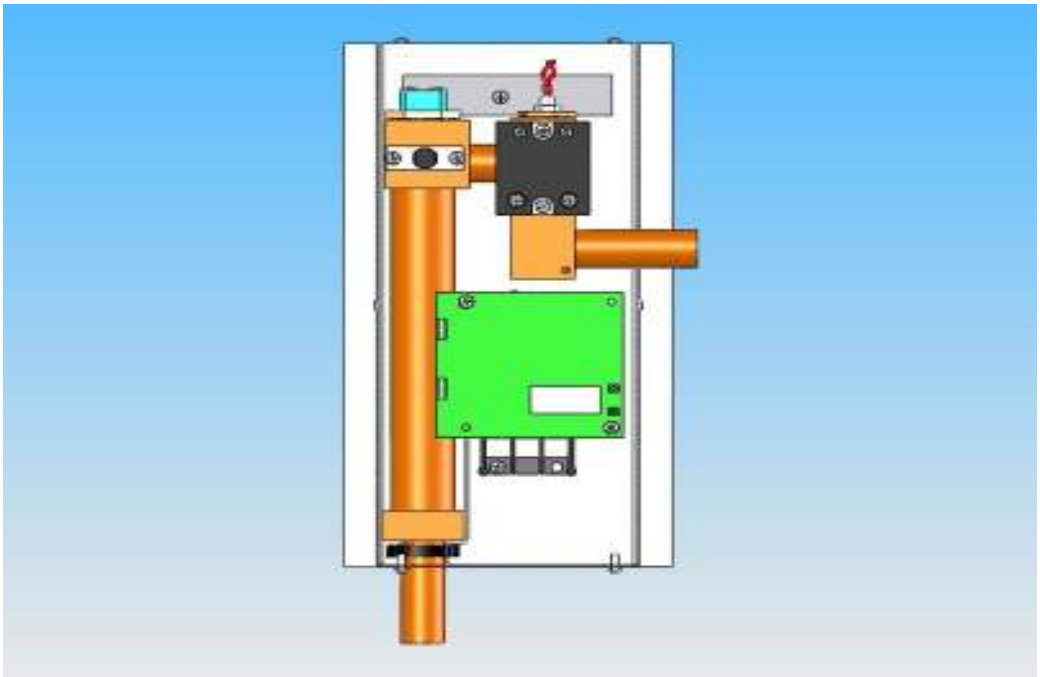
We would set our timer for a half an hour before we rise in the morning. We are both out of the house by 9:00am so that is when the timer turns off the water heater. At 5:00pm it goes back on and at 10:00pm it goes off. That is our schedule. Set yours to meet your coming and going times and hot water needs.

I know people who get in the shower and turn it on for just long enough to get wet. Then they turn it off. Lather up and turn it back on to rinse. This saves a lot of water and especially hot water. I personally like to take longer hot showers. One of life's joys is letting that hot water wake you in the morning or relax those tired muscles after a long day of work or play. You can still save a lot while taking longer showers if you go to a solar water or tankless water heater.

