

Insurance, Risk, and Green Buildings

by Stephen Bushnell

When Fireman's Fund launched the first ever suite of insurance products for green buildings in 2006, they were slightly ahead of their time. American business had yet to fully recognize the embedded economic value of green building techniques. Many firms realized the environmental benefits but were not convinced that green and sustainability made financial sense. Two years later, when Fireman's Fund augmented their commercial green coverages with a personal lines version, perceptions were beginning to change. By 2010, green building and sustainable business practices had moved into the mainstream.

The growth of green



The "Greening of the American Workplace 2010" by Buck

Consultants paints a green picture of American business.

Sixty-nine percent of respondents report that they have green programs in place, up from 53%. Even more striking, 60% are able to report on the cost savings generated by these programs—a 39% increase. In addition, the investment in green buildings continues to grow. According to McGraw-Hill Construction, spending on green new building construction is projected to reach \$96 billion in 2013, up from \$36 billion in 2008.

The insurance industry has responded as most insurance companies over the last two years have developed their own green coverage forms, with ISO releasing its forms in 2010.

Insurers have taken a leading role in bringing credibility as well as business and risk management savvy to the table, supporting a rapid green expansion. More than 100 U.S. cities have passed green building ordinances, requiring new buildings to meet environmental standards.

In addition, a wide array of incentives provide even more reasons for businesses, institutions, and individuals to either build new green buildings or upgrade their

current buildings with green features. The scope and number of these incentives is constantly expanding. A great online, real-time resource can be found at <http://www.dsireusa.org>.

The success of the United States Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) green building standards has led to a growing demand for green buildings and a significant improvement in the variety and quality of green building materials available. To date, USGBC has registered more than 100,000 buildings for LEED, reflecting that going green today drives both economic and environmental benefits.

Consider the following statistics:

- Green buildings increase their value by an average of 7.5% and improve return on investment by 6.6% while decreasing operating costs by 8 to 9%, according to McGraw-Hill's *Smart Market Report*.
- McGraw-Hill also found that green buildings generate higher revenue due to higher rents and occupancy rates.
- Green buildings generate lower operating costs by reducing waste output, water use, and energy consumption. According to the Environmental Protection Agency (EPA), green buildings with a focus on recycling can reduce waste output by 90%. LEED certified buildings typically use 30% less energy, equating to a 5% increase in net operating income.
- The USGBC reports that retailers claim higher sales in green space and green schools confirm that students in green buildings perform significantly better on standardized tests.
- The 2011 Gibbs & Soell Sense & Sustainability Study found that 88% of Fortune 1000 executives report their company is "going green."



What is green insurance?



So, how does green insurance work? For Fireman's Fund, its commercial green insurance product has two major features: coverage developed specifically for certified green buildings and coverage to upgrade "traditional" buildings with green features following a covered loss.

The certified green building coverage recognizes that buildings certified under the LEED rating systems (and other similar programs) often have building features that are not fully protected by standard property policies. For example, plants on a vegetated roof are generally subject to a small sublimit and restricted coverage. Underground equipment that is part of alternative energy and water systems is usually defined as "property not covered," as many policies restrict coverage to within 250 feet of the insured premises. These shortcomings mean that the green building owner's investment may not be properly protected. The certified green building coverage addresses those issues with coverage expansions. Fireman's Fund also includes a rate credit for LEED certified and Energy Star rated buildings, as it believes these buildings will experience fewer and smaller losses. More on this later.

The green upgrade coverage modifies the traditional "like kind and quality" replacement cost provisions with a valuation clause that will pay the additional cost to upgrade the property with green features following a covered loss. These green items are either specified by LEED (or similar plans) or those that:

- Use energy, water, oil, natural gas, or other resources more efficiently;
- Improve human health;
- Reduce CO₂ or greenhouse gas emissions, reduce toxic or other pollutant discharges; or
- Otherwise minimize the property's impact on the environment.

The upgrade applies to both real and personal property. Business income coverage insures for the loss of business income during the additional time necessary to add the green materials.

