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Spring/Summer

# ENERGY Guide EFFICIENCY



# Common Customer Questions

Theresa Drake, Senior Manager of Customer Relations and Energy Efficiency

**Quick Tip!**

Learn more about Idaho Power's Home Energy Audit program for electrically heated homes.

[idahopower.com/HomeEnergyAudit](http://idahopower.com/HomeEnergyAudit)

Many of you contact Idaho Power with questions about your bills, our services and how you can reduce your home's energy use. Here are some answers to questions I've recently received.

## Q: What are the best energy efficiency improvements?

**A:** It depends. If you have a little money to invest and your insulation levels aren't adequate, I'd recommend sealing openings in the walls, floors and ceilings, and then increasing attic, wall and floor insulation, in that order. An easy, low-cost option is to install LED bulbs throughout your home — especially in your home's most-used fixtures. If you have leaky faucets, get those fixed. A hot-water drip can keep your water heater cycling, and if you're on a well, a leak can keep your pump running.

## Q: What are some good do-it-yourself projects for spring and summer?

**A:** Spring is an excellent time to change filters in your heating and air conditioning (A/C) systems and clean leaves and debris away from the outside A/C unit. It's also a great time to get into your attic and crawl space. Are duct joints sealed with mastic or foil-faced tape? Are they free of kinks, well-insulated and appropriately secured? Can you see moisture issues that point to leaks or needed ventilation repairs? Are there obvious gaps or areas missing insulation? With a little know-how, you can fix many of these problems yourself.

## Q: If I don't have any money for energy-saving improvements, what can I do?

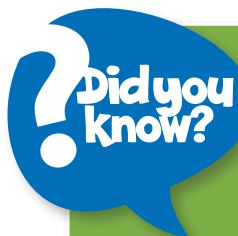
**A:** Electricity use is determined by two variables — watts and time. Efficient appliances save you money because they either take less time to do a job or use fewer watts. When you understand and begin to use this principle, each electricity-consuming activity in your home is an opportunity. Turning

things off when not in use reduces run-time. Enabling power save features on your computer and monitor reduces the watts used. Raising the thermostat a few degrees in the summer reduces the amount of time your air conditioner runs. Look for ways to reduce the watts and run-times and you'll be saving energy in no time.

## Q: How do I know if my home is efficient?

**A:** Building methods, building codes and appliance technologies have come a long way in the last 30 years. A home built to today's code is about 30-percent more efficient than the best homes built in the '80s and '90s. To see how your home compares, register for My Account and complete a short questionnaire in the "Savings Center." You can also schedule a home energy audit to take a deeper dive.

[idahopower.com/myaccount](http://idahopower.com/myaccount)



A leak of 2 drips per second wastes about 300 gallons of water and can cost \$6 or more a month.

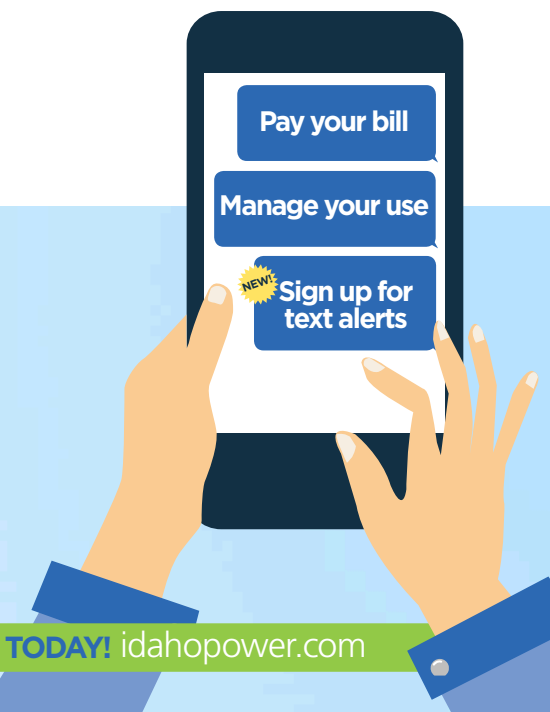
## Account Alerts

You can set an account alert to be notified via text or email when your bill reaches a certain threshold. You set the limit, and we'll let you know if your next month's bill is estimated to be more than your pre-selected amount.

