In Green We Trust

As the green building movement grows, so does the potential for "greenwashing"

Two decades from now, new homes may be so uniformly efficient and environmentally friendly and that the term "green" will no longer mean much.

But today, homes with that label are one of the few hot trends in an otherwise moribund industry. While that has given some builders a much-needed niche, it is spurring others to apply the term with little to back it up — a problem known as "greenwashing" that's been spreading throughout the building products industry.

At least, that's a common complaint among advocates, who say they fear the ever-more-widespread use of "green" confuses and misleads the public.

"Some of these builders are putting that on as tagline, when all they might be doing is putting in compact fluorescent light bulbs and Green Label carpet," says Drew Smith, a founding member of the Florida Green Building Coalition and president of Two Trails Inc., a green building consulting firm near Bradenton. "It's becoming extremely annoying, and it's *really* annoying to the builders who are doing it right."

BASF NEAR-ZERO ENERGY HOME

A green home doesn't look any different than a conventional home, so buyers are at the mercy of their knowledge and a builder's marketing efforts. And builder's themselves who are interested in green building products rely on the honest marketing of manufacturers. The potential for greenwashing is high, and the only valid assurance seems to be in independent, third-party inspection that can verify that what's been done will actually provide a green benefit.

DEFINITIONS WANTED

At the heart of the issue is fact that there is no accepted definition for "green" in the building industry or beyond. The term arguably accurately describes energy efficiency, water-conserving building

Prudent Pruning

Tree surgeons may be able to prevent tree damage from high winds

Coastal builders who want to maintain the shade and aesthetics of a leafy canopy without exposing home buyers to the risk of falling trees in hurricanes may be able to offer a solution: judicious pruning.

At least, that's what Ed Gilman's research suggests.

Gilman, a professor of environmental horticulture at the University of Florida in Gainesville, studies the causes of tree falls from the roots to the crown. Based on experiments involving wind machines and young trees, he reports in a recent edition of the journal *Arboriculture & Urban Forestry* that pruning can significantly reduce how much tree trunks bow in strong winds — if it is done correctly, which is often not the case.

"Unfortunately, so many trees are thinned by taking out small-diameter interior branches," he says. "This is totally inappropriate and increases the trees' vulnerability by shifting their weight to the end of the branches."

Gilman and Forrest Masters, a UF assistant professor of civil and coastal engineering, used an airboat-based wind machine to blast twenty 20-foot live oak trees with winds of various speeds, with maximum winds reaching

components, products made from local or recycled materials, so-called "healthy" materials such low-VOC paints, and many other products or services. More confusing still, seemingly "green" products or techniques may come up short if used improperly. Concrete, for example, can be green or not, depending on how it is made, how far it is trucked to the job site, and its application in a home.

"Even the most environmentally friendly product, if it is applied incorrectly, is not green," says Dennis Creech, executive director of the Atlanta-based Southface Energy Institute, an education and advocacy group.

That said, Creech and other advocates insist there is an evolving consensus within the industry on the meaning of "green building" and "green home." The bottom line: the term implies a system rather than single product or design choice — and a suite of environmental and human health benefits rather than a single one. "People want an easy solution to a complex problem, and there's not going to be an easy solution. That's why greenwashing is so appealing," Creech explains. "What green design is really about is looking at a site, looking at the parameters you have on that site, and customizing environmental solutions."

HELP WITHIN SIGHT

Smith says he tells builders they can go a long way toward truly green homes by focusing on energy and water efficiency, but other consultants may rank offsetting carbon emissions as a higher priority. Fortunately for the practical-minded, there is definitive hel. While there are no nationally adopted standards, dozens of advocacy organizations have developed green home certification programs that contain checklist requirements, including national ones such as Leadership in Energy and Environmental Design (LEED) for Homes and state-based programs such as Vermont Builds Greener.

As for which programs are most reliably green, Smith and Creech agree that there are many certification programs out there, but the most important part of any program is an independent third-party verification — an outside inspection verifying compliance with green requirements. Creech said the problem isn't that the builders who opt into certification programs try to cheat; rather, with so many subcontractors and so many materials, mistakes are easy to make.

Creech notes that the green systems approach requires a seismic shift in the building culture, with subcontractors focusing on not only their own job but also on how they fit into the overall scenario. "It's everyone understanding how their role fits into the bigger picture." — *Aaron Hoover*

110 miles per hour. The oaks were pruned using several different techniques or left in their natural state. Sensors mounted at three different heights along their 6-inch-diameter trunks recorded how much the trees leaned over, data that Gilman matched with recorded wind speeds.

His main conclusion: removal of 33% of a tree's foliage reduced its wind-driven movement by more than half, slashing the risk of the trunk snapping.

But the results come with a caveat.

Popular pruning methods known as "lions-tailing" and "crown raising" were "ineffective" at reducing the amount of trunk movement, according to the paper. Lions-tailing is the practice of thinning small-diameter interior branches but leaving thicker ones, while crown raising involves systematically removing a tree's lower branches.

There are several more protective pruning methods, Gilman says.

One is to cut any limbs that are significantly longer than most other limbs, restoring the tree's center of gravity. Another is to cut or reduce so-called "codominant stems," or stems so large they compete with the trunk, for the same reason. A third is to thin the outer edge of the tree canopy, reducing the size of its wind-threatened profile.

Gilman noted that one of the best methods to ensure trees remain upright in storms is unrelated to pruning. Whenever possible, he says, builders should leave groups of trees standing rather than removing all but one or two.

"You get groups of trees together, and they tend to direct the wind around them," he says. "And they lean on each other during the storm. They help each other out." — *A.H.*

BOB MCMILLAN/FEMA

Hurricane winds from Katrina knocked over a huge tree, crushing this home in southwestern Louisiana. Recent research has identified ways to trim trees that might have eliminated the stress on the tree that led to failure, and thus possibly averted the disaster.