3rd Annual Green Building Survey

Allen Matkins Green Building Update

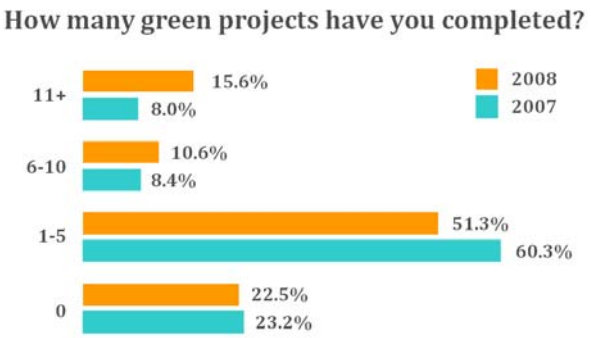
CTG

Green Building Insider

3rd Annual Allen Matkins/CTG/Green Building Insider Green Building Survey

In December 2008, we completed the **3rd Annual Allen Matkins/CTG/Green Building Insider "Green Building Survey."** As detailed below, the Survey revealed some surprising results.

The Survey, which covers the fastest growing sector of construction, is one of the broadest surveys of green building professionals in the industry. This year's survey, completed by over 900 respondents, addressed current attitudes toward green building, and its risks, costs, certification processes and trends. The survey was conducted in December 2008, with follow-on interviews with green building professionals in January 2009.



This year's respondents are generally more experienced than in the past. They have completed more green building projects than in previous years and bring more nuanced responses to the subject as revealed by the Survey and the follow-on interviews.

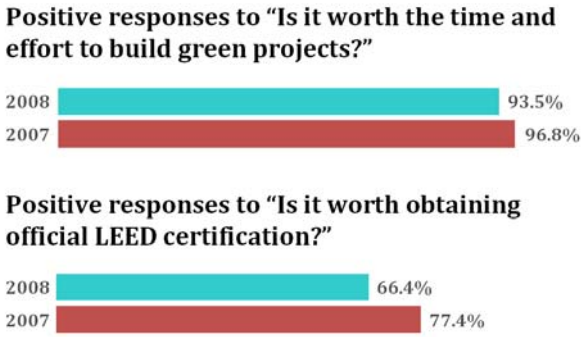
The respondents self-identified themselves as:

- 42% Design Professional
- 21% Contractor/Subcontractor
- 12% Construction/Planning Manager
- 11% Consultant
- 10% Owner/Developer
- 4% Other

According to McGraw Hill Construction, green building has actually grown in spite of the market meltdown. In its *2009 Green Building Outlook*, the company noted that the value of green construction increased from $10 billion in 2005 to almost $50 billion in 2008. The study also suggested that by 2013, green construction could be valued at nearly $150 billion.

A super majority of respondents support green and sustainable construction; but the perceived value of the LEED certification process declined by 10%.

93.4% of those surveyed in 2008 agreed that it is worth the time and effort to build green, which is an overwhelming endorsement of green and sustainable construction. Despite this endorsement of building green, just 66.2% in 2008 (down from 76% in our 2007 survey) of respondents agreed that it was worth obtaining official LEED certification from the U.S. Green Building Council (USGBC).



These results suggest that while building industry respondents almost unanimously indicated that it is worth the time and effort to build green, LEED certification was perceived as attractive by just two-thirds of green building supporters. Why? Further research is necessary, but there may be several potential reasons for these survey results: The survey was conducted amid the financial meltdown of late 2008. Therefore, financial concerns could have colored the results wherein some respondents may be hesitant to add any additional fees for services that are not directly associated with traditional bricks and mortar construction costs. Also, results could reflect increased competition from other certification schemes. In fact, some newly enacted green building regulations in various jurisdictions do not specify a specific green certification process. Finally, some of these new laws and regulations are focused on carbon footprints and greenhouse gasses, which where not directly addressed by the LEED certification process until 2009.

Compared with a year ago, many state and local agencies have adopted green building requirements for new construction. While some of these requirements require LEED certification, the majority do not favor a specific rating system. Furthermore, these requirements are often focused on green house gas (GHG) and carbon impacts that LEED, until now, has only indirectly addressed.

New LEED® 2009 Rating System Incorporates Carbon Impacts

As part of the USGBC ongoing effort to enhance its enormously popular LEED rating system, a major revision has just been completed — LEED 2009.

One of the most significant changes introduced in LEED 2009 was the reweighting of each individual credit to reflect the credit's environmental impact.

