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ULTIMATE Green Home Debuts In L.A.

Modern Design Meets Modular Technology

Like many of us, Steve Glenn loved to play with LEGO blocks when he was a child. As the years passed, his excitement for building remained. But he discovered in college what a lot of us find—that passion for something doesn't necessarily translate into a marketable skill.

"As a kid, I had books on Frank Lloyd Wright and built cities out of LEGOs. I wanted to be an architect. Then in college I did this summer design program. That's where I discovered that I had neither the talent, nor the temperament, to be an architect," Glenn recalls.

Fortunately Glenn had other talents to draw upon. After earning a bachelor's degree with honors in organizational behavior from Brown University, and



Steve Glenn

receiving a scholarship for the Career Discovery Program in Urban Planning at the Harvard Graduate School of Design, Glenn jumped into a career in technology.

After graduate school, Glenn founded and served as CEO for PeopleLink, a leading provider of enterprise e-community solutions to clients that included Oracle, GE, MTV, Paramount, Reuters and CBS. He is also a founding partner of idealab!, a business incubation firm that raised more than \$1 billion in equity. The company also founded or invested in a number of successful companies, including GoTo/Overture (OVER), NetZero/United Online (UNTD), CitySearch (TMCS), Tickets.com (TKTS), eToys and CarsDirect. Prior to idealab!, Glenn worked for Walt Disney Imagineering as codirector of the Virtual Reality Studio.

After this string of high-powered suc-

cesses, Glenn took time to benefit a few causes. He worked for nearly two years with the William Jefferson Clinton Foundation—first managing the development of a \$330 million program in Mozambique that provides care and treatment to more than 350,000 people who are HIV positive. He then managed the development of a childhood health initiative with the American Heart Association.

Glenn cofounded and serves on the board of the Sustainable Business Council, Kala Parker Dance Fund and the Hope Street Group. He is also a member of the board of directors for LA Works and the Brown University Entrepreneur Forum.

Yet design and construction still remained a passion. For instance, he found time to cofound and serve on the board of the Sustainable Business Council. Then, three years ago, he cleared his plate. If he didn't have the talent to be an architect, he decided to go a different route. He based his new business on a philosophy pioneered by James W. Rouse, an author and developer, who was one of the first to popularize the notion of sustainability on a community level.

"I learned about Jim Rouse in school. He developed real estate in an enlightened way, successfully addressing urban problems. I realized that developers, not architects, control what gets created in the built environment. I concluded that I should become a developer like Rouse who could wed profit and purpose in my work. After a career of mostly technology start-ups, I felt it was time."

THE LAUNCH OF LIVINGHOMES

Glenn's new venture, called LivingHomes, packs proven technology from a variety of disciplines into a single building system.



Using a modular building system, LivingHomes has teamed up with WIRED magazine on a LEED-certified green demonstration home. Photos courtesy of LivingHomes.

"I'm not sure where I got the name from. It just came to me. Frankly, I was surprised that no one had trademarked it," he says.

Glenn put together a team of senior executives and advisors who bring a wealth of experience from the fields of home building, green development, architecture and technology. With their help, a vision began to take shape. All LivingHomes floor plans are designed to achieve at least a LEED for Homes Silver accreditation.

"We are working with leading architects to create lines of homes that feature modern form and functionality along with an unprecedented level of healthy or sustainable materials and energy systems. Ray Kappe, FAIA—one of my favorite all time architects—designed our first line of LivingHomes. The first we built, my own home, was the first residence in the nation to receive LEED Platinum and only one of 20 Platinum buildings in the nation, the highest level of certification from the United States Green Building Council," Glenn says.

Glenn opted to use the modular building system—and ModTech (Perris, CA) as his manufacturer—to reduce construction cycle time and increase quality. "So far, I've been really happy with them. We're





south of Highway 62, is very close to the park's northern border and has multiple one-to-two-acre lots. Two different homes are available for either ranch, both designed by Ray Kappe, and both LEED for Homes certified. Homes range from \$1.2 to \$1.4 million, depending on the site the home buyers select.

Options include a guest house and a solar-heated swimming pool.

"As the market increases for green building, you will see the costs of these materials and technologies come down," Glenn says.

