

Weekly Energy Tips Column for the Willits News

January-March 2005

Willits Economic Localization (WELL) Energy Group

Week1

With natural gas presently over \$15/thousand cubic feet and oil hovering just below \$60/barrel, anything we can do to save energy saves us real money. Beginning this week, the Willits Economic Localization Project's Energy Group will be presenting tips on how you can reduce your energy bill. We hope this can be a weekly column with on-going suggestions relevant to your needs.

Because there are those of us less fortunate, we wanted to start with a list of programs that provide energy assistance to those qualifying as low income. These are as follows:

LIHEAP (Low Income Home Energy Assistance Program) is a federal program, funded by DHHS, and is intended "to assist low-income households, particularly those with the lowest income, that pay a high proportion of household income for home energy, primarily in meeting their immediate home energy needs." LIHEAP funds are locally administered through the North Coast Energy Service (NCES). LIHEAP provides not only financial assistance but also energy crisis intervention as well as a weatherization program to help reduce your home's energy use. For an application or more information call North Coast Energy Service @ 463-0303. Alternatively, contact HEAP (Ukiah) at 966 Mazzoni Street, #3B, Ukiah (800) 233-4480.

CARE (California Alternate Rates for Energy) is funded from surcharges on bills to other ratepayers and provides discounts on electric and natural gas bills to low-income households served by the state's regulated utilities. The subsidy covers up to 15 percent of a household's monthly gas or electric bill. CARE is administered by PG&E and applications need to be requested directly from them.

REACH (Relief for Energy Assistance through Community Help) is a program funded by PG&E and administered through the Salvation Army. It can give assistance on 15-day or 48-hour shut-off notices to people who experience severe, uncontrollable or unplanned hardships and are unable to pay for their energy needs. Contact REACH volunteer, LindaLee, @ 459-3333 for more information.

All of us can take advantage of the EnergyStar rebate program. PG&E (Pacific Gas and Electric) offers rebates on a variety of appliances and home improvements if you purchase qualified energy-efficient products. See <http://www.pge.com/res/rebates/> or call 1-800-933-9555 for more information.

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Sources:

<http://www.sen.ca.gov/sor/policy/energy/lowincomeupdated.htm>

<http://www.willitsnews.com/Stories/0,1413,253%257E26908%257E3151941,00.html>

<http://www.mendocinoresources.com>

Week2

With the escalation natural gas and propane prices this winter, you can take some steps to reduce the amount of gas you're using. Here are 5 suggestions to cutting gas use:

Turn down your thermostat to 68 degrees. For every degree you lower your heat in the 60-degree to 70-degree range, *you'll save up to 5 percent on heating costs.* Wear warm clothing like a sweater and set your thermostat to 68 degrees or lower during the day and evening, health permitting. Set the thermostat back to 55 degrees or off at night or when leaving home for an extended time saving 5-20 percent of your heating costs (heat pumps should only be set back two degrees to prevent unneeded use of backup strip heating).

Replace or clean furnace filters once a month. Dirty filters restrict airflow and increase energy use. Now is also the time for a furnace "tune-up." Keeping your furnace clean, lubricated and properly adjusted will reduce energy use. *Savings up to 5 percent of heating costs.*

Reduce hot water temperature. Set your water heater to the "normal" setting or 120°, unless the owner's manual for your dishwasher requires a higher setting. *Savings are 7-11 percent of water heating costs.* Insulate the first five feet of pipe coming out of the top of your water heater or the whole length until the pipe goes into the wall if that is less than five feet. Pipe insulation is available from your hardware store.

Seal up the leaks. Caulk leaks around windows and doors. Look for places where you have pipes, vents or electrical conduits that go through the wall, ceiling or floor. Check the bathroom, underneath the kitchen sink, pipes inside a closet, etc. for gaps. Using a stick of incense or candle can help identify draft locations. If you find a gap at the point where the pipe or vents goes through the wall, seal it up. Caulk works best on small gaps. Your hardware store should have products to close the larger gaps.

