



GREEN BUILDINGS GROW PROFITS

Commercial building in Orange County is undergoing a startling change that could help save the planet, even as it increases developers' profits.

By Steve Thomas

Commercial building is going green in Orange County in dramatic fashion. This is happening partly because businessmen and builders want to be good corporate citizens by doing something to save energy and combat global warming, but more so because they are finding that green buildings are good for their bottomline.

"It has turned on a dime," says Doug Holte, senior vice president of Hines, one of the world's largest commercial real estate developers. Hines, which controls assets worth more than \$12 billion in 68 U.S. cities and 14 foreign countries, is the developer and majority owner of the first LEED pre-certified spec office building in California.

LEED stands for Leadership in Energy and Environmental Design. It is the rating and certification program of the U.S. Green Building Council, a 91,000-member nonprofit organization created and run by design and building professionals.

"I have seen a fundamental sea change in just the past six to nine months," says Dan Heinfeld, FAIA, president of LPA Architects, the leading green design firm in Orange County. "The demand for energy-efficient, sustainable design is starting to come from the end user now. It seems like awareness of the value of green building is becoming more widespread every month. It's amazing."

Jorden Segrave, an architect who heads the OC chapter of the U.S. Green Building Council, seconds Heinfeld's perception: "Owners and tenants are starting to request LEED certification. That is a big change."

Hines' 12-story, class-A midrise at Michelson and Von Karman in the Irvine Business Complex is scheduled for completion in May. It marks a critical turning point because until now green commercial buildings were exclusively institutional, belonging to corporations or other organizations with long timelines in which to enjoy the green benefits and recoup any extra construction costs. The fact that a speculative builder is putting up a green building means that the marketplace has shifted, making sustainable design profitable in the short term.

Going forward, Hines will build nothing but LEED-certified "green" buildings in California. It has formed a fund with the California Public Employees Retirement System (CalPERS), which has some of the deepest pockets on the planet, to finance an aggressive program of sustainable development in Orange County and throughout California. It is the first such fund in the country.

"Green building isn't about kooky tree-huggers wearing earth shoes anymore," says Holte. "It is about smart business, about lower energy costs and increased productivity. We think we will lease up 2211 Michelson faster and have better luck holding onto tenants because it is a LEED-certified building."

Cities, states, federal agencies and major corporations such as Ford, Toyota and Wal-Mart are racing like homesteaders in a land rush to embrace LEED building standards. They crave green buildings for a long list of reasons and architects, engineers and developers are gearing up to answer the call.

"There has been phenomenal, exponential growth in the LEED program over the past several years," says Eric Ring, a project manager with the mechanical engineering firm Glumac in Irvine. "More and more projects are going green. Mainstream, publicly-traded companies that you wouldn't necessarily think of as having a green agenda are coming to LEED and green building because it makes financial sense for them."

The products and services market for green building exceeded \$7 billion last year, up 37% from the year before. Since 2000, membership in the U.S. Green Building Council has increased tenfold. According to E-The Environmental Magazine, 5% of new commercial construction underway in the U.S. meets LEED standards today, and nearly 1 billion square feet of green commercial building space has been registered or certified.

Another overnight success

Like the Hollywood actor who becomes famous "overnight" after 10 years of storefront theater and bit parts in lowbudget movies, the green building movement has paid its dues. In one sense its roots go back to traditional, pre-technological architecture around the world. Before air conditioning and electric lights, people knew how to build buildings that were heated, cooled and lit much more by nature than are most modern buildings. More recently, green building emerged during the energy crunch of the 1970s, with solar panels being a main feature. When oil and energy got cheap again, the movement faded somewhat. Ronald Reagan, the old Westinghouse spokesman, removed the solar panels that Jimmy Carter put on the White House, and, in the United States at least, ecologically minded builders were pushed to the fringe where they survived by building smart structures for environmental organizations, universities and progressive individuals.

The re-emergence of green building as a broader, more powerful, presumably permanent force is due to several social and economic factors. Education and advocacy is a big part of it. Visionary individuals, federal programs such as Energy Star, and organizations such as the Urban Land Institute (ULI) and the U.S. Green Building Council (USGBC) laid the groundwork by educating the general public and bringing building professionals together to develop and implement green building practices and standards.

Since 2000, especially, these efforts have taken place against a backdrop of skyrocketing energy prices and a steady, ominous drumbeat in the press about the looming dangers of global

warming. Fear of planetary catastrophe has motivated average citizens and building professionals alike to take a hard look at anything likely to lower energy consumption. Likewise, the general public and the business community share a desire for lower personal energy costs, the Holy Grail that green building holds out to them.

Profit motive has come into play along with market forces in the past several years as green building expertise has spread and solidified, and green building systems have matured and proliferated. Both of these developments have made it easier and more economically feasible for the building industry to begin to meet the growing demand for green structures.

