



# Home Tips



• CHRISTIAN BUILDING INSPECTORS, INC., 3697 HABERSHAM LANE, DULUTH, GEORGIA 30096, 770-849-0920 • JULY 2009 •



## Cutting Cooling Costs?

*Our cooling bills are out of sight. We are tired of spending \$350 a month to stay cool. Is there a way to stay cool and not spend so much at the same time?*

Staying cool is expensive. In a hot climate like Atlanta, the average family spends about \$800 a year on cooling. Your home may cost \$1100 to keep cool while a similar home next door costs half that. This article will help you make your home the low-cost energy leader on the block.

### **No. 1 - Replace your old air conditioner**

Replacing a 10-year-old window or central AC unit with an Energy Star model can cut your cooling costs by 30 to 50 percent and save you enough over the new unit's lifetime to offset its purchase price. This is especially true if you live in a hot, humid climate. Central AC units are rated for efficiency according to their Seasonal Energy Efficiency Ratio (SEER). Window units are rated according to their Energy-Efficiency Ratio (EER). The SEER/EER rating is listed on the Energy Guide label. The higher the number, the more efficient the unit. If you double your SEER (or EER), you can cut your AC operating costs in half. To find the rating on an older unit, check the data label or plug the model number into the online CEE-ARI database at [energystar.gov](http://energystar.gov) on the Central Air Conditioners page. New units are required by law to have a SEER of at least 13 and an EER of 8. Central AC units manufactured from 1992 through 2005 have a SEER of about 10, and older models are at 6 or 7.

**Cost:** Replacing an old central air system typically costs about \$3,000, but it can run as high as \$10,000.

**Payback:** The older your system and the more you use it, the larger your energy savings will be with a new unit. Replacing a SEER 7 unit with a SEER 14.5 unit that costs \$3,000 will save you about \$700 a year and pay for itself in five years. Calculate your payback with the AC savings calculator at [energystar.gov](http://energystar.gov). Paying higher upfront costs for the most efficient unit possible (SEER 14 or higher) makes sense in hot climates since the initial investment will be paid back in energy savings over time. It makes less sense in cooler climates.

### **No. 2 - Switch to CFLs**

You already know that compact fluorescent lightbulbs cut lighting costs, but they cut cooling costs too. That's because, unlike incandescents, they give off very little heat. Ninety percent of the electricity used by an incandescent bulb is converted to heat rather than light. That extra heat means extra cooling expenses.

**Cost:** \$3 per lightbulb.

**Payback:** Less than a year.

### **No. 3 - Install a programmable thermostat**

This is another easy upgrade that pays back quickly. Setting your cooling system four to six degrees warmer when you're away at work or on vacation and automatically lowering it to 78 degrees when you're home can cut 5 to 20 percent off your energy bill.

**Cost:** Thermostat \$50 to \$150.

**Payback:** About a year if you use it for both heating and cooling.

### **No. 4 - Clean or change AC filters monthly**

Dirty air filters are the number 1 cause of air conditioning breakdowns and they cost about 7 percent more in energy costs (or about \$45 a year) in hot climates. Change central AC furnace filters monthly during the summer. Most window AC units have a removable filter behind the air inlet grill that you can take out and rinse monthly.

### **No. 5 - Fix leaks in AC ducting**

If your home was built in the past 10 years or so, it probably has well-sealed ductwork. But if you live in an older home, 10 to 40 percent of your cooling dollars is lost through gaps in the duct joints. This cool air is wasted when the ducts run through an attic, crawl space or basement. This can be a tough DIY project to do effectively since it takes a professional to test for leaks before and after the repairs. If you're game for sealing the ducts yourself, examine your ductwork for cracks, splits or bad connections and feel for escaping air when your system is on. After you seal the leaks, keep the ducts cool by insulating them with R-6 or higher fiberglass duct wrap if they run through a hot attic.

**Cost:** \$300 to \$1,000 for a professional to test and seal your heating and cooling ducts. DIY duct sealing costs \$20 for a 60-yd. roll of aluminum tape and \$5 for an 11 oz. tube of sealant.

**Payback:** Two to four years for professional duct sealing and less than a year for DIY sealing.

### **No. 6 - Block out sun with window shades**

Roughly 30 percent of unwanted heat comes through your windows. Putting shades, insulating curtains or tinted window film on south- and west facing windows can save you up to 7 percent, or \$45, annually on cooling costs. The combination of shades and trees (see below) can lower indoor temps by 20 degrees on a hot day. Insulating curtains will save even more on both heating and cooling costs.

**Cost:** Shades, \$10 per window; low-E films, \$5 per window; insulating curtains, \$30 to \$150 per window.

**Payback:** One to four years depending on initial costs and where you live.

### **No. 7 - Keep cool with shade**

Cut AC costs through your own sweat equity by shading your house with trees, trellises and vines. Shading blocks

direct sunlight through the roof and windows, which is responsible for about half of the heat gain in your home. Carefully positioned trees and horizontal trellises on the east and west sides can save up to 30 percent of a household's energy consumption for heating and cooling. For an average household, that's \$100 to \$250 in energy costs annually.

**Cost:** Three 10-ft. trees, \$900; DIY trellis, \$50 (for a bare-bones version) up to \$500 (for the deluxe model); vines for trellis, \$50.

**Payback:** On average, a well-designed landscape provides enough energy savings (heating and cooling) to return your initial investment in six to eight years.

**No. 8 Check your AC system's efficiency**

To determine whether your air conditioner needs a tune-up, perform this easy test when your AC unit has been running for at least 15 minutes and the outdoor temp is above 80 degrees F. With a clean air filter in place, set a thermometer on the supply register that's closest to the inside cooling equipment. Keep it there for five minutes and note the temperature. Do the same thing at the return vent. The air coming out should be 14 to 20 degrees cooler than the air going in. An air conditioner that's not cooling to those levels could be low on refrigerant or have leaks. A unit cooling more than 20 degrees could have a severe blockage.

**No. 9 - Use fans and raise your thermostat**

Ceiling fans can save you money by keeping you comfortable at higher thermostat settings. Each degree higher than 78 degrees will save you 5 to 10 percent on air conditioning costs. The moving air from a ceiling fan increases the amount of evaporation from your skin and helps cool you off. **Cost:** Ranges from \$50 to \$1,000. Energy Star-rated fans are about 10 percent more efficient than standard ceiling fans and are usually in the \$150 and above range.

**Payback:** Depends on how high you set your thermostat and the cost of the fan. Could be as fast as three years or as long as 20 years.

**No. 10 - Tune and clean your AC regularly**

A poorly maintained air conditioner uses 10 to 30 percent

more energy and has a shorter life. Central AC compressors last on average about 10 to 12 years. Proper maintenance can extend that to 20 years. It's important to have a professional tune, clean and check controls and refrigerant levels on your central AC system every two to three years. If your refrigerant needs recharging, this correction can improve efficiency by 20 percent. It's also important to perform DIY maintenance each year. Several contractors told us that 90 percent of air-conditioner failures are caused by a lack of maintenance.

**Cost:** Professionally cleaning and servicing a central air conditioner costs \$100 to \$250.

**Payback:** This depends on the age of the unit and how dirty it is. If you haven't had your AC unit serviced in several years, having a professional do a thorough tune-up could pay for itself in less than a year and extend the life of your unit.

Source: July/August 2009 The Family Handyman

**Quote Of The Month**

**"IT TAKES BOTH RAIN AND  
SUNSHINE TO MAKE A  
RAINBOW."**

UNKNOWN

**A Tip Of The Hat To:**

**Patrick Nicholson**

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**Thank You**

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