Consider replacing your old gas appliances with an EnergyStar water heater or furnace. If your gas water heater is over 12 years old, consider replacing it with a newer, more efficient model. The best indicator of a water heater's efficiency is the Energy Factor (EF). The higher the EF, the more efficient the water heater. The minimum EF required for gas utility rebates in California is 0.62. If your furnace is over 15 years old, consider replacing it with a newer EnergyStar rated model that is about 15 percent more efficient than standard models.

A Reminder to Keep Safe This Winter: Do not resort to using a BBQ or camp stove for heat. Such equipment is designed to be used only outdoors and presents significant safety hazards when used in any enclosed or partially enclosed setting. Besides the obvious fire hazard, they can produce high levels of carbon monoxide (CO). Remember that you cannot smell or see CO. If you start to feel sick, dizzy, or weak get to fresh air RIGHT AWAY. DO NOT DELAY. CO can rapidly lead to full incapacitation and death. If you experience serious symptoms, get medical attention immediately.

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Sources:

<http://www.consumerenergycenter.org/flex/tips.html>

Week3

Cutting back unnecessary energy use is an easy way to keep your hard earned money in your pocket. Here are some suggestions you can do at home, at absolutely no cost to you:

Let the sunshine in. Open drapes and let the sun heat your home for free (get them closed again at sundown so they help insulate).

Rearrange your rooms. Move your furniture around so you are sitting near interior walls - exterior walls and older windows are likely to be drafty - don't sit in the draft.

Keep it shut. Traditional fireplaces are an energy loser - it's best not to use them because they pull heated air out of the house and up the chimney. When not in use, make absolutely sure the damper is closed. Before closing the damper, make sure that you don't have any smoldering embers. If you decide not to use a fireplace, then block off the chimney with a piece of rigid insulation from the hardware store that fits snugly into the space (dampers don't shut fully without some leaking).

Eliminate wasted energy. Turn off lights in unoccupied rooms. Unplug that spare refrigerator in the garage if you don't truly need it - this seemingly convenient way to keep extra drinks cold adds 10-25 percent to your electric bill. Turn off kitchen and bath-ventilating fans after they've done their job - these fans can blow out a house-full of heated air if inadvertently left on. Keep your fireplace damper closed unless a fire is burning to prevent up to 8 percent of your furnace-heated air from going up the chimney.

Shorten showers. Simply reducing that lingering time by a few minutes can save hundreds of gallons of hot water per month for a family of four. Adding an aerator or low-flow shower head helps reduce this further. Showers account for 2/3 of your water heating costs. Cutting your showers in half will reduce your water heating costs by 33 percent.

Find out if your utility company offers free **energy audits**. Some companies will inspect your home for energy effectiveness and recommend inexpensive ways to cut energy costs, such as insulating hot water heaters, weather-stripping, etc. Some utility companies will even perform these energy-saving steps free-of-charge. Just insulating your hot water heater could save you \$20 a year.

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Sources:

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Week4

How you set your appliances and electronics can impact how much energy they use. Here are some tips to help recognize those savings:

Use appliances efficiently. Do only full loads when using your dishwasher and clothes washer. Use the cold water setting on your clothes washer when you can. Using cold water reduces your washer's energy use by 75 percent. Be sure to clean your clothes dryer's lint trap after each use. Use the moisture-sensing automatic drying setting on your dryer if you have one.

Put your computer and monitor to sleep. Most computers come with the power management features turned off. On computers using Windows, open your power management software and set it so your computer goes to sleep if you're away from your machine for 5 to 15 minutes. Those who use Macintosh computers look for the setting in your Control Panels called "Energy Saver" and set it accordingly. When you're done using your computer, turn it off (see next tip). Do not leave it in sleep mode overnight as it is still drawing a small amount of power.

