

The Home Energy Revolution

How The Pro Dealer Can Help Its Pro Customer



Thanks to better energy codes and building practices, home energy consumption is forecast to increase only 13% from 2009–2035, compared to a 24% increase from 1990–2008.

Source: U.S. Energy Information Administration, www.eia.gov

There is a revolution happening in the housing industry, and the changes taking place rival the impact of indoor plumbing, modern electricity and refrigeration from a century ago.

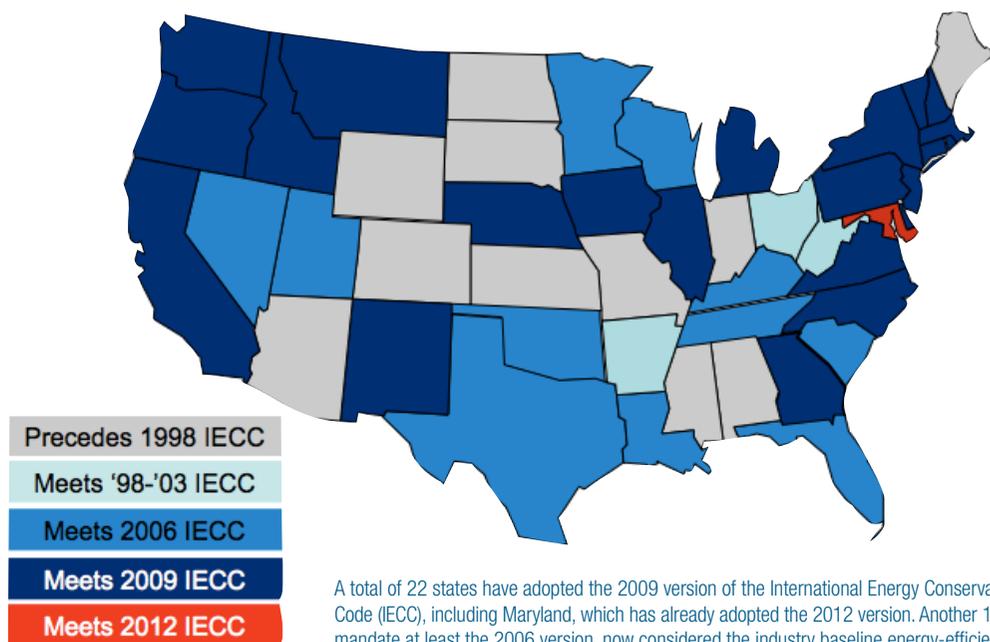
The focus of today's building revolution is on improving housing performance—specifically energy use.

Driven by finite and fickle supplies of fossil fuels, environmental impact concerns (ranging from oil and natural gas extraction to carbon emissions), and rising energy prices and their potential national security ramifications as well as improvements in building science and a dizzying number of newly enacted codes and standards, this ongoing revolution is causing fundamental shifts in the way new homes are built.

Just this year alone, upgrades to major building codes and green certification programs will push residential energy use down by 30 percent or more compared to homes built only a few years ago.

To reach those new thresholds, the 2012 versions of the International Energy Conservation Code (IECC), the (voluntary) federal Energy Star for New Homes certification program, and the USGBC LEED for Homes rating system all call for higher levels of building tightness and insulating value, better water and moisture control, and more scrutiny to verify those standards are met.

These and other changes—by mandate or market demand—are causing builders to seek new products and practices that satisfy the new standards. In turn, they look to the building materials supply chain, specifically their local pro dealer, for solutions.



A total of 22 states have adopted the 2009 version of the International Energy Conservation Code (IECC), including Maryland, which has already adopted the 2012 version. Another 11 states mandate at least the 2006 version, now considered the industry baseline energy-efficient code.

Source: the IECC



Advances in building materials like these code-recognized, structural wall panels, help increase the energy efficiency of new homes, eliminating the need for housewrap and providing superior moisture resistance.

KNOW THE CODE

For dealers to be effective partners with their pro customers during this transition from old-school building practices to new-age energy solutions, LBM operations first need to gain a solid understanding of the building codes and green certification programs that their builders are following.

That job would be far easier if every building department in the country adopted the current residential codes as they were issued. Unfortunately, every jurisdiction is different—not just in which version they enforce, but even in which sections of the code they choose to adopt.

That said, although at least 22 states have adopted the 2009 version of the IECC, just as many are stuck on the 2006 edition or even earlier drafts, before the IECC even existed. Maryland is the first state to adopt the 2012 version of the IECC effective January 1, 2012.

The easiest way to find out where your state or local building department stands is to talk with a code official recommended by your best builder customers. Not only can he or she tell you the current version of the IECC and other codes being enforced in your area, but also how that code is interpreted and verified in the field.

