



Green Retail and Hospitality:

Capitalizing on the Growth in Green Building Investments

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SmartMarket Report

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Green Retail and Hospitality: Capitalizing on the Growth in Green Building Investments SmartMarket Report

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About McGraw Hill Construction

McGraw Hill Construction provides essential data, news, insights, and intelligence to better inform construction professionals' decisions and strengthen their market position.

McGraw Hill Construction's data, analytics, and media businesses—*Dodge*, *Sweets*, *Architectural Record*, *GreenSource*, and *Engineering News-Record*—create opportunities for owners, architects, engineers, contractors, building product manufacturers, and distributors to strengthen their market position, size their markets, prioritize prospects, and target and build relationships that will win more business. McGraw Hill Construction serves more than one million customers through its trends and forecasts, industry news, and leading platform of construction data, benchmarks, and analytics, including Dodge MarketShare™, Dodge BuildShare® and Dodge SpecShare®. Construction data is available for North American and global markets.

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Introduction

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS

We are excited about the results of this seminal study on green building in the retail and hospitality sectors, which reveals that **green building has indeed taken hold in these sectors and is expected to grow significantly in the next two years.**

From 2011 to 2013, there was tremendous growth in green building in the retail and hotel sectors—bringing them more into alignment with green leaders in the education and office sectors. Retail owners in particular became much more invested in green—with the percentage of owners highly involved in green building (more than half their new buildings green) more than doubling from 18% in 2011 to 38% in 2013. And that number is expected to grow even more in the next two years—rising to 52%.

Hotel owners tell a similar story and show even greater levels of engagement. Those highly involved in green rose from 28% in 2011 to 48% in 2013—and that growth is expected to rise to 62% in 2015. Clearly, the shift to green is here to stay.

These results reinforce our Dodge Construction Green Outlook, which estimated that 35% of retail and 38% of hotel starts by value were green in 2012.

Further, this growth is not confined to new construction activity—nearly two-thirds of retail and three quarters of hotel owners also expect to have green operations and maintenance activities by 2015.

These two sectors have inherent challenges that make greening them difficult. Therefore, the fact that they

are engaging in green at these levels demonstrates that **sustainable design and construction practices are becoming the norm—and critical for the industry to track.**

Part of the reason for this adoption is the benefits owners are reporting from their green investments.

- **Asset Value:** Increase of 7% on average for retail and 11% for hotel owners
- **Building ROI:** Increase of 8% on average for retail and 14% for hotel owners
- **Annual Operating Costs:** Decrease of 8% on average for retail and 1% for hotel owners

A large percentage of owners also report higher customer satisfaction and improved worker well-being as a result of green efforts—adding even more incentive for future activities.

Though reduction in energy use—the aspect of green most easily tracked—is highly important in these sectors, they also value other green attributes not as critical to other sectors.

- **Recycling and waste management are highly valued by both retail and hotel owners—**more so than in other sectors. Further, 77% of retail and 73% of hotel owners require their contractors to have green waste handling practices.
- **Water conservation and indoor air quality are of particular importance to hotel owners.** For example, 87% require green products for thermal and moisture protection.

We would like to thank Waste Management for enabling us to bring this vital intelligence to the market to help the industry better navigate the impacts of green.



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Foundation, and he currently serves as a member of the Princeton University Civil and Environmental Engineering Industry Advisory Council. He is a visiting Professor with the University of Reading's School of Construction Management and Engineering in England, where he also serves on their Innovative Construction Research Centre Advisory Board. Bernstein has a M.B.A. from Loyola College, a M.S. in engineering from Princeton University and a B.S. in civil

engineering from the New Jersey Institute of Technology.

Michele A. Russo, LEED AP, has been working in environmental policy and communications for over 18 years. She is responsible for helping direct the green content across MHC's portfolio of products and services, including sizing the green share of construction starts. Russo manages MHC's *SmartMarket Report* series covering key trends affecting the industry. Russo is also a contributor

to McGraw Hill's corporate initiatives around sustainability. Previously, she served as Executive Director of the Clean Beaches Council and Deputy Director of the National Pollution Prevention Roundtable. She has authored several articles around green building, pollution prevention and toxics reduction. Russo has a B.S. in Chemical Engineering from Cornell University and a Masters in Public Policy from Harvard University's Kennedy School of Government.

