

BUSINESS

A Maturing Marketplace for Green Homes

With a more green-savvy economy, residential sustainability holds onto its value during the recession

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How do you . . . use the marketing and economic advantages offered by green residential design in an economic downturn and offer clients affordable, approachable ways to make their homes more energy efficient and sustainable?

Summary: In what's likely the most prominent sign so far that sustainable residential design is transforming from a market niche to a widespread set of consumer priorities, residential architects are reporting that sustainable design features are accelerating in popularity even during the most severe design and construction industry downturn in decades. The latest AIA Home Design Trends Survey revealed that two thirds of respondents have seen sustainability features increase in popularity, even as billings and home sizes drop across the board.

Mark English Architects' Buena Vista home in San Francisco is designed with thermal mass integrity in mind, with radiant heat systems, recycled concrete exterior cladding, recycled steel, and recycled Trex decking. Photo courtesy of Mark English Architects.

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Far from being scared off by potentially higher premiums for more sustainable products and systems, clients, builders, and developers are shifting their desire for energy efficient homes from the ideological benefits of going green for the planet to the more market-based realization that going green is good for their wallets. "Part of it is polemical, and part of it is simply having to do with money and people feeling like they don't want to waste anymore," says Mark English, the principal of a small San Francisco-based practice that specializes in green home design. He's seen interest in sustainable home design increase recently for just this reason.

Nicole Migeon, AIA, a New York architect who often works on residential projects, says she's seen people become more and more interested in the money and energy saving features of green homes just as the economy has worsened over the past year. A McGraw-Hill Construction study on green home building reports that 70 percent of consumers are more inclined to purchase a green home in an ailing economy.

"As money gets tight, people are interested in everything they can do that is economical, and energy is a big part of the cost of many buildings," says Deborah Pierce, AIA, of the West Newton, Mass., based firm Pierce Lamb Architects.

"Reduce before you produce"

Often, the most recognizable, iconic examples of sustainable building are active energy generation systems (like solar panels) that are the most expensive, provide the longest return-on-investment, and aren't practical for average, median income homeowners. In fact, the ROI for passive energy efficiency features (like natural ventilation, optimal solar shading, and a tight building envelope) is 10 times greater than active renewable energy generation systems. Focusing on these kinds of simple, inexpensive passive sustainability issues is the best way to get a wide market swath of homeowners and developers engaged in green home building, and architects say that consumers and the overall building industry are starting to understand that better. Most simply: "Reduce before you produce," says Kathy Austin, AIA, a sole practitioner from Sebastopol, Calif., whose practice focuses exclusively on sustainable home design. "If everyone in this county put in better] insulation in their homes, we would be so much closer to meeting the 2030 Commitment."

Beyond insulation, other practical and affordable energy-saving features include getting more efficient water heaters and windows. Home energy audits (like the EnergyStar Home Energy Rater System) often find attics that leak heat. Air ducts are also common energy wasters, and architects recommend running a blower door test to determine where heat is leaving the building envelope. Of course, consolidating these kinds of improvements in an existing house is much more sustainable than installing them in a new house. “The greenest thing you can do is stay in a home and remodel it,” Austin says. A recent study by ConSol Energy for the California Homebuilding Foundation reported that spending \$10,000 on a home built in the 1960s could save 8.5 tons of carbon at a cost of approximately \$600 to \$1,200 per ton.

Residential architects say it can be common for clients, in their green enthusiasm, to come to their office with very specific ideas of how they’d like their homes to be made more sustainable. Clearly, they are becoming more green-savvy, says Elizabeth Eason, AIA, principal of Knoxville-based Elizabeth Eason Architecture. “Clients are asking a lot more questions about systems and understanding the relationships between those systems in their home,” she says. But often, these ideas are based on what green building features are easiest to advertise for, and not on their performance in the context of a project.

“For the most part, [clients] know about what is being marketed,” Migeon says.

Several architects say that typically means sustainable finishes and materials, like recycled glass countertops and bamboo flooring—actual marketable objects that have an attractive consumerist sheen not seen in higher grade insulation or repaired air ducts. English says that these materials and finishes are “really the smallest part of what makes a building sustainable. It’s really the structure, the systems, and the cost of maintaining it.”

Other issues architects say they’re helping residential clients sort through include understanding the length of payback of different sustainability features and factoring in the intangible increase in comfort levels in higher performing homes. They also help clients compare existing housing stocks. Austin, for example, says homes built in the 1960s and 70s are the least energy efficient.

“A lot of homeowners assume that all new homes are equal as far as energy efficiency goes,” says Eason. “That’s not the case.”

Green beyond design

Though the sustainable design movement began largely with architects, ecologists, and academics, it’s making its way into people’s homes via builders and developers. Eason says the rest of the home design and construction industry is rapidly buying into the economic appeal of green design. “Builders are realizing that’s where the market is headed,” she says.

A recent McGraw-Hill Construction green building marketing study reports that 40 percent of builders say that green homes offer a significant marketing advantage over standard housing. Contractor trade associations have been stepping up their sustainability efforts by offering training and certification programs. English says developers have initiated conversations about more sustainable houses. “When the real estate agents are talking about sustainability, it’s really penetrated,” he says.

Eason points out one part of the residential finance and construction chain where sustainability expertise still needs to expand: “There’s still some education needed for appraisers and lending agencies so they can take into account the value that’s added for energy efficiency or water efficiency,” she says.

The most significant organization outside of the design industry to sign onto sustainable home building is the federal government. As reflected by the AIA Rebuild and Renew federal government advocacy plan, its \$787 billion American Recovery and Reinvestment Act (ARRA) economic stimulus package provides billions of dollars for sustainable residential projects across several government agencies. The Department of Energy is distributing \$5 billion for a home weatherization program. They’re also getting \$3.2 billion to distribute as grants for projects that reduce energy use and fossil fuel emissions, including energy audits and energy efficiency retrofits in residential buildings. The DOE is also spending \$70 million on developing business models for neighborhood-scale energy efficiency home retrofits. Part of the agency’s Advanced Building Systems Research program (which revived \$100 million from the ARRA) will be used to research net-zero energy homes. The Department of Housing and Urban Development is dispensing \$4 billion for the energy-efficiency modernization and renovation of public housing facilities and \$731 million for its Neighborhood Stabilization fund, which will buy up foreclosed and distressed properties and rehabilitate them.

Steven Tise, AIA, and his firm Tise Design Associates, are working on four such sustainable multifamily affordable housing projects in New England and Florida. He says these stimulus-funded projects are making all the difference for his nine-person, Newton, Mass.-based firm. "It's keeping us alive," says Tise, who works with multifamily housing clients and well as single family clients. "We've been slugging it out doing public and affordable housing for a long time, and these are the kinds of times when you're glad you've kept your practice focused on that because that's about the only game that's being played right now. I don't think people in this country understand how deferred the maintenance has been on our public infrastructure. This is money that is desperately and sorely needed and has been ignored for a very long period of time."

Technical and market performance

Most everywhere, architects say, the rest of the world is getting savvier about both the technical performance of sustainable building and their economic benefits. Eason says he has one client who stopped by the Solar Decathlon in Washington, D.C., to get more familiar with the cutting edge of sustainable home design. Austin says she knows of one home builder who discounts global warming concerns but still opted for the National Association of Home Builder's professional green building certification simply for the competitive marketing advantage it offered.

"There's hardly a client we have at any scale who isn't interested in learning more about sustainability," says Tise.

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