



# The State of Green Building

## *Therma-Tru Doors' Approach to Energy Efficiency and Sustainability*

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The green building industry has garnered an extensive amount of attention and press in the past several years. With ever-rising energy prices and concerns about climate change, home buyers want more environmentally sensitive solutions when building and remodeling their homes.

As new-home starts slow and an uncertain economy drives homeowners to be more conscientious about the dollars they spend to remodel their homes, builders and remodelers are taking a close look at their businesses. Many builders are focusing on how they can maximize profit and differentiate themselves in this tough market. The recent economic downturn combined with the rising interest in green building creates an opportunity for businesses to showcase the green performance of their homes.

Therma-Tru Doors provides products that can help builders and remodelers offer a simple and direct way to reduce their environmental impact during construction and remodeling projects. Therma-Tru's products address many sustainability issues, including energy efficiency, durability and natural resource conservation. Unlike the challenge of trying to communicate the value of complicated "behind-the-walls" building systems, the benefits of choosing energy-efficient and sustainable doors for new homes and remodeling projects can be easily understood by conscientious consumers.

This paper highlights key drivers in the green building movement and the role of Therma-Tru Doors products in helping businesses market and deliver sustainable solutions.

## **Therma-Tru's commitment to energy and environmental issues**

As the pioneer of the fiberglass exterior door industry and the most preferred brand in the business, Therma-Tru is committed to the responsible use of natural resources in creating high-performance entry and patio door systems.

Since its founding in 1962, Therma-Tru has a proud heritage of philanthropy and a culture of caring in doing the right thing in the communities where it does business.

Through dedication to continuous improvement, Therma-Tru is always looking for processes and materials that limit the impact on our environment; it even has a team of associates focused on how to incorporate green initiatives into our everyday behaviors.



## Overview of the State of Green Building

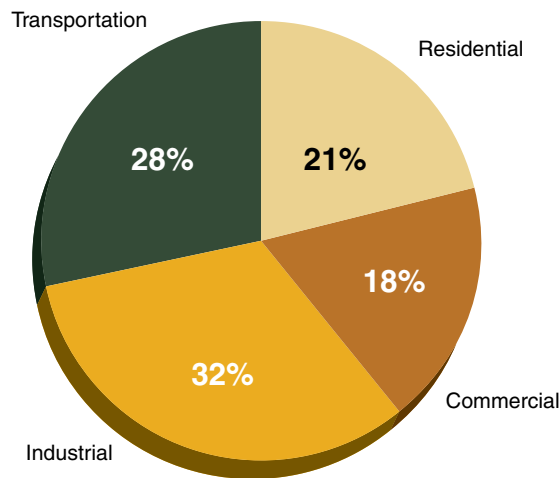
### A growing market for green

According to studies conducted by McGraw-Hill Construction, the market for green homes is expected to rise from \$2 billion to nearly \$20 billion in the next five years. The study also showed that homeowners currently use green products for approximately 40 percent of their remodeling work. This trend provides an excellent opportunity, as home sales drop and remodeling sales level off, for builders and remodelers to differentiate their businesses; they can take advantage of a rapidly growing new market. Still, it's difficult to make a decision about building green. Builders and remodelers must evaluate design and construction practices, as well as purchasing, market and sales strategies.

Until just a year ago, there were few national resources available to help home builders and remodelers and home buyers sift through the swamp of information about building green. Many regional and local programs followed different guidelines. In the past year, two significant programs have emerged that help understand and quantify green building. The National Association of Home Builders' (NAHB) National Green Building Program was launched at the International Builders' Show this year, and the U.S. Green Building Council's (USGBC) LEED for Homes Program is ready for market. These two programs provide national certifications for green homes based on criteria developed by each organization. The criteria are somewhat different between the two groups but are intended to allow builders to understand what they must do to build green. These programs also were created to help homeowners understand green building and find a builder and home that meet their energy and environmental needs.

### Homes have a significant impact on energy, the environment and the economy

In the United States, buildings account for 38 percent of total energy use, with 21 percent of that energy used for homes. In addition to significant energy use, the Environmental Protection Agency states that homes create approximately 38 percent of the carbon dioxide (greenhouse gas) emissions and use 10 percent of the potable water consumed in this country. Beyond energy and environmental impact, skyrocketing energy prices are causing American families to pay significantly more for utility bills every year. Between 2000 and 2005, electricity bills have gone up approximately 20 percent, fuel oil 50 percent and natural gas more than 60 percent. These increases are expected to continue, adding to the financial burden of operating homes.