**Tankless water heaters**

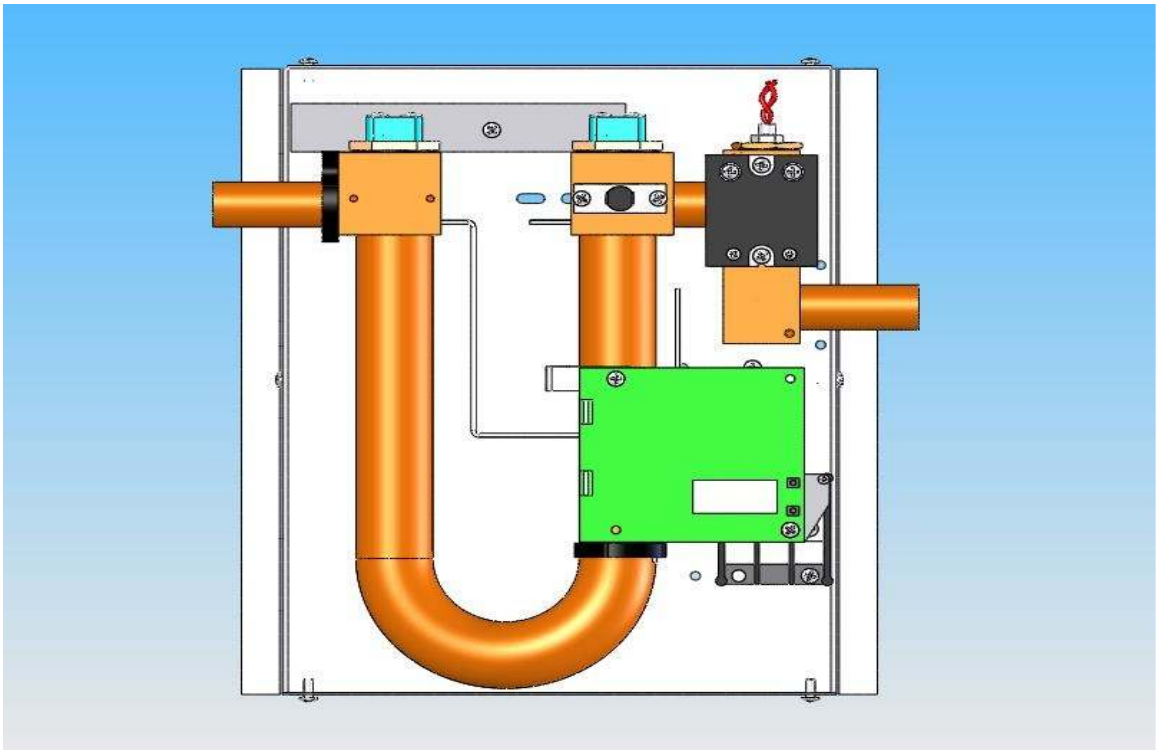
Out of the rising sun from Japan comes the latest ingenious creation…the tankless water heater. We decided to go this route as both my wife and I like to take long hot showers. Our unit gives us endless hot water when we want it but saves us about $30.00 a month because it only heats the water as it is needed. The regular water heater is constantly heating the water all day and night which costs money. The national average for a family of four is $50.00 a month. Even with a timer it is a big savings by switching to a tankless system. We also save on water, as we are not waiting as long for the water to get hot. Both gas and electric models are available. The current popular models that are heavily advertised on TV and radio are gas. The cost for a gas unit is more but the big cost difference is in installation. To install a gas unit cost upwards of $1,200.00. The electric unit is easy to install. I paid $25.00 to have ours installed. If you are not handy around the house I'd budget $150.00 to get the electric unit put in place. I prefer the electric. No pilot light burning. It's safer. It cost a lot less to buy and install. Operational costs are about the same.

There are three types of electric tankless heaters.
The first is for under the sink at your office, or for just one bathroom or one kitchen. It is also great for the boat or motor home. It gives you instant hot water and it is endless. Volume is smaller than larger units.



