

**GREEN BUILDING IS BIG BUSINESS AND CARRIES
POTENTIALLY BIG, BUT MANAGEABLE, LIABILITY RISKS**

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*Drafting and Negotiating Construction and Design Contracts:
Meeting the Challenges of Sustainable Development 2010*

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BIOGRAPHICAL INFORMATION

Josh M. Leavitt is a partner in K&L Gates LLP's Construction Law Group and can be reached at josh.leavitt@klgates.com. Mr. Leavitt has litigated a wide variety of construction and real estate claims, most typically involving defective design and construction, delay, disruption, interference, efficiency loss, out of sequence work, mechanics' lien, wrongful termination, extra work change orders, and fraud.

His representation of owners, architects, engineers, contractors, manufacturers and tenants has ranged from the design and construction of super tall buildings to oil refineries and alternative energy plants, to sports stadiums. He has defended and cross-examined numerous expert witnesses, including structural, mechanical, soil, instrumentation, control system, process and chemical engineers, scheduling, damages and claims consultants, as well as architects and builders of varying specialties.

Mr. Leavitt has authored numerous articles and lectured on construction and design law topics, including construction law damages, delay and disruption claims, liability of design professionals and contractors, electronic discovery in construction cases, claims prevention techniques, negotiating and drafting contracts and changes to industry form contracts. Since 2004 he has been a panelist for Practising Law Institute's leading national construction law symposium in New York, and since 2007, PLI's Commercial Real Estate Institute in Chicago.

In 2005 Mr. Leavitt was elected to the Illinois Society of Construction Attorneys. Mr. Leavitt was named a "Super Lawyer" for the last several years by Chicago Magazine in the field of construction litigation. Since 2007 Mr. Leavitt has been name in the Illinois construction law section of Chambers' USA America's Leading Lawyers for Business Client Guide.

He received his undergraduate degree in economics from Yale University and his J.D. from New York University School of Law. He is admitted to practice in Illinois and before the U.S. District Court for the Northern District of Illinois, including its Trial Bar. Mr. Leavitt has been admitted *pro hac vice* in several courts around the country.

Introduction

While there are those who debate whether green building is effective from an environmental impact point of view, no one seriously debates that it is big business. One researcher reports green expenditures were approximately \$10 billion in 2005 and between \$36 billion and \$49 billion in 2008. Hupp, *Recent Trend in Green Buildings Laws: Potential Preemption of Green Building and Whether Retrofitting Existing Buildings Will Reduce Greenhouse Gases and Save the Economy*, *The Urban Lawyer* Vol. 41, No. 3 (Summer 2009). Paul Primavera, Senior Vice President of the Lockton Companies predicts that “within the next three to five years certified green buildings will account for 25 percent of all new construction in the United States. *Green Buildings: New Construction Concepts and Risks*, (Fall 2009) available at <http://www.lockton.com/Insights-And-Publications/White-Papers>

Certainly political forces and public awareness are at work, but there is no doubt that the green building explosion has been driven by the belief that it is profitable. The work product of researchers and consultants projecting benefits from green building improvements, the sales representations of green building product manufacturers and public and private incentive programs have fed those expectations. Project owners expect to receive specific and often quantifiable benefits from their investments, including energy savings, reduced overhead and maintenance, more tenant interest, increased lease income, and government incentives (such as tax credits, low-interest loans, density bonuses, zoning waivers, fast-track permitting, and reduced permit fees), and other financial incentives. They also expect less quantifiable benefits such as energized work forces, general goodwill, and marketing benefits.

On large projects owners will often spend five to six figure amounts on green consultants and invest much larger dollar amounts in green building design and construction costs to reap those expected results. (Some estimates place green place at over 10% of construction costs.) See, e.g., Cassidy, “*White Paper on Sustainability*,” *Building Design & Construction*, at 1-48 (November 2003); Davis Langdon, *The Cost & Benefit of Achieving Green Buildings*, at 3, available at http://www.davislangdon.com/upload/StaticFiles/AUSNZ%20Publications/Info%20Data/InfoData_Green_Buildings.pdf. Even on smaller projects, such as residential developments, investments in the range of hundreds of thousands of dollars are not uncommon.

