

BOMA · Kingsley QUARTERLY Practical Industry Intelligence for Commercial Real Estate

THE GREEN ISSUE | SPRING 2006

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Real Estate Business Intelligence

PLANNING FOR tomorrow, today

Commercial buildings account for 18% of total energy consumption.

- U.S. Energy Information Administration



The meaning of GREN

The term "green" evokes a broad range of sentiments among different people, even those under the umbrella of the real estate industry. To many, green means protecting and preserving what remains of pristine nature, often by careful urban and suburban planning. To others, the term implies a regulatory headache involving research on wetlands and costly environmental impact studies.

Words like "green," "environmental" and even "sustainability" are fast becoming (if they are not already) buzzwords - taking on whatever meaning a person's political philosophy might see fit to assign. But "green" can also mean simply that the last person to leave the office turns off the lights, or that corporate site selectors look for space near public transportation hubs. The point is that a lot of ideas and practices can fall under the "green" heading, and that heading directly impacts real estate.

There's no questioning the vast impact that commercial buildings have on both the physical and the social environment. According to the U.S. Department of Energy's Energy Information Administration, commercial buildings alone account for 18 percent of total energy consumption. While that proportion has been stable over the last five years, it's up from 13 percent in 1975. In addition to energy, buildings also generate a dizzying amount of greenhouse gas emissions, water consumption, waste and other by-products that can harm the larger environment.

With such a staggering environmental impact, it stands to reason that buildings are poised to become a big target for consumption-saving



initiatives, in much the same way that motor vehicles have been in the last 30 years. Indeed, it is already happening. Naturally, this has implications for every level of the real estate industry. In this inaugural issue of BOMA-Kingsley Quarterly, we explore current attitudes and practices toward "going green" while asking a few questions.

At the investor level, where is the thrust for greening up coming from, and where will it come from in the future? As institutional investors become more and more socially conscious, pressures could mount on investment managers to prioritize greener opportunities. On the other hand, investors themselves may need to be persuaded that green buildings make for sound returns. How can organizations with a fiduciary responsibility obtain the necessary information to make good green decisions?

Asset managers are tasked with creating value while implementing green goals at each property. How can they begin to evaluate what practices make sense? Is there a "standard" process that nevertheless accounts for the unique nature of each building? Most importantly, what resources exist to help?

Finally, this quarter's look at property management focuses on the things that can be done at the building level – things you may never have considered "green," but that nevertheless promote energy conservation and minimal negative impact. What zero- and low-cost options exist for the savvy property manager who not only wants to be a good citizen, but also wants to reduce operating expenses?

And that, ultimately, is the larger question: how can the goals of "green" from the ecological perspective be aligned with the constant pressure of the other "green," the cash flow that makes the real estate industry go round? Our hope is that this publication will provide some good places to start those kinds of conversations, both now and going forward.

A Balancing ACT?

Phil Mobley, Kingsley Associates

Institutional players look toward green investments.



The impact of executive order S-20-04 will reach well beyond the borders of California. This could start a green chain reaction among institutional advisors and the partners they work with.

In the summers of 2000 and 2001, something happened in California that helped jump-start increased attention to energy conservation in the real estate industry. The California Energy Crisis led to blackouts for consumers, bankruptcy and scandal for energy firms and a change in the state's political leadership. In response, the new governor issued Executive Order S-20-04, which committed the state to the goal of reducing energy consumption in state-owned commercial buildings by 20 percent before 2015. As part of this initiative. the state's two largest pension funds, CalPERS and CalSTRS, were "requested to target resource efficient buildings for real estate investments." Because of the geographic diversity of these investments (both existing and future), the impact of S-20-04 will reach well beyond the borders of the state.

Governments provide powerful and direct encouragement to go green, but other sources are at play as well. At many investment organizations, the impetus is coming more from the grass roots. TIAA-CREF, a national financial services organization and one of the largest institutional investors in the country, has a large and diverse constituency – it is the leading provider of retirement services for people who work in the academic, medical, cultural and research fields. TIAA-CREF already participates in the U.S. Environmental Protection Agency's (EPA) ENERGY STAR ® Program, a move that only makes sense for an organization representing people whose very vocations reflect a commitment to social responsibility.

