

The Trend to Green

Not just for the eccentric, green is becoming a thoughtful way to build even high-end homes



FEATURING PHOTOS BY RANDALL PERRY OF CAPITAL CONSTRUCTION'S SARATOGA SHOWCASE GREEN HOME

© RANDALL PERRY PHOTOGRAPHY

The term “green building” was first coined in the mid 1970s, a time when an energy crisis, projections about the state of the atmosphere and a myriad of other factors brought concern for our natural environment into mainstream consciousness. At that time and for more than a decade thereafter, green building tended to be linked with the odd and the exotic. Windmill and geothermal power sources became topics of discussion and in a few cases reality. Homes were built into hillside (“subterranean”). Foundations and walls were constructed with bales of straw. And materials as widely different as old tires, soda pop bottles and hubcaps became “building materials,” not through the intermediary step of melting or shredding but just as they were found. The wild and the wacky made for some

interesting news features but had little direct impact on building practices. Nevertheless, while few of the practices took hold, the underlying premise to build with more environmental sensitivity did gain a foothold.

In 1991, the first officially recognized green home building program began in Austin, Texas. Four years later the first builders association sponsored program came into being in greater Denver, Colorado. Today, well over 100 Colorado builders routinely participate. And by October, 2004, another 29 organized green building certification programs had joined Austin and Denver. Eleven of the total are owned or operated by affiliates of the National Association of Home Builders (NAHB).

Few homebuyers are drawn to a green home primarily because of its

Built with recycled or composite materials and low maintenance products, except for the wood timbers of the entry porch, the green house includes a detached garage.

environmental attributes. Far more often the attraction comes from the practical and personal benefits they acquire when they purchase a green home. There are many, including enhanced durability, reduced maintenance, healthy indoor air, lower monthly utility bills due to superior energy performance, or the overall quality and comfort that results from more conscientious design and construction practices.

Efforts to make both consumers and builders more aware of these benefits and therefore move green building into the residential marketplace continue on a national level, as well as here in the state of New York. In January, the National



Association of Home Builders (NAHB) will be rolling out a set of voluntary green building guidelines to provide the mainstream builder with practical information about how to incorporate environmentally responsible techniques into his or her current building practice. NAHB contends these guidelines will be more regionally flexible than the currently

available guidelines generated by LEED (Leadership in Energy and Environmental Design).

The New York State Energy Research and Development Authority (NYSERDA) is in the second phase of a residential green building demonstration project in which the two-fold goal is to increase awareness of green building and improve the

Designed by Michael Phinney of the Phinney Design Group, The Timbers is certified as a "Healthy Home" by the American Lung Association for its use of products low in compounds low in toxic substances.

draft NYS Green Building Guidelines and point system. The NAHB Research Center is implementing the project for NYSERDA and working with five builders within the state to build demonstration green homes. One of the project participants, Northeast Natural Homes of Syracuse, has been a "green builder" of custom homes for many years. "It's not only out of a concern for the environment," says owner Kevin Stack. "By paying attention to details that enhance energy performance and new technologies that offer both environmental and practical benefits, I can give my clients a high-quality home that will be easy to maintain, comfortable, and affordable to live in."

Like Stack, many builders across the country have added a green element to their product line and these builders often comprise a large percentage of their local home building market. Nearly 25,000 green homes have been built in the Denver area since that program began. In 2002 alone, there was a 70% increase in the number of green homes built nationwide compared to all of the ten previous years combined. Last year more than 14,000 documented green homes were constructed. And the key word in that statement is "documented." There is no way to know how many thousands of homes constructed by builders and homeowners independent of organized programs could meet or surpass certification standards.