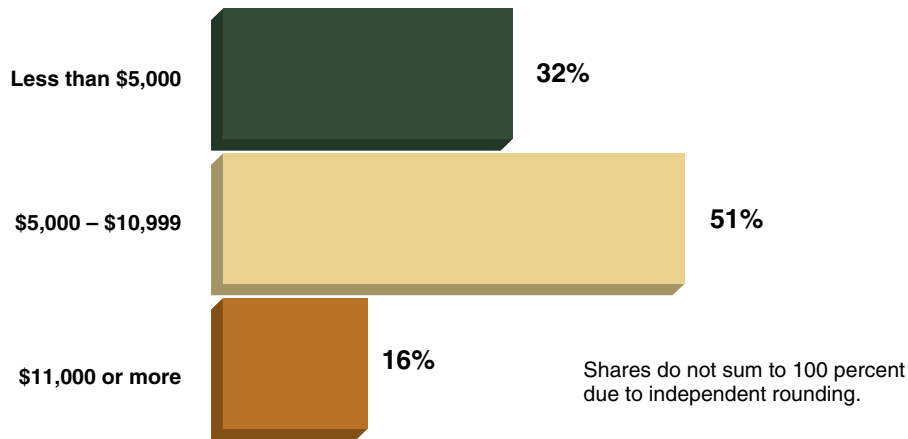


Energy Use by Sector

Shares do not sum to 100 percent due to independent rounding.

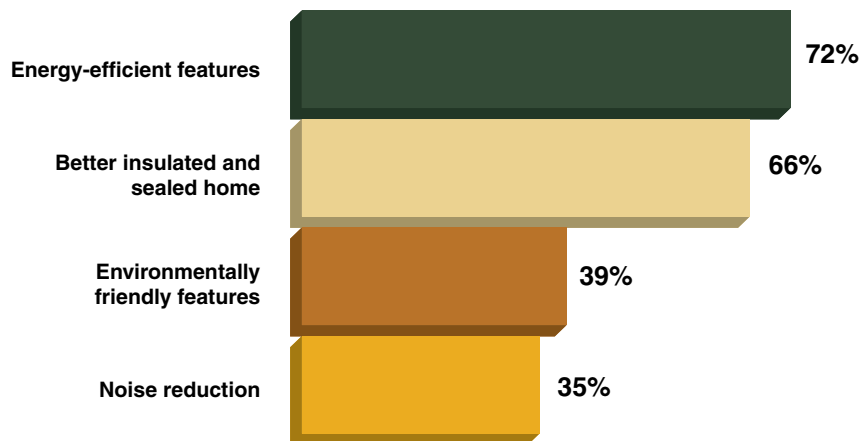
## Consumers will pay more for energy and environmental features

Rising energy costs and concerns about climate change are driving home buyers to pay more for energy and environmental features. A 2007 survey<sup>1</sup>, conducted by NAHB's Gopal Ahluwalia shows that consumers will pay more for green building features — particularly those that reduce energy consumption and utility bills. The NAHB survey found that consumers are willing to pay a lot more for their homes upfront to save on utility costs.



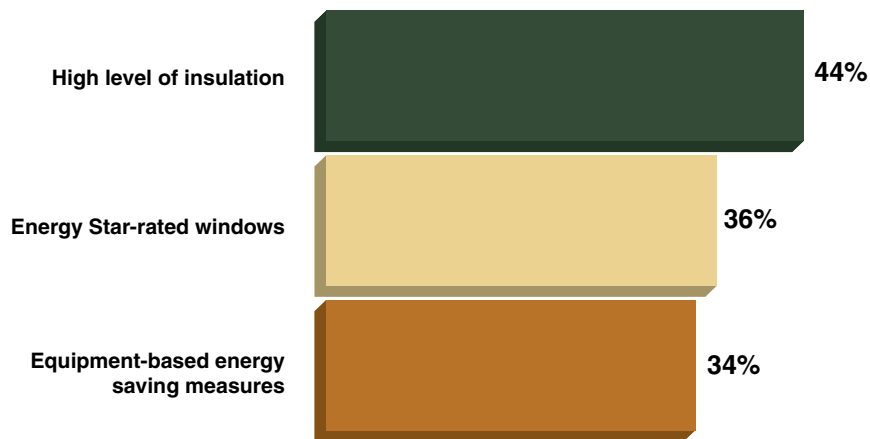
Amount Willing to Pay Upfront to Save on Utility Costs, 2007 NAHB Annual Consumer Preferences Survey

The NAHB survey also found that the following would influence consumers' purchasing decisions:



Items That Would Most Influence Purchase Decision, 2007 NAHB Annual Consumer Preferences Survey

Finally, high levels of insulation, Energy Star-rated windows and equipment-based energy-saving measures appeared in the Top 10 essential must-have features selected by respondents.



