

Common House Problems That Cause High Energy Costs and Sacrifice Comfort

Many homes have these problems which may go undetected by the homeowner without proper diagnostic performance testing. The problems are color coded in the diagram below.

Problem: Inadequate Insulation Levels

- Effects:**
- Warm and cool air escapes, causing heating and cooling equipment to work harder than necessary
 - Ice damming may occur, leading to roof and ceiling leaks
 - Freezing pipes

Problem: Air Leakage

- Effects:**
- Drafts and cold spots
 - Overworking of heating and cooling equipment
 - Moisture problems leading to peeling, paint, mold, mildew or structural damage in walls and attic
 - Inadequate air exchange causing unhealthy air quality, high humidity or dryness

Problem: Inefficient Heating Systems

- Effects:**
- Uneven room temperatures due to low air flow
 - High energy costs due to equipment that's older than ten years with low efficiency ratings
 - Reduced system efficiency due to oversized and/or poorly maintained equipment.

Problem: Inefficient Central Air Conditioning Systems

- Effects:**
- Refrigerant undercharging or overcharging may lead to premature compressor failure
 - Low air flow may be caused by dirty inside coils, closed registers or inadequate duct sizing
 - Incorrectly wired thermostats and other controls can affect system performance
 - Oversized or improperly serviced equipment reduces efficiency

Problem: Duct Leakage

- Effects:**
- Uneven distribution of warm or cool air
 - Uncomfortable room temperatures
 - Poor heating and cooling equipment performance

Problem: Improperly Vented Appliances

- Effects:**
- Dangerous carbon monoxide fumes can enter the living space when gas or oil-fired appliances are not vented properly. This is known as backdrafting and often occurs with poorly vented heating systems, stoves, water heaters, and clothes dryers.