TEAMING UP WITH WIRED MAGAZINE

Never one to think on a small scale, Glenn was looking for a way to bring national attention to LivingHomes. He found what he was looking for when he teamed up with *WIRED* magazine to create a demonstration home to alert buyers and builders that they can effectively balance green living with high technology and design. "*WIRED* covers the future—and the future of building is green," says Glenn. "Their reputation for cutting-edge design and great editorial on technology and innovation makes them the perfect partner to demonstrate the balance of form, function and sustainability."

Located in Crestwood Hills, an exclusive Los Angeles neighborhood, the 4,057-sq.ft. *WIRED* LivingHome home is designed to attain at least a Gold rating from the LEED for Homes program of the United States Green Building Council (USGBC). Consistent with its focus on sustainable design, LivingHomes and *WIRED* deconstructed rather than demolished the property's existing house, reducing the amount of building materials sent to landfill. The *WIRED* LivingHome will be open to the public for tours, sustainable programming and charity-driven events for three weeks this fall.

Working with The Reuse People, a

nonprofit corporation dedicated to keeping usable building materials out of landfills, interior materials were sent to the Habitat for Humanity Store. The framing was transported to Mexico, where it will be used for low-income housing. A minimum of 75% of all materials will be reused and repurposed. After deconstruction, site work and manufacturing commenced concurrently, significantly reducing the amount of time necessary to complete the project. Using ModTech's building system, the home was set in one day in August.

"LivingHomes is the leader in green building and they include a level of technology in their homes that balance the environment, comfort, design and functionality," says Jay Lauf, publisher of *WIRED*. Following the public tours in the fall of 2007, the home will be placed on the market. For more information, visit LivingHomes.net.

The presenting sponsor of the showcase home is BMW CleanEnergy, a vehicle that emits essentially nothing but water vapor. It is the first hydrogen-powered sedan for everyday use. The car will shuttle visitors to and from the home, and be available for test drives.

DEMONSTRATION HOME'S ENERGY USE & FEATURES

The home is anticipated to be 36% more efficient than a conventional residence of a similar size—all at \$300 per sq.ft.

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using high-volume, factory production to increase the quality of our homes as we reduce their cost, schedule and construction waste compared to those that are similarly constructed on site. We're selling our homes to owners and home builders with land, and through communities we and other groups are developing.

"Our mission is to create homes and communities that inspire people; foster family and community

interaction; and make modern life easier, healthier and more comfortable—all in ways that complement and enhance the municipalities and environments in which we work. We hope our products will set a standard for the positive impact they have on soil, water, energy and health—and we're using the Leadership in Environmental and Energy Design (LEED) certification system so we can measure how we're doing."

To showcase the company's designs and sustainable philosophy, LivingHomes broke ground on two developments near Joshua Tree National Park, east of Los Angeles. Big View Ranch, about five miles north of Highway 62, is surrounded by mountain ranges and features endangered and protected desert tortoises. Big Rock Ranch,



MODTECH BRANCHING OUT INTO RESIDENTIAL

The company that built the majority of the *WIRED* LivingHome off site, Modtech (Perris, CA), is a 25-year-old publicly traded NASDAQ company with more than \$200 million in annual revenue. The company employs more than 1,600, with a total of 1.2 million sq.ft. of manufacturing facilities on 132 acres in three states—California, Arizona and Florida.

Although the company's bread and butter has been educational buildings (it can build either wood or steel frame), it has seen an uptick in interest from residential builders and developers, says Brandon Alexander, strategic marketing analyst at ModTech.

"We are starting to diversify into different markets and residential is one of them," Alexander says. We can manufacture virtually any commercial, educational, government, residential or retail modular building to strict specifications, he says.

ULTIMATE Green Home

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Sustainable features include a 4-kilowatt SunPower solar-power system, including high-efficiency, all-black SunPower solar panels that generate up to 50% more power than conventional panels. The home will also feature:

- A forced hot air radiant heating and cooling system
- Recycled glass bathroom countertops
- Ceramic tile in the master bathroom by Heath
- Low-maintenance, high-design ecological kitchen cabinetry by Valucucine
- An environmentally friendly washer/dryer system that uses less water and energy by Bosch
- Water-efficient fixtures by TOTO
- Windows and doors constructed with recycled glass and aluminum by Fleetwood USA
- Reclaimed redwood by Pacific Heritage Wood, which mills the materials from old military barracks

- FSC-certified exterior siding
- Tankless water heaters
- LED lights that consume less energy than conventional light bulbs
- Carbon offsets for the first year of the home's operation

INCORPORATING TECHNOLOGY


The home automation system provided by Control 4 will enable home theater control, smart lighting, temperature control and security to all work together through both in-home and over-the-web remote control technology. The first high-tech feature visitors experience in the home is the Panasonic BMET330 Iris Reader, which uses biometric iris recognition technology to verify identity for entry.