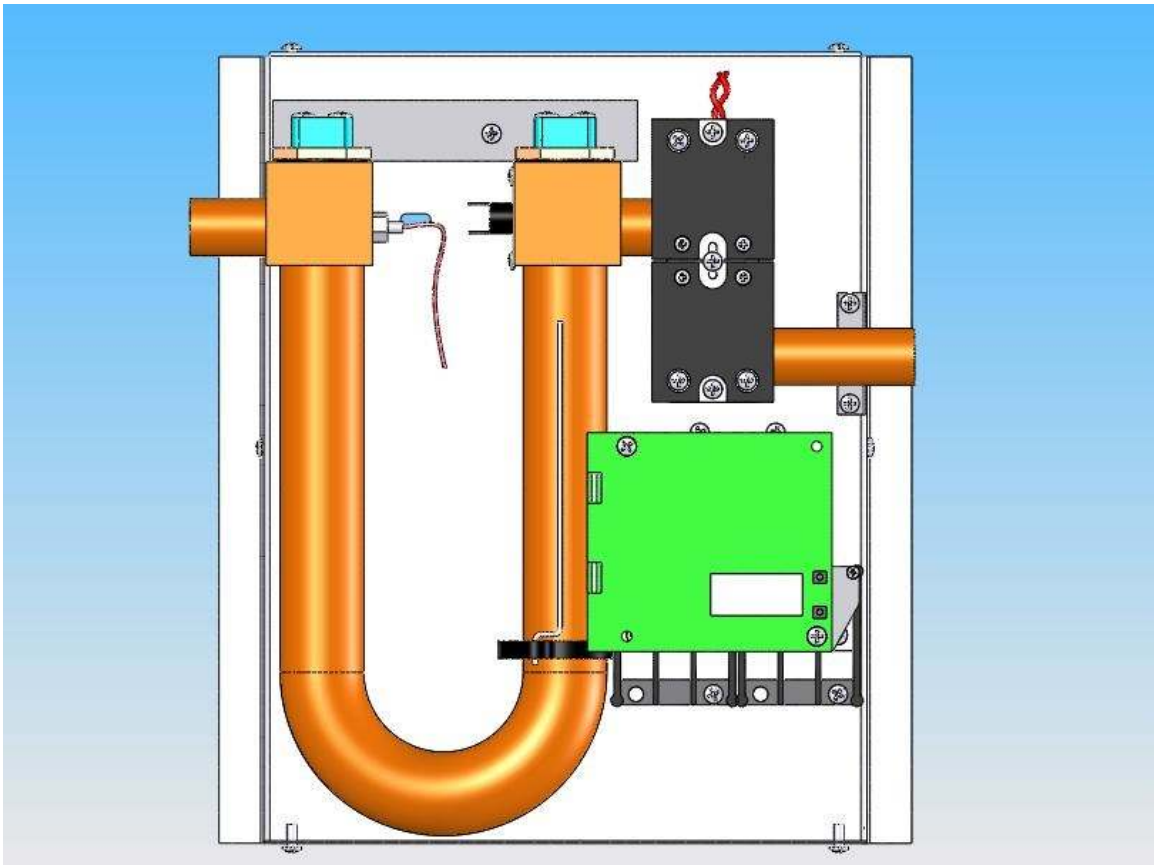
**The smaller unit has one chamber**

The second type will supply the entire home with endless hot water. This is the type we have.



**The standard unit is a two chamber**

Now if you live in cold country or you have a big hot water need like a professional laundry, restaurant, car wash etc. You will need a commercial unit. This is a dual chamber unit that will not only give you endless hot water but if you live up north with a radiator system it will heat the house as well. The difference in the units is the price. When I first looked into going tankless I looked up a popular unit being advertised heavily on TV and radio. They only made it for gas and the cost started at $1,800.00. The commercial and cold weather units were over $3,000. I don't have gas to my house so the gas unit did not appeal to me. Later when I found how much it was to install gas I knew electric was for me.



**The commercial unit and northern home unit**

My unit which I bought at www.greenproductswarehouse.info cost $799.00. And it is made in America. My handyman installed it for $25.00. For $824.00 I was reducing my electric bill by $25.00 to $30.00 a month. Anytime you can make an investment that gets you

back your money in five years it's a good investment. To get your money back in less than three years is excellent.

The single chamber unit for RV's and boats can be purchased on line for $499.00. The commercial unit cost $1,199.00 at: www.greenproductswarehouse.info. If the water temperature coming out of the ground is below 50 degrees you will need the big unit.

**This is the exterior of both the whole house and commercial unit.**

## Solar water heaters

A number of years ago we rented a house that had solar hot water. We liked it. It's better if you live in the south with plenty of sunshine and not a lot of cold water. Solar systems come in many different sizes and types. For a house you would want a pressurized system

with a 150 or more gallon tank and at least two collectors on the roof. It also needs a small pump that constantly runs the water to the roof and back to the tank. They cost between $3,000.00 and $5,000 from most companies.

Greenproductswarehouse.info sells one for $2,699.00. This is a first class stainless steel unit with 22 rods in the collectors and a 160 gallon tank. Large tanks are important because it takes time to heat by solar collectors so you need a big tank. If you are handy you can install it yourself. If not you can find a handy man in the phone book. He may take all day and charge $100.00 or more. When you figure the difference in cost from the tankless system and the cost to run the pump motor the savings is about the same. Solar heaters work best in warm sunny climates. In hurricane prone areas they can sustain a lot of damage to the collector rods in high winds.

The average solar hot water system bought on line will pay for itself in approximately eight years. Bought from a dealer it takes about ten years. The tankless system pays for it self in about three years. That's why I liked tankless the best.


**This is the system to have. Large tank with lots of collector rods.**

## Heat pumps

Heat pumps have been around for many years. They make many different types and sizes depending on need and location. They work great for pools and certain climates make sense to heat the water in your home. A heat pump for the average house from a plumbing company is $2,000 to $4,000 dollars. The whole house unit at www.greenproductswarehouse.info sells for 1,199.00 it saves approximately $300.00 a year. So return is a little over four years when you add installation.


**This is the whole house unit sold on the Internet**

A heat pump to keep your swimming pool warm is a popular application for heat pumps. A pool company will charge you $3,500 to over $10,000 depending on how big a unit you buy and how fast you want the water to heat when you first turn it on. A typical unit will take up to 48 hours when you first try to heat a 15 x 30 foot pool. The cheapest one at the discount pool store was $3,800. A heat pump that will instantly heat that pool in less than two hours will cost closer to $25,000. www.greenproductswarehouse.info has a unit that will heat the water in about 48 hours when first turned on that sells for $2,499.00. Once the unit is in use you need only to run them a few

hours each day to keep the pool warm as long as you have a thermal blanket on the pool.