With such promises and investments, of course, comes the liability risk of disappointed expectations. The green building industry has recently termed this situation as “performance slippage” where certified green building projects have not performed as planned. It is not difficult to imagine numerous types of potential claims being asserted and substantial damages awards being sought by owners who do not obtain expected energy savings or other results. Indeed there are many commentators (including some of my own partners) who have already predicted various types of legal risks resulting from the green building explosion. See Crump, Perrone and Tor, “*The Risks and Rewards of Green Building*”, *New Jersey Law Journal*, Vol. CXCI, No 12 (March 24 2008). See also, Editorial, “*Hidden Liability Issue May Wilt Green Building*”,

Engineering News Record (July 14, 2008); Anderson, Bidgood and Heady, “*Hidden Legal Risks of Green Building*” The Florida Bar Journal (March 2010).

So far, only a limited number of green building claims have been publicly reported. Perhaps the best known green lawsuit so far is a claim in Maryland Circuit Court by a developer against a builder after a \$7.5 million condominium project failed to obtain LEED silver certification and caused the developer to lose \$635,000 in tax credits. *Southern Builders Inc. v. Shaw Development L.L.C.*, 19-C-07-011405, (Cir. Ct., Somerset, MD 2008). According to one source, the interpretation of the green building requirements in the contracts was at issue. Anderson, Bidgood and Heady, *supra*. The case reportedly was settled in November 2008. Buckley, *EcoDesign Risks*, Greensource, *available at* http://greensource.construction.com/features/other/2009/0907_Eco-design-risks.asp. However, insurance industry and risk management professionals confirm that more claims are coming.

The anticipated increase of green building litigation notwithstanding, no one wants liability concerns to slow the continued burgeoning of green building. The more that potential green building risks are thought through, the more they can be managed through contract drafting. Toward that end, the following subsections present categories of risks that project owners, design professionals, contractors, suppliers and consultants may consider for their contracts and outlines considerations that might shape what contract provisions are deemed appropriate to manage those risks.

Traditional Construction Law Approaches to Liability and the Potential for Non-Traditional Liability

As part of the palette of services offered on a construction project, it stands to reason that green building will be subject to some of the same liability risks and causes of action as other design and construction services. Design professionals might get sued for breach of the standard of care (or worse), contractors might get sued for breach of warranty (or worse) and product manufacturer might face product liability (or worse). Therefore some of the usual legal cautions are readily apparent: specify scope carefully, obtain liability limitations where you can, don't promise results you can't deliver and, certainly, avoid warranting results.

Not exactly novel concepts, but some interesting theoretical legal questions do lurk. In addition, there are perhaps even more interesting practical application issues in understanding where particular risks, perhaps unique to green building, apply.

For example, where does the green/sustainability building consultant fit in the project delivery system? Should an owner retain a green consultant directly or should the owner require its design professional or contractor to retain that consultant? Should the owner require its team members to possess a specified level of green building expertise? Some standard industry forms have begun to tackle some of these questions. The ConsensusDOCS suite of forms utilizes a “Green Building Addendum” which calls for the owner to appoint and pay the costs for a “Green Building facilitator to be responsible for submitting and processing of green certification documents, advising

the owner on “Green Status” alternatives and other services (although the form also provides the option to contract other and/or appoint the project A/E or contractor to fill that role). The American Institute of Architects suite of forms calls for the architect to perform various sustainability-related services and has published a B214™-2007 Scope Document specifically for LEED certification services specifically. There are also sustainability provisions in the AIA’s B101™ -2007 §§ 3.2.3 and 3.2.5.

What green building services should the design professional’s or green consultant’s scope of work include? In a design project are the only services to be provided by the professional related to drawing preparation or will the professional assist in other services such as applications for government programs or private certifications? According to their web page, the services offered by the sustainability team at one leading international engineering firm include:

general goal-setting guidance, LEED administration, building performance audits, building systems analysis and upgrades, energy modeling and other building simulations...
“holisti[c] evaluat[i]on of] building design and existing structures, ... determine[ing] the relative environmental pros and cons of particular design decisions as well as associated economic parameters.

<http://www.Thorntontomasetti.com> (citing Wolfgang Werner, AIA, LEED AP BD & C, as Director of Sustainability, Thornton Tomasetti and who, with the author’s appreciation, was interviewed for this article). As project scope is defined, project team members may think about how much extra work such services potentially require and whether those services should be designated as additional or basic services. As discussed below, they might also ask their risk advisers whether such services are insured.

