

Weatherization and Energy Efficiency Tips

A conventional home can lose up to 40% of its heat to air infiltration. Weatherization makes buildings more energy efficient by sealing leaks and limiting indoor-outdoor air exchanges. Simple measures include sealing the envelope with insulation and caulk. Weatherization can also include much larger and more complex measures. Taking a whole-systems approach can even include replacing old HVAC and water heating systems with newer, high-efficiency models. Whether you can afford a large investment in your home's efficiency or you are seeking to make some minor changes, there are many options for home weatherization.

Simple and inexpensive weatherization measures:

- Caulk and weather-strip doors, windows, and other places that leak air. Caulk and seal air leaks where plumbing, ducts, or electrical wiring penetrates through exterior walls, floors, ceilings, and over cabinets.
- Install outlet gaskets behind electrical outlets.
- In the winter, tape clear plastic to the inside of window frames. Make sure the plastic is sealed tight and there is space between the plastic and the glass.
- Cover windows with heavy drapes or curtains. During the day, open the curtains on south-facing windows and allow the sun to naturally heat your home.
- Keep the flue damper closed when the fireplace is not in use or plug the flue during long periods of inactivity. Open flues let cold air in and allow warm air to escape.

Further weatherization strategies (insulate!):

- Better insulate your attic. Heat loss through ceilings and attics is one of the greatest causes of energy inefficiency in cold climates. Attic insulation should be rated R-38 for cold climates and R-49 for very cold climates. Also insulate and seal the attic hatch door and install door with a minimum thickness of $\frac{3}{4}$ inch.
- Wrap a water heater blanket around the water heater. And insulate the first 5 feet of pipes leaving the heater. Too much energy is wasted heating water in the winter. An insulated tank requires much less energy to keep water heated.
- Insulate pipes and ducts. Securely tape any cracks or gaps and all joints in the ductwork with duct tape before you install insulation. Up to 30% of furnace heat is lost through cracks and seams in the duct work. Insulating hot water pipes not enclosed by floor insulation helps minimize heat loss. In the winter, it will also help keep cold water pipes from freezing.

Investments:

- Test for inefficiencies. Contract a professional to conduct an energy audit on your home.
- Replace your old HVAC and water heating systems with more efficient systems.
- Insulate your entire house.
- Replace your windows with efficient double-pane windows.
- Replace old doors with Energy Star doors.
- Install a programmable thermostat that automatically lower temperatures at night and when your home is not occupied.

*Sealing off your home limits air exchange between indoor and outdoor environments. While it keeps unwanted conditions out, it can also keep unhealthy and contaminated air in. It is essential to evaluate ventilation needs when sealing a building envelope. A well insulated and poorly ventilated home can suffer from unhealthy indoor air. It is also a good idea to install carbon monoxide and radon detectors to monitor the quality of the air in your home.