That official also can serve as a sounding board for new products and assemblies that you and your pro customers are considering to help improve home energy efficiency and moisture mitigation. In fact, the official might appreciate a heads-up about those technologies to help streamline their local code approval.

STUDY BUILDING SCIENCE

No one expects a lumber dealer to become a building science expert overnight, but a little knowledge about how buildings work goes a long way to advising pro customers about their options to achieve better energy efficiency.

The battle to improve residential energy efficiency has two fronts: loss and consumption. While an effective strategy is to attack both, even the most efficient heating and cooling systems, appliances, and windows will only perform to their potential if the house is built to stop air movement, address moisture transfer and minimize thermal losses through its structure.

FOR MORE INFORMATION

International Energy Conservation Code
www.internationalcodes.net/2012-international-energy-conservation-codes

Energy Star for New Homes
www.energystar.gov/homes

LEED for Homes
www.usgbc.org/homes

National Green Building Standard
www.nahbgreen.org

U.S. Energy Information Administration
www.eia.gov/consumption/residential

U.S. DOE Energy Efficiency and Renewable Energy
www.eere.energy.gov/topics/homes

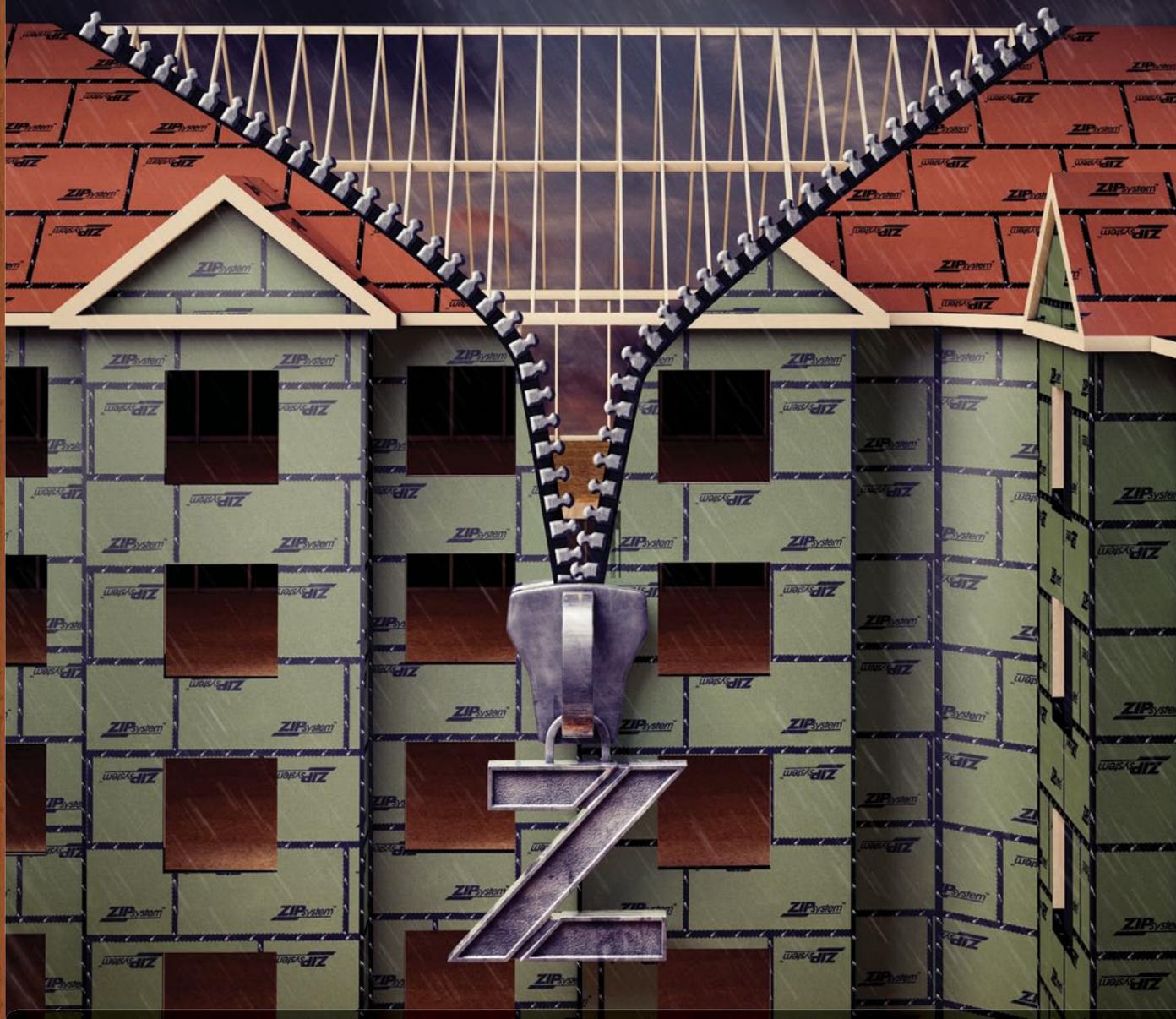
Building Codes Assistance Project
www.bcap-energy.org

Homes account for 54% of the energy consumed by all building types.