How should green building performance be defined? What is the green building product deliverable? Will the design or green professional be held to a standard of care that entails familiarity with all applicable green building ordinances, codes and programs? With what green building codes, etc. will the contractor be held to warrant compliance in the “all codes” provision of its contract? Is compliance with green building requirements clearly set forth or buried in an obscure provision in a project manual incorporated by reference into the contract? Will the A/E or green contractor or consultant be held responsible for delivering certifications or other benefits? What type or level of certification should be required? Will the contractor be required to comply with a performance specification requiring a particular green building benefit? In evaluating such questions, one might consider whether the party being asked to provide the result really controls the ability to provide the deliverable and whether the deliverable being described is really the deliverable the client needs. For example, it might not make sense for an owner to merely require a green building certification (or a particular certification level) as a deliverable when that certification might be able to be obtained based on a mix of features that does not include the most economically important feature to the owner’s business plan.

What special protections can the owner negotiate to achieve promised green building performance or results? Should payment or reduction of retention be conditioned on certification or receipt of other green building deliverables? Would liquidated damages or striking of a consequential damages waiver be a better approach? Green building benefits that are difficult to quantify might be more suited to a liquidated damage approach. Concerns such as loss of profits due to some expected green benefit not being obtained may be only able to be captured as consequential damages.

Has anyone on the project thought through the time impact of obtaining green building certifications, qualifying for government incentive programs or green product unavailability? Activities and related timelines may need to be added to the project schedule. Should schedule extensions be permitted for green building delays? Should exceptions to the enforceability of no-damages for delay clause be outlined for green building program delays outside the contractors' or consultants' control? Should substantial completion be defined with respect to receipt of green building certification or other benefits?

How should green building products be specified? What substitutions should be allowed and under what circumstances? How much experience do the project team members have with the specified products? Do green building components carry new types of performance risks? What if substitution is required for constructability reasons, but the substitution compromises green certification, or the project budget or requires increased maintenance following project completion?

Are anticipatable green building costs included in the contractor's or construction manager's project cost estimate? If a required green product is not specified, is this a compensable loss or a mere betterment for which the owner would have paid anyway?

Intellectual Property Risks

As with any technology based business, green building projects carry with them intellectual property considerations and risks. A particular risk or potential liability in designing, planning, and building green structures is in the patent arena. This risk falls into two general categories. The United States Patent Office has issued thousands of patents on (1) the overall structure of buildings, and (2) the individual building components and systems. These patents cover every thing from the shape of the buildings to the configuration of the windows to the computer control systems for the heating/cooling and ventilation systems. The number of patents issued and number of patent applications filed in this area have dramatically increased in the last five years due to people focusing on energy savings, the environment, and the sustainability movement.

One risk in not addressing these patent related issues up front is that a patent owner can try to obtain a temporary restraining order, preliminary injunction, and/or permanent injunction. If successful even at early stages, a court can issue an injunction and stop a project from proceeding. While a license under the patent can often be worked out, the license fees can sometimes be very high. The cost of patent litigation is also very high.

These costs are often not in the project budget. For instance, patent searches for potential infringements might be considered. Issues relating to green building royalty rights, licensing fees and ownership issues all may necessitate revisions to standard form intellectual property provisions and, these potential issues should be addressed at the beginning of a project. Obtaining indemnification from suppliers of all components of a structure should also be addressed early on. Certain people also take out patent infringement insurance - which is a very specific type of policy - to also address these potential risks.

Green Building Marketing Liability Risks

Exaggerations or false green marketing claims (also called “green washing”) can lead to fraud and intentional and negligent misrepresentation claims, consumer fraud claims, and claims under Section 43(A) of the Lanham Act -- which provides a private cause of action for the use of "false or misleading description[s] of fact" in commerce. See 15 U.S.C.A 1125(43)(a)(1)(B). (One interesting nuance believed to not yet be the subject of a reported case, is whether green consultants who make negligent misrepresentations are deemed “in the business of supplying information” for purposes of determining whether the economic loss rules of a particular jurisdiction apply in defense of the claim.)

The Federal Trade Commission (“FTC”) has published advisory guidelines addressing environmental marketing claims. See *For the Use of Environmental Marketing Claims*, 16 CFR § 260, *et. seq.* These guidelines are often referred to as the “Green Guides” and were first published in 1992, and updated in 1996 and 1998. The FTC developed the Green Guides to help marketers avoid making unfair or deceptive environmental claims in violation of Section 5 of the Lanham Act. The guides initially outline general principles that apply to all environmental marketing claims. They then go on to provide guidance on specific green claims, such as “biodegradable,” “recyclable,” “recycled content,” “ozone safe,” etc.

