

Facts About Home Heating

Home heating is the number one energy expense for most SDGE® customers. In fact, heating can account for as much as 16% of your total energy bill. Fortunately, there are ways to minimize gas heating costs, while still maintaining year-round comfort. This fact sheet can help you understand more about the different types of heating systems and help you stay warm for less.

Natural gas heating

Nearly 90% of all San Diego area single-family homes are heated by natural gas. Though one of the most cost-efficient energy sources available, natural gas prices tend to fluctuate according to the season, meaning you typically pay more in the fall and winter months.

Electric heating

Electric heating systems are found most often in rural areas where natural gas is unavailable, and in all-electric developments such as apartments and condominiums. Heating your home with an electric heating system typically costs more than natural gas heating systems. When leaving the house for a weekend or longer, electric heating systems not controlled by a positive off thermostat should be turned off at the circuit breaker. Note: If you are unfamiliar with the operation of circuit breakers, seek help from a licensed electrician.

Heat pumps

If you have an electrically heated home (including the necessary ductwork), and a need for both heating and air conditioning, a heat pump might be a wise investment. Heat pumps are the most efficient electric heating systems, because they merely move heat around instead of creating it.

They work by moving heat between the inside of your home and the air outside. During the winter, heat pumps bring in heat from the air outside to help heat your house. In the summertime, heat pumps remove heat from your house in order to cool it.



The cost to operate a heat pump is approximately 75¢ per hour.* Though the cost of installing a heat pump is higher than that of other electric heating and cooling systems, its lower operating cost can make up the difference in a few years. Rebates may be available on energy-efficient central heat pumps.**

During remodeling, buyers should be mindful of the cost to upgrade present electrical and duct systems. In many cases, the duct size required for furnace heating is too small for a heat pump and additional electrical system capacity is necessary.

Solar heating

Solar space heating systems take advantage of the sun's rays either actively or passively to heat your home. An active solar space heating system uses water or air, and special circulating equipment to collect, store and transfer heat. A passive solar space heating system collects and stores the sun's heat, normally without the use of transfer equipment. While the initial cost of a solar system may be high, its operating cost is low.

In fact, a properly designed solar home may save up to 50% of conventional space heating costs. There may be financial assistance available through the California Energy Commission.

* Based on 15¢ per kWh. Operating cost will vary based on model, market prices and your tiered rate.

EnergyGuide label

The EnergyGuide label can be a very valuable resource in helping you select the most energy-efficient furnace. The more efficient the model, the less it will cost to run.

Make your heating dollar buy a lot more comfort

These four elements can be critical to increasing the energy efficiency of your home:

- Insulation
- Attic ventilation
- Weather-stripping and caulking
- Thermostat

When used together, these elements can make a dramatic difference in winter heating bills, and may actually pay for themselves with the energy saved. They also help your home maintain a constant temperature, considerably adding to your comfort. For advice on selecting the right materials, consult a qualified heating contractor.

Insulation

Installing insulation is generally the best single step to take to reduce energy waste. Without adequate attic insulation, up to 20% of every dollar spent on home heating goes right through the roof. But, by installing R19⁴ thermal resistance ceiling insulation (R11 for the walls), homeowners can reduce heat loss, and save money in the process. Be careful not to store items directly on attic insulation. Insulation becomes packed and loses its effectiveness.

R19 is the recommended ceiling insulation value for most homes in the San Diego area. In mountain and desert areas, R-30 attic insulation is more effective. Rebates may be available on wall and attic insulation that exceed energy efficiency requirements.**

Attic ventilation

Make sure your attic is properly ventilated to prevent a build up of moisture, which can allow heat to escape. That's why ventilation is an important step. Ideally, attics should be equipped with vents along the eaves and at the peaks of the gables. According to building codes, one square foot of ventilation per 150 square feet of attic space is generally required. Check the Uniform Building Code for specific requirements.

⁴ "R" stands for resistance to heat flow; the higher the "R" number, the greater the insulating power.

Caulking and weather-stripping

Cold air sneaking into a home through the cracks and crevices around doors and windows can contribute to a higher energy bill. Weather-stripping and caulking work by sealing leaks to keep heated air inside and cold air outside.

Caulking should be used on the outside of the house where windows and doors meet walls, wherever two different construction materials meet (like around chimneys) and wherever two different parts of the house are joined. Weather-stripping is similar to caulking, but is generally used to seal leaks around doors and windows. Installed measures should seal well when the door or window is closed while allowing them to open freely. Weather-stripping can range from simple do-it-yourself kits to more technical installations.

Thermostat

Thermostats are a key in helping control your heating costs. For every two degrees you lower your thermostat, you can save approximately 5% on your heating costs. While you sleep, thermostats should be turned down or turned completely off (health permitting).