**Double unit heat pump for pools**

A typical solar system will cost over $3,000.00 making the solar pool heating system and the heat pump about the same in cost and operation costs. The solar system also needs a thermo blanket and you want an area that has lots of sun. The advantage of the heat pump over the solar system is in areas of high winds. Collectors on the roof can sustain serious damage in storms.

For your information the least expensive system to install to heat a pool is gas. The cost to run the system is extremely high. I know, I have a gas system. The advantage is you heat up quickly. I can heat my spa twenty degrees in 15 minutes. Gas burns five gallons an

hour. Figure the cost of propane and you can see it's big bucks. I do not heat my pool with gas. It would take five to six hours and that is too much cost for me to enjoy the pool. For a spa it's great. Typically even in winter I can heat my spa to over 100 degrees in about 45 minutes. I then turn the gas heater off. It will stay hot for close to an hour. So for about $12.00 I can enjoy a hot spa with jetted water. The solar system and heat pump are less expensive than gas but just not as convenient.

**Multi-plugs**

Almost everybody today has a home office for either work at home or for a place for the kids to do their homework. The computer, printer and related equipment should be turned off when not in use. The easy way is to plug them all into a multi plug strip with a light and switch.


**Typical strip plug with LED light in the switch**

Small users of your electric power come from items like cell phone chargers, dvd players not being used but still on, cable boxes, computers in sleep mode and ipods charging. These items continue to use energy even when not in use. If you see a small light on, something is powering that light. If the item is ready to use with just a wave of a mouse, it is using energy to be ready. Even a charger that is left plugged in still uses a small amount of electricity.

For cell phones, ipods, laptops etc. plug all the chargers into one multi-plus strip. Most equipment charges within six hours. Put your strip on a timer to go off after six hours. These strips are less than $6.00 at www.greenproductswarehouse.info purchase at least two of the six plugs type with light. You'll save a couple dollars a month which is worth a $12.00 investment.

If you have an older copier it may pay to buy a more efficient copier. Look for one that copies on both sides to save paper. The new ones run cooler and emit less heat. Again turn it off when not in use.

**Air Conditioning.**

Earlier this year my one months electric bill was $352.00 of which $183.00 was air conditioning. That is when I decided to make some changes. The first thing to do if you have a unit more than 15 years old is buy a new one. New units use up to half the power of the old ones for the same amount of cooling. If the unit you have is okay then make sure the house is not letting cool air escape. A big culprit is leaking air conditioner ducts.

Like we said at the start of this booklet, call the power company. Even if the power company is like ours and charges $30.00 for a duct inspection it is worth it. I've seen homes that the ducts are split open and all the A/C is spilling into the attic.

You wouldn't leave the door open or the window open with the A/C running. Yet there are other openings in the house that let the cold air escape. Many people forget the fireplace. In the summer the flue needs to be shut and the fireplace should have glass doors on the front to keep the air from escaping. You should annually have your A/C unit checked by an expert. The inspector will check the coils to make sure they are clean and check the freon levels for max cooling. He or she will also check to make sure the air coming out of your unit is the proper temperature in relation to the air going into the machine.

In the south we have problems with algae building up in the condensation pipe. Every month on the first of the month I pour a

cup of Clorox bleach down the condensation pipe. I've never had any clogging problems since doing this.

## Programmable thermostat

Maybe the biggest savings for the money is the programmable thermostat. Our current home has a programmable thermostat**.** This is a must. If you don't have one **get one!!!!!.** They can return their cost in 90 days or less. Last I checked you can get a very good one from www.greenproductswarehouse.info for less than $30.00. The same one runs around $50.00 at the building supply stores. The programmable thermostat lets you have colder air in the late afternoon and evening when you want it and turns the temperature higher during the day when no one is home. I know people who have gotten their investment back in less than a month.


**Programmable thermostat. Easy to use and saves a lot on A/C costs**

## A/C filters

It is very important to make sure your filters are clean. A/C filters take more energy when dirty. It's cheaper to buy the reusable filters if you don't mind washing them when needed. It is also a better deal for the environment. No fiberglass filters in the landfill. Reusable filters usually filter out more undesirables as they filter to a lower micron level than those fiber glass jobs. They should be checked every thirty

days. Again they are available at food stores, home centers and hardware stores. The first of every month I pour Clorox down the condensation pipe, dump Redx in the toilet for the septic tank and check the A/C filters.

