How can residential customers lower their winter heating bills?

An Ask E Source answer

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Q: You have helpful advice for saving energy in the summer, so I'm curious about saving energy in winter too. Do you have any advice for lowering heating bills that utilities could promote to customers?

A: Saving money on energy bills can be hard—especially in the winter, when we turn to heating our homes. But there are several things people can do to save money and stay comfortable.

Below, we offer tips residential customers can follow to stay warm, stay comfortable, and save money.

Keep the heat in

What you can do

Open or close your blinds. According to the US Department of Energy (DOE) discussion about whether to update or replace windows, heat gain and loss through windows make up 25%–30% of residential heating and cooling energy use.

During the day, open your blinds or window coverings on the sunny side of your house to allow the sun to warm the room. Keep blinds and coverings closed on the shady side of the house, on cloudy days, and at night. According to the DOE resource Energy Efficient Window Treatments, "when drawn during cold weather, most conventional draperies can reduce heat loss from a room up to 10 percent."

You can also consider installing cellular shades, which trap air in their honeycomb-like structure to insulate the window. In its explanation of energy efficient window coverings, the DOE states, “tightly installed cellular shades can reduce heat loss through windows by 40% or more, which equates to about 10% heating energy savings.”

Use fans. During the winter, set your ceiling fans to rotate clockwise to push rising warm air back into the room. Not only will this help prevent heat loss, but it also keeps floors warmer. Make sure to keep your fans set to the lowest speed, and turn fans off if you find they’re cooling a room too much.

Apply weatherstripping to doors and windows. Weatherstripping helps seal your home, which prevents cold air from entering your home and keeps warm air in.

What can utilities do for their customers?

According to data from the E Source US Residential Customer Insights Center, while 35% of US utility customers participated in at least one energy efficiency program offered by their energy provider in 2022, just 4% participated in weatherization offerings. Some simple weatherization options include applying weatherstripping or hiring a contractor to seal gaps. Although small, these steps can add up to big savings for your customers.

Although weatherization is an easy way to save customers’ money and improve their quality of life, not all customers can afford weatherization services. Consider making weatherization and bill assistance programs available to your income-qualified customers, and market them well.

In our report How to market weatherization programs to vulnerable customers, we discuss the importance of understanding the needs, preferences, and demographics of your low- and moderate-income customers and how to engage them with weatherization programs.

We also recommend providing your customers with information on how they can apply for a local Weatherization Assistance Program (WAP) funded by the DOE. The WAP website includes a map with links to all local agencies’ programs that offer weatherization assistance in your service territories.

Also, clearly communicate your weather-related disconnection policies to your customers. Review the Low Income Home Energy Assistance Program’s list of Disconnect Policies and summary table of Seasonal Termination Protection Regulations for guidance.

For more information on this topic, you can watch our webinar Leading strategies for income-qualified weatherization programs.

What contractors can do

Conduct a home energy audit. During a home energy audit, contractors can identify improvements that will make your home more energy efficient and save you money. Contractors can recommend upgrades and other measures you can do yourself, including sealing and insulation. According to ENERGY STAR's website on estimating energy savings from air sealing and insulating, the Environmental Protection Agency estimates these measures can save homeowners an average of 15% on heating and cooling costs.

Air-seal gaps. Finding and sealing gaps and cracks in your home's structure prevents warm air from moving outside and cold air from coming in. Contractors can find where air leaks are and seal them with caulk or expanding foam, keeping more heat in.

Add or upgrade insulation. Proper insulation helps keep your house warm by preventing warmth from leaving your house. When areas in direct contact with outside air (such as walls, attics, and the basement) are well insulated, you'll save money on heating costs.

Optimize heating equipment and ventilation

What you can do

Keep vents clean and clear. Keep the areas around your vents clear of dust, furniture, curtains, and other objects. Unobscured vents keep your heating equipment more efficient because they don't have to work as hard to deliver the same amount of warm air to a room.

Check and change furnace filters. A clean furnace filter keeps your furnace from having to work harder to heat your home. The crew of This Old House advises to check your furnace filter every 30 days. If the filter is dirty, replace it. And at the least, replace your furnace's filter every three months.

Schedule regular furnace maintenance. We recommend having your furnace or boiler inspected once per year in the fall. Regular tune-ups and inspections make sure nothing lowers your heating equipment's efficiency. Regular maintenance also decreases the chances of your heating equipment failing during winter, when you most need it.

What contractors can do

Install a smart thermostat. Smart thermostats offer big energy savings by:

- Learning your daily schedule and adjusting your home's temperature when you're home and away
- Prompting you to turn down the temperature when winter rates are at their highest
- Allowing you to adjust HVAC settings remotely with your smartphone

The DOE's energy saver page for programmable thermostats recommends keeping your thermostat set between 68° Fahrenheit (F) and 70°F during the winter to save the most energy. On its Winter Bill Tips

website, Reliant Energy advises customers about thermostat temperature settings, saying, “For every degree above 68, you can expect a 3% to 5% increase in your heating costs.”

Seal and insulate ducts. If ductwork connecting heating equipment throughout your house has gaps or cracks at the seams, you’ll lose heat. Contractors can find these problem areas and seal them.

Be sure to also have contractors insulate your ducts. Duct insulation increases the efficiency of your heating equipment by preventing heat loss as warm air moves through the ducts in areas of the house that are cold or less insulated.

Consider a heat pump. During inspection, if a contractor suggests you replace your heating equipment, consider replacing it with a heat pump. The DOE’s heat pumps page explains, “When properly installed, an air-source heat pump can deliver up to three times more heat energy to a home than the electrical energy it consumes.”

If you live in an area that experiences subfreezing temperatures, consider hybrid or dual-fuel heat pumps. These heat pumps are still efficient and capable of keeping you warm during winter.
