

Amid A Slump, Home Builders Rush To Green

November 7th, 2007 · No Comments

By **Barbara Kessler**

As the sub-prime loan implosion continues to seep the red ink of bad mortgages, home builders have been seeking cover in the color green.

No, it's not yet a Christmas party. Building starts remain sluggish across the country. But green building, that once pigeonholed province of hippies and do-gooders, is growing despite the bad news shadowing the larger real estate sector.



The U.S. Green Building Council, the nation's largest auditor of green construction, reports that it has awarded LEED (Leadership in Environmental and Energy Design) designations to 381 houses since the council began a pilot program for residential properties in 2005. Another 10,000 houses are in the process of being built to USGBC standards.

Those numbers may be just the tip of the iceberg as homebuyers' awareness of climate change and how they can benefit from green building grows, say builders and the USGBC, which is hosting its annual conference called Greenbuild in Chicago this week.

Green homes are projected to grow from two percent of the housing market to 10 percent by 2010, according to the McGraw Hill SmartMarket report.

"It's the wave of the future," says Mark Fisher, an executive with the Grupe Company in California, which built Carsten Crossings in Rocklin, Calif., the first LEED certified residential housing subdivision in the United States.

The housing slump, Fisher says, has actually boosted green building as companies seek to fulfill the customer demand for energy-efficient houses and to differentiate themselves from builders who haven't moved forward with ecologically progressive initiatives. "We feel like our sales are quicker than our competition. If you look at the overall (master-planned) community, we've sold the most units."

Green homes may be even better for the environment than for home builders. They are generally 30 to 50 percent more energy efficient than non-green houses, according to the USGBC. And that means they can put a big dent in the greenhouse gases from residential housing which account for about 21 percent of the nation's CO2 emissions.

What's all that mean for homebuyers? Well, as builders compete to get green, stay green or offer the most green options, homebuyers will be able to find increasingly better prospects and better deals for green homes.

At Carsten Crossings, a neat pocket of two-story middle-income houses outside Sacramento, homeowners enjoy features such as "sun tile" integrated solar roofs, efficient cooling and heating systems, "Smart Vent" automatic night time cooling ventilation and attic radiant barriers, all of which combine to cut their electricity bills by two-thirds, says Fisher.

These are the sort of marketable, cost-saving features that builders will be learning about at the USGBC's Greenbuild conference in Chicago, Nov. 7-9.

At least 18,000 builders, suppliers, architects, designers, marketers and others connected to the building industry are expected to attend the 6th annual Green Build, which will be more than four times as big as the first Green Build gathering in 2002.

Following former President Bill Clinton's keynote address Wednesday, dozens of specialized speakers will be educating their builder and designer colleagues on matters that home buyers only dreamt about until recently, such as how to:

- Site and equip a "Net Zero" home that produces as much energy as it uses, thereby netting "zero" on its electricity and gas bills, a feat that sounds impossible in harsh summer or winter situations, but has been demonstrated by innovative builders from the Northeast to the desert Southwest.
- Use foam insulation to seal in air leaks and retain air conditioning, while also assuring that the house still breathes.
- Build walls of eco-friendly materials, insulate with recycled denim, construct concrete floors to retain "heat gain" and position windows to cool a house with natural breezes.

Attendants will hear from people who are exploring the edge of green construction by using cellulose (plant fiber) wallboard, rainwater capture systems, solar water heating units, alternative toilet systems and integrated photovoltaic panels that have a lower profile than their predecessors.



They will get the lowdown on houses designed to "wow" the committed



green customer, like the upscale pre-fab modular homes built by [Living Homes](#) of Santa Monica with their cedar ceilings sanctioned by the Forest Stewardship Council, polycarbonate glazed windows, countertops made from recycled newspaper, reclamation water systems and “living roofs” designed to cool the home and offset carbon

emissions.

Founder Steve Glenn describes his customers as cultural creative types “who care deeply about the health and sustainability of the products they buy” and are willing to pay a little more to achieve a smaller ecological footprint. His business is small but growing exponentially, with 16 houses under contract after completing his first two this year. The first Living Homes residence achieved a platinum LEED rating.

Conference attendees also will hear from the green building veterans who’ve been toiling for 20 or 30 years outside the limelight figuring out how to retrofit existing houses for energy savings and craft new ones that use their mass, design and orientation to gather warmth in winter and shed heat in the summer — the bare but still essential bones of green building.

Of course, not all these techniques jibe well with building for the masses. Green building, by nature, is site- and climate-sensitive, say designers and builders. Custom builders can work one-on-one with clients to assure their house is in sync with nature. But big residential production builders face difficulties in translating green attributes to their product. They can’t use the same floor plans in different climates and get the same energy efficiency, and their timetables for building don’t allow them to stop and carefully site each individual house to maximize or minimize sun exposure.

Furthermore, until energy costs reached their recent unprecedented highs and homebuyers began thinking about their carbon footprint as well as their electric bills, there was little to spur mass builders onto the green track.

Jennifer Rezeli, a principal at [Re: Vision Architecture](#) in Philadelphia, which has completed several green commercial projects as well as two prototype “net zero” houses, says they are seeing interest from large production builders. They are discussing with one how they can do east/west and north/south-oriented prototype plans that could greatly increase the energy efficiency of the builders’ next generation of homes.



Big builders are “at least talking and thinking about” building green, she said, whereas “a couple of years ago, they weren’t thinking about it and they were pretty contrary to the idea.”

When Re:Vision started as an environmentally sensitive design firm in 2001, they were fairly “fringe,” says Rezeli. But today, green building seems to be skating above the overall housing slump.

“We’ve seen a huge up tick over the past year,” she says, with business coming from commercial builders who want to be sure that their buildings offer tenants the latest technology and small urban residential builders.

Re:Vision built its reputation partly on a set of two net zero farmhouses built for a Philadelphia area woman who wanted to demonstrate that energy efficient homes can be stylish and attainable. The first house, at 2016 square feet, cost \$167 a square foot to build, not much more than the going rate of about \$150 a square foot at the time.

One key to their success in keeping costs realistic was that they used a modeling analysis to assess exactly what was needed, and what was not. The assessment told them things they wouldn’t have guessed on their own, like the fact that one of the window awnings wasn’t really needed and that building a concrete floor as a heat-holding mass required only so much depth, after a point a deeper floor would add costs but not heat retention.

The homes feature solar 5kW photovoltaic arrays, specially situated windows, structural insulation panels (known as SIPs) and stained concrete floors with radiant heating from below. The first one completed, in 2006, was the first single-family residence in the country to be LEED certified at the gold level.

Rezeli says the homeowner, Jackie O’Neil, was deeply involved in planning the project to make it as environmentally low-impact as possible, even using black walnut from trees that had to be cut on the site for trim and cabinets inside the house. Ms. O’Neil opens her house to many friends and others who inquire to promote green building. Last year, she got a cash “kickback,” a \$500 check from the electric company for the power her house sent back to the system.