Regardless of the impetus, there is a growing focus within the real estate investment community on developing practices that are specifically and intentionally designed to minimize negative environmental impact while maximizing portfolio value. And that is the fundamental quandary faced by today's investors and investment managers. "If an opportunity comes along that meets certain green standards, we'll give it a second look," says Diloshini Seneviratne, an investment officer with CalPERS. "But it must meet our other criteria as well. We still have to maintain our fiduciary responsibility."

Making a Commitment

TIAA-CREF is no stranger to these issues. The firm earned recognition in 2003 from the EPA for its aforementioned leadership in using ENERGY STAR tools to reduce energy consumption. "We believe that green building initiatives aren't just appropriate from the perspective of social responsibility, but also from a management perspective," says Mark Wood, managing director of asset management for the firm. "We want to be in the forefront of this effort while recognizing the challenges in evaluating these opportunities given evolving technology."

In the current environment, it is not always easy to prioritize resources for green building initiatives relative to everything else the real estate function is handling. It's difficult enough for investors to allocate capital into real estate when the "only" thing to worry about is



generating a return; underwriting every single deal based on a set of green criteria adds even more complexity. Wood points out the implication that the green message must be ingrained into the real estate culture, not just a set of esoteric principles that only get lip service. "As with anything else, buy-in from the top that permeates the investment process is needed for success, and we are fortunate to have that kind of commitment from our senior staff," he says.

Knowing Options

Buy-in may be the first hurdle to overcome, but education is just as important. To help CalPERS understand its options, Seneviratne is spearheading a multi-year effort just to collect information on existing green practices throughout the organization's real estate portfolio. This initiative targets four key areas of environmental consciousness: energy conservation, waste management, water consumption and quality maintenance, and air purity. Right now, portfolio managers and investors are almost totally dependent on service provider firms, and even individual property managers, to know the best practices to employ. This requires a management firm that itself has a strong organizational commitment to environmental consciousness – or a lot of luck. Seneviratne hopes to reduce this dependence. She sees her portfolio-wide information gathering process as a tremendous opportunity for best practice sharing that will alter the knowledge landscape, putting more cards in the hands of investors.

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For now, she says, CalPERS has no plans to evaluate and rank their investment partners based on their green performance. However, within the next few years, she is hopeful of developing a set of guidelines that consist of proven, value-creating green practices. This will not be a simple task. As Seneviratne points out, even the methods of measuring energy consumption can differ across regions and property types. But the rewards extend beyond just CalPERS. "If we can be a leader in socially responsible investing that makes financial sense, it will get the message out that it is doable," she says. "We hope to call attention to existing best practices that some people might not even realize are 'green."

Achieving Balance

CalPERS' goals underscore what is perhaps the greatest knowledge gap: understanding exactly which practices work. Some tools already exist to help answer this question. The EPA ENERGY STAR program is one (see "Green Starts with Energy" on page 9). Additionally, the U.S. Green Building Council has developed a multi-tiered certification program called Leadership in Energy and Environmental Design (LEED), a program referenced in Executive Order S-20-04. These are useful starting points, and at least one investment advisor will be marketing a value-added fund that uses LEED certification as a measuring stick for evaluating acquisitions and developments. Besides California, several states and municipalities have adopted various levels of LEED certifications as the standard for new building construction and renovation.

But green technology changes fast, and no single strategy works for all buildings. "A big challenge is figuring out which technology to hang your hat on," says TIAA-CREF's Wood, adding that "solutions can be unique – what works at one building may not work at another." Compounding this complication is the idea that new technologies will constantly require new methods of measurement and benchmarking. For many service providers, this represents a major shift in the way their managers have historically operated: from "measure, benchmark,



stop" to "measure, benchmark, reassess, measure again." As Wood reminds, "being green is an ongoing endeavor, not a one-shot exercise."

Conventional wisdom in the industry suggests that going green – especially with older assets – involves tremendous capital expenditure with a relatively long payback period. This is fast becoming a misconception. Supporters of green building practices are now saying that there are plenty of green initiatives with payback periods shorter than three years. The real "balancing act" may be more about investing in knowledge than about the juxtaposition of social and fiduciary responsibilities, which may turn out to be more in sync than most people understand.