Top 10 Essential/Must-Have Features,  
2007 NAHB Annual Consumer Preferences Survey

## What is green building?

Green, or sustainable, building refers to a set of new construction or remodeling practices that carefully take into consideration energy and resource use (e.g. recycled and recyclable materials, water); environmental and site impact; product and building durability; and the impact of the built environment on occupant health and safety. These considerations are taken into account through every step of the design and construction process, with the overall goal of reducing the home's negative impact on people, place and planet.



## Top 3 Issues in Green Building and Therma-Tru Doors' Role

### No. 1: Energy Efficiency and the Building Envelope

At the forefront of key issues in green building is energy efficiency. Quite simply, a green home has to conserve as much energy as it can — and, if possible, generate its own. The first critical item to address is building envelope efficiency. Poor insulation values; poor-performance windows and doors; and air infiltration can create significant energy losses.

Therma-Tru Doors' products address energy in homes because they:

- Are Energy Star compliant and NFRC Certified
- Provide five times more insulation than a wood door
- Offer a tight seal against air and water infiltration
- Qualify for energy-related points toward a number of green certification programs, including the Green Globes program, USGBC's LEED for Homes, and the NAHB's National Green Building Program

Energy efficiency is clearly not the only factor in green building, but creating an efficient building goes a long way to reducing environmental impact.

### No. 2: Reduction of Environmental Impact

Lessening a home's impact on the natural environment includes reducing carbon emissions in manufacturing and building energy use; sustainably sourcing natural and easily renewable resources; utilizing recycled-content material; and reducing construction waste.

Therma-Tru Doors helps in this mission by using recycled material, recycling manufacturing waste and reducing landfill waste. Therma-Tru Doors partners with wood suppliers that utilize

various certification standards including Sustainable Forestry Initiative (SFI), CERTFOR Sustainable Forest Management Standard and the state of Oregon's Forest Practices Act to ensure that the wood products it uses come from managed forests.

### No. 3: Durability

A green home is a durable home that requires minimal maintenance and product replacement and will last many lifetimes. The building envelope plays a key role, as the system must be built to withstand aging and weather while maintaining energy performance. Therma-Tru Doors' products help to address durability in homes because they are made of fiberglass to resist common damage; provide easy maintenance; and qualify for durability related points toward several green certification programs, including the Green Globes program, USGBC's LEED for Homes, and the NAHB's National Green Building Program.

### Tackling the Top Issues

The green building industry is a rapidly growing movement that has the potential to dramatically improve our environment, and help builders and remodelers to differentiate their businesses in an extremely competitive market. Tackling the top issues touched on in this paper is a daunting task that can involve a complete change of design, construction and business practices. However, a significant part of green building has to do with choosing materials and products that provide energy efficiency, durability, and environmental-friendliness.

Therma-Tru Doors is committed to helping our customers deliver sustainable solutions by providing high quality products that address these top issues in green building.

For more information on Therma-Tru's commitment to the environment and how our product help you build green, visit [www.thermatru.com](http://www.thermatru.com).



## Resources



The **Environmental Protection Agency/ Department of Energy ENERGY STAR**

**program** provides resources to professionals and consumers on building, marketing and buying

energy-efficient homes.

[www.energystar.gov](http://www.energystar.gov)



The **National Fenestration Rating Council** provides information on energy efficient doors and windows.

[www.nfrc.org](http://www.nfrc.org)

The **U.S. Green Building Council's LEED for Homes program** provides a certification program for green homes and a variety of educational resources.

[www.usgbc.org](http://www.usgbc.org)



The **National Association of Home Builders' National Green Building Program** provides a green "scoring" tool for homes, a certification program for green homes and a variety of educational resources for

builders, homeowners and policy makers.

[www.nahbgreen.com](http://www.nahbgreen.com)

The Department of Energy's **Building America program** provides technical information and support on building high performance homes.

[www.buildingamerica.gov](http://www.buildingamerica.gov)

The **Energy and Environmental Building Association** provides training for builders in energy and environmental construction.

[www.eeba.org](http://www.eeba.org)

## About Therma-Tru

Therma-Tru Doors is the nation's leading manufacturer and most preferred brand of fiberglass and steel exterior door systems. Founded in 1962, Therma-Tru Doors pioneered the fiberglass entry door industry and today offers a complete portfolio of entry and patio door system solutions, including decorative glass doorlites, sidelites and transoms, and door components. Therma-Tru, headquartered in Maumee, Ohio, is part of leading consumer brands company Fortune Brands Inc. (NYSE: FO). For more information on Therma-Tru Doors, visit [www.thermatru.com](http://www.thermatru.com) or call (800) 537-8827.

<sup>1</sup> Annual Consumer Preferences Survey, Gopal Ahluwalia, Staff Vice President — Research Economics Group, National Association of Home Builders