



By Michael P. McMahon

Electric Heaters

Which Choices are Most Efficient?

There have been a number of portable and hard-wired (direct-wired, no plug) electric heaters introduced to the market in response to high home heating fuel costs. And we have had several calls about the economics and efficiencies of some of these advertised heaters. Don't be misled by cleverly worded ads that suggest that one heater may be more efficient than a competitor's. All electric heaters, except ultra high-efficiency heat pumps, provide 100 percent efficiency, and watt for watt, cost the same to operate. Electric heaters should be selected on the basis of features, heat output (watts), and price. Check out the October 2007 issue of *Consumer Reports Magazine* for a comparison of popular electric space heaters. You may be surprised to find that some of the most expensive heaters rated the worst. And consider the following when shopping for electric heaters:

Portable or Hard-Wired

Both portable and hard-wired heaters are available. Portable heaters plug into an outlet and can be conveniently moved to different locations to provide supplemental heat where needed. Always look for the UL label when purchasing a portable heater to be certain that desirable safety features are built into the heater you are purchasing. Use portable heaters for temporary supplemental heating applications.

Hard-wired heaters, such as baseboard heaters or wall heaters, are used for primary heating applications, such as room additions, to heat a cold portion of a home or even whole-house applications. Most hard-wired electric heaters operate on 240 volts and require a designated circuit breaker and wire.

Heat Output

Electric heaters are rated in watts. Simply put, the more watts a heater draws, the more heat it will provide. A 1,500-watt heater is about the maximum size you can put on a 15-amp, 120-volt outlet without tripping a breaker or blowing a fuse. This, of course, assumes no

other items are operating off the same circuit. A home built to today's standards can be heated with about 5 watts per square foot. Many non-electric heaters are rated in BTUs/hour. One kwh equals 3,413 BTUs. Example: A 1,000-watt space heater will put out 3,413 BTUs in one hour. A 1,500-watt space heater will put out 5,120 BTUs in an hour. Assuming 5 watts of electric heat per square foot, a 1,500-watt space heater would be good for a room of 300 square feet.

Fans

Heaters with fans generally do a better job of dispensing heat. However, take into consideration the noise of the fan when purchasing such a heater. Fanless heaters generally rely on natural convection or radiant heat to disperse heat.

Cost of Operation and Off-Peak Rates

To calculate the hourly cost of operating an electric heater (or any other electric appliance for that matter):

$$A \text{ (Amps)} \times v \text{ (volts)} = w \text{ (watts)}$$

$$w/1000 \times \$0.0876/\text{kwh} \times \text{hrs./day} \times 30 \text{ days} = \$/\text{mo.}$$

Example using 12.5A space heater:

$$12.5 \times 120v = 1,500 \text{ w}$$

$$1,500w/1000 \times \$0.0876/\text{kwh} \times 4 \text{ hrs./dy.} \times 30 \text{ dys.} = \$15.78/\text{mo.}$$

Vernon Electric Cooperative offers an off-peak rate of \$0.052/kwh (about a 40 percent savings over the regular rate) for electric heat on the Dual Fuel program. This requires a separate meter for the electric heat that is controlled by a load management receiver installed by Vernon Electric. To find out more information about the Dual Fuel program, visit our web site, www.vernonelectric.com, or call our office at 634-3121 or 800-447-5051. ■



**Merry Christmas,
Joyous Holidays,
and a Happy
New Year!**

The employees and directors want to take this time to thank you for being a member of our cooperative this past year and wish you the best in the coming year.

Our office will be closed December 24 and 25 for Christmas and January 1 for New Year's Day.



Orlan Bakkum, dir. David Dregne, dir. James Goodman, dir.



Bernadine Hornby, dir. Dennis Kelbel, dir. Dan Korn, dir. Herbert Kramer, dir. Leroy Nemece, dir.



Richard Nemece, dir. David Olson, dir. Mike Berger Jason Berklund Hazel Brooks Charlie Burch



Craig Buros Cole Carry Eric Evenstad Laurie Feller Dan (Duke) Flock Donald Gander Steph Hanson Ed Haugh



Andy Hefel Matt Hirschfield Ron Janzen Jason Johnson Ken Karwoski Dave Maxwell Mike McMahon Dave Miller



Mike Mowery Judy Neuerburg Dennis Olson Trevor Olson John Pesik Michelle Primmer Mark See Nicole Simonson



Monte Tewalt Karla Yanske Carol Young

Rebate on LED Holiday Lights



LED Holiday Light Strings –\$2 Rebate

With the holiday season comes the time to think about energy efficiency with holiday lighting. LED (Light Emitting Diode) holiday light strings are typically up to 10 times more efficient than the traditional mini-bulb incandescent strings we've used in the past. Not only are they more efficient (and cost less to operate), but also many will tell you the LED lights look nicer. If that isn't enough to convince you, they also last longer. Many will come with a multi-year warranty because LED lights are so durable. You can expect them to work year after year for many years to come.

