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Going green - Environmentally friendly building technologies are slowly moving into the mainstream

by Don Lipper

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The "green" building movement is gaining ground, both nationally and locally, but the adoption of energy-saving and environmentally friendly technologies in building construction has been a long time coming.

"Green" or "sustainable" buildings use key resources like energy, water, materials and land more efficiently than traditional buildings.

The state capital is already a hotbed for green construction and will continue to be, experts say.

There are currently 75 green projects in Northern California with Sacramento boasting the largest concentration, according to Jo Carol Conover, president of the U.S. Green Building Council, Northern California chapter.

California has twice the number of projects of any other state registered with the Green Building Council's Leadership in Energy and Environmental Design program.

Those behind the LEED program and SMUD's incentive programs for energy-saving business have been working to place green building technologies in the spotlight.

Peter Saucerman, principal in the Sacramento office of Dreyfuss & Blackford Architects, said he's noticed that more builders are looking at adding green features to their structures.

"Now that it is on the radar screen, most builders are finding that it makes common sense," said Saucerman, who has worked on a number of green building projects, including the East End state office buildings project in downtown Sacramento.

"It is becoming a sales point in some buildings. On better than half of our projects the client has asked for green or sustainable features."

Saucerman and many others credit the local green building boom to SMUD's extensive rebate program.

"They're very proactive," said Saucerman. "SMUD is a really aggressive partner for a lot of alternative technologies."

Long-term investment: The LEED program has increased from 1 percent participation nationally in 2001 to a predicted 7 percent of new-building construction for 2004.

The incremental movement marks the convergence of cost-effective technology and a coordinated standard.

"LEED is the most powerful voluntary industry transformation that I've ever seen," said Christine Ervin, president of the U.S. Green Building Council.

"Now there is national definition, education, branding and a third-party certifier to get the product delivered as promised. It is the Good Housekeeping seal of approval for green buildings."

The LEED Green Building Rating System is a voluntary rating system where credits are earned for satisfying specified criteria.

Projects are evaluated and earn credits within six environmental categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation and design.

Certified, silver, gold and platinum levels of green building certification are awarded based on the total credits earned.

There are already many green buildings in the pipeline, and several have been completed locally.

The California Environmental Protection Agency headquarters at 10th and I streets has been cited as the most energy-efficient high-rise building in the nation by Energy Star, a program of the U.S. Environmental Protection Agency.

The 25-story, 950,000-square-foot high-rise, developed and operated by Thomas Properties Group, achieved a higher ranking than 10,000 buildings around the country.

It was recently awarded gold LEED status, and Thomas Properties is appealing to get the highest platinum rating.

The DPR Construction building in South Natomas, which DPR shares with ABD Insurance, is the first privately owned building in the valley to receive silver LEED certification.

The building reduces water use more than 45 percent by deploying water-efficient landscaping, waterless urinals and dual-flush toilets.

All of the occupied workspaces have outside views and interior lights that adjust based on the amount of available sunlight.

The construction procedure was green too. DPR says it reduced more than 75 percent of construction waste to landfills and redirected recyclable materials back into the manufacturing process.

While the average return on investment for a green building is five-plus years, DPR says it will get its money back in half the time. The additional \$85,112 on the \$6.2 million building spent to make it "green" will return more than \$359,758 in savings over 10 years.

The California Department of Education building in the state's five-building East End project has been certified as green by the council. It's the first state-owned building in the country to achieve the gold LEED certificate.

The 800,000-square-foot expansion of the state's Franchise Tax Board complex in Rancho Cordova is also a contender for green status.

But the state's budget for seeking certificates like this has been cut, so the architects working on the project are volunteering their time to work on the certification process. <p>

Currently under construction is the 550,000-square-foot headquarters of the California Public Employees' Retirement System on R Street. CalPERS expects to receive silver LEED status for the building.

The green building trend is not limited to commercial construction.

The upcoming Premier Gardens in Rancho Cordova is a 95-home subdivision that will have standard features such as solar power-generating roof tiles and other energy-efficient designs.

Builder Premier Homes contends these houses will save homeowners an average of 60 percent on their utility bills. The grand opening is scheduled for April.

On the horizon: As the LEED standards define the new construction market, three pilot programs may dramatically increase the number of green buildings in the future.

One program is aimed at retrofitting existing buildings to make them more energy efficient and/or environmentally friendly. "Addressing the existing commercial building market is huge. It is 80 times bigger than the new-building market," said the Green Building Council's Ervin.

LEED's commercial interiors program awards certification for tenant improvements to a building site. "We see huge opportunity for tenant improvements with five times as many buildings being renovated and improved rather than constructed," said Conover of the Green Building Council.

Core and shell programs are aimed at developers who have put a building shell together, but haven't completed the interior for tenants.

"This hot market trend is happening all over the country with a diverse array of building types and sizes," said Ervin. "We feel bullish on the trend, that is why we are looking to expand with these other building types."

For all the heat around green building, builders still pay a premium that starts at 2 percent and can go up sharply depending on the design of the building.

For building owners, such investments can pay for themselves 10 times over in life-cycle savings, according to a new cost-benefit study for 40 California agencies.

For example, an up-front investment of up to \$100,000 to incorporate green building features into a \$5 million project would result in a savings of at least \$1 million over the life of the building, assumed conservatively to be 20 years, according to the report for California's Sustainable Building Task Force.

Worms making 'Bureaucrap': The Cal/EPA building that recently got gold LEED certification is a model of green design and aggressive recycling practices.

It was built before the green building standards were completed by the Green Building Council.

The building's owners had to retroactively create the documentation for certification. It took a year to complete. One copy of the application was 1,800 pages long. The Green Building Council wanted three copies, so in order to save trees, it was sent on disk.

With 3,000 people, most average buildings would have waste picked up five times a week, but the Cal/EPA building has it picked up twice a month.

"The average cost of waste is 5 cents a square foot. I'm at almost zero because of the money I get back from recycling," said ' Craig Sheehy, director of property management for Thomas Properties.

By moving the janitorial staff to the daytime shift, the buildings saved \$100,000 in electricity costs and an estimated \$90,000 in labor costs.

There are other benefits as well. "For the first time in our janitors' careers they can put their kids to bed at night," said Sheehy. "In three years we've only lost one or two janitors. We don't have to worry about retraining."

Sheehy also found that by reducing the building's environmental footprint with green operational procedures, he was saving one operating dollar per square foot. For his building, that's a million dollars a year.

Now Sheehy gives seminars called "Greening Your Building Toward Your Bottom Line," in which he shows participants that green building is not only good for the environment, it is good business.

"I try not to mention the 'E' word (environment). That turns people off. I focus strictly on the savings to the operating budget," said Sheehy.

But not all of the Cal/EPA building's programs are ready for wide implementation.

The building has 30,000 worms that compost all the building's food scraps. "The worm castings are the best composting in the world," said Sheehy.

"We're thinking of selling it. Because we're a state building, we joke that we'll sell it as Bureaucrap."