

# The Poor Man's Guide to

## Low Tech & Low Cost Energy Savings Devices & Resources

<http://www.PoorManSurvival.Com>

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### INTRODUCTION

#### *Save Thousands Annually While Helping the Environment*

If your electric meter is spinning as fast as slot machines for as long as you can remember, then today is the right time to be concerned. You are paying large electric bills month after month right? And you are still trying to figure out how will you be able to lower down your energy cost to somehow make paying easier for you – right?

The challenge, which befalls most of us from becoming more energy efficient is cost or the perceived costs associated with going green. Making your home completely energy self sufficient or 'off-the-grid' can easily run \$35,000 and up for installing wind turbines, solar panels, geothermal, etc. Even though you will recoup those costs over time through tax incentives and monthly utility costs, many of us simply don't have the upfront costs of accomplishing this task.

You will find a resource in this brief guide where you can 'rent' solar panels, including installation, and often, lock your monthly bill into place – a viable alternative to large out-of-pocket costs.

What this resource guide offers are ways and resources in which you can reduce your energy costs through low cost and low tech devices. Where possible, I'll indicate various sources to purchase the item and in some cases, I'll report if I've personally used them.

*As you'll see, we were able to save \$175 per month off our utility bill with just a few adjustments and we spent less than \$200...making for a rather substantial savings. What can you do with an extra \$175 or more each month in your pocket?*

We lived in Arizona for ten years and watched as area utility costs rose each year to where our monthly A/C and electric bill rose to more than \$300 a month with only two adults in the home. Within a month of installing solar shades across our front deck, window treatments to block sun, substituting two window A/C units for our old, outdated central air and the substitution of a solar clothes drier vs. an electric dryer, substitution of our electric oven for a convection oven and microwave, we dropped our bill to \$125 a month. Saving nearly \$175 a month on these costs allowed us to use that cash to pay down other bills faster.

Consider that a whole house A/C can account for 45% of your energy bill and you see why it's important to own one less than 10 years old. Every degree you set your thermostat up can save about 4% on your utility cost so why cool the whole house at night? Consider keeping the temp up but use a smaller window or circulating fan to keep yourself cool at night? You might also do a search for a product called a "Chillow." You put this into your freezer and then inside your pillowcase at night to keep cool. I believe Walmart sells them as well as eBay sellers.

**You can order solar shades and/or insulated curtains, or door draft guards to save money** on heating & cooling at HarrietCarter.com, Walmart, HomeDepot, Lowes or many hardware stores. See our resource section for sources and online how-to videos.

Upon relocating back to Michigan (due to family obligations), we discovered high utility costs again. There must be a water shortage in the Great Lakes state because our water bill was \$20 higher a month than when we lived in the desert and the state government here tacks on about \$50 per month just to our heating bill. But, plans are underway to eliminate and/or reduce those bills as well (water miser shower heads and not using a dishwasher didn't help our water cause here).

It's a sin in, my opinion, that governments gouge citizens by adding taxes and other fees to basic utilities. Have you looked at your phone bill lately? A basic monthly, no-frills phone bill is advertised at \$19.95. When you add in the taxes and fees, that bill becomes \$35 per month. Many of our **Poor Man subscribers** have dropped their home line in favor of cell phone only in order to save some cash. Another alternative to look at is MagicJack.com, Vonage or other internet based phone system. They represent lower costs but often, there is a trade off on quality of service. Some have very favorable

experiences, others, not so favorable. You can purchase MagicJack directly from their site, at Radio Shack or on eBay.

Do you see the potential savings you can realize within the first few pages of this report? Share this with your friends.

## **The Government Will Give You Money To go Solar**

In addition to the federal government, most every state offers programs to help you go solar - incentives, tax breaks, rebates and more.

To learn more, go to:  
[www.dsireusa.org](http://www.dsireusa.org) and click on your state.