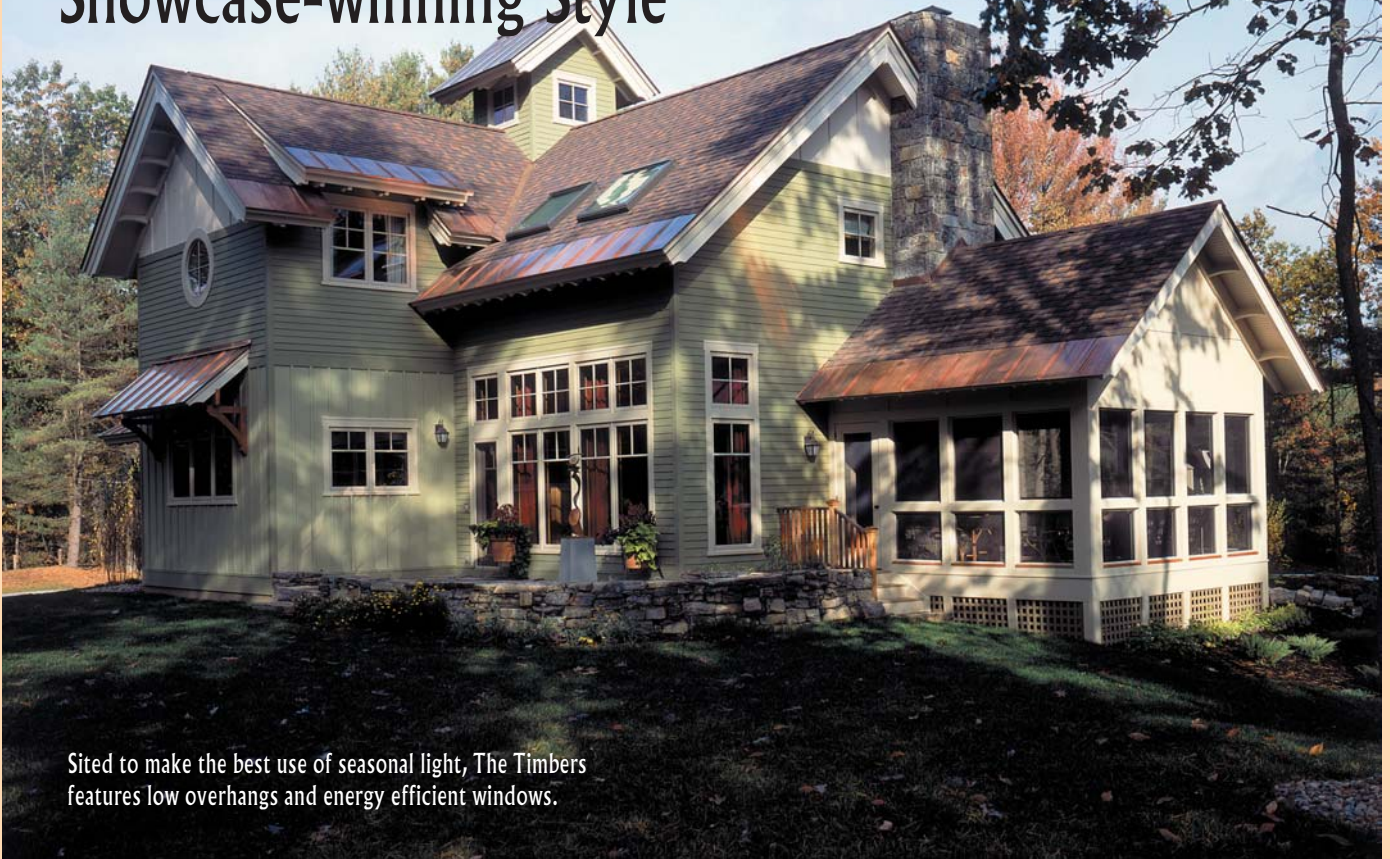
Despite growing acceptance of and even demand for green building, obstacles remain that prevent it from entering the mainstream. Some of these obstacles are inherent to the residential building industry itself: a large number of small independent contractors, multiple trades involved in the completion of each product, and slow adoption of new technologies. Furthermore, it often takes a lengthy time for new products to gain acceptance and then become readily available in local markets.

(continued on p. 22)



The first formally documented green house in New York state was built in Schenectady in 2000 (by Habitat for Humanity with the assistance of the Capital Region Builders and Remodelers Association, NYSERDA, the NAHB-Research Center, the principals of *Capital Region Building* magazine and numerous manufacturers, suppliers and individuals. The draft New York Green Building Guidelines was largely developed in the Capital Region.

Bringing It All Together in Showcase-winning Style



Sited to make the best use of seasonal light, The Timbers features low overhangs and energy efficient windows.

© RANDALL PERRY PHOTOGRAPHY

When it comes to building green one viewpoint requires a home to be built small and if not sparsely, then simply. A very green home with three or four bedrooms with one or two baths within about 1,500 square feet on a modest lot for \$150,000 is very plausible in the Capital Region. Another view says that much more spacious and luxurious homes can still have numerous green (or perhaps emerald green) elements. Both can result in homes that are durable, low-maintenance, energy-efficient and provide healthy surroundings to their occupants. So, take your pick, it is likely that both views can find followers in the marketplace.