“A few years ago, when fewer designers and contractors were familiar with LEED concepts and technology, bids on green projects got padded with a margin of safety,” says Ring. “People weren’t sure what a job was going to cost, so they bid it high to protect themselves. That is happening less and less now. People at all levels of the building industry, from product manufacturers to designers, contractors and developers, understand the systems and procedures better and can price them more fairly. Any sort of delta between green and not green is shrinking or going away all together.”

There is also ever-increasing competition on both the manufacturing and installation ends. “That’s happening in spades,” Ring says. “A lot of product manufacturers who have been around for a while, selling carpet or lighting fixtures or HVAC equipment, are racing to develop new products lines that can appeal to the green sector of the commercial building industry because it is growing so fast. They want to be able to go to the architect and say, ‘Spec our product because it is greener than the competitions.’”

LPA designed FORD’s Premier Automotive Group headquarters in the Irvine Spectrum in 2000. It was the first LEED-certified building of any kind in Orange County, and is still notable. One of its most striking features is a garden roof. Instead of black tar on top, the PAG building has six inches of soil planted in beautiful, flowering native flora. This roof accomplishes a host of environmentally friendly things: It absorbs rain water which reduces urban runoff, OC’s main source of water pollution; insulates the building from both heat and cold; provides habitat for birds and bees; and cools and oxygenates the atmosphere around the building. “When we designed that building, there were two companies that had garden roof systems,” says Heinfeld. “Now, there are 20.”

Good government, bad government

Sad but true, the Bush administration has been terribly slow to react to the threat of global warming, providing more than \$10 billion worth of subsidies for the oil and natural gas industry for every \$1 billion invested in alternative energy technology. Nevertheless, lower down in the federal government, and in state and local governments, significant progress has been made.

Federal agencies such as the Department of Agriculture, the Environmental Protection Agency and the General Services Administration now require that all new departmental buildings meet LEED requirements and receive certification. The Department of State has committed to using LEED on all new embassies worldwide.

A number of states have mandated LEED certification for state facilities, with California in the forefront. Governor Schwarzenegger signed Executive Order S-20-04 on Dec. 14, 2004, requiring the design, construction and operation of all new and renovated state-owned facilities to be LEED Silver, a step up from basic LEED certification. Since the state builds, owns and operates many buildings, developers took note.

On the local level, scores of cities have put a fern in their cap, requiring new municipal buildings over a certain size to be LEED certified and offering incentives to private developers who build green. San Francisco, Los Angeles, Pasadena, Santa Monica and San Diego all have green mandates. Here in Orange County, Irvine has developed its own voluntary green building

certification program for both commercial and residential structures. Builders can earn points for energy efficiency, water conservation, construction waste reduction, environmentally friendly building materials, indoor environmental quality, and sustainable development practices. If a project earns 50 out of 100 points, it is certified as a green building.

"We file the certification certificate so that the owner will have proof positive that it is a green building if they ever go to sell it," says Tina Christiansen, AIA, director of redevelopment.

In another environmentally conscious move, Irvine recently created the post of Energy Administrator, now filled by Shawn Thompson, P.E. Her job is to plan and shape the city's energy usage over the next 20 years.

"One of the best thing about our green building program is that we developed it collaboratively with the builders," says Thompson. "It isn't something that we made up and imposed on them. We talked it over and negotiated and came up with a set of standards that make sense for them and for us, using products and procedures they are familiar with."

Irvine also provides a Green Building Resource Guide for citizens, defining green building materials and systems and listing sources for them, helping build a desire for green construction from the bottom up. "People are asking about green building more now," says Thompson. "They are becoming more educated and more fluent in the terminology."



Anaheim uses the LEED certification point system to identify green buildings and offers substantial cash incentives to developers who meet LEED requirements and city benchmarks. Incentives include expedited plan review; waiving up to \$50,000 in plan check fees per project; providing up to \$75,000 in rebates for energy efficiency, up to \$50,000 for solar energy installation, up to \$30,000 for LEED certification and up to \$10,000 in design review assistance.

Altogether, these and other government programs give green building a powerful push forward, making it more attractive to both owner/operators and spec developers. When the federal government commits to LEED-certified structures, it legitimizes the concept. When the great state of California decides to build green, it creates a major market for green products and services. Anaheim's rebates and subsidies help make sustainable buildings more viable. There is also a trickle-down, combination effect that plays in with rising energy costs and other factors to make green more appealing to profit-minded businessmen.

"Take solar photovoltaic panels, for instance," says Ring. "Photovoltaics have been around since the 1970s, and haven't changed all that much, but the economics have. Because of higher

energy costs, which will continue to rise, state incentives and federal tax credits, we are at a tipping point where significant photovoltaic systems are starting to make sense for many owners. A combination of drivers like LEED, where they get recognition for doing green things, and tax breaks, and higher energy costs are starting to make the economics of it into more of a sweet spot.”