**Ceilings fans**

For the past twenty years ceilings fans have become very popular. As a realtor and appraiser I go into hundreds of homes every year. Almost all of them have ceiling fans. The fan circulates cool air letting the homeowner raise the thermostat setting a couple of degrees. This is a large saving. You should have a ceiling fan in very room. To benefit the most from your fan, remember what fans do. *Fans cool people*. When you leave the room turn it off. Contrary to popular belief, they don't do any good unless someone is in the room. Another tip is to run your fans clockwise in the winter and counter clockwise in the summer. If you live in Florida, Arizona, southern California, or any other area that has a warm climate year round run counter clockwise the whole year.

**New technology coming soon**

New on the market is a device that attaches to fan blades and makes them twice as effective. This allows you to feel as comfortable as say 76 degrees as you would normally feel at 78.

Our information is that they will sell for $14.95 for a set of four for a four-blade fan, $18.95 for a five-blade fan. This is a quick return on your investment. These devices are set to be in the stores late in 2008 or early 2009. I'm sure www.greenproductswarehouse.info will have them as soon as they are available.

Most people don't realize that heat and cold move easily thru walls and ceilings. Cold is the absence of heat energy and heat is the embodiment of energy in the air. Heat will move into whatever area there is less of it. That is why heat rises. The air is cooler as you move upwards, hence there is less heat there, so the heat energy moves towards it. In the summer it wants in and in the winter it can easily escape out. Good insulation at the proper locations will help prevent this loss. Make sure your walls and ceiling are well insulated.

If your house has a crawl space or a basement make sure the floors are also well insulated.

If you are in the market for replacing your windows there are many options for reducing the amount of heat that can get into your house (if you are in a hot climate) or get out of your house (if it is predominantly cool outside). Try looking for windows with low E (emissivity) and spectrally selective glass. In simple terms, they either reflect heat back in or keep it out.

In the south a new roof with reflective properties will also save a lot on air conditioning costs. Remember for all things in the south paint it a light color. Light reflects heat. White is best. In the north paint it or select a dark color to absorb heat.

We know to close the doors and windows but are we aware that we sometime block the airflow with drapes and furniture. Make sure all registers and vents are clear. The idea is to keep the cool air in so don't run the exhaust fans when the A/C is on.

To help the air conditioning unit, do what you can to block the direct sun on the house. Block the sun on the sunny side of the house by planting trees. It's good to plant shrubs and use awnings. If you are creative or handy, it is easy to build a trellis in front of your sunny side windows to reduce the amount of heat trying to penetrate into your home. It also gives you something beautiful to look at when the shades are open. In northern climates, plant something that is deciduous so the sun can warm your home in the winter months.

On the interior light colored drapes, blinds and shades help keep it cool by reflecting the light back out.

If you are building a house in the south make sure the architect takes the orientation of your home into consideration so that the sun doesn't ruin the comfort level of your interior spaces or increase your energy bills. Each site is unique. A professional will take each factor, like views, access, existing trees and solar angles into consideration to give you the most energy efficient and useful design.

## Washers and dryers

Let's talk about water. Even if you have a well, water costs. If you live in an area of city water and sewer it costs a lot. The laundry is a double cost of power and water.

You wouldn't wash one sock at a time. That is the principle to remember. Full loads in the laundry and the dishwasher cost less.

Most modern soaps work as efficiently in cold water as in hot. .If you use cold water, you can save 50 cents a load. If you divide your laundry by weight you will save on drying times. Divide dark heavy and dark light, light heavy and light white. Put all your light fabrics in the dryer together. They take a lot less time to dry. Clean the filter after each use. Dry full loads. Don't over dry and keep the exhaust area lint free. Of course the old clothesline saves even more, no energy required.

If you have an older washer purchase a new one. Older units use up to 40 gallons a load. Look for the Energy Star label to find the latest energy saving washers. According to Energy Star's website "An ENERGY STAR qualified clothes washer can *save you **$550** in operating costs* over its lifetime compared to a regular clothes washer. ENERGY STAR qualified washers are also better for the environment because lowering energy and water use means less air pollution from power plants and less water going to waste. The average household does almost 400 loads of laundry each year, consuming about 13,500 gallons of water. Selecting an ENERGY STAR qualified washer instead of a regular clothes washer (can) save you 7,000 gallons of water a year." Along with major water conservation new appliances will use about $100.00 a year less electricity than their 15 year old counterpart. For even more savings use the shortest cycle for lightly soiled clothes.

## Dishwasher

The dishwasher is the same as the washing machine. Do full loads and run your faucet until the water becomes hot before starting the machine. This ensures that the dishwasher starts with hot water so it will work more efficient. You can really save by letting the dishes air

dry instead of using the heating element. Beware of the short cycle and economy modes on most machines.