Frank Laskey (Capital Construction, Inc.) chose the second perspective for his 2004 Saratoga Builders Association Showcase of Homes called "The Timbers." And why not, it is after all a "showcase," not a demonstration. As a result, the home photographs beautifully and through the courtesy of Laskey and Randall Perry Photography, *Capital Region Building* is able to show you some examples.

To complement the design of LEED-certified architect Michael Phinney, Laskey and his staff spent over a year researching and selecting products to use in "The Timbers." Following is a partial list of these selections along with the identities of some of the professionals and companies who made contributions

- Marvin windows from Harbrook Associates^{1,2}
- 40-year *Certainteed* architectural shingles²
- Copper standing seam metal accent roofing²
- Fiber cement siding²
- Hudson Valley *Rub-R-Wall* treated insulated concrete foundations
- Stone and hickory flooring²
- *Bertch* cabinets from Curtis Lumber²
- Soapstone and granite countertops² from Granite and Marble Works
- GE Monogram appliances^{1,2}
- Kohler plumbing fixtures with water savings features²
- Hubbardton Forge lighting fixtures^{1,2}
- Sherwin-Williams paints and finishes low in or free of volatile organic chemicals^{2,3}
- High efficiency *Viessmann* heating system includes in-floor radiant heat, and *Venmar* energy recovery ventilation system designed and installed by Enhanced Living^{1,2,3}
- *AD Manufacturing* central vacuum system^{2,3}
- Building materials free of formaldehyde^{2,3}

Notes:

- 1 An Energy Star™ feature
- 2 Meets NYSERDA draft green building guidelines
- 3 Meets American Lung Association Health House™ guidelines



The Timbers is also a "Smart House," in which lighting, heat, security, home entertainment and other systems "talk to each other" to make the most efficient use of energy.

Other obstacles are particular to green building, not the least of which is its name. Usually, the initial quizzical look is followed by the question, "Well, what exactly is 'green building'?" As the explanation extends from "what it is not" to descriptions such as "taking environmental considerations into account at every phase of a project," "resource efficiency," "practices that minimize environmental impact," the listener's eyes glaze over. Unless one comes already versed in environmental terminology, the term itself offers little, if any, intuitive understanding about the concept or the practice.

Unlike energy efficiency,

most aspects of green building are not quantifiable or easily measured. There is no standard against which to compare different products with respect to resource efficiency. Materials that have recycled content seem to be green but can often require more energy to manufacture. Some types of insulation that do a great job of enhancing the energy performance of a building may compromise indoor or outdoor environmental quality. Not only is an enormous amount of information required to perform such cradle-to-grave analysis, such information is not readily available. Attempts to conduct Life Cycle Analysis are underway, but still remain in their infancy and are not of immediate practical use to the builder, the



homebuyer, the architect, or the material supplier.

In addition to the difficulty of “getting your arms around green building,” another obstacle is that the environment continues to be terribly under-valued. The true costs of energy resources, of a particular building material, or of a more general trend such as larger homes and sprawling development are usually not reflected in their market price. Even at \$2 per gallon for fuel oil, the costs of opening up new lands for drilling or protecting foreign supplies are not adequately covered. Initial costs continue to be the primary consideration with little accounting for costs (or savings) over the life of a product or the associated costs that may not be immediately apparent. For instance, in a home where water-conserving features are incorporated, savings not only accrue to the homeowner as long as he owns the home but there is also savings

community-wide. Impact upon local infrastructure is reduced with respect to the need for both an adequate supply of clean, potable water as well as the need for wastewater treatment. Additional benefits also come back to the homeowner in the form of avoided increases in local taxes.

Given such obstacles, the advancement of green building into the midstream of the marketplace will probably be slow. Although financial incentives can speed the process, such incentives are usually temporary. When they come to an end, many discontinue the practice. Therefore, it may be best to allow green building to be adopted more gradually as a result of market demand, in which case it is more likely to remain a permanent part of construction practice.

CRB is grateful to Margo Thompson of the NAHB Research Center for her assistance in developing this article.

The Making of Capital Construction's Green House