Plug "leaking energy" in electronics. Many new TVs, VCRs, chargers, computer peripherals and other electronics use electricity even when they are switched "off." Although these "standby losses" are only a few watts each, they add up to over 50 watts in a typical home that is consumed all the time. If possible, unplug electronic devices and chargers that have a block-shaped transformer on the plug when they are not in use. For computer scanners, printers and other devices that are plugged into a power strip, simply switch off the power strip after shutting down your computer. The best way to minimize these losses of electricity is to purchase **EnergyStar** products.

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Sources:

http://www.fypower.org/res/tools/energy_tips.html

Week5

Here are some energy tips that can be accomplished with low-cost parts from your favorite hardware store!

Replace incandescent light bulbs with **EnergyStar compact fluorescent light bulbs**, especially in high use light fixtures. Compact fluorescent lights use 75 percent less energy than incandescent lights.

Plug your home's leaks. Install weather-stripping or caulk leaky doors and windows and install gaskets behind outlet covers. Test for air leaks by holding a lit incense stick next to windows, doors, electrical boxes, plumbing fixtures, electrical outlets, ceiling fixtures, attic hatches and other locations where there is a possible air path to the outside. If the smoke stream travels horizontally, you have located an air leak that may need caulking, sealing or weather stripping. Savings up to 10 percent on energy costs.

Install low flow showerheads. If you do not already have them, low flow showerheads and faucets can drastically cut your hot water expenses. Older showerheads deliver four to five gallons of water per minute. A new, two-and-a-half-gallon-per-minute showerhead will reduce your water consumption by one-third to one-half. A top-quality, low-flow showerhead will cost \$10 to \$20 and will quickly pay for itself in energy saved. Savings of 10-16 percent of water heating costs.

Wrap the hot water tank with jacket insulation. This is especially valuable for older water heaters with little internal insulation. Be sure to leave the air intake vent uncovered when insulating a gas water heater. Savings up to 10 percent on water heating costs. Check out Tighten It Up for more ways to make your home as comfortable and energy-efficient as possible.

Clean furnace filters monthly. Dirty filters restrict airflow and increase energy use. Keep the furnace clean, lubricated and properly adjusted to save up to 5% of heating costs.

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Sources:

<http://www.consumerenergycenter.org/flex/tips.html>

http://www.fypower.org/res/tools/energy_tips.html

Week6

Are you planning some home improvement projects? Here are some considerations to help save you money on your energy bill while improving the value of your home!

Install an EnergyStar programmable thermostat away from natural cool and hot spots. An EnergyStar thermostat can save as much as \$115 per year, provide more flexibility than standard models. Programmable thermostats help us not to forget when we've turned up the heat (or down the airconditioner).

Seal your home's envelope — walls, floor, ceiling and roof — to save up to 10% on your annual energy bill: Add weather stripping around windows and doors to reduce drafts. Use caulking to seal around ducts, plumbing and any other openings in walls, floors and ceilings to reduce air leakage. Begin in the attic, a common place for warm air to escape. Seal larger gaps that cannot be covered with caulk with expanding foam. After air sealing, determine the current level of insulation. In the attic, measure the depth of existing insulation using a ruler. If there is less than R-22 (7 inches of fiber glass or rock wool or 6 inches of cellulose) you could probably benefit by adding more. Most U.S. homes should have between R-22 and R-49 insulation in the attic. Insulating ceilings, walls, attics, floors, crawl spaces and basements to recommended standards can reduce heating and cooling costs by 5% to 25%.

Install fireplace inserts or wood stoves into an existing fireplace. The inserts are equipped with glass or metal doors, outside combustion air vents and heat circulation blowers. Fireplace inserts dramatically improve fireplace efficiency by blowing heat from the fire into the room and limiting the amount of heat and conditioned air lost up the chimney. Fireplace inserts are recommended for fireplaces that are regularly used. Before installing a fireplace insert, be sure to check the manufacturer's safety specifications and make sure the fireplace insert is compatible with the existing chimney or vent flue.

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Sources:

http://www.fypower.org/res/tools/energy_tips.html

Week7

This week we are offering a cross section of resource-saving steps you can take. Some, like saving water, may not seem directly related to energy; but in the big picture, any resource wasted costs energy, either directly or indirectly (e.g. through taxes we pay):

Use your microwave instead of your oven whenever possible and save up to 50% in energy costs for **cooking**.

