

Investing in Insulation

By ANNA CHANG-YEN | Green Shoot Media

The type of insulation used in a home can make all the difference — not just in how much you'll spend on energy bills each month but also in how friendly your home is to the environment. This combination of benefits makes upgrading the insulation in an existing home, or installing quality insulation in new construction, a win-win for homeowners.

If it's been a while since you've purchased insulation, you may need a primer, since today's options include not only old standbys but promising new technology. Brushing up on the newest offerings can help you save the most money and energy.

NEW MATERIALS

We've all heard the term R-value. According to the Department of Energy, this standard is used to measure an insulating material's resistance to conductive heat flow. A higher R-value means more energy saved.

Most insulating materials — such as fiberglass, cellulose, rigid foam — are assigned an R-rating. The Department of Energy recommends R-values that should be used on insulation in various parts of a home, as well as various parts of the country. Products with higher R-values are recommended for attics and cathedral ceilings,



while walls and floors require lower R-values.

Radiant barriers are another way to make your home more energy efficient. These highly reflective materials re-emit radiant heat rather than absorbing it, according to the Department of Energy. Usually used in attics, these materials do not receive R-value ratings but do a good job of keeping the sun's heat at bay.

Blown and sprayed insulation products are a relatively new trend in home insulation. According to the Department of Energy, loose fibers or fiber pellets are blown into building cavities or attics using special

pneumatic equipment. This is a good fit for retrofits and hard-to-access spaces, according to the Department of Energy, since the small particles can easily fill a variety of spaces. If you decide to go with this type of insulation, be sure to do your homework on your insulation contractor, as proper installation is crucial to its effectiveness. Fluffing is the practice of installing blow-in, loose-fill insulation at a lower density than is recommended to meet a specified R-value. This practice saves the contractor money while short-changing your home's energy efficiency.

Technology also is playing a role in helping homeowners get the most out of their home's energy-saving features. Advanced monitoring systems keep tabs on a home's energy systems and uses a web interface to show homeowners where their home uses the most energy and recommend changes to improve efficiency.

NEW STANDARDS

For homeowners who are really aiming for the stars in home insulation, the Zero Energy Ready standard is the goal. According to the DOE, a Zero Energy Ready Home is so energy efficient that a renew-

able energy system can offset all or most of its annual energy consumption.

This standard applies to new home construction, but Dow Chemical Company claims that retrofitting a home to ZER standards by upgrading insulation and air sealing could result in monthly energy cost savings of 30 percent.

DIY PROJECTS

There are many home insulation projects you can take on yourself for the maximum bang for your buck. The U.S. Department of Energy offers DIY project details, complete with shopping lists and step-by-step instructions, on its website at energy.gov.

If you've got a weekend to devote to improving your home's efficiency, consider directing your attention toward rooms above your garage. According to the Department of Energy, you can get this project done in four to eight hours on a weekend, at a cost of 60 cents to \$1 per square foot for R-30 batt insulation.

Insulating your water heater is an even quicker project at 1.5 hours. A water heater insulation blanket kit can be purchased for about \$30 and save you \$20-\$45 per year. If your attic stairs are leaking air, a pre-made sealing kit in the \$100 price range can be installed in a few hours and make a big difference.



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REAL ESTATE 101



Know Your Numbers

The U.S. Department of Energy's Home Energy Saver tool at <http://hes.lbl.gov/consumer/> helps homeowners determine where the R-values they need to insulate each area of their home based on their climate and heating and cooling systems. Download the DOE's Energy Saver guide for more tips on making your home more efficient at <http://bit.ly/1FTadou>.

HOMESWISE GLOSSARY

Simple CS (caulk and seal): a technique for insulating and sealing exterior walls that reduces vapor diffusion through air leakage points by installing pre-cut blocks of rigid foam insulation over floor joists, sheet subfloor, and top plates before drywall is installed.

SOURCE: [Energy.gov](http://energy.gov)

AD SPACE