The verdict is in

As Hines and its brokers lease up 2211 Michelson, they will certainly hammer potential tenants with statistics showing them how much lower their electric bills will be in a green building than in a traditional one, but energy savings won't be the main selling point.

“The biggest thing we are emphasizing is the workforce productivity element,” says Holte. “A building like this, that has 60% more daylight coming in, that has higher quality air delivery systems so that you have a fresher air environment, and that has useable open spaces at the bottom where people can actually work outside part of the time, leads to a more productive workforce. Since workforce costs tend to be 10 to 20 times the cost of rent, that increase in productivity dwarfs any potential rent premium you might pay.

Solid evidence backs up Holte's claim. When ING Bank did a productivity study on the efficiency of its green headquarters building in Amsterdam, it found not only a 10% energy savings but a 15% reduction in absenteeism.

Located in Torrance, the south campus of Toyota's North American Headquarters consists of five 3-story buildings totaling 625,000 square feet. Designed by LPA, it is the largest LEED Gold-certified project in the country. Despite extensive green features, including the biggest privately owned solar power system in the U.S., it came in under budget and saves Toyota money compared to what it was paying in rent before.



“LPA created a working environment that has generated only superlatives from our associates,” says Robert C. Daly, group vice president at Toyota. “I have not heard one person say that he or she ‘liked’ the new offices or that the space is ‘nice.’ What we hear are comments like ‘great,’ ‘terrific,’ or ‘I’m thrilled.’ Everything works here, from the architecture to the interiors to the landscaping and the graphics.”

The building LPA designed for Ford's Premiere Automotive Group in Irvine has earned similar praise. According to building manager Victor Borghese, it consistently rates the highest in employee satisfaction of all 80 Ford's office buildings.

A 2004 article by Catrine Johansson in the Orange County Register quoted Roger Ormisher, a vice president at Volvo, one of the brands Ford houses in Irvine, as saying, "The building makes work easier and more enjoyable. It encourages you to go to work."

Beside the garden roof, green features include a hydrogen fuel cell, an under-floor HVAC system that eliminates toxins from the building and reduces energy costs by 25%, and a simple, ingenious internal structure that lets most employees to enjoy natural daylight and spectacular views of the San Joaquin Hills and Santa Ana Mountains. Instead of putting walled offices around the perimeter of each floor, LPA put them in the center of the building, allowing daylight to flood over workers in cubes that take up most of the floor space.

Green building is full of almost magical synchronicities like that. What costs less and is best for the environment turns out to be best for the people in the building, too. At PAG, Ford saves on its electricity bill by allowing natural light to illuminate the building; at the same time, workers feel better, more energized and optimistic, enjoying the sunlight and beautiful views. LEED standards call for the use of non-fume-producing coatings, called low-VOC paints and stains. Because they are water-based, the low VOC coatings are better for the environment. They also don't cause workers to suffer from allergies and headaches.

"Leasing brokers have been a challenging audience because they are short-cycle thinkers; they need to get a transaction done in short period of time," says Holte. "So we have been spending time with both the tenant and brokerage community in Orange County, saying, look, this makes good business sense, and you should pay a premium to lease here as opposed to leasing in a non-sustainable building.

"I think we will get to a point before too long where a young architect coming up wouldn't even think about designing a building that isn't sustainable."
"When the general marketplace requires it, when tenants say they want to move into green space, developers will provide it," says Heinfeld. ocm

Steve Thomas is an Orange-based freelance writer and author.

WHY GREEN BUILDINGS MATTER

Buildings suck up energy at a rate that makes SUVs look like eco-cruisers. They absorb vast quantities of steel, wood, stone, plastic and other materials, and generate mountains of waste. Improving their energy efficiency and overall environmental sustainability is critical to combating global warming and keeping civilization viable. Consider these stats:

- Commercial and residential construction comprise 12.7% of the \$10 trillion U.S. GDP. Buildings.
- They account for 39% of total U.S. energy consumption.
- They consume 70% of electricity used in the U.S.
- They consume 12.2% of all potable water (15 trillion gallons annually).
- They use 40% of all global raw materials (3 billion tons annually).
- They generate 136 million tons of construction and demolition debris each year. OCM



SNAPSHOT OF 2211 MICHELSON

Developer/majority owner: Hines
Equity partner: Crescent Real Estate Equities Co.
Architect: Paul Danna, AIA, DMJM
Design Builder: Snyder Langston
Construction start: January 2006
Expected completion: May 2007
Height: 12 stories
Square feet: 266,000

Green features:

- Will use 10-20% less energy
- Extensive use of recycled materials
- Will use reclaimed water
- Sixty percent more interior daylight
- Garden workspace with WiFi
- 50 new trees will be planted

Notable:

- First LEED-CS pre-certified spec office building in California
- First project to participate in Irvine's Green Building program