



**Proponents say
green buildings are
worth more than
conventional ones.
Now there are signs
that the market is
starting to agree**

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BY DAVID KOZLOWSKI • SENIOR EDITOR

Green buildings are going mainstream. While their number is relatively small, their impact on corporations and institutions is growing. Ford, Hines, Gap and U.S. General Services Administration are just some of the large entities that have embraced aspects of environmental design.

But clearly slowing their acceptance is the fact that the marketplace hasn't accepted them as beneficial to the bottom line. And not until that happens are green buildings likely to have a significant impact on the conventional building stock.

Small steps are being taken today to achieve these outcomes, but it may take years before these efforts reach maturity. Nevertheless, these developments could well lead to an evolutionary change in the way we build and view the buildings.

From Cost to Value

Even though it isn't apparent now, green buildings have what investors want, says Christine Ervin, president and CEO of the U.S. Green Building Council.

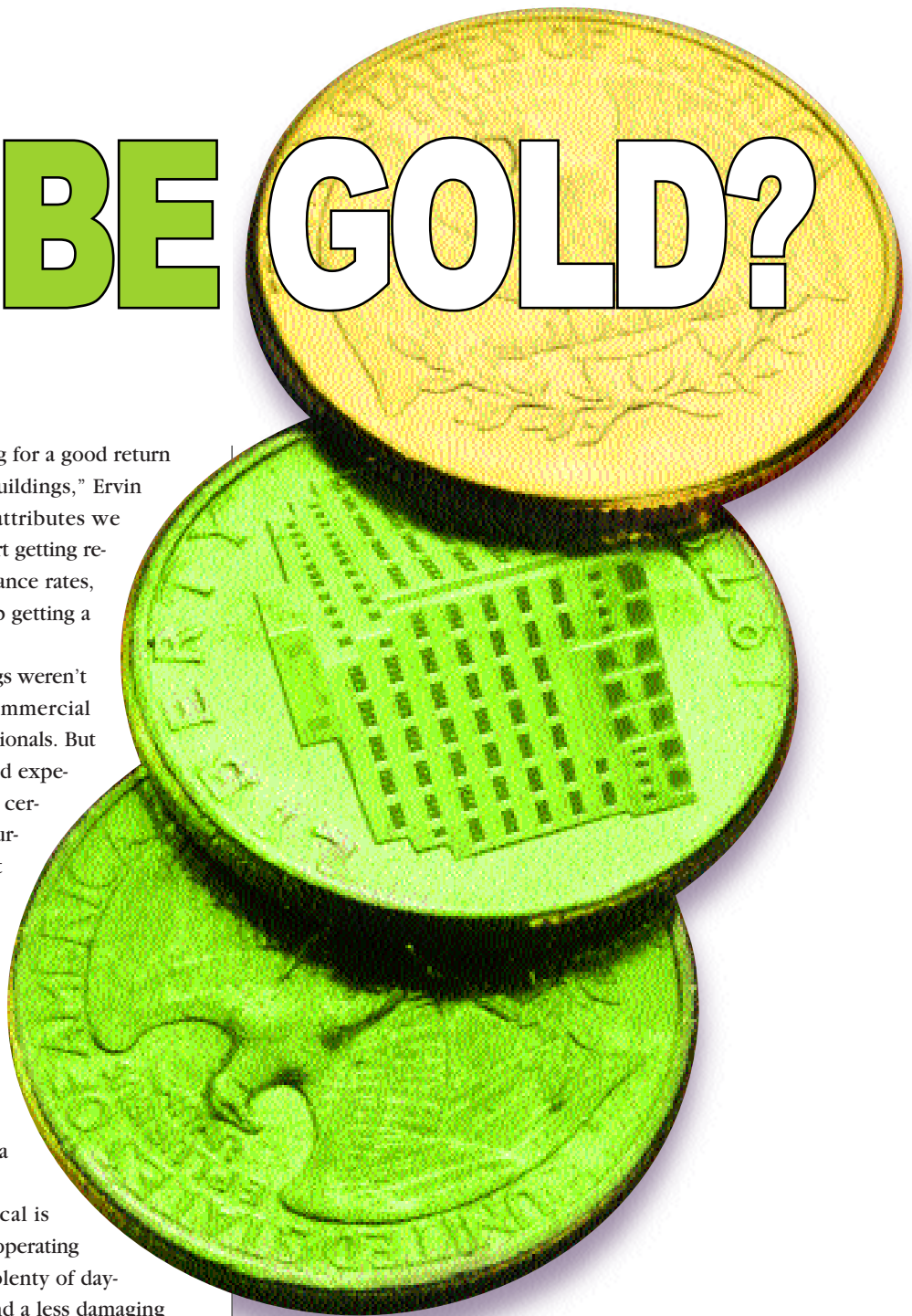
EEN BE GOLD?

