Save Operating Expense Dollars by Building Green

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By Drew Nagy, SIOR

Scientists and ecologists are warning us that our planet is being threatened by an environmental global crisis that is emanating from all of us. This threat is creating an opportunity for those of us who are in the commercial real estate profession to reevaluate the way we build and retrofit our buildings.

An Environmental Paradigm Shift

Of importance to the SIOR member is that a monumental paradigm change is taking place in commercial real estate—the green building movement. SIOR members are in an excellent position, as they conduct industrial and office brokerage, to help increase awareness of and importance of maintaining and improving our environment. In the 20 years I have been in commercial real estate, little has changed in the way we build buildings. Buildings are mass produced and hermetically sealed. The only connection to the outside is a dial to adjust the lighting and temperature (that use an inordinate amount of fossil fuels), and water.

Wasting Resources—Commercial Real Estate's Role

Buildings, and the businesses they house, account for 60 percent of U.S. electricity consumption. These buildings have the biggest impact on the environment through the energy they consume and through the pollution and waste that they emit.

We can no longer regard buildings as disposable. Prolonging the useful life of a building and maximizing its efficiencies can and will minimize the building's destructive force on the environment.

Historically, construction methods evolved gradually within a particular culture, responding to specific climates and environments. Today's buildings are designed for flexibility. Although they are more resource-efficient than buildings of the past, they

are planned and designed with little regard for local climate and cost far more to heat or cool than necessary. Most modern buildings are designed without conservation and sustaining the environment in mind. Worse than this, they neglect the largest cost to any business: the building's occupants–human resources.

Toxic Workplaces

Studies investigating workplaces with interior environmental complaints have found that "sick building syndrome," a common phenomenon today, is becoming more and more prevalent. Building occupants can suffer a multitude of physical problems due to poor indoor air quality. If the owner and occupant of a building were to consider all the costs over the long term, it would be clear that the benefits and rationale behind building green are enormous. Building green leads to better indoor air quality, which can reduce absenteeism and increase worker productivity as well as decrease operating expenses with major reductions in fuel consumption and costs.

Green Results

After studying the green-building phenomenon over the past five years, I have concluded that instead of asking "why build green," a better question to ask is, "Why not?". If a project is well planned and well executed, the end result delivers immediate improved air quality for employees, energy savings for the lessor/owner, and increased profits that will grow exponentially over time.

What Is Green?

During these early stages of green development, there are many misconceptions about green building (called green wash) within the real estate industry. The term "go green" is often misconstrued to mean only an energy-efficient sealed envelope that encompasses a building's physical structure. When people think about green construction, they often think only in terms of the components that make up the building—a geothermal heat system, solar panels, and energy-efficient windows. These are just the parts of a building. If you don't consider the whole system, the efficiencies of these parts don't add up. Incorporating one or two green features, such as a green roof or a recycling program, may show a building manager's greater awareness of environmental issues, but it does not fully address the global system design that green development entails.

In fact, the environmentally friendly building movement consists of far more than the elements that go into the physical assembly of a building. Green building is about addressing the entire system in which a building exists—think of it as a marriage between the outside and the inside of a property. Green building means embracing and addressing all of the issues that any good marriage embodies with a gentler and more holistic approach than exists in conventional construction. The result is "a multiplier, whereby each feature provides multiple benefits in reducing a project's impact on the environment, while increasing the comfort and health of its occupants." It is the complete design encompassing everything about the building, from its energy consumption to its role in the community around it.

The basic principles of green construction are:

1. Environmental responsibility
2. Resource efficiency
3. Community and cultural sensitivity
4. Integrating ecology with real estate

One method of recognizing a building's green features, that has shown great promise and early success, is a report-card type of rating system called LEED (Leadership in Energy and Environmental Design). Formulated by the U.S. Green Building Council, LEED rating systems have been designed to apply to new and/or substantially retrofitted commercial buildings. The LEED system is currently the only recognized standard for distinguishing true green developments from buildings that have merely paid lip service to environmental issues.

