

# Risks of Sustainable Design

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## The Sustainable Building: 10 Rules for Managing Risk

*The building is not even structurally complete and it is already "LEED Certified"! The marketing department doesn't know that an actual certification only takes place after the building is completed. The architect and/or the LEED consultant should tell the owner about this misrepresentation or have in writing that the owner proceeded after being warned by the design professional.*

*Through a variety of measures, including high performance lighting and demand base ventilation, the building achieves a 29% reduction in energy consumption, resulting in over 300 tons of avoided CO2 per year. Water-saving fixtures are used throughout. The quality of the building's indoor air is ensured by the use of healthy materials, high-efficiency air filtration, and special humidity controls, providing for the well-being of staff, students, and visitors, as well as the long-term preservation of the Institute's archival treasures.*

*This is language currently found on the website of a prominent Chicago architecture firm. At the least, this constitutes evidence of a higher standard of care and, at the worst, constitutes some level of guarantee of the buildings performance.*

*"We rest our hat on it being third-party verification," Gutter [senior manager of the U.S. Green Building Council's education sector] said. "LEED is the only national third-party rating system, and we've always said that's the guarantee that it's built right." [ClimateWire, "Report questions benefits of green school programs" (08/06/2008), emphasis added.]*

*Design professionals should be careful not to simply repeat or take at face value what others in the area may claim, no matter how reliable the source in their own estimation. Getting the LEED certification is absolutely not a "guarantee that it's built right". In fact, the first page of every LEED certification product has an explicit waiver that the USGBC will not be responsible for the veracity of any representations made to the USGBC during the certification process. The third-party verification is only one of documentation, not of the building itself.*

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The world of the architect and engineer is changing rapidly. Some might even say too rapidly. But for the practitioner, change, rapid or not, must be accepted and managed appropriately. Sustainability, green, or high-performance buildings are all trying to address a growing perception in architecture and the public that the built environment can be more responsively designed, constructed and operated regarding environmental and energy concerns. In this newly green world, many parties to the construction project are looking for green building rating systems to provide them with guidance for producing such responsive projects. Still, design professionals (and the other parties to most building projects) need to remember that a rating system certification does not act as a meaningful proxy for the project's performance subsequent to occupancy. In fact, studies of certified buildings continue to show a distressing gap between the promised performance and the actual performance in a significant percentage of the buildings surveyed. Like the coming of ADA regulations in the 1990s, sustainability seems to be spawning a maze of regulatory and legal complications that awaits clarification through litigation. In the mean time, we offer these sensible rules to follow when becoming part of a team that will deliver a sustainable project.

### **1. Manage expectations.**

The primary cause of project disputes (whether they end up in litigation or not) stems from mismatched expectations between the owner and the other parties. Design professionals should not be speaking or acting in a manner that would lead an owner to reasonably believe that the addition of a "sustainable" feature will result in a measureable and verifiable benefit. Remember that a design professional's language or actions may be interpreted in a markedly different way by an owner.

The design professional should take the lead in trying to ascertain clearly what the owner really wants out of a sustainable building and help communicate this clearly to the other parties. Even though it is tempting, avoid becoming a zealous advocate for sustainability. Professional services, legally speaking, are not based on zeal but on providing counsel and acting as an honest broker of information to the client to help inform his decision. Putting the information before the client and then suggesting a course of action based on professional judgment should be more

important than getting the client "on board" with sustainability. If the client already wants to pursue a sustainable outcome, make sure that his or her definition of sustainability comports with what can be delivered by the designer.

Don't promise what you can't deliver. This would include things such as creating or abetting the impression that a percentage of reduction in energy use being modeled per the design will be reflected in the final building's operation. The design professional should engage in extra due diligence so that information presented to the owner about building materials, energy efficiency, renewable energy options and manufacturers can be backed up with more than anecdotes and marketing material. Don't be afraid to admit that the information you are providing is only provisional or biased, such as the commonly cited information regarding increased costs for pursuing a green building. Make sure that the company website has been examined thoroughly to ascertain if claims or assertions are made regarding the special capacities of the firm to deliver on performance or obtain certification. As a related matter, remember that although the principals may be aware of the required care in dealing with the owner, other members of the firm may not be as careful when sending emails or talking to owners or their representatives. Finally, remember that the owner's expectations for the project and the design can be formed by other parties on the project such as a zealous LEED consultant or city official. Managing the expectations of the owner is vital to properly discharging the design professional's duty.

