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How Green is Your Conscience?

A look at the methods and myths behind true Green building

» NEIL ZAWICKI

In the beginning, the notion of Green building brought a new vitality to the industry. Homebuilders everywhere incorporated simple things like better insulation or more efficient lighting. Some even brought back the passive solar ideas from the 1980s. It was nice. Our homes were rendered earth-friendly with the inclusion of something small, and it made a good selling point.

That notion became a solid and defined movement way back in the 1990s. Since then, the Green movement has grown into something some might consider a Green monster. From those humble beginnings came the inevitable false claims. Then came federal direction of the movement, and suddenly your Green homes were subject

to inspection and approval. The Greenwashers, as they came to be known, began to sweat a bit as their claims were put to the test. Of course, then consumers got wise, sort of, and municipalities stepped in and began to strongly encourage sustainable building through incentive and even penalty programs.

Now there's really no choice. If you weren't Green before, you'd better get that way. And if you think you're Green, you should know there are groups that make it their business to expose the fakers in the industry. Also, some of the best intentions can prove to be not only non-Green, but harmful. An Aug. 3 article in *Forbes Magazine* described the delicate game of touting Green materials when they may actually be hurting the environment.

Bamboo flooring, for example, is a rapidly renewable resource. But the process of harvesting, processing and transporting the product from Asia may leave a bigger carbon footprint in the end.

So, simply calling something Green is not always enough. Organizations like Greenopia.com and TerraChoice Environmental Marketing provide consumers with the tools to make sure your homes live up to their claims.

In the meantime, the game is changing again. A new crop of builders are putting up homes that are advertised as completely Green, rather than simply featuring Green elements. This is easy in some places and quite difficult in others. Further, such companies of course need third-party verification and a good rationale for all the materials and methods they use. We spoke



Custom homes, like these in southern Georgia, were built all-Green by Izzy Bienes, who says making that happen was quite difficult, due to a general lack of resources, know-how and, above all, qualified third-party inspectors.



with two such builders, who in the last year have emerged as exclusive Green builders, to learn what they're doing and to hold their methods up to the light of the scrutinizers.

TerraChoice in November of last year produced a guide called *The Six Sins of Greenwashing*. From their testing of 1,000 household items with Green labels, the firm zeroed in on these six "sins." The most committed, at 57 percent, is the sin of the hidden trade-off. This is committed when a product is labeled Green based on a single environmental attribute. Concrete, for example, may last long and be made of natural materials, but the creation of concrete produces high carbon emissions. As an impartial party, we only want to present the information to let you decide how or even if you'd like to build in this arena. The aptly named Green Builders in Austin, Texas, is one that did. In a city like Austin, says Green Builders president Clark Wilson, building Green is relatively simple.

"Austin's always been a hotbed of Green building and clean building and environmentally sensitive type people," Wilson says. "For Texas, it's the epicenter of this kind of stuff. Given that Austin has a great builder program, and the fact that LEED for homes was coming, we were able to get the age-old checklist for what it takes

to be Green from the city of Austin's Green builder program and the Energy Star Home Energy Rating System."

Wilson says when he and his partners began to look nationally in 2005 at sustainable building, they found there was really nobody that had taken Green building to a large-scale, affordable arena.

"So there it was," he says. "It was a coming phenomenon with nobody at the pole position, if you will. Nobody said 'I want to be the leader in a large-scale way, especially in an affordable way.'"

Wilson, a veteran builder who had his own roofing business at 17, decided to build affordable all-Green homes. Some of his methods may surprise you; they go beyond the accessories and get into total design.

"We designed the product and then went to the local Green building architects we have here and listened," he says. "We went with our local architect, Donovan Davis. We took the large merchant builder mentality and blended it with the Green building science architect and came up with our product."

That product includes a hefty dose of homebuilder common sense, says Wilson. The object here being a heightened material conservation.

"We use a Craftsman look," he says, "which is an open cornice look, which gives us a chance to push the windows up higher in the eaves and allow the large overhangs that we do to provide even more shade. By doing that, you've eliminated the box corners. So, you don't have a fascia, you don't have a brick pocket, you don't have a brick freeze, you don't have a soffit board, you don't have all the blocking that's associated with putting all those runs of material around and around the house."

That's great. But what about the materials and systems? Wilson presents a methodology for his Energy Star-rated homes that creates a complete package, rather than a house with some Green gadgets.

"A lot of the production builders put in the Green toys," he says. "They'll say, 'Okay, we're going to be Green, so we're going to put in a tankless water heater or something and call it Green.' If all they're doing is running their cost up and haven't figured out how to allocate some of the savings, then they haven't done the job that Green builders set out to do, in my opinion."

Wilson says he breaks the process down into the four components of energy, water, earth and health.

"The products that we select need to address one of these four pillars," he explains. "But reigning over all of those pillars is affordability. If we put in new bells and whistles that are Green products but nobody can afford them, they really aren't Green, because they haven't done anybody any good."

Again, Wilson takes the tricks of the trade he's learned over the years and blends them with sustainable and energy-efficient practices to create exponential benefits from one method.

"A lot of the energy saving that we do is in the use of the spray foam insulation, and we also use sealed attic construction," he says. "Our attics get very hot or very cold in the winter. When we do this, it allows the entire home to be considered part of the thermal envelope. Now that that's all in conditioned space, you get a lot more efficiency in terms of several tons per volume unit. Maybe the same house would need four tons of air conditioning, but the way we do it only needs two and a half. Another thing is that the attic space won't freeze in the winter, so now you're able to put your plumbing rough in the attic and in the walls instead of in the slab. So, you eliminate the need for copper running underneath the slab. You also eliminate several days at the slab rough-in stage."