Several rooms feature the innovative high-design HP Touchsmart PC, which includes a 10" touch screen and a wireless keyboard and mouse. The home also features Moxi Multi-room HD DMR. This high-definition digital media recorder is the easiest, most intuitive way to find and enjoy favorite TV programs, music, photos, games and more on any TV. The game room is supremely tricked out for the 21st-century gamer with a range of gaming consoles, a sound system and special chairs to heighten the experience. The media room will serve as a home theater, featuring designer speakers, surround sound and a large flat-screen TV. The home also includes an array of innovative personal electronics, such as a wireless solar-powered weather station provided by Oregon Scientific.

MODERN DESIGN EMPHASIZED

Designed by Ray Kappe, FALA, the founder of the Southern California Institute of Architecture, the home seamlessly integrates into the hillside—a key component of green building. Framed mostly in glass, this modern design blurs the line between indoor and outdoor living spaces. The shape of the house offers unobstructed views across the public spaces of the home, from the living room to the kitchen, creating an open and airy feel.

Glenn says he wanted to specifically emphasize a modern design, because its efficiency is the most sustainable. "We won't do anything that doesn't meet our environmental design goals. Dressing up a home with extraneous details doesn't meet



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with our objectives. You won't see us, for example, building colonials, Victorians or Mediterraneans. We want our designs to be consistent with form and function."

On the demonstration home, the modern design features five bedrooms with diverse living spaces. Rooms include a high-tech hobby room or home office, a game room and a kid's room. The home also has a state-of-the-art media room, four full bathrooms, a powder room and an expansive outdoor living area. Upon entry, visitors are welcomed by a voluminous two-story open atrium. From the entrance, hallways lead to the private living spaces on the first floor. Public living spaces—including the living room, dining room and kitchen—are located on the second floor, which is enveloped by a wraparound deck that offers direct access to the garden from the living room and kitchen.

The home sports high-end sustainable and modernist furnishings that demonstrate the highest level of design. Branch Home supplied accessories, such as kitchenware and bedding, manufactured in the most environmentally responsible way possible, Glenn says.

CALIFORNIA OFFICIALS OPEN TO SYSTEM CONSTRUCTION

California cities and counties have long been legendary for their resistance to building systems, thanks to each municipality having its own particular Santa Monica phonebook-size list of building code requirements to handle seismic loads and the like. Many manufacturers that have tried shipping into California say that getting approval there for a log, modular or panelized plan is no more difficult than finding peace in the Middle East.