Source: U.S. Dept. of Energy Data Book, www.buildingsdatabook.eere.energy.gov

ZIP up a tighter envelope.

Protect your projects from the elements with ZIP System® sheathing. Our all-in-one structural panels, with a built-in water resistive barrier, combined with our specially designed ZIP System™ tape help guard your buildings from moisture damage during and after construction. This continuous water and air barrier also improves energy efficiency by significantly reducing air leakage. And panels go up quickly for a stronger, drier, faster seal – creating the ideal building envelope. **ZIP up your next project. SwitchToZIP.com.**



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FROM THE
CREATORS OF



Moisture and air seem innocent enough.

(Until they get into your walls.)



Keep moisture problems out of your walls.

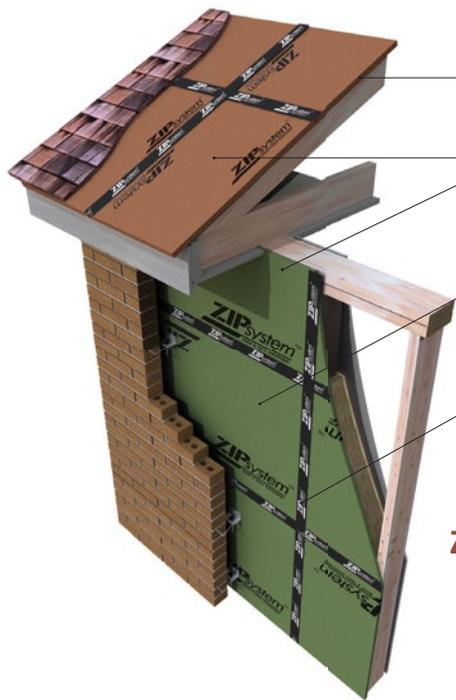
ZIP System® sheathing installs without the hassles of building wrap and felt. Since the weather barrier is integrated directly onto the sheathing panels, it doesn't tear or blow off — even when exposed to harsh wind driven rain tests. This built-in barrier also helps eliminate the risk of water becoming trapped between building wrap and sheathing. Plus, it is specially engineered to allow permeability, helping your building breathe. That's performance we back both during and after construction with a 180-day exposure guarantee and 30-year system warranty*.



Stop air leakage and maximize energy efficiency.

Air leakage is one of a building's most significant causes of energy loss, and ZIP System roof and wall sheathing is part of the solution. When combined with ZIP System™ tape, this system forms a continuous protective air barrier — significantly reducing air leakage through walls or roofs and lowering your Air Changes per Hour (ACH). This helps you optimize R-value, save energy, and meet increasingly stringent performance requirements of energy codes and green building programs. Not to mention, it's not susceptible to air leaks due to rips and tears, a problem common with building wrap and felt.

Simply install ZIP System panels and tape the seams for air and moisture protection.



High quality structural wood sheathing panel delivers strength and durability.

Built-in vapor permeable weather barrier eliminates the hassles of building wrap and felt.

A continuous, rigid water resistive barrier helps protect projects from moisture damage and air leakage during and after construction.

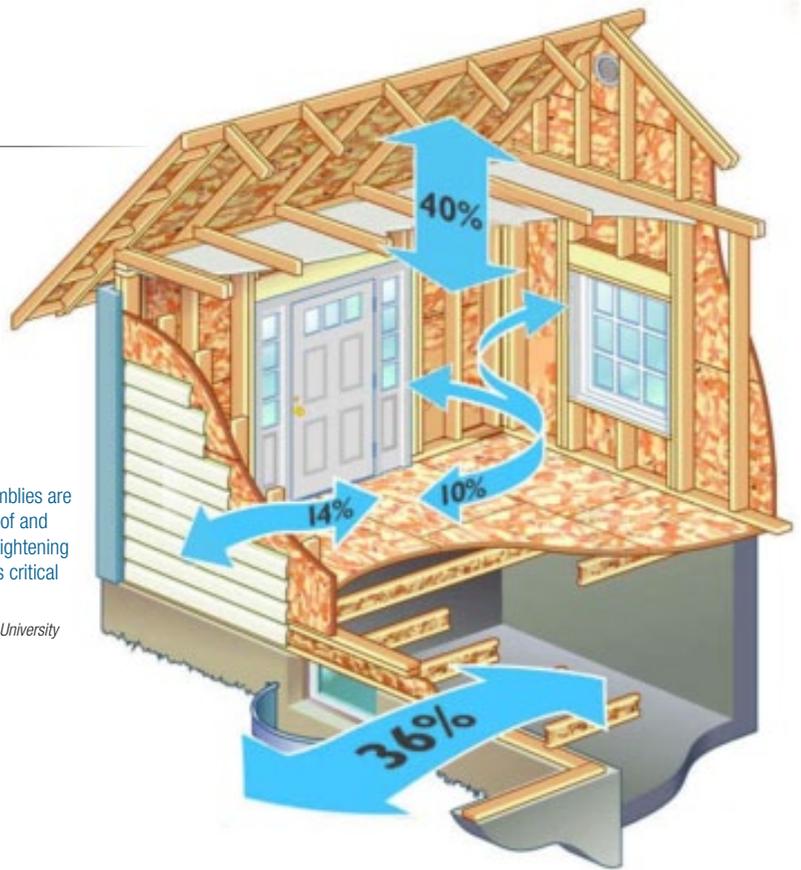
ZIP System tape with a specially engineered, high performance acrylic adhesive bonds with ZIP System panels for a long-lasting protective seal.