Now, **there are firms that will allow you to rent solar equipment with little or no investment** and these firms will install the equipment. There was a big news announcement of this in AZ just prior to our leaving in 2009 so you will have to do an internet search in your state to see what's available.

I have not researched the following but you might give them a look over...

<http://www.rentsolarequipment.com/>  
<http://rentsolartoday.com/>

### **Your Shopping List**

>>> Use solar to cool your roof too. Hot attic space costs money and most use an electric fan to cool it down at an average cost of \$10-20 a month. By using a solar powered attic fan, which requires no wiring, you can reduce your attic temps by up to 50 degrees which will save \$100s annually (it also reduces the strain on your whole house A/C). You can find these at most Home Depot stores, Lowes and other home improvement outlets.

>>> While there, be sure to get yourself a programmable thermostat which can also improve energy consumption and money savings – average of \$180 annually.

>>> You might as well pick up a batch of CFL light bulbs too. I use them everywhere and they do save money and they last longer. I often find them at dollar stores too! Go to GE Energy Smart to use their savings calculator:

[www.gelighting.com](http://www.gelighting.com)

Average savings PER BULB is \$47 annually!

***Home Energy Vampires Include*** anything that has a standby mode which draws power even when you're not using it. Televisions, DVD players, computers, appliances, cell phone chargers, modems, CD players and all of our other favorite toys!

For instance, a plasma TV will consume \$160 a year just in its standby mode.

Get yourself this simple device (made by Belkin and other firms) and can be used for up to eight devices. It acts as a powerstrip and surge protector too. Get them on eBay, WalMart, Home Depot, etc.



#### **BELKIN AG110030-04**

##### **Don't Standby. Conserve.**

Conserve energy-saving surge protector with remote switch makes it simple to eliminate wasteful standby power, helping you reduce energy consumption, save on energy bills, and lower your overall impact on the environment.

>>>Of course, don't forget to get a low-flow shower head for your bathroom. You'll see the full checklist a bit further down.

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No matter what your current personal and/or business financial status, the fact is the United States' and the world's economy are in an ongoing upheaval with uncertain job markets and rises in fuel costs and living expenses.

In addition, we face the problems of keeping our world green and free from noxious pollution, including the estimated 222 million tons of waste Americans produce each year ([www.esc.mtu.edu/](http://www.esc.mtu.edu/)).

### **Example of waste:**

*If your family consumes just two bottles of water per day X's 365 days or 730 plastic bottle going into landfills. Plastic takes a century to break down and with the average cost of 50 cents each, you'd save about \$365 annually. Invest in a reusable, portable cup instead!*

*Bottled water is 10,000 times more expensive than tap water.*

*Filter your water at home; using a reverse osmosis system under your sink.*

**Find a complete system or simple filter at reasonable prices on eBay.**

**<http://myworld.ebay.com/oldbooknook> or get a water filter here:**

<http://www.harrietcarter.com/>

**If stupidity were electricity, Washington DC  
Could light up the entire planet.**

A number of years ago I prepared an in-depth study and proposal for a means of making Arizona the capital of solar energy research and use. I sent this to our governor (she is now the head of Homeland Security) and to the president of Arizona State University.

The ASU head had been seen on national TV blathering on about making ASU the center for alternative energy research and he invited alumni to send in ideas – what a joke. Neither he nor the governor responded to my detailed plan.

I even showed them how the US Department of Energy would fund the program (part of the plan called for lining all AZ highways, already government owned, with solar panels in a joint project with the current electrical suppliers to generate free electricity).

*Enough solar energy falls on the Earth's surface  
In one hour to power all of civilization for a year!*

But as we saw with government response to the Hurricane Katrina disaster, you cannot rely on the government to do right by its people. We've known oil resources peaked in 1970, yet Washington continues to subsidize big oil and spends very little on alternative energy research; despite the fact oil dependence is a real threat to our national security and economy.

Our federal government has been subsidizing Big Oil for decades. It doesn't seem to provide more or cheaper supplies.