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"Being green is an ongoing endeavor, not a one-shot exercise."

- Mark Wood, TIAA-CREF

IT IS SIMPLER than you think

Energy costs represent 30% of a typical building's annual budget and is the single largest operating cost.



Green starts with ENERGY

Nick Murray, Kingsley Associates

For real estate organizations and professionals who have committed themselves to a "triple bottom line" measurement of success - assessing economic, environmental and social performance – taking the first steps toward environmental success can be the most challenging of all. The difficulties of developing a green strategy, evaluating solutions and quantifying performance are common roadblocks. However, the free resources developed specifically for the commercial real estate industry by the U.S. Environmental Protection Agency's (EPA) ENERGY STAR ® program can make getting started much easier.

Just as the name implies, the EPA's ENERGY STAR program is predicated on optimizing energy performance as the primary means of lessening environmental impact and enhancing asset value. The EPA's premise and strategic approach are well-founded in science and research and the best practices of 12 billion square feet of partners of the ENERGY STAR program. "Reducing energy consumption and greenhouse gas emissions is the most significant green challenge in commercial real estate," states Stuart Brodsky, national program manager for ENERGY STAR's Commercial Property Markets Program. "The energy consumed by a building over its 40-50 year life exponentially exceeds the energy and fossil fuels consumed for the building's materials and development." Combine this with research showing that energy is the single largest and most controllable operating cost in an office building (representing 30 percent of a typical building's total costs), and the importance of optimizing energy performance becomes indisputable. The best part is that at least in this instance, the goals of the three components of the triple bottom line are in perfect alignment.



A Sequenced Approach

If zeroing in on the energy realm seems straightforward enough, the process of optimizing energy efficiency at the building is even simpler. Brodsky advocates what he terms a "sequenced approach" to upgrades, starting with steps that are low in capital requirements like tuning systems and upgrading lighting. "Before investing in more capital intensive upgrades, such as cooling equipment, operators are reducing the energy requirements in the building from 8 to 12 percent," explains Brodsky. "Then, they can save capital by purchasing smaller equipment that is scaled to the reduced load." As an added benefit, Brodsky points out that the useful life of mechanical, electrical and plumbing systems can be extended by 20-30 percent if they are properly sized and managed.

The tune-up step of the ENERGY STAR approach often yields surprising results for building operators. "We often find owners who are surprised to discover their heating and air conditioning systems were operating

against one another," says Brodsky. Often operators also discover that thermostats need calibration, timer clocks are not set and dampers are not opening or closing, despite the building management system's indications to the contrary. Naturally, it takes some effort to understand all this, perhaps a different kind of effort than operators are used to. Brodsky says that ENERGY STAR partners often report that "consistently walking around the building and watching the systems operate is a very important step."

Lighting upgrades occupy the second step of ENERGY STAR's sequenced approach and should not be overlooked. "Lighting is a major component of energy costs, representing 30 percent of a typical building's total energy consumption," states Brodsky. Compact fluorescent light bulbs use 66 percent less energy than a standard incandescent light bulb and can last 10 times longer. In addition to cost savings, researchers are also working to quantify the improvements to work environment and productivity resulting from lighting upgrades.

Horse before Cart

After these initial steps in the sequenced approach, its primary advantages become clear. Having reduced the overall energy requirements of a property, operators have an even greater opportunity to save money by using those savings to offset the cost of more capital intensive plant upgrades and other green strategies. Then – and only then – they can start thinking about significant upgrades to infrastructure, equipment and materials. In some ways, the process is analogous to paying off a series of debts. Once the most immediate debt is paid off (say, a high-interest credit card), that payment can be used to accelerate the repayment of other debts (say, a home equity loan). In both cases, doing things out of order will cost a lot more in the long run and will not necessarily help the environment. Brodsky warns that there can be costly mistakes for operators who ignore the proper sequencing.