ZIP up a tighter envelope for your next project. SwitchToZIP.com.

ZIPsystem™
ROOF & WALL SHEATHING

Contrary to conventional wisdom, wall assemblies are usually more thermally efficient than their roof and basement/foundation counterparts, though tightening and insulating the entire building envelope is critical to reducing energy demand.

Source: Whole House Air Infiltration Study, Penn State University



According to a recent study from Penn State University, most thermal loss occurs through a home's attic/roof assembly, followed by the foundation and wall assemblies.

To create a strong, tight building shell that is far less likely to experience thermal loss and undermine energy efficiency, new yet proven building materials and methods include: 2x6 wall framing with a variety of metal framing connectors that create a continuous load path from the roof to the foundation; tighter nailing patterns and longer fasteners for the application of insulated roof and sidewall sheathing; and the use of various weather-resistant barriers.



But the thermal loss battle doesn't end there. A strategic, systematic, and properly applied combination of air tightness and increased insulating value is essential to long-term energy efficiency. Gaps, joints, penetrations, rough openings, heating ducts, and other areas must be sealed against passive air and moisture transfer.

Meanwhile, a wider spectrum of insulation products, from conventional fiberglass batts to newer spray foams and blow-in materials, provide the necessary thermal resistance to maintain optimal indoor comfort and minimize energy use.

Testing for whole-house and central air distribution duct air leakage will soon become standard practice to verify energy-efficient building practices and ensure compliance with codes and standards.

Source: Residential Energy Services Network (RESNET)



Spray foam insulation applications, specifically in the roof/attic frame, seal against air and moisture infiltration and provide thermal resistance to reduce temperature and pressure differences between conditioned and non-conditioned spaces.

Source: © 2007 James F. Wilson/ courtesy BUILDER magazine

NEW SCHOOL STRATEGIES

The housing industry is quickly coming to a point where conventional 2x4 framing and fiberglass insulation simply won't be enough to meet the ever-increasing codes and standards for home energy efficiency.

In fact, it is almost impossible to comply with the latest IECC, Energy Star, and LEED for Homes standards, among others, with such old-school methods and materials—a fact that LBM dealers and the entire building materials supply chain must recognize and adjust to as valued partners with their pro customers.

Instead, practices including advanced framing, thermal breaks, unvented and insulated attic and foundation assemblies, and the use of structural insulated panels and insulated concrete form systems are making their way into the mainstream to literally and figuratively fill the gap between the past and the future of energy-efficient homebuilding.

The pace of change among building codes and standards with regard to residential energy use is occurring faster and more dramatically than ever toward less (or even zero) dependence on fossil fuels and far fewer greenhouse gas emissions.

It is incumbent upon LBM dealers not only to stay current but ideally to get ahead of the curve to accurately and reliably relay the latest information to their builder and contractor customers to ensure their sustainability—and that of their homes—now and in the future.

More than 1.3 million homes have been certified by the federal Energy Star New Homes program, nearly 130,000 in 2011 alone, a 27% market share.

Source: Energy Star, www.energystar.gov



Code-recognized, structural roof sheathing eliminates the need for felt and has built-in protective barriers that protect the entire panel from moisture.



To locate a dealer, call 1.800.933.9220 or visit ZIPsystem.com. A downloadable rebate is available online.

ZIP IT TIGHT

ZIP. The fastest way to the perfect tight house.

Discover ZIP System® Sheathing and Tape. It's a one-of-a-kind energy-efficient barrier that keeps moisture out and reduces air leakage through the walls, while still allowing the house to breathe. Plus, it installs 40% faster than the leading housewrap. For a tighter house that saves builder's time and homeowners' money, get ZIP System Sheathing.

ZIP up your next house. SwitchToZIP.com.

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