This so-called "**carbon overlay**" was developed for USGBC by CTG Energetics, so that the carbon impact of each credit could be calculated. The resulting set of tools enables a green building project to be optimized to fit the project owner's specific objectives — energy reduction, carbon impact minimization, cost savings, etc.

Perhaps the new LEED requirements being rolled out in 2009, with its "carbon overlay," will bring some of these respondents closer to supporting the LEED certification process. Please see the sidebar entitled "New LEED® 2009 Rating System Incorporates Carbon Impacts."

Risks are perceived as slightly higher for green construction

Contractors, Subcontractors, Architects, Engineers, Owners, Attorneys and Consultants responded that the risks of LEED/green construction were either the same or greater than the risks in traditional construction projects. However, as experience with such projects increased, respondents felt that construction risks increased for green projects compared with traditional projects.

"Measurement and verification" is the most important risk avoidance measure for green developers

Contractors and Subcontractors responded that "measurement and verification" was the most important risk avoidance measure used for a green/LEED project with lesser but significant weight given to "contractual risk shifting" and "recommissioning/periodic testing." As experience with green/LEED projects increased, "measurement and verification" remained the most important risk avoidance tool, followed by "recommissioning/periodic testing" and, to a lesser extent, "contractual risk shifting."

Architects and Engineers felt the same as the Contractors and Subcontracts, except contractual risk shifting did not decrease in importance with experience.

Owners generally agreed. However, for Owners, the relative importance of contractual risk shifting decreased dramatically with experience while the importance of recommissioning increased dramatically with experience.

We believe that over time, as more disputes occur in the green and sustainable construction arena, the importance of contractual risk shifting will increase. Most of the respondents are focusing on more technical risk avoidance measures such as measurement and verification and recommissioning, reflecting an attitude of simply doing good work to avoid risk. We agree that doing good work is essential, but we recommend that good work should be coupled with careful contractual risk shifting.

Green construction costs and benefits

The majority of respondents felt that the cost premium for green construction over traditional construction was less than 4%. Our Survey responses echoed other industry surveys as detailed in the sidebar entitled "Green Construction Adds 1% to 4%." Also, many follow-on interviewees indicated that if green elements are included in the early design services, LEED Silver or even LEED Gold projects can be accomplished at no additional cost over traditional construction.

Green Construction Adds 1% to 4%

Research performed by the Brookings Institution and PNC Financial Services found that green buildings cost less than four percent over conventional buildings, with the highest premium concentrations being no more than one percent.

However, the cost savings over the life of the building make green buildings a no-brainer. The green California EPA Headquarters Building is a perfect example.

With systems calibration, monitoring, and maintenance for energy performance, the building delivers annual savings of nearly $200,000. After-hours heating and lighting controls as well as the building's exterior lighting systems add another $110,000 in yearly savings.

-- Triplepundit blog

We work on the premise that if we incorporate the LEED features very early in the design process there is only a modest increase in price to achieve Silver, Gold or even Platinum LEED certification. There are significant benefits to being very knowledgeable about the details and getting them into the design process as early as possible. The university always tries to get it right at the very beginning of each project. We feel if detail is folded into the design early on it reduces the project costs to plus or minus 10%. If organizations continue to make changes to their plans the project estimates can be up to plus or minus 20% or higher.

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Further, given the recent increases in energy costs, 74% of the Survey respondents said that they were more likely to incorporate sustainable elements into their future projects.

Green construction risks generally decrease with experience

Contractors and attorneys believe experience lowers most green construction risks except construction defects

When asked what the greatest risks for green construction where, Contractor responses where evenly split among "design/construction defects," "impacts to the owner" and "not recouping capital costs." Attorneys evenly voted for "impacts to the owner" and "not recouping capital costs". Further, Contractors and Attorneys perceived that all risks decreased with green construction experience except risks of design/construction defects.

Professionals see risks somewhat differently, but agree on construction defects

Architects and Engineers felt "not recouping capital costs" and, to a slightly lesser extent, "impacts to owner" were the greatest risks. Slightly lesser weight was given to design/construction defects and project not achieving green certification. Impacts and not recouping costs was a slightly lesser risk to those with more experience, but defects became a slightly greater risk to those with more experience.

Owners believe experience decreases all green construction risks

Owners responded that the greatest risk was clearly "not recouping capital costs," and that risk increased for those with more experience. Defects, impacts to the owner and failure to achieve green certification were also significant risks (1/2 to 3/4 as many respondents for each risk as for those fearing non-recovery of capital costs), but all such risks decreased among respondents with more experience.