

## Insulating an older home - yes, you can

By **Kim Maire**; Special to the TAB  
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Newton - Ask Bryant Pierce about saving money, and he gets very excited, so it's not surprising that he spoke enthusiastically about insulating his 80-year old house in Newton Centre. He estimates that he now saves about 30-40 percent on his gas bill each month since he had blown-in fiberglass installed about six years ago. He convinced several neighbors of the benefits, and they jumped on the bandwagon, too.

Contractor Paul Eldrenkamp, who organizes workshops on insulating older homes for the Green Decade Coalition/Newton ([www.greendecade.org](http://www.greendecade.org)), is surprised that many people believe that insulating existing homes may not be practical. At the Green Decade's most recent seminar in November, Eldrenkamp and others detailed ways to save money and energy through better insulation. Installing fiberglass batts (those common rolls of fluffy, pink material) would require removing walls, but technology for blowing in insulation between existing walls has been around for decades and can provide R-values (the measure for heat resistance) equivalent to or, in some cases, better than fiberglass batts.

The recent insulation workshop also included a demonstration by Bruce Torrey of Building Diagnostics of two types of energy efficiency assessment tools, the blower door test and an infrared camera scan. Like an MRI for a patient, an infrared scan of a house makes the invisible visible. Cold spots appear as dark patches where insulation or weather-stripping may be failing, indicating potential problems. Air leaks are among the most common cause of cold spot problems, according to Torrey, particularly at kneewall joints like those revealed in the photos below.

Widely advertised energy audits from utility companies under the MassSave program are free and can provide very useful advice on energy-savings steps, but the free audits do not include blower door or infrared camera tests. Green Decade is running a nonprofit service to analyze quality and effectiveness of weatherization efforts that includes the more comprehensive tests for \$200-\$400 for homes in Newton (see [www.greendecade.org](http://www.greendecade.org) for information on upcoming workshops and audits). Private companies such as Torrey's can also perform these audits. Check [www.energyratings.org/mafor](http://www.energyratings.org/mafor) certified home energy raters in Massachusetts.

But if cold air swirls around you as you walk through your old Newton home, calling the insulation contractor may not always be the best first step. Eldrenkamp suggests this process for improving energy efficiency in your home:

1. Assess health, safety and structural issues. Like doing a stress test before undergoing a new exercise regime, you want to make sure your electrical, plumbing and other systems are up to code. For example, there's no sense insulating if your wiring may be faulty. New insulation may make it harder to find or fix such problems.

2. Check to see how much insulation you already have. If you don't have any, then it's time to reach for that contractor's phone number ASAP. If you already have some insulation, you might want to have an energy audit that includes a blower door or infrared camera scan to identify any opportunities for improvement.
3. Measure improvement. If you want to know how much you are really saving — and payback can be significant — keeping score is important. The Home Energy Rating System is one method of keeping score and information about it is available at [www.natresnet.org](http://www.natresnet.org).

The U.S. Department of Energy's Oak Ridge National Laboratory produces an excellent Insulation Fact Sheet (see [www.ornl.gov](http://www.ornl.gov)), useful for owners of both existing homes and homes under construction. It lists four types of blown-in insulation that may be appropriate for existing homes: loose-fill fiberglass (R-value 2.5), loose-fill rock wool (R-value 2.8), loose-fill cellulose (R-value 3.5), and spray polyurethane foam (R-value 5.9). R-values, taken from the Fact Sheet tables, are approximate and given per inch. Both rock wool and cellulose claim to be 70-75 percent recycled materials, while fiberglass has 20-25 percent recycled content, but as Alex Wilson, executive editor of Environmental Building News, noted in a January 2005 article, "From an environmental standpoint, a thicker layer of a relatively non-green insulation material is almost always better than an inadequate thickness of the greenest insulation material available." Contractor Eldrenkamp said clients never ask about payback regarding formica vs. granite countertops, though cost differences are significant, but always question the payback for upgrading insulation. Hopefully, the linkages between energy savings, environmental benefits and higher levels of insulation are becoming so obvious that questions about upgrades go the way of formica.

*After 20 years living and working overseas, Kim Maire is applying her business analysis skills to homeownership in the Boston area. She was a Newton Planning Department volunteer intern in August 2007.*