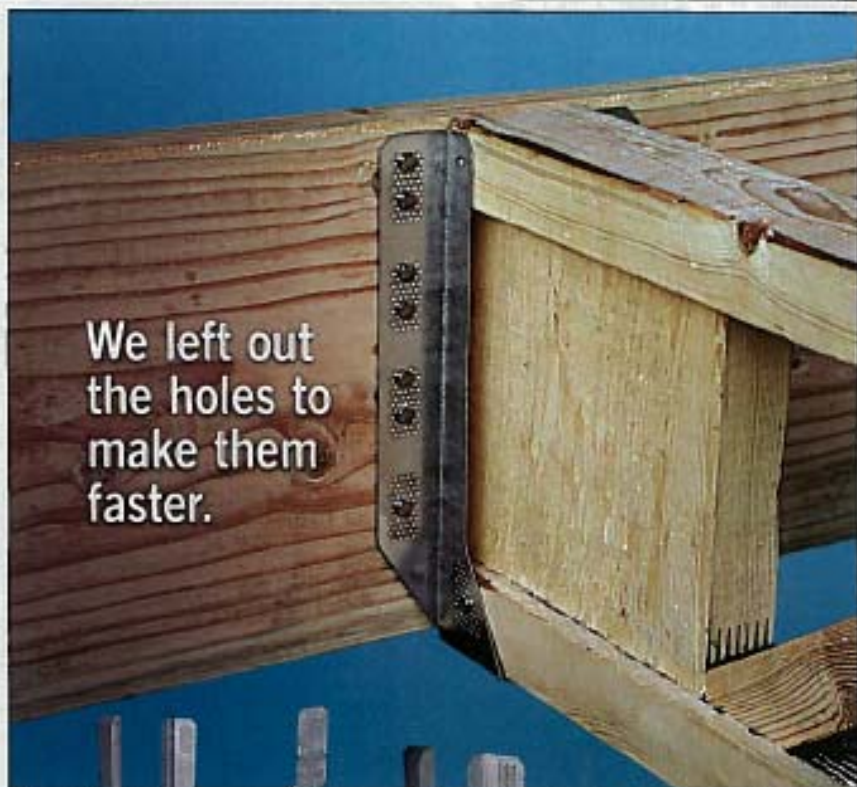
Glenn says that while building in general is far more complex and time consuming than he originally envisioned, code officials were not specifically against a developer or builder using a building system. "Building is very different than the tech business. I wasn't used to having to deal with so many government agencies. It takes much longer to get anything done. Projects tend to move much slower. And in many cases, you don't have as much intellectual property protection as you do in other businesses. So that was a bit of a culture shock.

"Depending on where you are building, it can be hard to develop. You do have

to wade through a number of agencies, particularly in an area like Santa Monica. There's the architectural review board, planning commission, the coastal commission and on and on. But I didn't find that any of these agencies were against using a building system per se. Much more of an issue were some of the environ-



The home is anticipated to be 36% more efficient than a conventional residence of a similar size. Sustainable features include a 4-kilowatt SunPower solar power system, including high-efficiency, all-black solar panels that generate up to 50% more power than conventional panels.



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ULTIMATE Green Home

mental systems, such as incorporating gray water systems. That was much more time-consuming to sort out."

MOTIVATION TO GO NATIONAL

It is Glenn's intention to take the concept of LivingHomes nationwide, although the exact form of the business is still under development. "Our intention is to work more and more with builders and developers around the country. We feel there's a tremendous opportunity here, a big market for buyers who want to build this way but who don't have an easy solution available to them," Glenn says.

"At the end of the day, we have to build a profitable business that is scalable in a variety of markets. We're not profitable yet. But we're well on our way. Although I spent a bunch of years in the tech industry, I see myself spending the next couple decades in real estate development. This is where I want to be." ■

ARE ENERGY COSTS AFFECTING CONSUMER BUYING HABITS?

Americans are changing consumption habits because of high-energy costs, according to Energy Pulse, an annual national consumer market study that investigates energy consumption and conservation attitudes. A full 70% of Americans say their energy costs have risen from 10% to 50% in the last year, and 63% say they've made changes to reduce their consumption as a result.

"What's encouraging about this year's results is that 77% of those surveyed understand that the best solution for our energy problems is a combination of increasing efficiency and reducing consumption," says Suzanne Shelton, president and founder of the Shelton Group, which conducts the annual Energy Pulse study. "However, when it comes to buying energy-conserving products and services, there's still a disconnect between what consumers say and what they do." Among the findings:

- 65% of Americans say that people don't do more to conserve energy because it's too hard to change habits.
- 64% say it's because there is not enough information available.

"We feel that both answers are simply excuses. Human beings will change their behaviors if they get the benefit in doing so, and there is so much information available. We think that the real answer to why people don't change is because they just don't get what's in it for them. It's really a social marketing issue," she adds.

According to the study, 29% blame the U.S. government for rising energy prices while only 21% say that oil companies are to blame. "The uptick in energy awareness does not necessarily translate to increased personal responsibility for their own consumption," Shelton says. In fact, "Consumers aren't recognizing the full spectrum of factors affecting energy issues," she says. "A majority answered 'rising oil and gas prices' when asked what we meant by 'increasing energy prices.'"

The reality is that at the time of the survey, gasoline prices had risen by 48% over the last two years, natural gas prices had gone up 42% and electricity was up 17%. Shelton advises that education needs to play a central role in helping Americans comprehend the energy crisis in order for personal responsibility and behavior changes to occur.