Run your **dishwasher** only when you have a full load. Let the dishes air-dry instead of using the heat cycle. An average dishwasher costs \$54 to \$90 per year to run.

Fix running **toilets** or leaking faucets promptly. A continuously running toilet can use more than 8,000 gallons of water a year.

Install flow restricting **shower heads**. A family of four can save 8,000 to 12,000 gallons of water a year. You not only save on the cost of the water, but also the cost of heating it.

Always do full loads of **laundry**. A typical full load uses about 21 gallons of water. A small load uses 14 gallons. Several small loads use considerably more water than one or two large loads. Over the course of a year, this adds up.

Add fabric softener to your **laundry** at the appropriate point in the cycle instead of adding it at the end and running another rinse cycle, which can use up to 10 extra gallons of water. Figure out how much time it takes your washer to reach the rinse cycle, and set a timer so you can add softener at the right time.

Use warm or cold water for **washing clothes**, and always rinse in cold water.

Cut back on the use of your clothes **dryer**. Not only is it a big energy drain, it can also suck heated air out of your house very quickly in winter. Hang clothes on a clothes rack to dry and use the dryer for towels and other heavy items.

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Sources:

<http://www.101waystosave.com/utilities.htm>

Week8

Do you need any new appliances, or are you planning to do some remodeling? Consider these energy efficiency suggestions before you purchase or contract:

Choose EnergyStar appliances and electronics. When buying new appliances, choose **EnergyStar**-certified models. For example, a new **EnergyStar**-refrigerator uses about 20 percent less energy than a standard new refrigerators, and 46 percent less than one made in 1980. A new **EnergyStar** clothes washer uses nearly 50 percent less energy than a standard washer.

Replace heating equipment more than 15 years old with new EnergyStar qualified models. Equipment must be sized and installed properly. Old furnaces cost more to operate per year than new, EnergyStar qualified models that are 15% more efficient than standard models. An EnergyStar qualified geothermal heat pump is 30% more efficient than comparable new equipment and can save you as much as \$200 annually. A qualified electric heat pump is 20% more efficient and can save you about \$130 annually. An EnergyStar qualified boiler uses features like electric ignition and new combustion technologies that extract more heat from the same amount of fuel, to be 10% more efficient than a new, standard model.

Install high efficiency windows, which are 40% more efficient than standard windows. Consider replacing single-pane windows with double-pane windows that are gas-filled with high performance glass (e.g., low emissivity or "low-e" glass). EnergyStar windows may help reduce your heating **and cooling costs by up to 15%. The windows must be sized and installed properly.**

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Sources:

<http://www.consumerenergycenter.org/flex/tips.html>

Week 9:

This week we are touching on transportation energy-saving ideas. In our area, over 50% of the money we spend on energy products directly is for transportation!

Drive Efficiently. Plan and combine multiple trips (and shop local when possible). If you can, walk or bike to work and the store. Use your cruise control when on the highway and minimize stop-and-go while in town. Make sure your oil and air filter is changed regularly, the tires inflated to the recommended pressure and the vehicle tuned up.

Drive Smaller more efficient vehicles. Consider trading in for a smaller vehicle (at least for everyday use), possibly a super or ultra-low emissions vehicle (SLEV or ULEV) or a hybrid.

Consider Carpooling or **Ride share** when possible. Consider ride sharing or cooperatively owning a car with several other people. Share or co-own special purpose and large capacity vehicles (e.g. vans, trucks, etc.).

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Sources:

<http://www.greentransitions.org/HomeEnergy.htm>

<http://www.willitseconomiclocalization.org/EnergyIndependencePlan.pdf>

Week 10:

There have been great advancements in harnessing the power of solar energy. Best of all, once installed, it is virtually free! Here are some suggestions for reducing your energy bill with solar:

Adding a **solar thermal collector** in-line to your conventional water heater preheats the water, reducing the energy needed. If you have an electric water heater, you will see up to a 30% savings on your electric bill. I recommend a ProgressivTube Collector which will also add additional hot water storage capacity. When you do this you may want to turn off the lower water heater thermostat.