The design professional is not the only voice an owner hears on a project. Thus, promises can be made every day that you are not even aware of. Contractors are increasingly familiar with the marketing promises made by various green organizations as well as the promises of product manufacturers touting the latest "earth friendly" building material. Ideally, a comprehensive policy regarding communications with the owner should be outlined at the onset of the project, with all communication funneling through one source. Reality, however, is often quite different. Owners, or their representatives, like to walk around projects and ask questions. Contractors are eager to show their "expertise." All of these conversations have the potential to feed mismatched expectations.

### **2. Review your contracts.**

Avoid language in contracts between the owner and architect that make achieving the green building certification a requirement. Too often, no contract—standard or otherwise—is negotiated and written correspondence or proposals define the scope of the project. Pay particular attention to the verbiage used regarding green certification in any such proposal. Language which appears to make certification part of the scope of the design professional's task should be avoided.

Do not sign documentation or draft communications which use the language of "assurance," "verification," or "certification" to be given by the design professional. If the design professional is using subconsultants, especially LEED subconsultants, make absolutely certain that the subconsulting agreements are clear about the responsibilities of the parties. It is common for many LEED subconsultants to have minimal or no insurance, which can create serious difficulties. Establish insurance requirements for LEED subconsultants and ask for certificates of insurance and the policy. Engineering professionals should be careful that the architect, LEED consultant or any other relevant party is not inadvertently promising design or performance that cannot reasonably be delivered and will become a contractual requirement through the common flow-down clauses in standard contract documents.

### **3. Select materials and products carefully.**

Make sure that adequate due diligence is exercised in specifying materials, products, and design solutions that are appropriate for the project context. Selecting materials and products primarily to achieve points in a rating system should be examined carefully. This is especially true when using new or untested materials or products as well as using standard materials or products in new or unusual combinations.

Only specify sustainable products that have technical data to back up the manufacturer's promotional materials in order to ward off future installation or performance problems. Design professionals who maintain control over this aspect of the project are better able to confirm availability and to assess any necessary replacement products or materials. Material and product selection, as well as the collection and verification of technical data, should not be left to the contractors.

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#### **4. Define who is responsible for certification documents.**

Ascertain as early as possible the responsibilities for the required information and documentation stream when pursuing a green rating certification such as LEED, Green Globes, or EnergyStar. It should be clear from the beginning who will pay for the additional cost of this document administration and who is responsible should there be a failure in obtaining the proper documentation for eventual certification.

#### **5. Avoid unsubstantiated claims of performance.**

Design professionals should avoid making any claims about health benefits or outcomes, worker productivity, absenteeism or increased valuation of the building. The data supporting these types of claims is often lacking or the studies do not meet generally accepted standards of economic, epidemiological or toxicological protocols. While subsequent research may prove out some of these claims, for now design professionals should avoid such assertions.

#### **6. Know the applicable regulations.**

In order to meet performance guidelines and requirements, design professionals need to identify federal, state and local statutes and codes governing sustainable building and/or possible tax incentives. Some rating systems already require that building performance energy modeling exceed ASHRAE 90.1 (2004) standards while various municipalities are requiring compliance with local "energy codes." Increasingly, such requirements are being legislated into state and local building codes and statutes. Buildings that fail to deliver such performance "savings" will not just infuriate an owner, but could actually be an on-going violation of the local code or statute.

Additionally, as municipalities struggle to find additional revenues, the actual performance of a building becomes central to the question, "What did the municipality receive in return for lucrative tax incentives tied to green construction?" The implications for the design professional are obvious. Municipalities that feel short-changed with the performance, especially energy claims, will be likely to seek redress through some form of dispute resolution.

#### **7. Choose the right point person.**

In a project that is seeking to be sustainable or achieve rating system certification, avoid making a sustainability zealot the primary point of contact between the design professional and the other parties. Too often these individuals, though well-meaning, may be blinded to adequately assessing the risks. At the least, team these advocates with a more practical and level-headed colleague. Advocating vigorously for sustainability on a project is not the same as advocating vigorously for an aesthetic solution.

#### **8. Incorporate sustainability requirements into project administration.**

The responsibility for construction administration as well as RFIs, submittals, and shop drawings should be clearly articulated from the outset. For example, it might be established that any RFI, submittal or shop drawing that is related to or has an impact on obtaining rating system points shall be reviewed and stamped by the LEED consultant in addition to the architect of record, with the appropriate indemnity provisions between the two parties. Construction administration has been a thorny issue in recent times and sustainability requirements may exacerbate the decision regarding the scope of a design professional's construction administration scope.