You can also receive notifications when your bill payment isn't received on time or when there's a power outage in your area. If you've signed up

for outage alerts, you'll receive a text or email with an estimated restoration time about 20 minutes after the start of a power outage, and then again when power is restored to most customers. When possible, we'll send you an update if restoration times change.

Sign up for alerts by logging into **My Account** on our website.



**REGISTER TODAY!** [idahopower.com](http://idahopower.com)

# You Have the Power to Understand Your Energy Use



They say knowledge is power. When it comes to understanding your electrical use, it's true. Once you understand where and how electricity is used in your home, you can make informed choices. You can control your spending on energy and be more comfortable knowing what

you are paying for. It is also one of the first steps you can take to become more energy efficient. Or, as Idaho Power energy advisors say: **"Know your home, know your use, and know that you are in control."**



A simple way to get to know your house, and the electricity you use, is to do a walk-through inspection. Everything plugged into an outlet or hardwired to a circuit contributes to the electricity use in your home. Once you have a mental list, consider opening the door to your breaker panel. You can use the list inside to see if you forgot anything. Did you remember the water heater, furnace and extra refrigerator?

Electric utilities charge by the kilowatt-hour (kWh). To calculate the kWh used by an appliance or piece of equipment, check the nameplate (bottom or back of the item) for the wattage. Multiply the number of watts by the hours of use each month and divide by 1,000. Then multiply that number by the current cost-per-kWh to find out how much it contributes to your monthly bill.

$$\frac{\text{watts} \times \text{hours}}{1,000} = \text{kWh}$$

## Examples of appliance energy use and their approximate costs.\*

- 1,500-watt space heater running for 10 hours..... **\$1.58**
- 120-watt LED television running for 10 hours..... **\$0.13**
- 3,000-watt clothes dryer running for 1 hour..... **\$0.32**

\*Based on 10.5 cents per-kWh



## Has Your Bill Amount Changed?

### Ask Yourself These Questions:

- **What's happening with the weather?**  
Extreme temperatures can have a big impact. This is especially important when comparing your use year-to-year.
- **Has your household changed?**  
Extra people can increase your use — even babies!
- **Have your habits changed, or are there seasonal issues to consider?**  
Is someone home more? Do you have landscape pumps, a pool or a hot tub? Are you cooking differently or doing more laundry due to outdoor activity?
- **Have you added high-energy users?**  
An extra refrigerator, freezer, hot tub or outside water feature will increase use.
- **Have you moved recently?** It might be a good idea to have a whole-house inspection. Complete information is not always transferred from the prior owner to the new owner.

It's normal for energy bills to fluctuate month-to-month and year-to-year due to weather, family changes and price adjustments. But significant, unexplained fluctuations in energy use may be an indication of equipment failure or other problems that need to be addressed.

One customer with a higher-than-usual bill was investigating what may have happened. Using daily and hourly data from My Account, she noticed a couple of days in August with very high use. Looking at her calendar reminded her that she had spent a few hot days canning salsa. This activity packed a double punch — the extra stove-top use and the added heat that required her A/C to run longer. In the end, the customer was satisfied with the additional "cost," about \$8 per day, for her investment in homemade salsa.







## OF HIGH-PERFORMANCE WINDOWS

We've come a long way from the days when windows were just a hole cut in the wall to let in air and light. Windows now add beauty, light, comfort and character to a home. Even so, it's worth noting windows and doors still account for about 30 percent of a typical home's heating and cooling loss.

A lot of research has gone into improving the performance of windows, and they have become increasingly sophisticated over the last 20 years. Although it can be expensive to replace windows, there are a few situations where energy savings and other safety considerations may make window replacement a good choice. When replacing windows doesn't pencil out, there are often less expensive alternatives that can improve comfort and provide some energy savings.

**Quick Tip!**

Use the decision tree (at right) to help you decide if you should replace your windows.

START HERE!

# Help Me Make My Windows More Efficient!

Higher

RELATIVE ENERGY SAVINGS

Lower

Do your windows pre-date 1978?  
Are they single-pane or metal-framed, or is there moisture or mold in or near them?

