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Building a new home while dreaming in green

'Regular folks' finding eco-designs more affordable

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Annica Hagadorn is carefully building what will become more than just a rural dream home, nestled among pine trees near Grass Valley.

Instead of granite countertops or hardwood floors, she's installing more Earth-friendly cork flooring. She'll have solar panels on the roof to generate all of the electricity she'll need – which won't be too much, she hopes, given the energy-efficient appliances and a thick layer of insulation around her water heater.

Even the house, with its southern exposure, is positioned to make the most of nature's lighting and heating.

Like Hagadorn, more and more homeowners and buyers are interested in Earth-friendly dwellings as new materials and designs and big potential savings on energy make "green" homes more attractive to average buyers.

"We're a single-income family. It's not like I make a ton of money – we've never built a house before," said Hagadorn, a lieutenant in the Sacramento County Sheriff's Department. "This is an affordable thing. Regular folks can afford to do it, too."

The cornerstone attractions of an eco-friendly home are savings on energy and water and resource efficiency, according to Monica Gilchrist, an executive with Global Green, a nationwide environmental group advocating green-home construction. Green homes also promote health and comfort, she said.

The idea is catching on. Nationwide, according to the National Association of Home Builders, green building increased 20 percent in 2005.

And to control what kind of home building and renovation can truly be called eco-friendly, the U.S. Green Building Council launched a home-certification program last fall.

Gilchrist said there are many good regional green building rating programs, including Build It Green operating in California, and Built Green affiliates in Seattle, Portland and Austin, Texas.

Construction suppliers have responded as well.

"One area you see an increase is in the number of green building products available all over the country," Gilchrist said.

Josh Daniels, owner of Green Sacramento, sells everything from cork and bamboo floors to toxic-free adhesives and paints. He said his customers want not only sustainable building materials, but also products that are less toxic.

"With wood ... (Forest Stewardship Council) certification is most important," Daniels said.

And because green homes generally are also healthier homes, Daniels added, builders go with products free

of formaldehyde and low in VOCs – volatile organic compounds.

Conventional building materials such as particle board, drywall and carpeting may produce toxic fumes in a process called "outgassing." Mold and dust also contribute to poor indoor air quality, a greater concern today because energy-efficient homes, which are more airtight, can expose people to more indoor contaminants.

According to the the U.S. Environmental Protection Agency, indoor air may be two to five times more polluted than the air outdoors.

The conflict between an airtight but more polluted home and an open but less energy-efficient home is a reminder that going green is not a perfect solution, said Global Green's Gilchrist.

Take sustainable cork or bamboo flooring, which is often harvested abroad and shipped to the United States, incurring additional energy costs.

Daniels of Green Sacramento sells cork flooring from Spain and Portugal, but he said the added fuel costs to transport it to this country doesn't necessarily make it less eco-friendly

"The amount of energy that goes into the production of cork products is so low. It still makes it energy-efficient," he said.

For owners of existing homes, experts say simple steps can be taken to green up a house, starting with energy and water conservation.

But for those starting from scratch, there are more serious options, like a green, prefabricated home.

Last Saturday Don and Gracie Madden toured an "Eco-home," manufactured by American Homes Sales and on display in Auburn. The roughly 1,600-square-foot home meets energy-efficiency standards under the federal Energy Star program.

"It has 25 to 30 percent home energy costs savings," said Joshua Nieto, a company representative.

That's good news to Don Madden, who was looking to downsize from his current home. "Our utility (bills) are high," said Madden, whose brick home is not well insulated.

The green home the Maddens toured is priced at \$87,500 – about a third of the total cost once land price and construction are factored in, Nieto said.

The Maddens were impressed by an abundance of natural lighting in the house, which made it feel big and breezy, they said. Don Madden pointed to the 9-foot-tall ceilings and large windows.

The home's designer, Nichoel Farris, said the building's factory construction consumed fewer materials than on-site construction. Toxic-free adhesives and water-based paint also were used.

"I would have never considered a prefab home ... but I can easily see myself living here," Gracie Madden said.

While the Maddens want a home with a smaller footprint, Hagadorn is thinking big with her Grass Valley home. It's more than twice the size of the 1,400-square-foot home in Roseville she shares with her husband and 12-year-old son.

She'll also use more gas in a longer commute to work in Sacramento.

"This (Roseville)house is just too small for us," she said. "We built this house because I wanted a garden. (With) the stress of my job, I wanted something relaxing and calming."

Green-home proponents believe it's greener to live in a small dwelling in an urban setting, closer to work and shopping. But Hagadorn believes her larger house is actually better for the environment.

"The footprint I have on the home I'm building is overall less than the house I live in now," Hagadorn said. "Right now I'm consuming electricity. ... With the new house, all of electricity I generate, I use. Anything extra goes to power other homes."

Hagadorn said her motivation is to make a change, not to be perfect. "The goal is to be a net-zero home," she said.

And building it is also a lot of fun.

"I enjoy the process of learning," Hagadorn said. "And I'm not going to have an electric bill. How cool is that?"

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