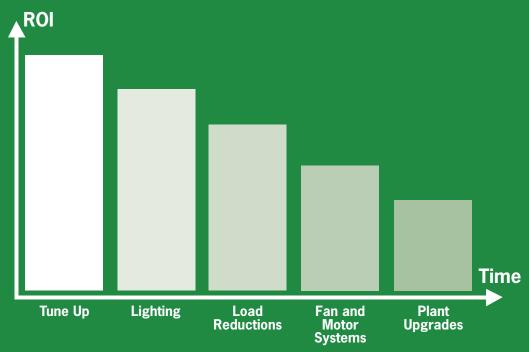
"An extreme example I've seen was an operator of a 1 million-plus-square-foot, circa 1960, property in New York who replaced their chiller plant several years ago. In the following

A Sequenced Approach to Upgrades

Focus on sizing, operations and controls.

Chart courtesy of:







ENERGY STAR provides building operators with free online tools to benchmark energy consumption and emissions at the building and portfolio levels.

year, they applied solar film to the several acres of single glazed windows on all sides of the tower. Clearly, an engineering calculation would have shown that a chiller plant of less tonnage could have been purchased if the thermal quality of the building's envelope had been improved prior to the chiller plant upgrade." In other words, the operator took a much bigger capital hit than necessary. But it gets even worse. Now the property is operating with an oversized chiller plant, leading to diminished comfort, greater on/off cycles of fan systems (thereby accelerating aging of those systems) and higher energy costs than before, all because no one ever stopped to consider that, in effect, the engine needed an oil change rather than replacement.

How to Get Started

Now for the really good news: ENERGY STAR provides building operators with free online tools to benchmark energy consumption and emissions at the building and portfolio levels. Using these tools, property operators can rate their energy performance on a 1-100 rating scale and download a formal statement of performance. Buildings achieving 75-100 are eligible for ENERGY STAR recognition and prompted to share best practices. The EPA's research shows that buildings carrying the ENERGY STAR label, "consume about 40 percent less energy than typical buildings, while providing the required comfort and services." In concrete terms, these buildings are saving

about \$0.73 per square foot on their annual energy bills compared to typical buildings. To anyone in the commercial real estate industry, this value proposition is significant and compelling.

Finally, Brodsky encourages building operators to make energy optimization an ongoing process. "The building and its operators change over time," explains Brodsky, and with these changes come more opportunities to improve energy efficiency. Accordingly, it's imperative to reassess the use of energy frequently and to continuously pursue tune-up initiatives. At last report, the operators of more than 28,000 buildings had used the EPA rating tool for ongoing management practices. "That's the trophy use of the rating tool," Brodsky says. Even with new buildings utilizing the latest in green materials and development methods, there remains a substantial opportunity to optimize energy consumption on an ongoing basis. "A well-managed older building will outperform one using the most advanced technologies and materials if the latter isn't properly tuned," contends Brodsky. The moral of that little anecdote is simply "Don't let it happen to you!"

For more information on energy management strategies, don't miss "Low and No-Cost Energy Efficient Improvements" on June 26 at BOMA's North American Commercial Real Estate Congress®.

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From the GROUND UP

Lorie Damon, BOMA International

Executive orders grab headlines, but savvy property management firms are driving low-cost greening.

Transwestern Commercial Services was recognized with the ENERGY STAR Sustained Excellence 2006 Award for continued environmental leadership. Throughout the industry, property managers – not asset and portfolio managers or investors –most often drive the implementation of green initiatives. Individual managers, working in tandem with people like building engineers and local contractors, are best positioned to understand which initiatives will work at an individual asset. Moreover, they are discovering that a large investment of capital is often not a requirement to make a building more environmentally friendly.

Transwestern Commercial Services is one firm that has specifically set out to implement operational practices that offer environmental benefits while improving the net operating income of the building and adding value in preparation for disposition. And, because hold times have been shortening, they've developed significant skill in identifying low- and no-cost green practices that have short payback periods, yet have a significant impact on the value of the building.

The "Low-hanging Fruit"

Transwestern's eco-consciousness is spearheaded by Marc Fischer, senior vice president and director, management services, and Dennis Thurman, vice president of engineering. Since their work is largely with existing buildings, energy conservation is the most obvious opportunity to realize both

social and monetary benefits. They have found that the first step is to develop an intimate knowledge of where energy is being consumed.