NO

YES

Consider replacing existing windows with high-efficiency ENERGY STAR® windows.<sup>A</sup>

Are improved comfort and energy efficiency (among other factors) important enough for you to justify buying new windows?

NO

YES

Are you willing to sacrifice aesthetics, but spend less money per window, to gain efficiency and comfort benefits?

NO

YES

Install storm windows.<sup>B</sup>

NO

Caulk windows and install weatherstripping.

Are you interested in landscaping the area outside your window?

NO

YES

Plant shade trees on the east and west sides of your home to shade windows.

Are you willing to spend extra money to reduce heat gain through the window?

YES

Install low-E window film or add exterior shading (shutters, solar screens or awnings).<sup>C</sup>

A. High-efficiency windows typically range in price from \$20 to \$60 per square foot (ft<sup>2</sup>) of window area

B. Storm windows typically range in price from \$7 to \$23/ft<sup>2</sup> of window area

C. Window film and exterior shading costs can range from \$3 to \$40/ft<sup>2</sup> of window area

Window Decision Tree and cost data compiled by E Source Companies, LLC.

# Windows of Opportunity

You can improve the efficiency of your windows in a number of ways.



## Reduce heat gain in the summer

- Install white window shades, drapes or blinds on your east and west windows, and close them to reflect heat away from the house.
- Tilt the inside edge of blinds toward the ceiling to maximize sunlight while keeping heat out.
- Apply a low-cost window film on the interior surface of unshaded east- and west-facing windows. Gray-tinted films and those with special optical/solar properties may allow more light to filter through than reflective films.
- Provide exterior shading through overhangs, awnings, shade screens and trees.
- Solar window screens look similar to regular insect screens, but provide more efficiency benefits and are among the most economical solutions. Dark colors generally provide the best combination of heat and glare reduction.

## Reduce heat loss in the winter

- Open drapes and blinds on the south side of your house to benefit from winter sun.
- Install exterior storm windows to get close to the same benefit as new, double-paned, low-E windows for a fraction of the cost.
- Caulk your windows and install weather stripping.

## Window replacement may be a good option if you answer “yes” to any of these questions:

- Do you have single-pane wood, or single- or double-pane metal windows?
- Were your windows manufactured or installed prior to 1978?
- Do you have visible moisture in or near a window?

It's not always cost-effective to replace pre-1978 windows on the basis of energy savings alone; however, that's the year lead-based paint was phased out and the threat of lead poisoning from window frames, etc. may strengthen the case. Additionally, windows that are several decades old are unlikely to be sealed well, or provide good insulation or comfort.



## Modern Windows –

Think of them as Thermos® bottles.

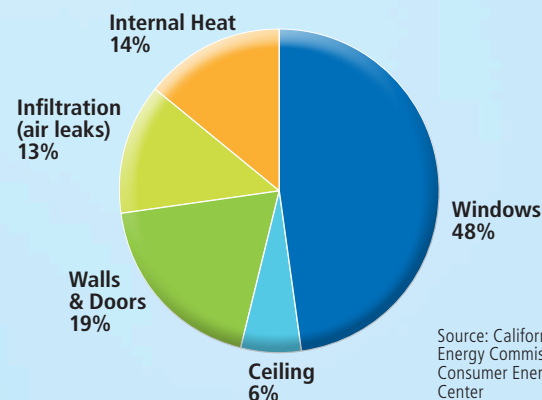


Have you ever tried to drink hot coffee from a glass cup? If so, you know glass is a very good heat conductor. The outside of the container can quickly become too hot to hold. Using two layers of glass with an air space between — the idea behind the Thermos bottle — dramatically cuts the heat flow.

Single-pane windows can act like a glass cup, conducting heat to the outside. Dual-pane windows, with a 1/2-inch to 3/4-inch air space between sheets of glass, work like a Thermos bottle to cut down the flow of heat. If you replace the air between the panes with an inert gas like carbon dioxide, argon or krypton, the window will transfer even less heat and be even more efficient. And applying special coatings to absorb or reflect heat and light can further improve performance.

Tip: When you see windows and doors with the ENERGY STAR® label, you'll know the product has been certified for high energy performance. Before you buy, ensure the label certifies the product for the Northern climate zone.