Since we can't depend on the government, we must look to ourselves and I know we're up to the challenge. The main tool in the green economy is your caulking gun.

Weatherizing and retrofitting every building in the USA would sure create a lot of jobs! After all, buildings and homes with leaky windows and doors, poor insulation, old A/Cs and furnaces, poor insulation and the like mean on average we're paying 30% more for carbon which goes into the atmosphere.

You can save a lot of money by simply wrapping hot water heaters, blowing insulation, plugging holes, repairing cracks, getting rid of old appliances, replacing furnaces and more. **Under the resource section you will find DIY online videos.**

## **Let's Get Started!**

**So let's begin with your own DIY home energy audit. Get a copy at this link:**

**[http://www.seattle.gov/dpd/static/DIYweb\\_LatestReleased\\_DPDP016083.pdf](http://www.seattle.gov/dpd/static/DIYweb_LatestReleased_DPDP016083.pdf)**

## **To Do Today**



Turn down the temperature of your water heater to the warm setting (120°F). You'll not only save energy, you'll avoid scalding your hands

- ✓ Start using energy-saving settings on refrigerators, dishwashers, washing machines, and clothes dryers.
- ✓ Survey your incandescent lights for opportunities to replace them with compact fluorescents (CFLs). These lamps can save three-quarters of the electricity used by incandescents. The best targets are 60-100W bulbs used several hours a day. New CFLs come in many sizes and styles to fit in most standard fixtures.
- ✓ Check the age and condition of your major appliances, especially the refrigerator. You may want to replace it with a more energy-efficient model before it dies.
- ✓ Clean or replace furnace, air-conditioner, and heat-pump filters.
- ✓ If you have one of those silent guzzlers, a waterbed, make your bed today. The covers will insulate it, and save up to one-third of the energy it uses.

## This Week

- ✓ Visit the hardware store. Buy low-flow showerheads, faucet aerators, and compact fluorescent light bulbs, as needed. These can be purchased from any hardware or home improvement store. CFLs are now sold at some drug stores and grocery stores.
- ✓ If your water heater is old enough that its insulation is fiberglass instead of foam, it clearly will benefit from a water heater blanket from the local hardware or home supplies store. (To tell the difference, check at the pilot light access (gas). For electric water heaters, the best access is probably at the thermostat, but be sure to turn off the power before checking.)
- ✓ Rope caulk very leaky windows.
- ✓ Assess your heating and cooling systems. Determine if replacements are justified, or whether you should retrofit them to make them work more efficiently to provide the same comfort (or better) for less energy.

## This Month

- ✓ Collect your utility bills. Separate electricity and fuel bills. Target the biggest bill for energy conservation remedies.
- ✓ Crawl into your attic or crawlspace and inspect for insulation. Is there any? How much?
- ✓ Insulate hot water pipes and ducts wherever they run through unheated areas.
- ✓ Seal up the largest air leaks in your house—the ones that whistle on windy days, or feel drafty. The worst culprits are usually not windows and doors, but utility cut-throughs for pipes ("plumbing penetrations"), gaps around chimneys and recessed lights in insulated ceilings, and unfinished spaces behind cupboards and closets. Better yet, hire an energy auditor with a blower door to point out where the worst cracks are. All the little, invisible cracks and holes may add up to as much as an open window or door, without you ever knowing it!
- ✓ Set your thermostat back (forward) when you can accept cooler (warmer) conditions. This generally includes night time and whenever you leave your home for several hours. Many people find it easier to use an ENERGY STAR programmable thermostat that will automatically adjust the thermostat based on your time-of-day instructions.
- ✓ Schedule an energy audit for more expert advice on your home as a whole, or learn how to conduct your own by visiting the [Home Energy Saver Web site](#). A directory of available energy audit services by state is available at [RESNET](#).