“The investor who is looking for a good return is going to be drawn to green buildings,” Ervin says. “Eventually, the superior attributes we find in green buildings should start getting reflected in things like lower insurance rates, better refinancing options or help getting a critical loan in place.”

Ten years ago, green buildings weren't a blip on the radar screen of commercial and institutional building professionals. But in that time, designers have gained experience, developers have gained a certain comfort level, and manufacturers have increased their product offerings so that green buildings have become cost-effective.

The “secret” to building green cost effectively is plenty of preplanning and an integrated design process that involves everyone, from the owner to subcontractors. To many proponents, this way of constructing a building is simply logical.

What else might seem logical is that green buildings, with lower operating costs, better indoor air quality, plenty of daylight, more comfortable space and a less damaging environmental footprint, should have a higher value.



After all, they benefit the owner, occupants and community more than a conventional building.

This argument is just being tested now using energy efficiency.

Determining the value of energy efficiency is important to green buildings because energy efficiency is a big part of what green buildings are about. Energy efficiency comprises 25 percent of all the possible credits in the LEED rating system, says Steve Kepler, program manager for the USGBC's LEED Green Building Rating System. If a building gets those energy credits, it is well on the way to becoming a LEED building.

The value of buildings based on their energy use is an issue making headway among those who have influence on building valuation: appraisers and lenders.

Progress is being made using a common appraisal method: the income-capitalization method. With this method, the asset value of a building is the net operating income (NOI) divided by the prevailing cap rate. If the NOI goes up, the value goes up. Energy costs can have a significant effect on NOI.

For example, according to an analysis by the Rocky Mountain Institute, if the cap rate is 10 percent and the NOI for a building is \$100,000, the capital value of the building is \$1 million. If an owner spends \$40,000 to make building systems more energy efficient, that may yield energy cost savings of \$10,000 annually, increasing the NOI by that amount. Therefore, the capital value increases to \$1,100,000; thus, the \$40,000 investment yields a \$100,000 capital value increase plus an immediate bonus of the energy cost savings.

This prospect of added value was important to Kevork Derderian, owner of Continental Offices Ltd., when his team was renovating a 25-year-old, 130,000-square-foot office tower outside of Chicago. The cost of new energy efficient equipment was funded by an operating lease from Northern Trust, a Chicago bank, and was based on the value of the energy savings.

A Catch-22

Energy efficiency equals higher value. This seemingly simple calculation has a problem, Derderian says: The market doesn't generally recognize energy efficiency as added asset value. There's not a lot of knowledge or interest on the part of appraisers to go through all the bother of determining NOI based on energy savings.

That's where Mark Chao, senior program director for the San Francisco-based Institute for Market Transformation (IMT), comes in.

Chao and a team from IMT have been working on ways to bring commercial building appraisers — and the lenders for whom they work — up to date on energy efficiency in buildings. IMT's projects in California and New York have yielded positive responses from appraisers. Many have recognized the importance of energy in an appraisal but say they lack the necessary tools and comparisons to verify their calculations.

Part of the problem is a classic Catch-22: No one is doing the valuation, so there are no comparisons for verification. And there are no comparisons because no one is doing the valuation.



EFFORTS are under way to EDUCATE appraisers and lenders about ENERGY EFFICIENCY

The next step is to develop courses to help appraisers use energy costs in NOI and to introduce them to available databases, such as the U.S. Environmental Protection Agency's Energy Star Building Benchmarking Tool for Buildings and the Department of Energy's Commercial Building Energy Consumption and Expenditures databases. Both can offer appraisers the verification they may need, Chao says.

Commercial investors are also beginning to look very seriously at NOI and energy costs, says Ted Cauklin, associate director of Cushman and Wakefield, California. He says buyers are doing much more extensive evaluations of buildings, and it is beginning to be reflected in the purchase price of some buildings. But, Cauklin says, because there are so few green buildings sold, it is difficult to draw the kind of trends and comparisons the market likes. Like the issue with appraisers, it's a matter of reaching some kind of critical mass, Cauklin says.