"You have to pay attention to the data," says Thurman. "Utility costs are easy to ignore. It's easy to say 'The tenant will pay it anyway, what do I care?" To combat this attitude, Transwestern's training stresses paying close attention to past and future energy use, especially since utilities typically comprise the largest share of operating expenses and therefore have direct bearing on the value of the building.

Submetering provides a first step toward paying attention to over-standard energy usage. This is particularly important for specialized tenants like first floor retail, data centers and call centers – those areas whose operations extend beyond specified building operating hours, and whose leases require them to pay their pro rata share of those additional utility costs. To track all this information, Transwestern's property managers use data loggers, sub-meters and monthly utility analysis tracking sheets. This, along with annual energy audits, ensures that they're staying focused on energy and meeting their goals.

As one avenue to help trim utility costs, Transwestern uses plug load controls. These devices automatically turn off things like task lighting, printers and radios when workstations are unoccupied. Motion sensors that turn off lights in unoccupied areas also help to eliminate the waste of energy being used when no work is being done.

Other less obvious practices can also have a significant effect on lowering energy usage. As an example, Fischer points to policy changes in janitorial service. At many properties, block cleaning has become a de facto green practice, saving energy by having teams clean sections of the building, rather than every individual floor all at once. The firm is also experimenting with day cleaning, moving custodial work to standard operating times of the building rather than at night, which allows electrical use - particularly lighting and air conditioning – to be sharply curtailed in the evening hours.

Not Just Energy Conservation

Energy may be the biggest target for lowcost green initiatives, but it is by no means the only one. Chemical products are another high-impact area for implementing green practices. Transwestern's Fischer notes that his firm often specifies environmentally friendly cleaning chemicals because they improve both air and water quality in the building. The firm even takes this practice out to its construction projects, authorizing such things as low volatile organic compound paints. "Those paints are a little more expensive," Fischer admits, "But they're better for the tenants and the building. In this case, an inconsequential cost difference makes a huge impact on the indoor air quality of the building."

Transwestern also has an extensive program for recycling, including glass, plastic, newspapers, fluorescent tubes, and computer equipment and electronics. They encourage their tenants and employees to recycle anything and everything they can. Recycling has been around awhile, so making it interesting can be a challenge. Thurman says his people get creative. "Some of our tenants have been involved in recycling electronic equipment to help Katrina victims," he says. "Our tenants really love these programs."

Buving In

The recycling example underscores the key requirement for any green initiative at a building: tenant buy-in. Transwestern uses Tenant Councils as a forum for addressing tenant concerns about any building issue, including green practices. Tenant representatives are invited to be on the council, which also includes management and building staff and vendors.

"If a recycling container is just thrown into the building or a tenant's suite, it doesn't work," relates Fischer. "We get the tenant reps excited about the program first, then they get their employees to buy into it." For the recycling program specifically, Transwestern takes part of the savings and allows the tenant councils to determine what to do with it. "In some cases, they use it for an ice cream social for the building; others donate it to charity. Because the tenants are key to the success of the programs, we invite them to decide how to take advantage of the benefits." Tenant involvement is crucial for everything from participating in recycling programs to observing regular building hours to turning off lights and computers at the end of the day.

Experimentation

Fischer and Thurman acknowledge that not all of the initiatives and projects that they've tried have worked. They're careful to rely on their experience and proven, quantifiable initiatives, but they also believe in experimentation. "We use our buildings as beta sites to test new technologies for free," says Thurman. "Some of them have proven to be very efficient and worth doing in other buildings; some have been less effective. It's a learning curve."

Fischer recalls one trial where the firm considered drawing water from a pond into

Easy GREEN Solutions

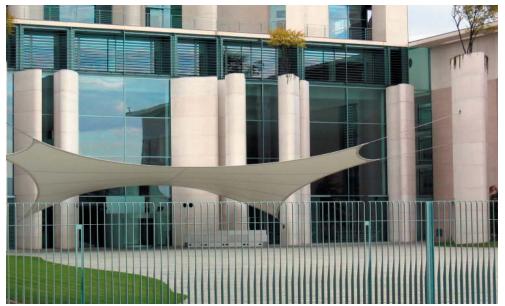
Stop Wasteful

Utilize motion sensors, watt stoppers and plugload controls to eliminate unnecessary power use.