The hallmark of green development is the four-tiered environmental design mentality that many developments fail to execute. It includes:

- Front-loaded design
- Teamwork
- End-use least cost
- Whole system design

Front-Loaded Design. There is no question that environmentally responsible construction is more time consuming, but more thought upfront pays

huge life cycle dividends. Noted efficiency expert Joseph Romm explains, "Although up-front building and design costs may represent only a fraction of a building's life cycle cost, when just one percent of a project's up-front cost is spent, up to 70 percent of its life cycle cost may already be committed. When seven percent of a project cost is spent, up to 85 percent of the life cycle cost has been committed." (Quoted in *Natural Capitalism: Creating the Next Industrial Revolution,* by Paul Hawken, Amory Lovins, and L. Hunter Lovins.)

Teamwork. Communication is crucial and must involve all parties, from the architects, engineers, contractors, and trades people all the way through to the building's occupants and employees.

End-Use, Least-Cost Considerations. Selecting hardware for the building and various systems requires complex decisions that include factors more important than price.

Whole System Design. Putting all of these elements together will result in the marriage of everything inside the building with everything outside of it.

Is Building Green Really More Expensive?

Experienced builders will argue that a green building is more expensive than a conventional one. They believe that the cost can skyrocket by 50 to 100 percent compared to conventional construction costs. The truth is that building green can be done for between 10 to 20 percent more in up-front costs (though many case studies show equal or even less expensive up-front costs). Even if the initial cost is more, the savings in energy use alone can pay back the extra cost in three to five years, calculated in terms of today's energy prices. And let's face it, energy costs are not going down.

If you factor in employee health considerations (such as productivity, absenteeism, and a sense of well-being at work) and keep in mind that human resource costs are always a tenant's or owner/occupant's biggest expense, it follows that the net return on investing in environmentally-responsible buildings can be one of the least expensive ways for a business to improve its overall bottom line.

Green—the Design Process

Integrating all of the green factors into a final design can take up to 18 months. This in itself is one of the reasons the majority of developers and new developments are not incorporating green or alternative design into their projects. Current leases usually require six months to one year for notification of renewal. It is ironic to think that most people usually take about 18 months to plan a new family home or an extension to their house (for a group of two to six people), but when we design and construct office buildings today, the planning process takes only six months, even though the building will be home to hundreds of people.

We must start to rethink the way we build. We need to start looking at the life-cycle cost of the building. It is not just about getting it built as fast as possible for as little money as possible. The cost of doing things right can be more expensive up-front, but in the end the savings can multiply into the future.

Some developers have realized this and no longer pay credence to the old belief that building for efficiency is too expensive. Without thinking about the bottom line, insightful developers have begun to profit from this trend—a profit that will continue to grow in the future. A multitude of case studies have emerged since the 1990s proving that building green improves the developer's or owner's bottom line, along with that of the occupants of the building. For example:

- The main post office of Reno, Nevada, retrofitted their lighting with a six-year payback that led to a six percent gain in productivity—worth more than the cost of the retrofit.
- Pennsylvania Power & Light upgraded the lighting system in a drafting facility that resulted in energy savings of 69 percent, increased productivity by 13 percent, and reduced absenteeism by 25 percent.
- West Bend Mutual Insurance incorporated green construction in their new building; as a result, energy consumption per-square-foot dropped 40 percent and claim-processing productivity rose by 16 percent.

The benefits of building green—or rather, building responsibly—include reduced capital costs, reduced operating costs and liability risks, marketing benefits, valuation premiums, higher absorption rates, streamlined government approvals (in certain cases), health and productivity gains, and satisfaction about doing the right thing. There is no downside to building green. Being responsible is always the right thing to do.

Portions of this article have been published under the author's name in *Espace*, a Quebec, Canada real estate magazine.

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Did you know . . . .

that courtesy of the U.S. Green Building Council, SIOR maintains a list of LEED certified industrial and office buildings worldwide? To access, go to www.sior.com, choose Resources, then Products and Services, then LEED.