**Freezer**

A freezer can use a lot of electricity. For maximum efficiency, freezers should be kept full. Use ice cream and water jugs as needed to fill empty space. Refrigerators on the other hand work better if not as full.

**Refrigerator**

Refrigerators are a large electrical use item. When you open the door heat enters quickly. Try to think ahead of what it is you want to take out of the refrigerator. Open the door and pull it out. Shut the door quickly. Don't leave the door open while you try to figure out what it is you want to eat or drink. If possible do not place your frigg next to the stove or dishwasher. The external heat makes the refrigerator use more energy to stay cool. Be sure there is at lease one inch clearance on all sides of the box. Side by sides use more electricity than the upper lower type unit. For the few dollars a year difference I still prefer the side by side. The average new refrigerator located inside an air conditioned home uses about $10.00 a month in electricity. The outside refrigerator is a different story.

If you are like a lot of people you have that extra refrigerator for parties, drinks and extra food and ice. If you are using it alot that's fine. But if it is almost empty turn it off until you need it. A 25 cubic foot box about ten or more years old in a warm garage will use $35.00 to $40.00 a month in power. You have three choices. Buy a new one. Bring it inside. Or simply put it on a timer. The outside box only needs to run eight to ten hours a day to stay cold. Cut the running time by 60% and save $20.00 a month. You can get a timer to do this online shipping included for less than $10.00. Now that's a real savings. I found on two hours off two hours works best.

Be sure that where ever the refrigerator is that there is at least one inch of space on both sides to aid in cooling. There should be at least four inches in the back.

Also remember to pull out the unit to clean behind it and to vacuum off the dust on the coils. If you buy a new refrigerator check for the EPA energy star label. This means it is an ultra-energy efficient appliance.

Just like the doors and windows refrigerator door seals are very important. Make sure the door magnet pulls the door tight and seals it completely. You don't want to cool the house with the refrigerator. An easy check is to put a dollar bill in the door as you close it. If the dollar pulls out easily then you need to get it fixed.

**The stove**

Here's another freebie. A stove stays hot for some time after you turn if off. This is especially true of glass top stoves. Watch what you are cooking. When it's about five minutes from being done turn off the burner and let the heat finish cooking the meal. Stoves can use a lot of power. A dirty stove uses more than a clean one as heat reflects with a clean surface.

Always buy a self-cleaning oven. They are built with much better insulation which cuts down on wasted heat. Be sure the seals are tight and again it cost nothing to be sure the stove is clean inside and out.

In the summer you might consider using the grill. It's fun and it doesn't heat up your kitchen. Also for small meals or just one item to cook, use the microwave. It's cheaper and doesn't give off heat. Actually the only thing a microwave does is heat water. It heats the water molecules in meat and other foods but it doesn't really cook. For anything that needs it's water heated ie. vegetables, hot drinks etc. use the microwave and save.

**Swimming pool pump**

It costs over $50.00 a month to run the pool pump 8 hours a day seven days a week. Most pools do just fine on four to six hours. That can save you ten to twelve dollars a month.

## More saving tips

We mentioned earlier that fluorescent bulbs save 60 to 75 per cent over incandescent lights. It is very important to avoid halogen bulbs. They emit large amounts of heat and use up the power.

## Do you have a leak?

Drips cost money. One drop of water per second can waste up to 2,700 gallons per year. Make sure the toilets and hose bibs do not leak. If you live in a very dry climate you might want to check into cisterns. Everybody uses them in Bermuda. Your roof has to be designed to catch all the rainwater but if water is in short supply you don't want to waste a drop.

Most of the drops we waste are due to leaks. The average couple will use about 6,000 gallons of water a month. Check your water bill. It should have the gallon usage on the statement. If it's a lot more than 3,000 gallons per person you may have a leak. A small leak in a city water supplied system can be big bucks. We learned that lesson the hard way. We once had a house for sale and it was empty since we had already moved to our new home. Either the real estate people or someone else used the toilet and the handle stuck open. With no one living at the house the waterbill for the month was over $300.00. Remember the city charges you three times your water usage for sewer charges. Fifty dollars of water use means a total bill of $200.00.

To check for a leak visit the water meter. You will usually find it in the front yard close the property line. Open up the top and look at the meter. Most meters have a flow gage. It usually is a small red triangle. With everything off it should not move. To check for slow leaks take a meter reading. Wait one hour and check again. It should still be the same numbers. If not you have a leak. Leaks in floors and walls are usually hard to find and require the services of leak detector companies or plumbers.


