

Atlanta

Green Building

Tune Up Your Home

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Green Building By Carl Seville

Leaks Reduce Efficiency of Existing Homes

No matter how large or luxurious an existing residence may be, most homeowners have a complaint about some aspect of their home's comfort or energy efficiency. Certain rooms are too hot, too cold, or both. That spacious media room over the garage never stays warm in the winter. The library shelves are always dusty. Energy bills are too high.

Most people think that's just the way it has to be when they're not dealing with the latest technology often found in newly constructed homes, but they are very wrong. Putting up with an uncomfortable or inefficient house today is like driving an older Mercedes that is out of alignment, needs a tune-up and has a leaky sunroof. No one who could afford to fix those things would continue driving that way. Yet most of us live in houses that are just as bad without considering fixing them or even knowing where to turn. For our cars, there are mechanics. Until recently, there was no equivalent professional whom homeowners could look to for help. Now there is. The business of "tuning-up" a house as you would a car is called Home Performance. We are fortunate that in the Atlanta area we have the Home Performance with Energy Star program (HPES), created by the U.S. Department of Energy and the Environmental Protection Agency. Managed locally by the Southface Energy Institute, HPES trains professionals to accurately diagnose and solve problems that make houses unhealthy and inefficient. Consider them "House Mechanics."

Leaky Homes – The Big Problem

There is a general misconception particularly prevalent in older construction that homes should be "leaky," meaning that air should flow in and out through various crevices so that the house stays "healthy." In fact, these leaks contribute to making most houses unhealthy as well as inefficient. It is true that homes can become unhealthy if they lack fresh air, but in a tightly constructed house, fresh air can be introduced through the use of fans, special ventilation systems, or by just opening the window. We should strive to make our houses as tight as possible, as long as we bring in some air to keep them fresh.

Insulation is vital, but if a house is too leaky, most insulation will not work well. The most common insulation, fiberglass, doesn't function well in a leaky house. It also doesn't work if it's compressed or doesn't completely cover the walls and ceilings. There are many simple ways to stop air leaks – caulk, spray foam and gaskets are some common examples. Once you stop most of the leaks, then you can insulate. Alternately, you can use newer products, like spray foam and dense packed cellulose, that seal as well as insulate.

Heating and air conditioning cause some of the biggest problems in houses today. Most homes have ducts that move the hot and cold air to each room in an attempt to keep them comfortable. Unfortunately, these ducts are often not installed properly – they are leaky and don't take direct paths to the rooms. Leaky ducts waste energy and force furnaces and air conditioners to work harder. Duct systems in some homes can be less than 50% efficient. Homeowners will frequently install a new furnace or air conditioner and leave the ducts as they are. Home Performance contractors can test and repair the ducts, making the existing system run more efficiently. Fixing the ducts can sometimes eliminate the need to replace existing equipment.

One side benefit of an efficient home is that it can also be a healthy home. A well-sealed house with an efficient HVAC system will keep interior air healthy by maintaining the proper humidity – eliminating mold in warmer months and keeping the air moist in colder months. On top of that, a tight and efficient house doesn't get as dusty as a regular house – reducing allergens and cutting down on the time needed to dust.

Home performance is not just for older homes. Many homes built in the last 20 years have performance problems that can be corrected through Home Performance contracting. If you have any concerns about the efficiency or air quality in your home, consider getting a Home Performance evaluation to learn which improvements would benefit you.



A Home Performance professional can inspect your house, determine exactly where the problems are, and show you how they can correct them. Your checkbook and your lungs will thank you.

Carl Seville is a green builder, consultant, educator and writer on sustainability to the residential construction industry. He founded and served as Vice President of SawHorse, Inc., an Atlanta design/build firm for 25 years. Through Seville Consulting, his firm helps homeowners and building professionals create healthy, efficient and durable buildings by incorporating sustainable practices into their homes and businesses. For more information, visit www.sevilleconsulting.com. For more information on Southface Energy Institute, visit www.southfacehomeperformance.com or www.southface.org.

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