## This Year

- ✓ Insulate. If your walls aren't insulated, have an insulation contractor apply blown-in insulation (cellulose or fiberglass) to the walls. Bring your attic insulation level up to snuff.
- ✓ Replace aging, inefficient appliances. Even if the appliance has a few useful years left, replacing it with a top-efficiency model is generally a good investment.
- ✓ Upgrade leaky windows. It may be time to replace them with energy-efficient models or to boost their efficiency with weatherstripping and storm windows.
- ✓ Have your heating and cooling systems tuned up in the fall and spring, respectively. Duct sealing can also improve the energy efficiency and overall performance of your system (warm-air furnace and central air conditioners).
- ✓ Know that you are making a difference



<http://tinyurl.com/PMEnergy>

Also, check out:

[http://www.energystar.gov/index.cfm?fuseaction=HOME\\_ENERGY\\_YAR\\_DSTICK.showGetStarted](http://www.energystar.gov/index.cfm?fuseaction=HOME_ENERGY_YAR_DSTICK.showGetStarted)

**Terrific site for resources and green, eco-friendly goods**

<http://www.growandmake.com?ref=71>

# A Basic Checklist & Overview

There are many ways in which you can use energy more efficiently and save money at the same time. The following energy saving tips will help you reduce your fuel bills at little or no cost.

## No Cost Tips Curtains

- At night, pull the curtains to stop heat being lost through the windows
- Take care not to drape curtains over radiators as this will funnel heat straight out of the windows



Our [interactive house](#) could help you save energy and money in your home

## Heating

- Turning the thermostat down by just 1°C can cut as much as 10% off your heating bills
- You can also save on running costs by heating your home for an hour less each day
- Never cover the air flow vents on electric heaters

## Water

- Remember not to set the thermostat too high on your water heater; 60°C/140°F is usually adequate for bathing and washing
- Use a shower if you have one and you'll save time, money and water
- Remember to put the plug in your basin or sink - leaving hot water taps running is both wasteful and expensive
- If you have a dripping tap ensure it is repaired quickly. In just one week, you could waste enough hot water to fill a bath

## Recycle Free Rain Water

**Consider using rain barrels to conserve water and for use in your garden. You can purchase them or make your own (we get them from a local Vlastic Pickle factory & they include nice lids too). To make your own, visit this free site: [http://www.naturalrainwater.com/make\\_rainbarrel.htm](http://www.naturalrainwater.com/make_rainbarrel.htm)**

## Lights

- Remember to turn off lights when you leave a room for long periods

## Television and stereo

- Switch off your TV, video and stereo at the set. Standby can use as much as 10%-60% of the electricity that would be used by the device if it was switched on.

## **Fridges and Freezers**

- Defrost fridges and freezers regularly to keep them running efficiently
- Don't put hot or warm food straight into the fridge - let it cool down first
- Where possible, position your fridge or freezer away from cookers or heaters

## **Washing machines**

- Where possible wait until you have a full load before using your washing machine
- Alternatively, use the half-load or economy program if your machine has one

## **Dishwashers**

- If you have a dishwasher use the low-temperature programme unless you have very dirty dishes

## **Cooking**

Here are some ways to save energy when you cook:

- Use the right size pan for the food and cooker hob
- Keep saucepan lids on - this enables you to turn down the heat
- Don't use more water than you need
- Use a kettle to boil water for cooking
- Use a toaster rather than the grill to make toast
- Avoid over-filling the kettle for just one drink but be sure to cover the element

## **Low cost tips**

### **Low energy light bulbs**

- Use low energy light bulbs wherever you can as they use less than a quarter of the electricity used by ordinary light bulbs and can last up to 15 times longer!

### **Hot water cylinder jacket**

- Putting a lagging jacket around your hot water tank and insulating hot water pipes can pay for itself in a few months and go on saving you money for years to come
- Always choose a British Standard jacket

### **Draft Proofing**

- Put draught strips around windows and outside doors and fit a flap across the letter-box

### **Safety First!**

Gas, oil and solid fuel appliances need fresh air to function properly and safely. So if you are using such appliances NEVER block off ventilation in the rooms they are in!

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