



ENERGY EFFICIENCY

SPACE HEATERS: FRIEND OR FOE?

During the cold winter months, many of us seek out the comfort and warmth of home. While a good central heating system is designed to meet whole-house needs, members sometimes turn to space heaters for additional warmth. Using one can help boost the temperature and comfort level in a single room, but consistent use over an extended period can increase winter heating bills considerably.

Space heater basics

Two types of space heaters are available for the residential market. Convective models circulate air within an enclosed space, while radiant heaters transfer warming energy directly to objects or people within close proximity to the unit.

If central heating is unavailable or inadequate, a convective heating unit can distribute heat relatively evenly throughout an enclosed space.

For garages, workshops, workout rooms, or laundry areas, a convective heater used for a few hours a day or each week could be a good fit.

Radiant electric heaters typically include infrared heating elements. Nearby surfaces, including people, absorb the heat. Air in immediate proximity to the unit's enclosure or cabinetry also aids in the transfer of warmth.

While they can be effective for temporarily adding warmth to a single room, using space heaters for prolonged intervals or on a daily basis is

usually a poor choice when it comes to energy efficiency. Central heating systems are specifically designed to handle the needs of your entire home, while space heaters are not.

"Space heaters are not an ideal solution for long-term home heating," says Scott Carbary, energy advisor for Firelands Electric Cooperative. "For every unit of electricity that is consumed by these devices, they produce only one unit of heat. A whole-house heat pump system, on the other hand, produces two or more units of heat for each unit of electricity used," says Carbary.

This is why adding several space heaters to supplement your central heating system is likely to drive up your energy costs. And when it comes to efficiency, there are currently no space heaters among the Environmental Protection Agency's list of ENERGY STAR®-rated products. The group has evaluated several models but have no plans to include such products in the labeling program in the near future. The EPA also cautions that space heaters are most efficient when used in small spaces for limited periods and can actually waste energy if consumers try to heat too large of an area with the devices.

Safe not sorry

When using a space heater to warm a chilly room, it's also important to make sure to do so safely. Space heaters are a seasonal appliance, but according to the U.S. Consumer Product Safety Commission, they are responsible for 25,000 residential fires and 300 deaths a year. In addition, burn injuries associated with surface contacts send about 6,000 people to emergency rooms every year.

Always set space heaters in locations clear of all flammable materials and out of reach of small children, pets, or anyone with impaired mobility. Consider investing in a model that has tip-over safety features, which automatically shuts off the power source in the event that the unit tilts beyond its upright position.



Also, be sure to plug heaters directly into a wall rather than using an extension cord or power strip. Most light-duty extension cords and surge strips are not designed to handle the amount of energy that a space heater requires and can overheat, causing a fire hazard. And never leave a heater unattended when you are not home or are asleep.

Given a choice between high, medium, and low or an adjustable thermostat, choose the latter. A unit that heats your space to the desired temperature will cycle less, saving you energy and never overheating the room.

If a particular room in your home is constantly chilly, using a space heater when the area is occupied could be the answer. However, if you are looking to warm larger

areas of your home or a single area for a prolonged period, there may be other alternatives. "Sealing air leaks, adding insulation, or tuning up your heating system so it operates more efficiently are all more economical solutions. These options will save you more energy — and money — in the long run," says Carbary.

Firelands Electric Cooperative offers FREE home energy consultations to its members. If you would like help determining which energy efficiency improvements your home would benefit from the most, contact the cooperative's Member Services Department at 1-800-533-8658 and schedule your appointment today.

Carbary's CORNER

As Firelands Electric Cooperative's Energy Advisor, one of my primary duties is helping members find ways to reduce energy use in their homes or businesses. This sometimes includes an on-site energy consultation. This free service can help pinpoint the appliance or device that may be causing excessive energy consumption — and additional cost.

A few months ago, a Firelands Electric member called the co-op office with concerns over his monthly bill, which had increased drastically. These particular bills covered his electric use during the summer months, including several 90-degree days.

Even with central air taken into consideration, the member services department, with the help of the co-op's state-of-the-art metering system, discovered that the recent kilowatt-hour (kWh) use was nearly one-and-a-half times the home's average summer use! Something out of the ordinary was definitely going on.

During my free scheduled energy consult, I checked for the usual culprits of high electric use — malfunctioning pumps, inaccurate thermostats, and HVAC and water heater issues. Everything seemed normal. The heat pump tested within normal ranges when the air conditioner was running. I even had the member shut the system down to take additional readings.

That's when I found the guilty party.

While waiting for the heat pump system to restart, I noticed a sudden and unusual power draw from the electric furnace portion of the system. There was a malfunction that caused the member's heating and air conditioning to run at the same time!

With the mystery solved, I helped the member turn his HVAC system off at the breaker until it could be repaired.

A couple of weeks later, the member called the co-op to check on his usage. Before my appointment, during the extreme heat of August, it wasn't uncommon for his home to use 160 to 180 kWh each day. Since shutting off his HVAC system, the member's daily use had dropped to 50 kWh or less.

The member may have had to repair his HVAC system, but the savings on his electric bill will definitely be worth it!



Scott Carbary
ENERGY ADVISOR