Introduction

If there's one thing working in the waste business has showed me, it's that the green movement is going strong. Not only is the public recycling more and throwing away less, they're paying more attention to things like energy use, water consumption and greener practices.

They're looking for greener products whenever they go shopping, and they're attracted to establishments that not only cater to their customers, but also the environment. Why is that?

In general, consumers feel better when they purchase a product from a company they know is contributing to a better planet. It makes them feel more comfortable with their brand. Sustainability is so important, in fact, that many are even willing to pay a higher price for a greener solution—maybe even jump to a greener competitor. What this means for retail establishments, as well as the hospitality destinations we stay at for both business and pleasure, is simple: If customers are paying more attention to the environment, so should you.

That's why Waste Management wanted to support this *SmartMarket Report* from McGraw Hill Construction. It demonstrates how owners are greening more of their portfolios. How 43% of restaurant owners expect their buildings to be green by 2018. How developers are incorporating more sustainable construction practices into their operations. How more than 60% of

retail and hotel owners are placing a high value on recycling.

More than anything, we'd like this research to inspire you to look at what you're doing today, as well as what you'd like to be doing 10 years from now. Are you ready for the opportunities that lie ahead? Do you know what will attract a new, greener generation of customers?

As a leading waste management and recycling services company, Waste Management has transformed the way it does business over the last decade in order to tap into this exciting market. Now we want to help our customers do the same. From our experience, sustainability isn't just a practice—it's a resource that can be used to attract new customers, grow your business and even lower costs.

Waste Management is a leading provider of comprehensive waste management services in North America. Through its subsidiaries, the company provides collection, transfer, recycling and resource recovery, and disposal services. It is one of the largest residential recyclers and also a leading developer, operator and owner of waste-to-energy and landfill gas-to-energy facilities in the United States. To learn more about Waste Management, visit www.wm.com.



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Jane Sumner, in her role as Waste Management's Vice President of the Food and Retail, Commercial Property, and Construction sales segments, is focused on managing, integrating, and growing the third party business acquired through acquisitions as well as investing in continually improving the client services provided to Waste Management's national and regional customers. She ensures that field sales teams receive the customer and industry insights and

actionable ideas that improve their value propositions.

Prior to joining Waste Management, Jane was Vice President of Sales for ARAMARK's Business and Industry/Refreshment Services Group since 2009. In this role, she implemented strategies, sales excellence initiatives, new business and marketing platforms that resulted in double-digit gains in sales productivity within her first two years.

Previous to her time with ARAMARK, Jane worked for PepsiCo, Inc./FRITO-LAY,

where she served as Vice President of Foodservice Sales for PepsiCo. In that role, she contributed to the strategic advancement of the entire foodservice enterprise while directing senior account and cross-functional support teams. She joined PepsiCo in 1994 and during her tenure took on roles of increased responsibility in the areas of sales and organizational leadership.

Jane also led the Women's Foodservice Forum as their Chairman of the Board from 2007 to 2008. During her

term, she expanded WFF's leadership development programs and advanced the organization's diversity agenda. Jane earned a B.S. in Business Administration and Marketing from Southern Illinois University.

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Left: The Hotel Indigo Gaslamp Quarter was the first hotel to achieve LEED certification in San Diego, CA

Below: Energy-efficient refrigeration units are part of the greening efforts at Price Chopper's supermarkets



Photo on the left courtesy of InterContinental Hotels Group. Photo on the right courtesy of Chet Boehlke.

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Executive Summary

Strong green growth offers new opportunities for firms offering sustainable products and services in the retail, restaurant and hotel sectors.

These sectors have lagged behind other markets, such as office and education, due to innate challenges like strong ventilation requirements, transient occupants, long hours of operation and franchise ownership models. However, the benefits provided by green and the brand advantages offered by sustainability efforts are supporting an increasingly strong green market in these sectors.

Green Building Is Growing in the Retail and Hotel Sectors

Green building has become much more prevalent in the retail (including restaurant) and hotel sectors since 2011, according to building owners—and that growth is expected to continue at a strong pace in the next two years. Between 2011 and 2013, the percentage of retail/restaurant owners reporting that more than half of their construction projects are green more than doubled to 38%. Growth is expected to continue at a high rate through 2015, when 52% report these high levels of green involvement. Hotels report similarly strong growth of green activity, from 28% doing more than half of their projects green in 2011 to 64% in 2015.

