

Energy audit a valuable tool

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A house is a complex system comprising many smaller components that work in conjunction with one another to form the greater, more elaborate system that is your home.

When I am asked by homeowners to install added insulation in an attic, replace a home's windows, or install new heating and cooling equipment, I generally recommend a comprehensive evaluation of the home. This step is necessary to determine whether the component will be effective and satisfy the desired objective.

Yes, insulation, high-performance windows, and heating and cooling equipment are key components that affect energy efficiency, but there also are other aspects of a home to consider. A full snapshot of a dwelling's energy efficiency is the best way to satisfy this purpose. Only after there is a full understanding of an individual home's needs can an accurate energy repair strategy be developed. This should be a prioritized list of repairs that can cost-effectively make your home more comfortable, lower your utility bills and reduce your carbon footprint.

An energy assessment, or an audit, is the ideal way in which to get a full view of a home's needs in making it more energy efficient. The federal Energy Star program Web site (www.energystar.gov) offers guidance on do-it-yourself audits as well as hiring a professional.

Qualified green building professionals can perform comprehensive examinations to determine where energy is being wasted in your home. Among other things, these professionals can calculate the amount of air leaking from your living space and duct work. They also can retest the home after the necessary work is completed to determine the effectiveness of the repairs.

Some of the tools used by an energy auditor can include a blower door, used to test leakage in the building envelope; a duct blaster, used to test leakage in the heating, ventilating and air conditioning system; and a thermal imaging camera, used to find large temperature disparities on surfaces of the living space. While all these tools are helpful, there is no substitute for experience, thoroughness and the willingness to get down and dirty in your home's least accessible places, such as attics and crawlspaces.

Use the assessment to build a plan. According to energystar.gov, "An audit can help you assess how much energy your home uses and evaluate what measures you can take to improve efficiency. But remember, audits alone don't save energy. You need to implement the recommended improvements."

While some tasks may be completed by a homeowner, many home energy reduction projects are best handled by building professionals who have the knowledge and equipment to finish repairs more quickly and effectively.

As a long-term strategy, the success of a home energy assessment and the associated improvements can best be measured by your home's improved comfort, lower utility bills, and reduced waste and pollution.