Usage

Experiment with Cleaning

Block cleaning or shifting services to daytime hours can result in significant savings.



a cooling tower to use for chilled water, then sending the warm water back to the pond. Engineering difficulties doomed the idea. Fischer cites day cleaning as another example. "In some applications it will work just fine, in others, it won't work at all," he points out. Far from becoming discouraged by such cases, Transwestern recognizes that they add to the larger knowledge base. And that is an important part of the firm's positioning.

For third party management firms, implementing "green" practices doesn't add directly to the bottom line. In fact, it may even represent an economic dis-incentive, especially if service fees are based on operating expenses which are passed through to tenants. Transwestern believes they more than make up for such apparent short-term losses because buildings they manage are more attractive to both owners and tenants.

In concert with its own green practices, Transwestern has implemented education programs for leasing agents and attorneys to help them understand cost impacts and modify lease language to address them accordingly. Leasing agents in turn market a healthier, more responsible working environment in their sales pitches to potential tenants. "We work

very hard to get information about our green practices out to everyone," Fischer says with enthusiasm. "We promote our ENERGY STAR buildings on leasing brochures, and we use a variety of different outlets to tell owners, tenants and vendors what successes we have had."

That Transwestern seeks to differentiate itself based on its green expertise is evidence that right now, this knowledge is concentrated among professionals at the property management level. With investors and portfolio managers placing a greater emphasis on being green, the value of such knowledge seems set to increase. For firms who handle the information well, this could be good news indeed.

© BOMA International and Kingsley Associates Lorie Damon is the director of education with BOMA International. She can be reached via e-mail at Idamon@boma.org.

Mark Fischer, Transwestern Commercial Services, will be presenting "Five Easy Ways to be Green" on June 27 at BOMA's North American Commercial Real Estate Congress®, in Dallas, Texas.

Pay Attention to the Data

Tools such as sub-meters and tracking sheets can help you monitor these costs.

Recycle

Get creative. Consider recycling glass, plastic, newspapers, fluorescent tubes and electronics.

Get Buy-In

Motivation spreads. Get your tenants and teams excited about a cleaner and healthier working environment!

BOMA International

Founded in 1907, the Building Owners and Managers Association (BOMA) International is an international federation of more than 90 local associations and affiliated organizations. BOMA's 19,000-plus members own or manage more than 9 billion square feet of commercial properties in North America and abroad. The mission of BOMA International is to enhance the human, intellectual and physical assets of the commercial real estate industry through advocacy, education, research, standards and information.

BOMA International plays a leadership role in educating the commercial real estate industry on achieving environmentally responsible buildings. The BOMA Energy Efficiency Program (BEEP), an operational excellence program developed by the BOMA Foundation and the U.S. Environmental Protection Agency's ENERGY STAR® program, teaches no and low-cost strategies for reducing energy consumption in commercial properties. Additionally, the BOMA North American Commercial Real Estate Congress® and The Office Building Show, June 24-27 in Dallas, features a series of education session focusing on energy efficiency practices, and the BOMA Green Pavilion and ENERGY STAR® Showcase brings together the top environmentally-friendly and energy efficient certified products.

BOMA International - leaders in commercial real estate.



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Kingsley Associates

Kingsley Associates has been delivering results for real estate companies since 1985. Our strategically-focused solutions enable our clients to drive organizational efficiency, increase profitability, and position for success. Kingsley Associates' focused research and seasoned professionals distill intelligence from data and action from information. Kingsley Associates is at the convergence of real estate business intelligence, working with the best and brightest in the industry. Sustained involvement. Thought leadership. A finger on the pulse of industry trends.

Kingsley Associates is a leader in real estate research initiatives such as tenant/resident satisfaction surveys, client perception studies, strategic consulting and operations performance benchmarking.

Business Intelligence for the Real Estate Industry.



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