The growing green involvement in both sectors is not confined to new buildings. **While 10% or less of owners considered their building operations and maintenance (O&M) green in 2011, nearly two thirds of the retail/restaurant owners and three quarters of the hotel owners expect to have green O&M practices by 2015—a seven-fold increase.**

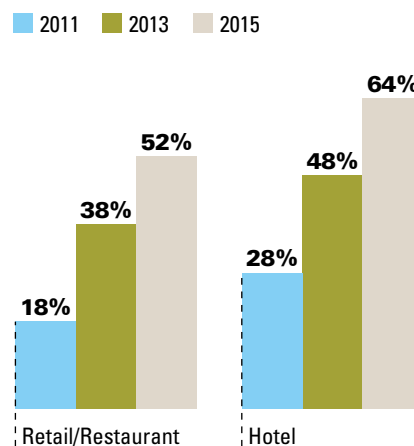
The combination of new green buildings and green building operations leads the owners to expect high increases in the percentage of green buildings in their portfolios, with owners predicting 43% of their retail/restaurant buildings and 55% of their hotel buildings will be green in five years. As green building becomes more prominent in these sectors, the need to be green will become more of a competitive imperative.

Strong Benefits Help Drive Growth in Green

Most of the respondents report that they see reductions in annual operating costs and energy usage, and a large percentage also see increases in asset value and building ROI. See the table on page 6 for the percentages of retail and hotel owners who experience these benefits and the average decrease or increase experienced. In addition, retail owners with larger commitments to green, either through doing more than 50% of their building projects green or having more than 50% green buildings in their portfolio, also report achieving higher asset value increases (9%) and higher building ROI (11%).

Owners Conducting More than Half of Their Projects Green

Source: McGraw Hill Construction, 2013



Other benefits reported by nearly half of the respondents include higher hotel occupancy rates and an increase in sales velocity and customer traffic. Over two thirds of hotel owners also report increased customer satisfaction, and 62% of retail owners and 83% of hotel owners report that green buildings have a positive impact on worker health and well-being.

All of these benefits are critical to making the business case for green, especially in these sectors. Hotels see lower operational benefits than most other sectors, and the combination of using a franchise model, the splitting of benefits between owners and tenants, and short ownership cycles can dilute the direct operational benefits experienced in both sectors. Factors like improved asset value and building ROI can encourage owners and developers to make green investments, while factors like increased sales velocity and customer satisfaction can encourage franchisees and lessees to seek greener spaces.

Interest in Green Buildings Extends Beyond Energy Savings

The aspect of green building reported as important by the highest percentage of retail (73%) and hotel (93%) owners is improving energy efficiency, which corresponds to findings in previous McGraw Hill Construction *SmartMarket Reports* that looked at the office, health care and education sectors. However, the results also demonstrate that each sector has green priorities beyond energy:

- Recycling and Waste Management Is Highly Valued by Both Sectors:** 62% of retail owners select this category, which is second only to improving energy efficiency, and 63% in the hotel sector also find this important. In addition, 77% of retail owners and 73% of hotel owners require green waste handling practices from their contractors, and nearly the same percentages include recycling and composting in their O&M programs.
- Water, Material Resource Conservation and Indoor Air Quality Are Highly Valued in the Hotel Sector:** Hotel owners consider reducing water consumption (77%) and using environmentally friendly products (70%) important aspects of green building. Interest in material resource conservation and indoor air quality is further evidenced by the 87% that report that they require green products or building methods for thermal and moisture protection and the 79% that report using environmentally preferable purchasing in their O&M programs.

Factors Influencing the Decision to Engage in Green Projects

Two thirds of retail and nearly three quarters of hotel owners regard lowering operating costs and increasing their NOI important to their decision to do green projects. Utility rebates are also influential, demonstrating how a good business case can help drive green activity.

However, non-cost related factors are considered important by more than half of these owners, sometimes at levels equal to financial drivers. For example, 73% of hotel owners consider protecting or enhancing their brand highly influential in their decisions on future green building investments—the same share that consider lower operating costs influential. Greenwashing is also a serious concern in the hotel and retail sectors.