Prompted by a proliferation of green claims in the marketplace, in November of 2007 the FTC began a review of its Green Guides. This included a series of meetings and workshops throughout 2008 seeking comments from the public and various regulated sectors. In its third workshop, held in Washington DC on July 15, 2008, the FTC examined, in part, claims about green buildings, green building products, consumer perception of green building claims, claim substantiation, and third-party certification of such claims. Despite this flurry of activity in 2008, the FTC has yet to update its Green Guides.

Although the application of these guides in the context of green building remains an undeveloped area of law, according to the FTC’s website:

The Commission has brought law enforcement actions targeting allegedly false or unsubstantiated environmental claims. Because the Green Guides are administrative interpretations of the law, they do not have the force and effect of law and they are not independently enforceable.

However, if a marketer makes claims that are inconsistent with the Guides, the FTC can take action under Section 5 of the FTC Act, which prohibits unfair or deceptive practices.

<http://www.ftc.gov/opa/reporter/greengds.shtm>.

Commentators have also noted the risk builders and design professionals face when touting the environmental benefits of a given project. See, e.g., E. Thomas Watson, *Green Marketing: It's Not All Bunnies and Flowers*, 2 No. 4 *Landslide* 9 (March/April 2010); Susan J. Sadler, *Got Green?*, 88-OCT Mich. B. J. 38 (Oct. 2009). Thus, to avoid potential civil liability, builders and design professionals must take heed and avoid "unverified, subjective (intentional or unintentional) overstatements of environmental benefits or performance". Andres Quintana, *Talking Green: The Legal Hazards of "Green" Building Advertisement*, AIA Middle PA Chapter Newsletter (Dec. 2009/Jan. 2010).

Risks Associated With Lack of Uniformity of Laws, Certification Requirements and Incentive Programs

Project team members who lack experience with green building projects bear an additional risk: coping with and understanding the lack of uniformity in standards, requirements, incentive programs, and private certifications that exist locally, nationally and internationally. Voluntary programs and mandatory requirements are being enacted all the time and affect private residential and commercial development as well as government projects.

A. Private Certification Requirements

Most practitioners have probably at least heard of LEED® certification. Developed by the United States Green Building Council ("USGBC"), a non-profit organization, LEED establishes standards for environmentally sustainable construction (for new and existing buildings, and major renovations). The technical criteria proposed by the LEED committee are publicly reviewed for approval by thousands of member organizations that make up the USGBC. Individuals passing an accreditation examination are permitted to use a LEED acronym after their name. The LEED certification provides independent, third-party verification that a building project meets the green building and performance measures established by USGBC.

The most recent set of LEED building standards were approved in November of 2008 and became effective on April 27, 2009. <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1970>). LEED construction standards include the following:

- New Construction and Major Renovations;
- Core and Shell Developments;
- Schools New Construction and Major Renovations;

- Existing Buildings Operations and Maintenance;
- Commercial Interiors;
- Homes;
- Neighborhood Development; and
- Health Care (draft -- launch date line currently under development by USGBC).

For each of these standards there are four decreasing levels of LEED certification – based on a “credit point” system. For a project using the 2009 LEED New Construction rating system, for example, the currently-available LEED certifications include: (i) Platinum (80 points and above); Gold (60–79 points); (iii) Silver (50-49 points); and Certified (40-49 points). The credit points, in turn, fall into seven different categories of building sustainability, including the following:

- Sustainable Sites;
- Water Efficiency;
- Energy and Atmosphere;
- Materials and Resources;
- Indoor Environmental Quality;
- Innovation and Design; and
- Regional Priority.

LEED certification is obtained after submitting an application which is reviewed by the USGBC. LEED-related costs include hard costs (*e.g.* construction), soft costs (*e.g.* development of LEED-related documentation to support the certification process, energy modeling, etc.); and LEED certification costs. Many recent studies argue that the construction costs between LEED-rated and non-LEED (*e.g.* the LEED premium) are minimal. In a real-time example, the LEED premium to construct a 30,000-square-foot addition (which obtained a Gold certification level) to an existing 60,000-square-foot dormitory at the Massachusetts Maritime Academy (for a total project size of 90,000 square feet) was \$687,270. This represents a square-foot cost premium of \$22.90 for the Gold certification. See <http://www.greenbuildingfocus.com/default.aspx?id=998>.

