

SHORELINES

HAUTE PROPERTIES

New Green Housing Materials

Green is zero.

As the popularity of environmentally enhanced home construction grows, the holy grail in the green movement is an electric meter that runs backwards. It's not the meter, of course. It's the new materials and building techniques that save so much energy, there are months when the electric meter nearly stands still. Add systems such as solar panels, and the net amount of electricity the homeowner purchases is zero, with the homeowner selling enough power back to the electric grid to offset those cold months when you really need the juice turned on.

The Chicago architectural firm Farr Associates reached net-zero status and LEED Platinum certification from the U.S. Green Building Council with the home it designed for Michael Yannell. The home was named one of the "10 Coolest Houses of 2009" in December by *Builder* magazine, a trade magazine for the home building industry.

The magazine's design editor, Jenny Sullivan, praised the home for "clean lines, ethereal interiors, and the highest LEED-H platinum score on record."

April Hughes, Farr's project manager for the Yannell house, says the home is a functional net-zero, "the first of its kind in Chicago, if not Illinois and the Midwest, and has some interesting innovations."

The most striking innovation of the home's courtyard design is the V-shaped roof, which Hughes says has multiple benefits. Besides allowing expansive triple-paned windows for natural light in both wings, the roof also puts the photovoltaic solar panels on the inside of the V rather than in full view from the street. The roof also collects rainwater for outside irrigation. Heating and cooling are a combination of geothermal technology and solar-thermal water heating along with energy supplied by the solar panels. "We basically come out with an energy model prediction of producing 140 percent of energy needs." Hughes says.

Energy conservation and reducing the carbon footprint were essential for Larry Zimmer when he designed his home nestled among the dunes near Michigan City, Indiana. Completed in 2009, the home has many energy-saving features, and made use of materials produced within 500 miles of the site. A key component were the Structural Insulated Panels, or SIPS, rather than standard wall and roof construction. “They’re solid, rigid foam laminated between two pieces of oriented strand board,” says Zimmer, who is primarily an interior designer but also integrates architectural work to unify structural and interior designs. The panels have a “very high R value [for insulation], and it’s also a simpler form of construction.”

“SIPS panels have been around for over 20 years,” says the home’s builder, Kevin Flemington of Long Beach, Indiana, whose company, Flemington Construction, specializes in green building. But SIPS have not been common in home construction. “They were a lot more expensive to build with than typical construction.” Prices are becoming more competitive, he says. For a builder, it takes only days to frame a house, and takes a smaller work crew; however, people in the market for new homes are still hesitant on using SIPS. “It’s hard to convince them of the benefits, which are in the energy savings.”

Yet the most important environmental advance in new home construction now may be the homeowner who moves in. Hughes says environmental concerns are becoming more important to homeowners. “I think the marketplace is beginning to accept that and see the benefits.” She notes that Chicago’s listings of property for sale “now has a sustainable green listing” feature, and green building “is beginning to infiltrate the renovation market.”

Zimmer says the burst of the housing bubble and rise of energy concerns is spurring a small house movement. “People are learning they can use a room for more than one function. A dining room can be a library; a guest room can be an office.”

Flemington has no doubt about the trend. He says the McMansions that had been the vogue were “nothing but just big. People were just buying square feet.”

Not anymore. “There’s a generation coming up behind us that’s going to be a lot more environmentally conscious,” Flemington says. “I have a friend who’s very successful, and had a couple of large houses.” But for a new home, “I want it small. I wanted it energy efficient,” she told him. “She traded in her SUV for a Prius. She’s tired of being the consummate consumer.” –*Tom Chmielewski*