Certainly the Real Estate Board of New York thinks value based on NOI is important, says Debra Beck, executive vice president. She says green buildings should be important for building owners because they do lower operating costs and can easily add a dollar or two per square foot to rents.

"With energy costs rising, this seems even more important," Beck says.

Turning the positive attributes of green buildings into dollars and cents means not only increased rents and higher resale values, it can also mean more generous loan underwriting.

According to Chao and David B. Goldstein, Ph.D., senior scientist and director of the Energy Program with Natural Resources Defense Council, even if a building were not for sale or raising its rents, the owner could still benefit from an appraisal based on energy.

Chao and Goldstein argue that energy valuation in the NOI formula could possibly serve as the basis for refinancing at a more attractive rate. Because lenders carefully consider the ratio of the proposed loan to the value of the property, if energy efficiency affected the value of the property, it would also affect the loan amount.

That NOI and energy are connected makes sense for building owners, says Robert Sauchelli, program manager for Energy Star Buildings. The owner of commercial space that is higher in quality and has lower operating costs has several choices, Sauchelli says. One is to keep the rents the same, increasing margins and profitability; valuation of the property, then, would eventually reflect that. Or, if the lease is such that energy costs are not passed through and the property is in a more competitive market, the owner could pocket the energy savings, reduce rents, improve occupancy and therefore increase profitability. Or the owner could, of course, increase rents and profitability, getting a double boost.

Higher Values, Higher Property Taxes?

Derderian understands the logic and agrees with energy-NOI valuation, but he's not seeing much movement in the Chicago area on value. His projects, which offer energy efficiency and good indoor air quality and daylight and are fully leased, can't gar-

ner extra rent because of the competition.

Plus, he says, there's an obvious downside to getting appraisers to value buildings on their energy efficiency: A building with a higher value will ultimately pay higher property taxes. This is the biggest nut to crack, he says.

"Building owners go out of their way to make sure their property assessments don't go up," he says. "Anyone coming to the door saying I can increase your building's value is going to get the door slammed pretty quickly."

Jonathan Rose, president of Jonathan Rose and Company, a developer and owner of mixed-use properties, says he's not so sure that the NOI-energy equation will have a direct effect on property taxes because assessments can vary greatly from market to market even within the same city for lots of reasons.

Nonetheless, there's a solution to the appraised-assessed quandary — green building or energy tax credits. And New York State is the first to be trying them.

The tax credits apply to green design attributes, which include energy efficient goals that are significantly better than New York State's tough energy code.

New York isn't the only state moving forward on green building tax credits. California is also pursuing a similar system of green tax credits. Even the U.S. Congress is seriously considering energy efficiency tax credits. Bills that address tax credits for energy efficiency have been introduced in both the U.S. Senate and House.

Green Building Rating Systems Move Ahead

The U.S. Green Building Council broke new ground in 1993, spreading the word on green buildings before most in the building profession knew what they were. Now, with the development of a green building rating program, the Council has continued its role as a leader.

Earlier this year, the USGBC unveiled the LEED (Leadership in Energy and Environmental Design) Green Building Rating System 2.0, a comprehensive credit-based rating system, and announced the first LEED rated buildings. The rating system applies to the design and construction of new buildings and has been used successfully on dozens of projects. Version 2.0 can be downloaded from the council Web site at www.usgbc.org. The council is fine tuning

the system. An updated version 3.0 is due out in 2003.

Where LEED covers newly constructed buildings, LEED Commercial Interiors (LEED-CI) will cover tenant improvement and build-out projects. Experts are reviewing a preliminary set of rating criteria. A version of LEED-CI may be available as early as next year.

The USGBC is also beginning work on LEED Operations (LEED-OP), a rating system that will focus on how existing buildings are maintained and operated. LEED-OP will be used to recertify LEED-rated buildings.



And finally, the Council is working on LEED Development for multi-building planned unit development projects.

For more information, go the council's Web site at www.usgbc.org, or call their new Washington, D.C., office at 202-828-7422.

David Goldstein, energy program director for the Natural Resources Defense Council, says the congressional bills provide tax deductions for improving building energy efficiency by 50 percent above the current ASHRAE 90.1 Standards, and for installing advanced high-efficiency heating, cooling and hot water systems, and solar hot water and photovoltaic systems.