Classifying soft costs or “added costs” due to LEED certification will vary depending upon project type. Administration of the LEED certification process and documentation of LEED credits is an added cost directly associated with LEED certification. The USGBC estimates these fees range from \$20,000 to \$60,000 depending upon project

size, complexity and project team experience. The cost for energy modeling services can range from \$10,000 on smaller projects to more than \$50,000 for larger, more complex ones, depending on project size and complexity.

LEED registration and certification process costs from the USGBC are also variable. The project registration fee is \$600 (\$450 for USGBC members), and the certification fees range from \$2,250 to \$22,500 based on project size (\$1,750 to \$17,500 for USGBC members).

While LEED is a widely known green building rating and certification system, other ratings systems are also available. Another well known system is the Green Building Initiative's ("GBI") "Green Globes Building Rating System." Like LEED GBI is a not-for-profit organization established to accelerate the adoption of building practices by promoting credible and practical green building approaches for residential and commercial construction. To achieve its goals, GBI has established its Green Globes system, which includes, in part, (i) environmental assessment protocols; (ii) software tools to support self-assessments; (iii) construction and operations best practices guidance; (iv) qualified assessors with green building expertise; and (v) rating/certification systems.

Green building standards also include, in part, the following:

- ASHRAE/USGBC/IESNA Green Building Standard 189.1, "Standard for the Design of High Performance, Green Buildings Except Low-Rise Residential Buildings." (This standard is under development by the American Society of Heating, Refrigerating and Air-Conditioning Engineers in conjunction with the Illuminating Engineering Society of North America and the USGBC.)
- ASTM E 06.71 "Standard Subcommittee on Sustainability in the Performance of Buildings" (Under development and will reportedly will cover all commercial, non-residential buildings.)
- Collaborative for High Performance Schools ("CHPS") (Non-profit established in California in 1999. CHPS develops tools that help make schools energy, water, and material efficient. These resources include a six-volume best practices manual, training and conferences, a high performance building rating and recognition program, and other tools for creating green schools. In many cases, these resources are provided free of charge.

While the flexibility of point-based ratings systems has been credited with helping promote green building, that same flexibility might cause problems as the green building industry matures and quantifiable results are more foreseeable. What if certification is promised but is not achieved? Whose fault is it? When many project team members are responsible for obtaining certification why should one project participant bear the risk of failing to achieve certification? If a building owner expects certification for a

particular menu of green benefits, say energy and water efficiency, what use is it to that owner if certification is obtained for some other distribution of LEED points? In short, a point-based rating system does not have the certainty and force of a building code.

B. Government Requirements

On the financial incentives side of the equation, politicians at all levels of government have been falling over each other to promote green building. A patchwork of local, state and federal policies have emerged. According to the USGBC website, as of December, there were LEED initiatives (including legislation, executive orders, resolutions, ordinances, policies and incentive) found in 45 states, including 202 localities, 34 state governments, 14 federal agencies or departments, 17 public school jurisdictions and 41 institutions of higher learning across the US. *LEED Public Policies, available at www.usgbc.org/DisplayPage.aspx?CMSPageID=1852, 4/16/2010; see also, Huff *supra*.*

Most programs are still voluntary, offering a variety of incentives such as tax credits, low interest loans, grants, property tax exemptions, access to training and advisors, free marketing, zoning variances, expedited plan and permit review, and even direct funding for certain levels of green building. Many creative and varied approaches have been used to set the trigger for program eligibility ranging from requiring a certain rating agency certification (e.g. platinum, gold or silver) (or its “equivalent”), to requiring a certain level of certification, and to specific energy and water use reductions. There is also a wide range of approaches to project applicability, ranging from type of ownership (e.g. public, private) to use (e.g. commercial, schools or other specific governmental to residential), size (e.g. based on cost or square footage), and to type (e.g. new construction, renovation, lease). Some states and local governments mandate green building requirements for certain projects, and have specific or sliding scale penalties for non-compliance.