## Sources of Summer Heat Gain in Homes





# Window Shopping:

## How to Understand what You're Buying

Every new window has a standard National Fenestration Rating Council (NFRC) label attached.

**U-Factor**, the most important number to focus on, measures how well the window can keep heat from escaping from the inside of a room. The lower the number, the better its insulating properties. The most efficient windows today hover between .15 to .30.

**Range:** .15–1.20

**Look for:** Low numbers — especially on north-facing windows.

**Solar Heat Gain Coefficient (SHGC)**, tells you how much heat from direct sunlight will pass through a window — bad in the summer but good in the winter. Because of the angle of Idaho's summer sun, the SHGC matters most on east and west windows.

**Range:** 0–1

**Look for:** Low numbers on east- and west-facing windows — higher numbers on south-facing windows

**Visible Transmittance (VT)**, expressed as a number between 0 and 1, measures the percentage of visible light that makes it through the window/film combination. A higher VT number means more natural light.

**Range:** 0–1

**Look for:** High numbers

**Air Leakage (AL)**, an optional rating, measures how much air will enter a room through the window assembly. The lower the number, the fewer drafts you'll experience.

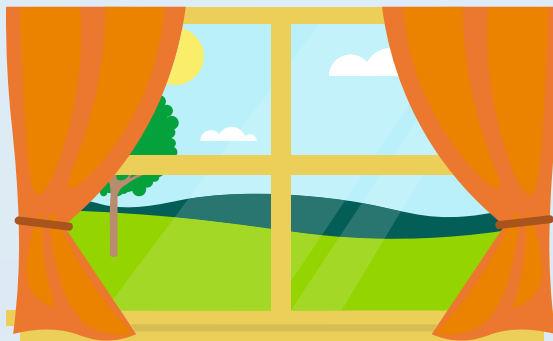
**Range:** 0.1–0.3

**Look for:** Low numbers



 National Fenestration Rating Council® <b>CERTIFIED</b>	<b>World's Best Window Co.</b>  Millennium 2000+ Vinyl-Clad Wood Frame Double Glazing • Argon Fill • Low E Product Type: <b>Vertical Slider</b>	
<b>ENERGY PERFORMANCE RATINGS</b>		
U-Factor (U.S./I-P) <b>0.30</b>	Solar Heat Gain Coefficient <b>0.30</b>	
<b>ADDITIONAL PERFORMANCE RATINGS</b>		
Visible Transmittance <b>0.51</b>	Air Leakage (U.S./I-P) <b>0.2</b>	
<p>Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information.</p> <p><a href="http://www.nfrc.org">www.nfrc.org</a></p>		

**Low emissivity (low-E) coatings** can help decrease the U-Factor, the SHGC and UV sun damage to floors, carpets and furniture. A low-E coating is a microscopically thin layer of metal or metal oxide deposited on window glass. It reflects warmth back into the home in the winter and prevents unwanted rays from entering the home in the summer.



Spend an extra minute with your power bill. It has a lot of good information you can use to learn about your electricity-use patterns.

**My Account — 24/7.** When you register for My Account, you can see your electricity use (down to the hour!), how your home compares to homes of similar type and occupancy, how high and low temperatures affect usage and much more. From here, you are in the driver's seat and can look at options and make choices that work for you.

**Kill A Watt™ meters.** Idaho Power has teamed up with libraries throughout Idaho to make Energy Efficiency Kits available for checkout. Each kit features a Kill A Watt meter to measure the energy consumption of appliances in your home. Simply plug the meter into a standard, three-prong outlet, then plug your appliance into the meter. The meter will measure the amount of power being used, helping you identify potential savings by either unplugging items when not in use or replacing them with more energy-efficient models.

[idahopower.com/myaccount](http://idahopower.com/myaccount)

*A customer added two used refrigerators to his home to support a baking business. Using a Kill A Watt meter checked out from the local library, he determined that one of them ran constantly to keep items cold. He was able to consolidate his refrigerated foods and recycle the old refrigerator to lower his monthly costs.*

# Going Ductless: A Cool Alternative

**A ductless heat pump is an extremely efficient electric cooling and heating system.**

It does not use traditional air ducts and room registers. Instead, it has an indoor wall unit that quietly blows cool or warm air into the room depending on the season. Ductless heat pumps are a great option for upgrading a home currently using electric baseboards, ceiling cable or wall cadets for heating, without having to add ductwork. The added benefit is they also provide very efficient cooling!