"A lot of the smart ways you design things that big builders do, those translate regardless of whether you're building traditional code houses or affordable Green built houses."

SECOND HIGHEST SIN: NO PROOF

A builder just can't build Green without having a qualified third-party render their approval.

"I would be looking long and hard at something that claims to be Green without a genuine certification program behind it," says Micheal Armstrong, deputy director of the Portland, Ore., Office of Sustainable Development. There, finding a third-party inspector is as easy as finding a microbrewery. But in places like south Georgia, the pickings are slim to none. Izzy Bienes of Capital Home Builder a custom Green builder in Thomasville, found it very difficult to avoid committing the sin of no proof. In the end, he pulled it off, but it cost him.

Product placement is crucial in Green building. Here's a comparison of some of the things each builder includes in their homes to create a completely Green product:

Green Builders Inc.

INSULATION

→ Icynene open-cell spray foam in walls and under roof decking. Contains no cancer-causing agents as found in traditional fiberglass insulation.

ROOFING

→ 30-year asphalt shingles. Includes areas of standing seam metal roofing.

FLOORING

→ Mohawk carpet program, used for their efforts in using post-consumer recycled content in

their products. Bamboo flooring available as an upgrade. Ceramic tile—all tile selections have a portion of recycled content.

WINDOWS

→ Champion double pane, Low-E glass. Used for good solar heat gain and U-factor ratings.

PAINTS AND STAINS

→ Monarch/PPG. All types used are verified Low-VOC.

ELECTRICAL AND APPLIANCES

→ All light fixtures include CFL bulbs. Two ceiling fans standard. Solar conduit from attic.

Capital Home Builders

INSULATION

→ Icynene spray foam. This is also used in rough-in window and door openings, as well as plumbing and electrical openings.

ROOFING

→ Thirty-year architectural shingles with Low-VOC coating.

FLOORING

→ Brazilian cherry wood floors throughout, from a documented sustainable forest.

WINDOWS

→ Certified double pane Low-E windows to stop heat energy loss.

PAINTS AND STAINS

→ Certified Low-VOC paints.

ELECTRICAL AND APPLIANCES

→ Compact florescent bulbs inside and out with deluxe fixtures. Ceiling fans for circulation, General Electric appliances with four-year warranty.

"It was hard," says Bienes. "Nobody was doing any Green building in my area. Every time we'd call Earthcraft homes and the LEED offices, nobody had a third-party rater in my area. I really didn't think it was going to be that difficult. At one point I didn't think I was going to be able to do it, even after I'd put in all the investment."

In the end, Bienes had to look 400 miles away to get his inspector.

"I found a person from Florida," he said. "And I had to beg him and pay him to drive 400 miles to get my home rated. It took me a couple of calls to convince him and then actually had to pay him extra money."

Bienes decided to build custom homes for his all-Green venture because he says nobody was doing either in his area. For Bienes, building custom was a matter of process; but just like finding the third-party inspector, learning to build Green was a matter of frustration.

"Basically, I didn't have any consultants when I started out," he says, "so everything was based on researching on the Internet about what needed to be done."

To accompany the lack of consulting and inspecting in south Georgia, Bienes also found a bit of a lack of enthusiasm as well.

"Marketing here is still difficult but it's growing on them," he says. "People around here still build the way they always have, without any conservation. They don't take into account how much waste they're producing. I know one gentleman here who built a \$900,000 home that has four water heaters."

WHAT'S SO GREEN ABOUT IT?

Through practices like using spray foam insulation in the sealed-off attic, Bienes' homes have an Energy Star rating of 70. He still uses batts in the walls, but fills the gaps with caulk.

"We also decided to cocoon the entire home to create a complete envelope," he says.

So, what does a custom home with comprehensive sustainable features cost?

"We're still underpriced compared to what they're building around here," says Bienes. "One of our homes that we have now is \$151 per square foot. The house was appraised at \$140 by the city."

THIRD-HIGHEST SIN: VAGUENESS

It's getting a little more difficult to commit this sin in many of the major cities. People in Bienes' part of the country might be able to get away with being vague, but this is not the case in places like Portland.

"We really have to look at a credible third party to verify the practices," says Armstrong. "That's what gives us the proof that these buildings really are performing. There are plenty of people out there who will claim anything."

Armstrong says those people who will claim anything still have an audience, as consumer awareness does not necessarily keep up with the ever evolving practice of Green building.

"I think they are becoming more educated, but I think we have a ways to go," he says. "And especially with homes, you only buy one every multitude of years, so most people aren't that familiar with what's happening. It's not like an organic label on food that you would see again and again."

Thanks to the efforts of entities like the Portland OSD, builders who really do build Green have a benchmark to set themselves apart from the hucksters. And as the practice moves toward being standard, even places like south Georgia could become eco-friendly.

"In general, in the early days in 1999, a lot of what we did was providing pretty basic information," Armstrong says. "Now, there's so much information that we try to be just a clearing house. And if you need a Green designer, well just look around, they're everywhere. And the market is definitely changing. Each year we see more Earth Advantage and Energy Star homes." ■

According to TerraChoice Environmental Marketing, the six sins committed by Greenwashers are:

HIDDEN TRADE OFF:

57%

NO PROOF:

26%

VAGUENESS:

11%

IRRELEVANCE:

4%

FIBBING:

1%

LESSER OF TWO EVILS:

1%