There are also a wide variety of international approaches. Those interviewed for this article report green building initiatives across the globe, including in Canada, Europe, the Middle East and Asia. International projects not only require knowledge of local laws, but also attitudes and customs so that client preferences are clearly understood. Construction team members also must be concerned about conversion rates applicable to technical green building component requirements and dimensions. If conversion rate mistakes can happen on the Hubble telescope, they can certainly happen in terrestrial construction projects. A summary of global green building trends, and sustainability policies of foreign governments appears in Tony Arnel’s, *World Green Building Council and Market Transformation of the Global Building Sector, CA3_28/WBGC_6*, at 190-193, *available at* <http://www.worldgbc.org/about-worldgbc/news/180-worldgbc-appears-in-climate-action-publication>.

Internationally, LEED is certainly used, but other systems such as BREEAM of the United Kingdom and Green Star of Australia are also used. While all three are comprehensive building environment assessment systems, they vary in their presentation, approach, content and suitability for use in different climates and building environments. While a detailed comparison is beyond the scope of this paper, a 2009

comparative study of the three schemes was carried out by Integrated Environmental Solutions Limited of Glasgow, Scotland.

<http://www.iesve.com/content/mediaassets/pdf/A%20comparative%20study%20of%20building%20energy%20performance%20assessment%20between%20LEED,%20BREEAM%20and%20Green%20Star%20schemens.pdf>. It is also worth remembering that there are local systems in places such as Hong Kong (HK-BEAM) and Singapore (Greenmark). International systems such as BREEAM and Greenstar, and local systems such as Hong Kong BEAM, also are considered to have a more specific focus on low carbon performance and greenhouse gas emissions measurement, which reflect the wider market, policy and legislative developments of the countries from which the systems originate.

With all these programs and constant developments one problem is obvious. How do industry players keep up with new developments? How do owners predict results? Consultants and other team members need to be aware of the latest developments. Specialists in one program may not be specialists in another.

Conflicts between local, state and federal regulations are also an issue. In one recent case, a federal court held that the Federal Energy Policy and Conservation Act of 1975 preempted the City of Albuquerque's Energy Conservation Code by which the City sought to impose stricter regulations than were provided by the federal government. *Air Conditioning, Heating and Refrigeration Institute v. City of Albuquerque*, No. 08-633 MV/RLP., 2008 LEXIS 106706 (D.N.M. Oct. 3, 2008).

Local practices may widely diverge. On occasion, a developer or property owner is unable to strictly comply with the green or sustainable development requirements of a municipality (or other government entity). On such occasions, experienced legal counsel may be of assistance to negotiate, provide for alternate compliance or otherwise resolve such strict interpretation, situations wherein architects and sustainability professionals may lack sufficient, or any, such government relations skills, experience or capabilities. Also, related government relations policy considerations may be unknown to other professionals, such as affordable housing, neighborhood concerns, use of tax incentives, and others.

The Emergence of Green Building Codes

March, 2010 saw an important development in the legal landscape of green building liability: the announcement that the first set of codes and standards for green construction, the "International Green Construction Code (the "IGCC"), has been released for public comment. The expected issue date is early 2012. The IGCC was jointly developed by the International Code Council, the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE) and the Illuminating Engineering Society of America ("IES"). The State of California's green building code reportedly served as a reference for the development of the IGCC. *New Construction Code Aims to Unify Building Standards* (March 15, 2010), available at <http://www.greenbiz.com>. Standard 189 is also integrated into the IGCC. See <http://www.buildinggreen.com>.

According to the International Code Council website, the IGCC:

- is an “effective tool which has the potential to significantly reduce the negative impact of buildings on the environment”;
- requires energy performance to be “30% better than the minimum requirements of the 2006 IECC”;
- has plumbing fixture and fitting flow rates which are “reduced by 20% compared to the IPC”;
- “contains a plethora of other minimum mandatory requirements” and “is primarily composed of minimum mandatory requirements”;
- “can be applied to private sector buildings with confidence” and “will not overburden that sector”; and
- is “similar in administration and enforcement applications to all other I-Codes.”