General contractors in the survey consistently underestimate the importance of these non-cost related factors. Contractors can help increase their green work in these sectors by recognizing the factors most important to owners pursuing green projects.

Top Benefits of Green Building

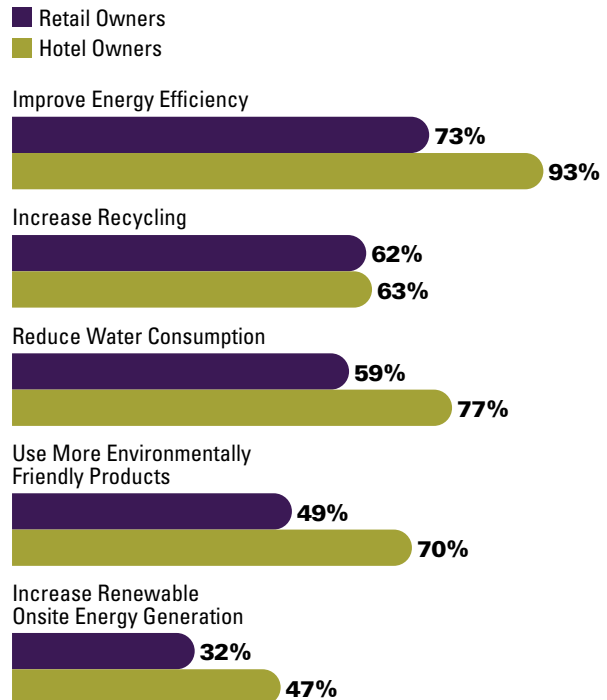
Source: McGraw Hill Construction, 2013

	Annual Operating Costs	Energy Use	Asset Value	Building ROI
Retail	66% Report Decrease	58%* Report Decrease	61% Report Increase	67% Report Increase
	8% Average Expected Decrease	15% Average Expected Decrease	7% Average Expected Increase	8% Average Expected Increase
Hotel	51% Report Decrease	67% Report Decrease	71% Report Increase	85% Report Increase
	1% Average Expected Decrease	15% Average Expected Decrease	11% Average Expected Increase	14% Average Expected Increase

*Percentage includes restaurant owners

Aspects of Green Building Considered Most Important

Source: McGraw Hill Construction, 2013



Recommendations

Despite the unique challenges of green building in retail and hospitality sectors, this study reveals that significant opportunities do exist, and the data in this report can help firms capitalize on these opportunities.

Developer Recommendations

■ INVEST IN GREEN BUILDINGS TO MAKE YOUR PROPERTIES MORE COMPETITIVE

Building owners report a significant share of their portfolio will be green in five years—43% for retail and 55% for hotel. Currently, making buildings green can help differentiate owners in the market, demonstrated by the 7% to 12% average increases in asset value reported.

Moreover, the office sector has clearly demonstrated that as green becomes more common, making sure properties are green becomes necessary to remain competitive. The results suggest that the retail and hospitality sectors will experience a similar shift.

■ INCORPORATE GREEN FEATURES IMPORTANT TO TENANTS AND FUTURE BUILDING OWNERS

Energy savings are important in every sector, including retail, restaurants and hotels, although energy savings are highly important to over 90% of hotel and restaurant owners, compared to 73% of retailers.

However, other factors are also important: Nearly two thirds of retail and hotel owners also value increased recycling, and over 70% of hotel owners also prioritize reduced water consumption and the use of more environmentally friendly products. Buildings that highlight these features will have more appeal on the market and stronger asset value.

Building Owner Recommendations

■ INCREASE GREEN OPERATIONS AND MAINTENANCE (O&M) EFFORTS

The high value placed on recycling and the reduction of energy use in these sectors are both issues that can be addressed in green O&M. With nearly two thirds of owners in the retail/restaurant sector and nearly three quarters of owners in the hotel sector expecting to have green O&M by 2015, tenants will increasingly expect this in the buildings they lease.

■ DECREASE IMPACT OF FUTURE TECHNOLOGY UPGRADES BY INCREASING BUILDING ENERGY PERFORMANCE

Because of the emphasis on the customer experience in the retail, restaurant and hotel sectors, interactive technology will be increasingly used. For example, ARUP, in their 2012 report, *The Future of Retail*, describes technologies that will turn window displays interactive, track customer responses and change the point of sale.