There are several coverage extensions that apply to both options:

- Debris from the loss can be recycled rather than put in a landfill. LEED requires that a significant amount of construction debris be recycled.
- Coverage includes the additional cost to commission the repaired and replaced building systems. In the world of green buildings, commissioning is a process by which an independent third party engineer reviews building systems to make certain they are installed properly, helping to ensure that they will be more energy efficient and truly green.
- Additional expense to hire a green consultant to assist in the redesign and rebuilding is covered.
- Financial incentive coverage to reimburse the insured if a government entity, financial institution, or utility demands that rebates and incentives be refunded following a loss.
- Porous paving upgrades and green mobile equipment upgrades are included.

While most other insurers' green forms are similar to the Fireman's Fund coverage, there are differences in the offerings of most every insurer. As always, the forms should be carefully reviewed.

Why is insurance industry interested in green?



Climate change: It is becoming obvious that climate change is impacting our world and the insurance

industry. Allianz (Fireman's Fund's Munich-based parent) has long taken an active leadership role in the discussion of the impact of climate change on the insurance industry. "We see rising claims due to natural catastrophes and have a vested interest in reducing global warming," says Allianz board member Clement Booth. "Our industry has been at the forefront of this debate for a long time."

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Dr. Evan Mills of Lawrence Berkeley National Labs has observed, "Climate change can have adverse impacts on insurance affordability and availability, potentially slowing the growth of the industry and shifting more of the burden to governments and individuals. It is incumbent on insurers, their regulators, and the policy community to develop a better grasp of the physical and business risks. Insurers are well positioned to participate in public-private initiatives to monitor loss trends, improve catastrophe modeling, address the causes of climate change, and prepare for and adapt to the impacts." *Insurance in a Climate of Change*, SCIENCE vol 309, 12 August 2005.

Munich Re, according to the head of their Climate Center, Dr. Peter Hoeppe, has experienced a 300% increase of weather-related catastrophe losses over the last 30 years. As a point of comparison, geophysical catastrophes (earthquake, tsunami, and volcano) have only experienced a slight increase.

Green buildings hold the potential to mitigate some of the impacts of climate change. In the United States, buildings contribute 40% of the annual CO₂ emissions, the largest source of any sector, even transportation. USGBC data suggest that LEED certified buildings use 30% less energy and experience a corresponding reduction in CO₂. In fact, the next frontier of green

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want to participate on the committee or you just want to make suggestions, we welcome your input.

And remember that it's time to register for CDS! You can do so online now. It's a jam-packed program this year—lots of relevant topics and great speakers. A Market Conduct Management (MCM) class is scheduled immediately prior to the Career Development Seminar (CDS) and the Market Conduct Annual Statement (MCAS) class is scheduled afterwards. All of this will be at the conference hotel. You don't even need to switch hotels! Every night you spend at the Hilton goes to meet our room commitment and puts more money in our coffers. And don't forget that Tuesday of CDS is IRES Logo Day. Get your IRES gear in our IRES store!

Visit our website today at www.go-ires.org to get all the latest news about CDS, MCM, MCAS class, and a link to our IRES store. And please think about getting involved with IRES. Your voice really does count and we appreciate hearing from you.

Have a great spring and summer! ■

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(net zero buildings) could eliminate CO₂ emissions entirely. Considering that there are 160 million residences and 5 million commercial buildings in the U.S. that could be made more energy efficient, there are ample opportunities for improvement.

Risk: Green features impact the critical building systems that have been shown to be the most significant causes of property losses. Actuarial “cause of loss” studies demonstrate that the number one cause of loss in buildings is electrical fires. This is closely followed by plumbing leaks, building envelope issues, and HVAC problems. All of these building systems are made greener and safer as green features are incorporated into the building.

Furthermore, the commissioning process brings an independent third party into the building to make certain that these systems have been installed and are functioning properly.