<http://www.iccsafe.org/cs/igcc/Pages/default.aspx>. One published report lists the highlights of IGCC’s energy conservation, efficiency and atmospheric quality provisions as follows:

- Renewable energy systems, such as wind turbines, biogas, solar thermal and photovoltaic cells, as well as alternative energy technologies such as geothermal heating, energy recovery and management control systems;
- Greenhouse gas and energy use reductions through improved building performance, including measurement and verification of design;
- Energy use and atmospheric impacts, such as improved indoor air quality that limit VOC’s and improve ventilation techniques and thresholds;
- Energy metering, monitoring and reporting to ensure that savings can be documented and sustained for the life of the building;
- Automated demand response infrastructure to make buildings smarter and responsive to users and the environment;
- Integrated enhancements to building envelope, mechanical systems, service water heating, and electrical power and lighting systems to ensure that savings in one area don’t cause increases in energy use in another;
- Specific appliances and equipment building on well-known programs like EnergyStar; and

- Mechanical systems commissioning assures that systems perform as required from the beginning.

Jay Peters, *New Green Codes Are Powerful Tools*, Contractor, (April 12, 2011), available at <http://contractormag.com/green-contracting>.

The IGCC has been excitingly received in some quarters. Several industry players contacted for this article emphasize the purported benefits of the proposed Code. According to the American Institute of Architects, the IGCC

provides the first ever adaptable, usable and enforceable foundation for sustainability in architecture-building site development and resource use in our land ... [and] creates a uniform platform for a sustainable code throughout the country by leveling the design field for our members while acknowledging and providing flexibility for different climate conditions... .

<http://www.aia.org/advocacy/AIAB082512> (quoting Chris Green, former Vice Chair of AIA's Sustainable Building Technology Committee). However, until such time as the IBC approach becomes the law of the land and maybe for some time thereafter, industry players all need to be aware of the risks of the non-uniform and largely voluntary approaches.

Insurance Considerations

Several commentators have already expressed concerns about green building risks that might arguably be uninsured. Concerns range from whether contractual liability exclusions apply to various green building risks to whether property and builder's risk policies cover various green building costs. Richter, Bingham and Wendel, *Insurers Worry About Green-Building Risks*, Engineering News Record (July 9, 2008), available at <http://enr.construction.com/news/finance/archives/080709a.asp>; *Hidden Liability Issues May Wilt Green Buildings*; Engineering News Record (July 19, 2008), available at <http://enr.construction.com/opinions/editorials/archives/080709.asp>; Anderson, Bidgood and Heady, *supra*. One article warns that uninsured green building risks could include losses caused by vegetative roofing, on-site cooling and grey-water systems, damage to alternative energy generation systems, certain losses of income, re-commissioning/re-ventilation costs, costs of rebuilding with green materials to meet new rules and regulations, and expediting expenses such as replacements using green equipment. Richter, Bingham and Wendel, *Is the Grass Greener for Insurers on the Sustainable Side of the Fence*, National Underwriter (February 22, 2010), available at <http://www.property-casualty.com/Issues/2010/February-22-2010/Pages/Is-The-Grass-Greener-For-Insurers-On-The-Sustainable-Side-Of-The-Fence.aspx>.

Insurers, however, also see that green building may be big business for them too and are internally tracking green claims for the purpose of determining what green risks to cover. Some products such as consultant liability, property, and builder's risk policies

and general liability policy endorsements that cover risks of re-commissioning or recertification or adverse publicity, crisis management and bodily injury have already reached the market. Susanne Sclafane, *Insurers 'Green Up' Gray Coverage Areas*, National Underwriter (January 11, 2009), *available at* <http://www.property-casualty.com/Issues/2010/January-11-2009/Pages/Insurers-Green-Up-Gray-Coverage-Areas.aspx>. Whether professional liability insurance will become commonly available for errors and omissions for certification failure and other green liability claims remains to be seen.

Owners, design professionals, consultants and contractors will, in the meantime, have to be concerned about exclusions and other bars to green coverage that exist in their insurance coverage and consult their legal and risk management advisers accordingly. More insurance products supposedly are on the way. As one risk management advisor cautions:

So far, the insurance industry has been slow in responding to the potential exposures that may result from green building projects. Although there have been some limited solutions offered within the available coverage markets, many identified exposures could result in an uninsured loss...Now is the time...to work closely with well informed risk management advisors ...to prepare to meet the challenges of green buildings.

Primavera *supra*.

Conclusion

Aside from its societal benefits, green building has become big business. Legislators and private certification organizations have tapped into market incentives as a way to promote green building. However, we are also now beginning to see the emergence of mandatory codes. Substantial benefits and penalties associated with green buildings may be quantified, but with that quantification comes quantifiable liability risks. To help manage those risks, insurance and legal advisers should be consulted by green building project team members.