#### **9. Understand your legal standard of care.**

There is no longer much doubt that the legal standard of care for design professionals is rising as a result of sustainability's ubiquity. At this time we have no good legal precedents for what this portends. At the least, design claims by a design professional regarding economics, health, or business outcomes may be taken at face value as areas that specially qualified design professionals should know. A design professional representing that he has read and understood studies claiming to provide economic evidence adequate for guiding an owner's decisions about sustainability may find that a court expects him or her to understand if such a study is properly or improperly done. This is particularly so if the advice was given to the owner under the aegis of a special skill set and designation.

#### **10. Re-imagine the future role of the architect.**

Ironically, as the performance enhancements of sustainability become more measurable and verifiable, under the current project delivery mechanisms the design professional will be less able to serve as the preferred avenue for obtaining these benefits. If sustainability is going to have some meaningful relationship to performance, it poses a unique dilemma for the design professional: Performance is something that design professionals cannot promise under traditional circumstances and yet it is precisely the avowed performance benefits that are the ethical and social goals of sustainability. Therefore, in the future architects may need to find new ways of appropriately aligning their design expertise with the technical expertise of other professionals. ■

Dr. Vyas is the principal of Alberti Group, a Chicago-based interdisciplinary consultancy specializing in emerging issues in the building industry involving sustainability and high-performance buildings, building information modeling, and alternative project delivery systems. He has lectured and published extensively on the legal and business risks associated with the sustainable building marketplace including large-scale policy, insurance, legal and technical issues. Prior to becoming a practicing attorney, Dr. Vyas taught and lectured at architecture schools at both the undergraduate and graduate levels in the United States and Canada, and served as the director of the Institute for Architecture and the Humanities in Chicago. Dr. Vyas holds a Ph.D. from the University of Chicago and a J.D. with honors from Illinois Institute of Technology/Chicago-Kent College of Law. He teaches a graduate course on Sustainability and Real Estate at the DePaul Real Estate Center in Chicago and was the organizer of a recent conference co-sponsored by the Alberti Group and the DePaul Real Estate Center entitled "Managing the Risk of Sustainable Buildings: Policy, Performance and Pitfalls."

*Learning Objectives:*

- Familiarize design professionals with the general risk issues in the sustainable arena.
- Provide specific points of concern that design professionals should address in their practices.
- Provide information to design professionals for more meaningful discussions about risk with other project participants



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**QUIZ QUESTIONS**

1. The role of the design professional has traditionally been to act as an honest broker of information to the client.  
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2. The primary cause of project disputes stem from:
  - (a) Change orders.
  - (b) Contractor errors on the project.
  - (c) Issues regarding local building permits.
  - (d) Mismatched expectations between the owner and the other parties.

3. An owner's expectations on a green project are often shaped from information coming from which sources?
  - (a) Contractors.
  - (b) Marketing materials.
  - (c) Construction manager/Sustainability consultant.
  - (e) All of the above.
4. Contract language on green projects should be drafted to:
  - (a) Make certification a goal rather than a requirement.
  - (b) Carefully define the scope of work.
  - (c) Establish insurance requirements of LEED consultants.
  - (d) Avoid making certification part of the design professional's task.
  - (e) All of the above.
5. The design professional should take the lead in which of the following?
  - (a) Determining what the owner really wants out of a sustainable building.
  - (b) Exercising due diligence in specifying materials, products and design solutions that are appropriate for the project context.
  - (c) Verifying that specified sustainable products have technical data to back up the manufacturer's promotional materials.
  - (d) All of the above.
6. It is advisable to do which of the following on any green project?
  - (a) Make a sustainability zealot the point person on communications between the design professional and the other parties to make sure that everyone is "on board."

- (b) Ensure that you, as the design professional, have communicated the health benefits and productivity increases likely to result from "sustainable design."
  - (c) Ascertain as early as possible the responsibilities for the required information and documentation stream regarding a green rating certification.
  - (d) None of the above.
7. State and local statutes and codes can impact a green project through:
    - (a) Tax incentives.
    - (b) Building performance requirements.
    - (c) Permitting requirements.
    - (d) All of the above.
  8. The following can lead to an elevated standard of care for design professionals on a green project:
    - (a) Displaying their LEED AP designation.
    - (b) Representing to the public that they possess special skill sets in this area.
    - (c) Claiming economic, health or business benefits of sustainable design.
    - (d) All of the above.
  9. Ideally sustainability should have some meaningful relationship to the performance of the project.  
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  - (10) Rating system certification acts as a meaningful proxy for a project's performance subsequent to occupancy.  
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