## Here's how they work:

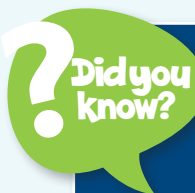
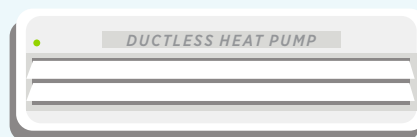
The system has an outdoor coil cabinet that uses refrigerant to absorb heat in the outside air. Don't worry, there's still heat in the air when it's cold outside — even at temps well below -100°F. The heat in this refrigerant is moved to the coil in the indoor wall unit where it is then quietly blown into the room. In the summer, this same indoor wall unit blows cool air into the room while absorbing the room's heat. That collected heat is moved to the outdoor unit where it dissipates outside.

These quiet systems are controlled using a simple hand-held remote control. The advanced technology used in ductless heat pumps can also be found in some premium heat pumps that use traditional ducts and room registers. This variable speed compressor technology reduces on/off cycling and the dependency on traditional back up heat during the winter. Heat pump technology has advanced a great deal in the past 10 years, resulting in efficiency gains while delivering increased homeowner comfort.

## Want to know more about ductless heat pumps?

Visit our website for more information and to see if you qualify for an incentive.

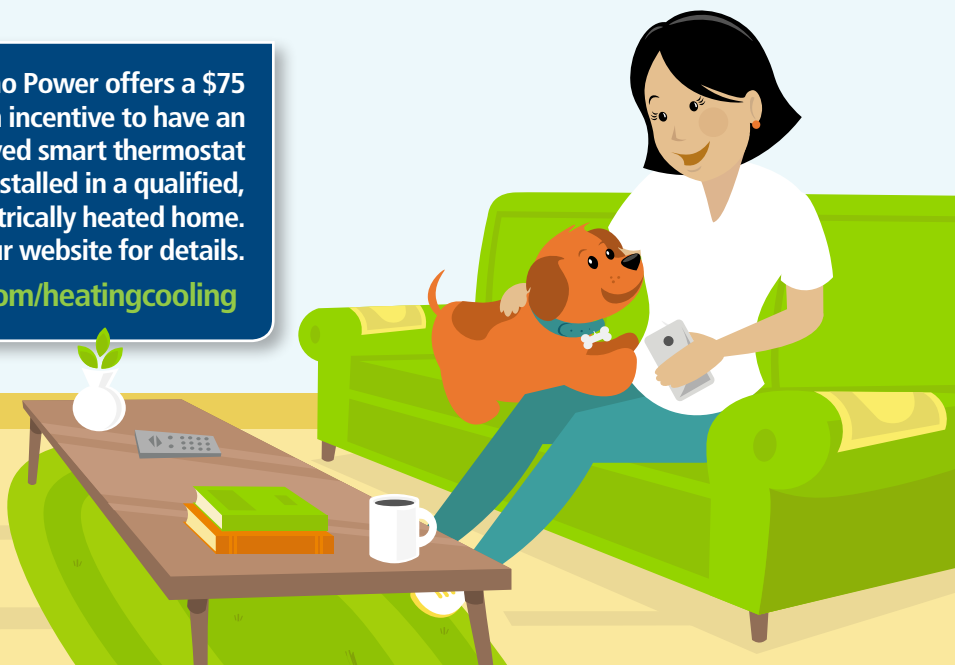
[idahopower.com/heatingcooling](http://idahopower.com/heatingcooling)



**Did you know?**

Idaho Power offers a \$75 cash incentive to have an approved smart thermostat installed in a qualified, electrically heated home. Visit our website for details.

