

Save with HELPS Home Efficiency Tips!



HELPS
Home Energy Loss
Prevention Services

How to improve insulation and ventilation to increase energy efficiency in the home

How does heat transfer relate to home insulation?



Proper insulation is essential for saving on heating and cooling

Conduction

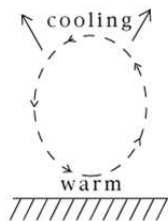
Heat transfer via direct contact



Materials that are less conductive, like fiberglass, foam or paper make good insulation. Insulation should trap and hold air and not allow it to blow through

Convection

Warm air rises and cool air falls, creating a convection current.



Insulation should be continuous and air sealed so that heat isn't lost in convection

Radiation

Heat is transferred in electromagnetic waves, such as sunlight or campfire heat.



Low emission coatings for windows, aluminum foil facings on foam sheathings, and radiant barriers in southern facing attics will reduce heat loss by radiation

How can I vent my attic in an energy efficient way?

1. Ensure the floor of the attic is airtight.
2. Install air inlets along the entire perimeter of the roof for continuous air entry.
3. Install more entry vents down low than exit vents up high so that air is pulled from outside, not inside.
4. Put more insulation (insulation with a higher R value) on top of the wall than inside it.





10 Steps to a More Energy Efficient Home!



1. Turn lights off, even if you are only leaving the room for a few minutes.
2. Replace old incandescent bulbs with ENERGY STAR LED light bulbs. New LEDs have a traditional warm appearance!
3. Use a microwave, toaster oven, or crock pot when possible instead of the stove or oven.
4. Turn down the thermostat when you are away from the house at work or school for the day.
5. Change your air filter every month during heating and cooling seasons. In addition, your heating and air conditioning systems should get a tune up by a contractor every two to three years.



6. Use a well-qualified contractor and premium heating and cooling systems to ensure that the equipment is the proper size, correctly installed, efficient, and has fixed ductwork to prevent leakage.

7. Choose appliances that are more energy efficient, such as freezer on top refrigerators rather than side by side models and refrigerators without ice makers. Front load washers also use less energy than top load washers.

8. Purchase an ENERGY STAR computer, and turn it off when you are not using it. In addition, set it to automatically go into sleep mode when not in use.

9. If you need to have windows replaced, purchase ENERGY STAR or other high performance windows, and ensure they are installed by a well-qualified contractor to prevent air or moisture leaks.

10. Do not choose oversized windows, and shade west and south facing windows to improve their performance.