There is another well-established correlation: building age and risk. Newer buildings (fewer than 20 years old) generate stronger underwriting results than do older buildings. As buildings and their systems age, they are likely to experience an increasing frequency of severe losses. However, older buildings with newer or renovated systems (electric, plumbing, roof) perform much more like newer buildings. Green upgrades bring these new, safer systems into older properties, improving both their operating costs and risk profile.

Green practices result in the substitution of low or no volatile organic compounds (VOCs) for unhealthy interior finish and furnishings. This significantly improves indoor air quality and occupant health. State-of-the-art building ventilation supported by effective filtering of circulated air further supports improved occupant health. Studies have verified that occupants of green buildings have lower absenteeism rates than their counterparts in “traditional” buildings.

Sustainable business practices are still evolving and are based on the desire to achieve positive business outcomes such as improved employee safety, product safety, and waste reduction. These outcomes are also the goal of risk managers. The “Pre-

cautionary Principle” part of the bedrock of sustainability states, “When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.” The connections to effective risk management are obvious.

There is another side to this coin: Certain green practices have the potential to increase risk. Vegetated roofs, new and untried technologies, misapplication of proven techniques in new situations, unprotected storage of recycled material, solar PV panels (especially in remote areas), new forms of alternative energy generation and storage, and other emerging green practices present a new generation of risks that insurers need to understand. The increase in green building codes brings with it greater risks of regulatory non-compliance.

It is well known that several high-profile new green buildings have failed to achieve the anticipated energy use goals. Who will be held responsible for the shortfall and how will their insurance coverage respond? Will the warranty exclusions found in most professional liability forms be invoked? USGBC will soon require LEED certified buildings to periodically be recertified. If the building has not been serviced by a green cleaning firm or used integrated pest management practices, it may not be recertified. If tenants or employees introduce unhealthy materials into their space or are careless in their energy management practices, the building may not be recertified. Who will be liable for the degradation of the building and how will their insurance coverage respond? New frontiers of risk await the industry.

Green risk management techniques



Many insurers are already working with their customers to implement best practices and risk management programs to address these new green risks. Fireman's Fund has developed a publicly accessible website, Green Risk Advisor (<http://greenriskadvisor.ffdco.com/microsite>), designed to address green and sustainable practices in a risk management context. The site provides information on

the economic, environmental, and health aspects of green practices for individuals and business. As the green value proposition is especially significant for schools, there is a special section for K-12 and higher education. Recognizing that we are flooded with green information, Fireman's Fund created a “Go Green Toolkit” as a feature of Risk Advisor. The toolkit helps homeowners and business people develop a green plan and begin to harvest the low-hanging fruit. These easy-to-implement practices can have immediate financial and risk reduction benefits.

Fireman's Fund also offers individual green risk management consulting to its personal and commercial customers as part of its loss control services. The Sustainable Practices Assessment program provides individual support to customers who wish to accelerate their green programs. The support for commercial customers includes determining their EPA Energy Star rating, information that must be disclosed in California, Washington DC, and many other jurisdictions.

Green and sustainability have quickly become part of our language and culture as well as important business best practices. They also carry new risk management and insurance challenges for individuals and corporations. In keeping with the best traditions of our industry, forward-thinking insurers have responded with vibrant new coverages and focused risk management programs, enabling customers to maximize green economic opportunities and understand and manage their risks. ■

Stephen Bushnell is the senior director of product development, commercial insurance, for Fireman's Fund Insurance Co. He is responsible for development of innovative products and services for emerging industries. In 2006, he developed the first Green Building Insurance Coverage in the industry. He has spoken on the unique risks of green buildings and sustainable business at several conferences including NEOCON, GreenBuild Ceres, TFM, UCLA, University of Wisconsin, Ohio State, GreenSense, Greening the Heartland, World Wildlife Fund Climate Savers Summit, and BOMA. He was recently elected to the USGBC Redwood Empire Chapter board of directors. He also serves on the steering committee of the California Sustainability Alliance, the advisory board of the Green California Summit, the UL Environmental Advisory Council, and the Allianz Climate Change Center of Competency. Mr. Bushnell can be reached at stephen.bushnell@ffco.com.