[idahopower.com/heatingcooling](http://idahopower.com/heatingcooling)



## Simple things you can do to Lower Your Energy Use



- Set your thermostat at the desired temperature. Setting it lower won't cool your home faster.
- Turn lights, appliances and electronics off when not in use.
- Replace air filters in your heating/cooling system at least twice each year.
- Clean coils on refrigerators and freezers twice a year.
- Use timers on landscape pumps and either motion or dusk-to-dawn sensors on outdoor lights.
- Lower the water heater temperature to 120° F.
- Install high-efficiency showerheads.
- Wash clothes in cold water.
- Fix leaky faucets.
- Wash full loads of laundry and dishes.
- Install weather seals around doors, switchplates, etc.





# Vacation Energy Savings

The last thing you want to worry about while you're away is your power bill. Here are some basic steps to take before you leave town for an extended period.

- Turn off your A/C or raise the temperature. Remember, if you set it to 85°F and the temperature outside gets to 95°F, your air conditioner will still provide ten degrees of cooling for the empty house. Install a smart thermostat and you can have your home cool and comfortable just in time for your return.
- Consolidate refrigerators and freezers. Unplug the empties, and leave doors propped to keep the insides odor-free.
- Turn off lights, and either use energy-efficient LEDs along with security timers and motion sensors or smart bulbs (controlled from a cell phone) to create a lived-in look.
- Switch off computers and power strips, and unplug small appliances and electronics. This will cut energy use 24/7 and reduce fire hazards, too.
- Turn your water heater down to the "vacation" or lowest temperature setting.

**Quick Tip!**

Sign up for My Account! When you return, you'll be able to see how your vacation affected your daily electricity use. You can even check the use while you're away!

[idahopower.com/myaccount](http://idahopower.com/myaccount)

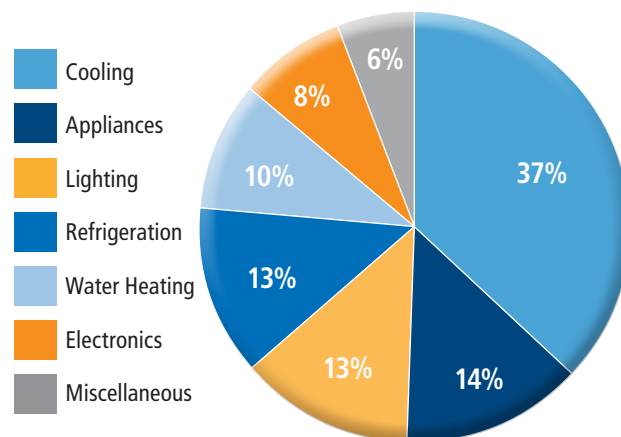
Because we want you to be happy when you return, please set realistic savings expectations, and remember:

- Extra laundry and chores can increase energy use before you leave and when you return.
- Expected savings may be distributed between two bills.
- Higher temperatures can increase use and offset savings.

The best way to see the impact your vacation had on your energy use is by viewing the daily and hourly use for specific days in My Account.



## WHAT MATTERS MOST IN THE SUMMER



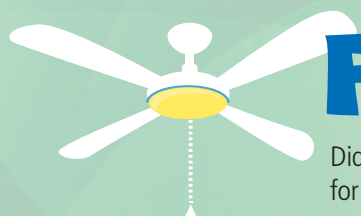
Want to rein in summer energy bills? Concentrate on changes that are easy to implement, and tackle the biggest pieces of the pie first.

### QUESTIONS TO ASK

- Are you using fans to stay cool and cooking outdoors when possible?
- Have you recently replaced your A/C's air filter?
- Can you adjust your thermostat up or use natural ventilation to cool during the night?
- Are you doing full loads of laundry and dishes and line-drying clothes when possible?
- Any incandescent bulbs that could be changed to LEDs?
- Is your water heater temperature set at 120° F?

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## Fan-tastic Idea!

Did you know ancient Egyptians had two tricks for staying cool? Regular folks hung wet blankets across the doors of their homes while royalty had their servants fan them across open jugs of water. Each had discovered that hot, dry air passing over water cools the air.

Today, we use electric fans, but the principle of cooling the air by evaporation is the same. When moving air passes over your skin, the evaporating moisture leaves you feeling about four degrees cooler — allowing you to raise your A/C temperature without sacrificing comfort.

**Quick Tip!**

Consider raising the setting on your thermostat and using a fan to stay comfortable in occupied rooms. You can save 2–3% on cooling costs for each degree you bump it up.