Unfortunately, many thermostats do not allow for precise temperature setting. The thermostat face may read only "high," "medium" and "low," without indicating exact temperatures. If you have such a thermostat, you may want to consider replacing it.

For greater control of your heating system, consider a programmable thermostat. They help you save on heating costs through more efficient use of your heating system. Programmable thermostats are available in do-it-yourself or professional installation models and many can handle both heating and air conditioning for year-round savings. Rebates may be available on ENERGY STAR[®]-labeled programmable thermostats.**

Safety tips

- Keep draperies, rugs and furniture away from heat vents.
- When operating a decorative gas log, open the fireplace/ chimney damper completely. And, to conserve energy, close the damper when the gas log is not in use.
- Close the damper on an unused, wood-burning fireplace to prevent heat from escaping up the chimney.

- A clean and well-maintained furnace is a safe furnace and can save you money on your monthly gas bill. Here are some recommended tips for the safe and efficient operation of your natural gas furnace:

- ♦ Have your gas furnace checked at least once a year by a licensed heating contractor or plumber or SDG&E.
- ♦ Many gas furnaces utilize air from the room to operate. Lint and dust carried by the air, or items stored in or around the furnace can obstruct airflow. In order to operate safely and efficiently, your gas furnace must be kept free of dust and lint build-up or other obstructions stored near the furnace such as newspapers or cleaning equipment.
- ♦ Most forced-air furnaces have a filter that cleans the air before heating and circulating it throughout the home. The filter should be checked monthly for lint build-up during periods of furnace use and cleaned or replaced if necessary.
- ♦ When installing a new or cleaned filter, be sure to re-install the filter compartment door/panel of the furnace properly so it fits snugly. Never operate the furnace without the filter compartment door/panel properly in place because doing so may create the risk of carbon monoxide poisoning.
 - ♦ Most newer forced air furnaces have a safety switch that prevents furnace operation when the filter compartment door/panel is not in place. Some older forced air furnaces do not have a safety switch and can be operated with the filter compartment door/panel off or not properly in place.
 - ♦ These older furnaces, when installed in a closet and operated with the filter compartment panel/door not in place, will circulate carbon monoxide throughout the house.
- Check the appearance of the flame. If the flame is yellow, large and unsteady, the furnace needs to be inspected immediately by a licensed heating contractor or plumber or SDG&E, and the condition corrected.

Some tips for everyday energy conservation

Homeowners can further their energy savings by practicing conservation on a day-to-day basis:

- Remove any awning or shades and trim trees or landscaping that block the sun from entering the house during the winter.
- If you spend most of your time in one room, heat it with a portable electric heater instead of using your central heating system.
- Insulate bare heating ducts with 1" to 2" of insulating batting.
- Bake during the chilliest part of the day. But never use your oven alone as a heater.
- Wear loose, layered clothing. The air trapped between layers provides extra warmth.
- Close curtains at night to reduce heat loss but leave your curtains open during the day. Sunlight can provide a free source of heat.
- Keep windows and doors closed.
- Keep the humidity up. Add more plants indoors and consider buying a humidifier. You'll feel warmer with some humidity in the air.
- Check the insulation in your home to be sure it is adequate.
- Inspect the furnace ducts for holes. Seal with duct tape, if necessary. You could save up to 17% of your heating costs.
- Turn on a ceiling fan in the reversing mode when using a forced-air furnace. The fan will distribute heated air more evenly throughout the room and provide a greater level of comfort.
- Thermostats for separate area heaters in unused rooms should be turned off, and doors closed. All thermostats other than a heat pump should be turned off when leaving the house for more than a few hours.
- A good way to check for proper thermostat operation is to use a thermometer to compare actual room temperature to the thermostat reading. Make sure furniture and draperies do not obstruct the thermostat; they could influence an inaccurate reading. Heat from lights will also affect a thermostat reading.

If the thermostat seems to be out of calibration, a heating contractor should be called to adjust or replace it.

- Finally, check your furnace's energy efficiency. A gas furnace's energy efficiency is measured by how well it converts energy into usable heat. You'll want a furnace with a rating of 80% or higher. If your furnace has a low energy-efficiency rating or is more than 15 years old, you might consider replacing it with a new energy-efficient model. You could save up to 20% of your heating costs. Rebates may be available on ENERGY STAR-qualified central natural gas furnaces with a rating of 90% or higher.**

For more information

SDG&E is committed to providing you with safe, reliable energy and exceptional customer service. If you'd like more energy-saving information, contact SDG&E at **1-800-644-6133**, or by e-mail at info@sdge.com. You can also visit our Web site at www.sdge.com.

** Contact SDG&E at **1-800-644-6133** or info@sdge.com to verify rebate availability and eligibility requirements before buying or installing qualifying products.

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