The bill enjoys bipartisan support and could pass this Congress with the current tax bills, Goldstein says.

Insurance Companies Turn Friendly

Insurance premiums these days are as sure as death and taxes. That's why it is hard to think of them as having much influence in moving green buildings further into the mainstream. But insurance companies are starting to look at green buildings as less of a risk.

"I wouldn't want to overstate the case on momentum building," says Even Mills in the energy analysis department of the Lawrence Berkeley National Laboratory. "There's no critical mass yet, but there is a lot of visibility on the part of insurance companies. They are raising awareness of the issues."

There are a number of areas where insurance companies are showing some interest. Insurance companies, for instance, are talking about premium credits, lower deductibles and rebates for steps such as commissioning of buildings.

For now, Mills says, this is only talk. But it's serious talk. Working behind the scenes with a large national insurance company, a major utility is helping pave the way for a greater awareness of risk and the risk reductions that come with commissioned buildings. Because of the nature of the discussions, the sources insisted on remaining anonymous.

The insurance company is considering offering premium reductions to building owners who have project insurance with the company if the owners commission their building. The company is also considering reducing premiums for architects and engineers who include building commissioning as a standard component of their services.

The company's thinking is a commissioned building will ultimately be a well designed, problem-free building, minimizing the possibility of claims after completion against the insurance company's major clients, the architects and engineers.

Insurance companies can also influence the market for green buildings simply because they are big investors and tenants of property, and some insurance companies have started to flex a little muscle here.

Fireman's Fund Insurance Company leases more than 3 million square feet nationally, and green space is a high priority to them, says Lynda Grasser, manager of property and finance for corporate real estate.

"We're having green aspects of the space written into all our lease requirements, and we're having our brokers consider green spaces first," Grasser says.

Taking a cue from some green building proponents that green buildings offer higher quality from design to operation, in-



insurance companies are looking to them as examples of how things should be done. This is the case with one insurer that looks specifically at energy management as a marker for risk in a building. Rick Jones, vice president of engineering for Hartford Steam and Boiler, the largest insurer in the world of commercial building systems equipment, says there is a "halo effect" concerning energy efficient buildings.

"A building that manages its energy well and efficiently probably maintains its equipment well, is careful about slips and falls, and is probably in general a good caretaker," Jones says. "This sort of thing reduces the risk to the insurer." Jones says the industry is just starting to figure this out.

But like so much when it comes to discussing green buildings and value, there is no data. No one has correlated workers' compensation claims with property loss, for example, Jones says.

"The ultimate will be to say, 'Give me your energy bill and I'll underwrite your risk,'" he says. "That's the objective."

Overcoming Obstacles

According to Mills, who has studied insurance companies' impact on green buildings for four years, there are two big problems to overcome before the companies get more involved, and both can be resolved with more time. First, the insurance companies are tied to actuarial tables, but data on green buildings is scant now, and what there is is difficult to rely on. Mills uses the issue of halogen lamps and torchieres as proof. It wasn't until official fire statistics could show that halogen-lit torchieres caused fires that major issuers spoke out on the issue.

The second problem is the institutional barriers. As Jones says, the industry moves slowly. Researchers will have to collect the data before upper management in insurance companies man-



COMMISSIONING could some day REDUCE insurance premiums

age to change their perspectives on risk management to include energy and other building environmental factors. It may take another generation of managers before insurance companies embrace some of these new ideas.

At present, some in the insurance industry are taking a stand on global climate change. While not everyone in the industry views the human impact on the climate as strongly as many in the reinsurance industry, it does indicate environmental issues are ones the industry is willing to consider. Loss prevention, after all, dovetails

with a focus on green building. A by-product of much of our energy is carbon dioxide, a leading global warming gas and a potential catalyst for climate change.

Frank Nutter, president of the Reinsurance Association of America, says that climate change is a dollar-and-cents issue and the industry proposes a number of steps to insure profitability.

“No business is more dependent on climate and weather than property and casualty insurers,” he says. “The industry is at great risk if it does not understand global climate change, and it must recognize that it must do more than be a pass-through mechanism for the costs associated with natural disasters.”

It’s a big leap to go from energy, commissioning and reduced insurance premiums to increased value of green buildings. But it may not be as long as it seems. It may just take a critical mass of buildings to tip the marketplace in favor of green buildings. **BOM**

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