All of these will increase the energy load of retail buildings, and similar technology will no doubt appear in hotels as well. Enhancing energy performance is essential to be able take advantage of new technology without significantly increasing operating costs.

Retail and Hotel Company Recommendations

■ ENCOURAGE FRANCHISEES TO ADOPT GREEN BUILDING METHODS TO ENHANCE YOUR BRAND

Sustainability experts who participated in the in-depth interviews in the retail and hotel sectors affirm that, while green may not yet be the primary deciding factor in the decision about where to shop or where to stay, it is increasingly important as a means to engage

customer loyalty and to compete in tight markets. Encouraging your franchisees to take a visibly green approach to their buildings can strengthen the value of your brand.

Some means to do so include promotion of a green internal standard, benchmarking and tracking building performance, and providing help with efforts to green buildings constructed from prototypes.

Contractor Recommendations

■ ENGAGE OWNERS IN GREEN BY USING THE TRIGGERS AND OBSTACLES MOST IMPORTANT TO THEM

In order to grow their green business, general contractors need to focus more on the triggers and obstacles that matter most to owners. For both the hotel and retail sectors, contractors should emphasize green approaches that help owners improve ROI and protect or enhance their brands, in addition to discussing cost savings. They need to recognize the importance of leadership involvement in the hotel sector and of greenwashing concerns in both retail and hotel as well. ■

Data: Introduction

McGraw Hill Construction's (MHC) *2013 Dodge Construction Green Outlook* noted for the first time a significant increase in the share of green building in the retail and hospitality markets. In fact, green construction was estimated to account for 35% of total construction starts in the retail sector and 38% of hotel starts by value in 2012. While these figures are below the green share in the office (54%), education (45%) and health care (44%) markets, they still represent considerable green activity and demonstrate rising interest in green buildings in these sectors.

The increased interest in green in the retail and hospitality sectors is particularly striking given the challenges to green efforts that these sectors inherently face compared to other sectors. Both have transient building occupants, making efforts to achieve conservation more challenging. In addition, restaurants, grocery stores and hotels have extensive HVAC requirements that make energy conservation challenging. Finally, both sectors need to create a positive customer experience to stay competitive, and green building and conservation efforts may be viewed as compromising these efforts.

Examination of how green building is impacting these markets is particularly critical now as the economic recovery takes hold. The recent stabilization and growth in the housing market, after an extended period of decline, bodes well for growth in the retail sector, which has a strong degree of correlation with housing. On the other hand, hotels already saw their recovery begin in 2011, and the continuing strength of revenue per available room figures suggests that demand will continue to grow. In fact, MHC's Construction Market Forecast Service predicts that growth will be significant in both sectors through 2014 and beyond.

The strong forecasted growth in retail and hotel construction over the next few years offers an opportunity for further expansion of green construction and building operations in these buildings—and consequently for firms that specialize in green in these sectors.

In addition, the rise of green in these sectors has the potential to reach beyond the limits of the buildings themselves. These two sectors are not only highly attuned to public opinion, but they can also play a major role in helping shape public perception. Just as greater interest in sustainability among corporate leadership and the general public is driving wider green adoption for the retail and hotel sectors, the visible green efforts in these sectors can reinforce the perception that green is expected in the design, construction and operation of all buildings.

Note About the Data

The data and analysis in this report are based on two separate surveys.

- Survey of owners, operators and franchisers of retail stores, restaurants and hotel buildings conducted by telephone
- Online survey with general and specialty trade contractors working in these sectors

The respondents to the telephone survey are referred to as owners in the analysis. In this report, an owner is defined as one who works for the owner's firm and acts as an agent representing the interests of that owner.

Because restaurants are a subclass of retail and because of the limited number of restaurant respondents, the charts plot the responses from retail and restaurant owners together when they align. However, where there are notable differences, only the retail results are graphically depicted, with notable restaurant findings described in the narrative. Due to the low number of respondents, the restaurant sector analysis is directional, revealing trends rather than quantitative analysis of statistically significant differences.

The analysis of the amount of green work engaged in by the owners and contractors differs between the two surveys:

- **Owners:** Considered green if more than 50% of their 2013 construction projects are green, or if more than 50% of the buildings they own are green buildings. Due to the limited number of hotel and restaurant respondents, analysis among these different respondents is mostly conducted in the retail sector, except when clear trends are evident for hotels.
- **Contractors:** Analysis is based on the percentage of green projects across all building types, rather than solely on their work in the retail, hospitality or hotel sectors.