So make sure the next string of holiday lights you purchase are

marked "LED," and then send in a copy of your receipt to Vernon Electric to receive a \$2 credit on your electric bill for each string you purchase. LED light strings must be purchased before December 31, 2007 to receive a rebate.

According to the U.S. Department of Energy, if every string of incandescent holiday lights were replaced with LED holiday lights, the energy saved would total 2 billion kilowatt hours. That's enough electricity to power almost 200,000 homes per year. Just in our area, holiday lighting accounts for 60 megawatts (60 million watts) of electricity use through our power supplier Dairyland Power Cooperative. ■

LED Incentive Form

Vernon Electric Cooperative
110 N. Main St., Westby, WI 54667

Attached is a copy of my receipt for LED holiday lights

Qty. _____ x \$2.00 per string = _____ (expires 12/31/07)

Name: _____ Acct. #: _____

Address: _____

City: _____ State: _____ Zip: _____

I certify that the incentive payments requested are for LED holiday light strings installed in the last 30 days at my home, farm, or business on Vernon Electric Co-op lines and meet all requirements.

Member Signature: _____ Date: _____

Please attach a copy of your original receipt. Once your application is approved, a credit will appear on your next electric statement for the lights you purchased.



Experts Predict Winter Heating Costs to Increase

Federal officials advise consumers to brace for higher heating bills, even as a trend toward more moderate winter conditions continues.

“Households can expect to pay about \$90 more for heating this winter,” said Guy F. Caruso, administrator of the Energy Information Administration. “We’re going to have higher consumption of winter fuels as well as higher prices.” He added that the type of fuel consumers use will determine just how much more they will be paying.

Consumers using electricity as their primary heat source will face increases of about \$32, or 4 percent above last winter’s levels. Officials cited regulatory control of electric rates as a major reason why base rates are less susceptible to seasonal changes. Consumers will face higher prices for fuel processed from crude oil. Oil prices have increased 17 percent since last winter and are expected to hover in the \$75 per barrel range until at least next summer, driving up heating oil prices.

Propane users will also face increases of about 23 cents a gallon over last year. Natural gas prices, which account for about 58 percent of heating fuel sales, will be up about 80 cents per 1,000 cubic feet, a 6 percent increase, Caruso said.

Consumers should be prepared for winter weather patterns similar to last year and budget accordingly. “Bills went from being very modest in December and January to very high in February,” Caruse said.—*Derrill Holly, NRECA*

Here’s How Electric Off-Peak Heating Compares:

The off-peak rate of 5.2 cents per kwh is equal to purchasing fuel at the following prices at the furnace efficiencies stated:

- LP gas @ 90% — \$1.25/gal.
- #2 fuel oil @ 85% — \$1.80/ gal.
- Natural gas @ 90% — \$1.35/therm
- Wood pellets @ 60% — \$2.94/40 lb. Bag

If you’re paying more than the listed price above, then you can save with Vernon Electric’s Dual Fuel program. Visit our web site to learn more at www.vernonelectric.org or give our office a call at 634-3121 or 800-447-5051. ■

Hey! It’s Snow. Let’s Go...

Enjoy running the drifts on your snowmobile, but please, be careful. We install guy wires at the end of a line and at angles to keep poles vertical. Guy wires can be dangerous to snowmobilers because they are difficult to see, especially at night or when obscured by ice or blowing snow. ■



Don’t Waste Money Heating Water!

With winter here, it is tempting to think about soaking in a nice hot bath on a cold night. But did you know that a bath takes more hot water than a five-minute shower – and costs you more money? It’s true. There are also other simple things you can do to keep your water-heating energy bills under control. The U.S. Department of Energy offers these tips:

- Repair leaky faucets promptly; a leaky faucet wastes gallons of water in a short period.
- Insulate your electric hot-water storage tank and pipes, but be careful not to cover the thermostat. Or, buy a new water heater with a thick, insulating shell; while it may cost more initially than one with less insulation, the energy savings will continue during the lifetime of the appliance.
- Install aerators in faucets and low-flow showerheads.
- Although most water heaters last more than 15-20 years, today’s models are much more energy efficient than older ones. Adding an insulated water heater blanket can greatly increase the efficiency of your older model water heater.
- Lower the thermostat on your water heater; units sometimes come from the factory with up to 125 degree F. temperature settings, but a setting of 110 degrees F. provides comfortable hot water for most uses. ■

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Your Touchstone Energy® Cooperative



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