

Since 1981 the City of Tallahassee's energy auditors have visited more than 40,000 homes. We've learned a lot of ways to help City electric and gas customers save energy and money. Every year we update this list of 101 problems that cause high summer utility bills in homes. Here's our list for Summer of 1999.

<http://www.floridapsc.com/general/publications/101summer.cfm>

2. The air conditioner's air filter is clogged.....Airflow is restricted. When air flow is restricted your HVAC (Heating, Ventilating and Air Conditioning) system runs less efficiently. A clogged filter increases costs, reduces comfort and can lead to costly equipment failures. When airflow is severely restricted, ice grows on the air conditioner's evaporator coils, a condition that can precede "slugging" the compressor with liquid refrigerant. The resulting repair bill can exceed \$1,000. Change the air filter religiously! It should be replaced monthly during summer and winter periods of heavy use.

4. The air conditioner thermostat is set too low.....Often its operation is misunderstood. Your air conditioner runs no faster at a lower setting, it only runs longer. The recommended summer setting is 78 degrees. Set it 2 to 5 degrees higher when you're away in the day. Recent research in Florida reveals that home cooling costs increase 12% for each degree setting below 78 degrees. ***Your cooling costs can almost double if you set the thermostat at 70 instead of 78 degrees!***

21. The air conditioning equipment is inefficient.....for a variety of reasons. First, it may have been inefficient from the start. Equipment ten years old or older is likely to have an original efficiency rating of 7.5 SEER (Seasonal Energy Efficiency Ratio) or less. Today, Federal law requires manufacturers to achieve SEER 10.0 or higher for all split-system units, and SEER 9.7 for package units. What do these SEER ratings imply? You've probably already guessed: If your cooling cost is \$600 a summer with a SEER 6.0 unit, your cost would be \$300 a summer (for the same amount of cooling) with a SEER 12.0 unit. What other factors affect air conditioning efficiency? **The big three are** a). dirty coils, which at normal rates of dirt accumulation degrade efficiency by 5% each year; b). duct leaks, which in most Florida homes account for about 20% of air conditioning consumption; and c). improper charge of refrigerant. How common are these types of problems? In 1988 a widely cited Arizona study of residential air conditioners found the following:

- 75% of the condenser coils were dirty
- 70% of the units had improper refrigerant charge
- 55% of the evaporator coils were dirty
- 45% had dirty blower wheels
- 35% had significant duct leakage
- 10% had a wrong motor or fan installed