Solar **photovoltaic panels** (PVs) generate electricity directly and last well over the 25 year warranty period the manufacture provides. Even adding a small number of panels can reduce your electricity bill by what is called 'net metering', especially when 'time-of-day' billing is used (i.e. solar is generated at peak electricity use and credited at the higher rate, while your use is typically at the lower rate period). Sized properly (and with appropriate conservation steps taken before installed), you can reduce your energy bill to virtually nothing! In addition, generous rebate programs exist as well as both California and Federal tax breaks.

Solar thermal (air) heaters are available for the homeowner as well. One may consider the economics of adding thermal mass on the south side of your house (e.g. a trombe wall) to collect and store the day's solar energy for release at night. And don't forget your windows and the curtains! High efficiency windows coupled with insulated window coverings can do wonders in reducing heat loss or gain!

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Sources:

<http://www.greentransitions.org/HomeEnergy.htm>

Week 11:

The Willits News ran some energy conservation tips in December 2005 that are worth repeating again so this week we'll reprint those tips for your reference:

- ? Empty refrigerators and freezers waste a lot of energy. Fill the empty spaces with jugs of water.
- ? Clean the coils under your refrigerator. This will allow the unit to run more efficiently.
- ? Dishwashers save more hot water than hand washing, as long as you use the air-dry setting.
- ? Wait till 7:00 p.m. (after peak use hours) to use your dishwasher and laundry.
- ? Wrap hot water pipes and water heater as well as lowering the hot water temperature and thermostat.
- ? Switching lights from incandescent to compact fluorescent bulbs helps reduce energy consumption.
- ? Install gaskets behind electrical outlets.
- ? Put caulk around windows for sealing, and install weather stripping for doors, or at least put a rug or towel at the base.

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Sources:

<http://www.willitsnews.com/Stories/0,1413,253%257E26908%257E3151941,00.html>
(12/21/05)

Week 12:

As the weather begins to warm up and we turn our attention to the outdoors, there are tips that can help us save money there as well!

Install an **attic fan** to help cool your house, reducing the need to turn on the air conditioner in the summertime. Adding an attic fan to your home will reduce heat transfer into the upper portion of your living space. If you use air conditioning, adding an attic fan will realize at least 5% savings by prolonging the time until the air conditioner is needed as well as reducing its workload once on.. I prefer a fan that mounts under the eaves versus one that goes through the roof for ease of installation (and reduction of leak potential) as well as efficiency. Note that a solar fan -- while a good idea -- just doesn't move the volume of air necessary to realize any cost savings

If you haven't done so, consider upgrading your house with a **programmable thermostat** model. Raise the summer (cooling) temperature and lower the winter (heating) temperature. For reference, each extra degree lower in summer can increase (air conditioning) energy costs by 6%, while each degree higher in winter can increase heating costs by 3%. Heat/cool (and light) only the portion of the house being used.

Before using your **air conditioner**, consider closing doors and windows (including blinds or curtains where the sun is shining in) and turning on the heat exchanger/pump's fan only. If your air handler is under your house, consider adding a solenoid-operated door to pull cool air in from under your house. Lastly, consider planting deciduous trees on the south side of your house to reduce heat gain during the summer and to increase it in the winter.

Conserve water by fixing leaky faucets, upgrading toilets and installing irrigation drippers and timers. While you are at it, turn on and walk your irrigation lines to make sure there are no leaks.

And while we're at it, remember to Employ local businesses, products and labor in your projects you are planning. This reduces the energy that must be imported and helps keep our community strong. On that same basis, **Recycle** building waste as well since this will reduce the load on the landfill and just might provide your neighbor with materials they need for their own project!

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<http://www.greentransitions.org/HomeEnergy.htm>