**Typical water meter cover**

Years ago I came out of my bedroom, walked across the living room carpet and suddenly realized I was standing in two inches of water. What a way to start the day. The question was where did it come from? I thought it was coming from under the sink in the kitchen but it wasn't. A plumber had to jack hammer up my lovely tiled kitchen floor until he found the leak. The cause of the leak was a cooper pipe that had been installed with a small crimp in the pipe. After years of use the water had worn a hole at the crimp. It cost a lot to fix but it would have cost a lot more if I had not gotten it fixed.

Of course if you are on a well a leak is not as critical. The way to tell if you have a leak with a well is to listen for the pump. Turn off every thing including icemakers, water softener, toilets, faucets, irrigations systems and water heaters and listen. If you have a leak in a well system the pump will kick on.

**Spot heaters**. Avoid spot heaters. They use way too much power.

## Toilets

Old toilets used four to five gallons a flush. These were replaced many years ago with units that use three and half gallons per flush. The new ones installed today use only 1.6 gallons.

There are super high-efficiency toilets that use from 1.0 to 1.28 gallons per flush. You may want to consider, especially if you are on city water, replacing those old units. If that is too expensive for now, you can drop a brick in the tank. It will save you about a quart a flush. If you have those commercial type toilets there are real inexpensive devices that are easy to install in the flush handle that will cut the water use in half.

Do not let a toilet keep leaking. Shut off the water located below the tank until it is fixed. A leaking toilet can lose over 200 gallons a day. This adds up to large costs.

Another item that wastes water is the leaky showerhead. If water is coming out that is not coming from the head itself you are wasting water. Get an adjustable wrench and after shutting off the water remove the head. Either replace it or clean and reseal the threads.

## Other water saving tips

Don’t use running water to thaw meat or other frozen food. It is best to defrost over night in the refrigerator. If you are in a hurry use the defrost button on the microwave.

When watering your lawn, it only takes two days a week for a great lawn. The secret is to water one full inch per zone. To figure out how long it takes your system to water an inch, place a pie pan on the lawn. Most pans are about an inch in depth. When it is full, note the time, then water that amount of time for each zone. Remember just two days a week. The best time to water is between 4:00 am and 9:00 am. This allows the maximum soak time without loss of water due to wind and sun.

Don't use the hose to clean off the sidewalks and driveways. A broom works just as well and does not use any water. Hosing down a sidewalk can waste 100's of gallons of water.

**Faucet restrictors**

There are a number of restrictors you can add to your faucets and showerheads to restrict the flow of the water. I personally don't like them. I would rather have a strong flow and cut back on the time I have the water on. Remember to not run the water as you brush your teeth or shave. As we said in the beginning we want to change our habits to save on water, electricity and fuel. We do not want to change our life style.

**Septic tanks**

If you have a septic tank remember to put a box of Redx in the tank once a month. People who don't use Redx have to have their tanks pumped out and that's expensive. For six dollars a month you can save that inconvenience and expense. Redx is sold in most food stores. The first day of each month I add Redx to my toilet, pour Clorox down the condensation pipe, check the a/c filters and test the smoke detectors. It takes very little time and makes a world of difference.

If you ever take a time management class they will tell you to do one job at a time until it is finished. Then go on to the next one. This is good advice. In the kitchen, when I have something to cut I cut all the rest of the product before it put it back in the refrigerator or on the shelf. For example we use a lot of English muffins. When I first open the package I take out one and slice it before putting it in the toaster. Before I put the rest back in the breadbox I slice the other five muffins. By doing this I only have to wash the knife once. It saves on water and soap. I do the same with fruits, vegetables, breakfast sausage etc. It's a small thing but it saves.

## Saving on gas and oil

With the price of gas climbing to new levels it is wise to take stock of your car expense. You can buy a new hybrid but the extra cost of the car may not pay for the gas savings unless you drive a lot. No matter how much you use your car if you will keep the tires properly inflated, the air filter in clean condition and use a synthetic high viscosity oil you can reduce these costs. Always keep it well tuned. Extra pressure in the tires will make the vehicle feel the bumps in the road but will save on gas. It's a trade off. My tires are recommended at 33 lbs psi. I keep them at 36 lbs. psi. Every little bit helps.

I have a friend that is retired and drives his motorcycle for tens of thousands of mile each year. He uses Amsoil which is popular on the NASCAR and boat racing circuit. It's also used in airplanes.
The exciting thing about this oil is not only the extra protection for your engine but it only needs to be changed once every 25,000 miles. Since most other oils need to be changed every three thousand miles the annual savings are big -- usually over $100.00 a year. Try it. You will like it. My friend George has a web site that sells Amsoil at a discount www.motorcycleoildiscounters.com. You can call him or e-mail him from the site to ask him questions for the right product to buy. There are different types for cars, planes, boats and various motorcycles.

## New and Future Products

There are a number of devices and additives that claim to save on fuel. We are currently testing a little pill that is placed in the tank when you fill up. It is supposed to increase your mileage 15 to 20%. So far this has not happened. We are also talking to a company that has a device that mounts on the engine and is supposed to increase mileage. Years ago we tested heavy industrial magnets on cars and trucks and found on some vehicles it did increase mileage but it was not consistent. On some it worked, on others nothing.

We mentioned earlier in the booklet about a new device for a fan that makes it more efficient. There are lots of new and great products coming on the market that are very exciting.

One of the most exciting is a new wind turbine that is made of a solar collector material. It collects energy from the wind and solar at the same time. It does not take a lot of room like most wind machines. The company that makes the unit is Bluenery Solar Wind Turbine and the unit is called Solarwind. One unit can store enough energy to power an entire house. Currently, that unit is selling for $35,000.00. For this money you get 1100 kilowatts per month. The average home uses 750-1,000 kilowatts per month so this replaces the need to be on the power company's grid. The traditional wind turbine produces 840 kilowatts per month and costs $30,000. This means you will still have to buy some power depending on your personal usage and the design of your home.

Solar systems depend on the amount of panels or solar film strips that you use along with the solar radiation hours from where you live. Cost also depends on other factors like amount of wattage that that particular system is designed to collect and what type/size of battery storage you have. It is possible to rent solar panel systems if the initial cost of installation is too high for your budget. Write to us if you would like more info on any of these new products.

**A car that runs on air**

What is cheaper than air? What a great idea to run you car on air. It sounds like a fairy tale but it is in production now. The compressed air propelled vehicles are new cars that have just been introduced in India. They run on compressed air. You fill up the compression chamber and then off you go. They will do over sixty miles per hour and get 125 miles to a charge. Filling stations all over India are putting in special compressors to charge up these cars. As you can see from the attached pictures they are full size vehicles. It cost about $2.00 to charge up the vehicle for $125 miles. That makes a full tank about $6.00 to $8.00 dollars to travel over 400 miles. Today's average car getting 25 mpg would cost over $60.00 to go the same distance.

**Air van from India**

**A different type of air taxi**


**This car goes 400 miles for less than $8.00**

**Sporty looking car runs on air**

My daughter is an architect. She was one of the architects on a house with an existing flat roof. As part of the restoration/renovation, solar film was specified to supply part of the electrical load.

**Solar film roll for the roof**

This is an impressive product. It is made of plastic polmers that don't break like most solar panels. It generates up to 136 watts of power per 18' strip. It's possible to do the entire roof and cover most if not all of your electric costs depending on your location and size of your roof. This film is not as productive in generating wattage as your typical PV panel but it is very useful in areas that have a lot of sun and even cloudy days. It is capable of collecting ambient light while your typical panel needs direct light for best performance. The energy problems are solvable when man is left alone to solve the problem.

It is unfortunate that something as important as saving energy and protecting the environment is being used for political gain and to milk the public out of billions of dollars in the form of phony taxes and charity donations that only go to line their pockets. It is important to realize that it is a combination of solar, wind, better designs and oil that will be needed for responsible energy use. You may be asking yourself, "Why do we still need oil?" Plastics and many medicines and cosmetics are all made from oil. Since we still need oil, the question is where should we get it? We have tremendous energy reserves in

the USA. We have oil, we have oil shale, and we have coal, water, wind, sun and uranium for nuclear power. My hope is that Congress will not be allowed for political gain to restrict our use of what is ours. Former Speaker of the House Newt Gingrich is leading a petition drive to drill now and pay less at the pump. I was one of the first to sign. If you would like to sign that petition go to:


**To sign petition go to:**
**Www.americansolutions.com**

I hope you have learned some useful information from our booklet. I have personally used most of the items that I have talked about and know that they work well. Energy saving is becoming a worldwide concern. Whether we are running out of fossil fuels or not or whether man is causing climate change the point is as Ben Franklin stated hundreds of years ago "A penny saved is a penny earned". I don't know who said it first but I like it, "*waste not want not* ".

We are constantly updating this book. This is an advantage of having an e-book versus the regular hardbound type. If you have some tips we can include in a future update please send us an e-mail at dennissheppard4@gmail.com

Enjoy!