In addition to the two surveys, five in-depth interviews were conducted with sustainability leaders in the retail and hotel sectors. Those interviews are referenced throughout the report where noteworthy.

For more information on all the information above, see the methodology on page 60.

Data: Green Activity

Reported Level of Green Commitment

There has long been discussion as to the specific definition of a green building or green firm. To gauge how respondents rate themselves and their green commitment levels, they were asked unprompted to rate themselves from “not green” to “very green.” Then they were provided with a definition (noted in footnote below) and asked to rate themselves again.

Across the board, the respondents moved from the mid-point—moderate involvement—into one extreme or the other after being provided with the definition. This is evidence that how we articulate green is very important when assessing the market penetration and future opportunities.

After being given the definition, owners rated themselves as follows:

- **Retail Owners:** 39% rate themselves as highly green (up from 30% prior to the definition) while 30% rate themselves at moderate levels (from 48%), 28% at low levels (from 18%) and 3% not at all engaged.
- **Hotel Owners:** 40% deem themselves highly green (up from 33% prior to definition) while 33% are moderate (from 40%), and 27% low (up from 20%). No hotel owners rated themselves as having no green involvement, down from 7% before the definition.

It is notable that owners with green comprising more than half of their stock did not shift their position as much as owners with fewer green buildings in their portfolio. This suggests that there is greater consensus on the definition of green for those experienced in green.

Percentage of Green Building Stock

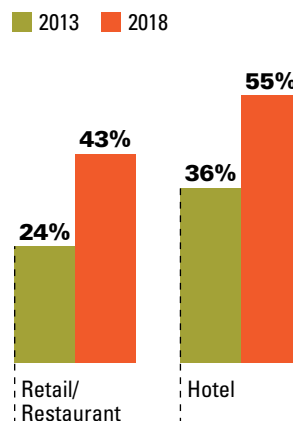
In both the retail and hospitality sectors, the owners' total building stock is expected to get considerably greener. The hotel owners currently report that a larger average percentage of their building stock is green (36%) than the retail/restaurant owners (24%). However, both sectors lag behind other sectors reported in the Siemens/McGraw Hill Construction report: *A Path to Achieving Higher Building Performance*, where owners in the office, health care and higher education sectors reported in 2012 that over 40% of their building stock was green.

55% of hotel building stock is expected to be green by 2018, significantly higher compared to the share reported by the retail and restaurant owners. However, the anticipated growth in the retail/restaurant sector in the next five years is at a much higher rate than in the hotel sector, with the percentage of green buildings nearly doubling to 43%. In general, large owners (retail owners with 100 or more buildings or hotel owners with more than 15 buildings) also have a larger share of green in their portfolios.

These findings suggest that green building may soon be the norm in both the retail/restaurant and hospitality sectors. As each sector becomes greener, it is likely that green building will become an expectation for consumers and investors and potentially a key factor that feeds into the evaluation of a building's asset valuation.

Average Percentage of Green Buildings in Building Stock (Current and Future)

Source: McGraw Hill Construction, 2013



MHC Green Project Definition: A building project is defined as green if it is:

- Built to LEED or another recognized green building standard, or
- A project that is energy-efficient and water-efficient and addresses improved indoor air quality and/or material resource conservation.

Percentage of Construction Activity That Is Green Over Time

While the retail/restaurant and hotel sectors have different patterns of green building activity over time, each is expecting to see a significant growth in the percentage of green projects over the next few years.

Retail/Restaurant

While the percentage of owners that report doing no green building projects in 2011 is relatively low, nearly half of the owners were only engaged in green building on one quarter or less of their projects. By 2013, the percentage of green projects is more evenly spread across the spectrum of a low, medium or high percentage of green projects. Over the next two years, that shift to green is expected to continue, with 52% of the owners expecting more than half of their building projects to be green.

However, the pattern of green growth in restaurants is slightly different from the retail sector. While restaurants experience the same shift from low to high from 2011 to 2015, a larger percentage remain in the 1% to 25% green range, suggesting that there may be a group of restaurant owners that still are not truly engaging with green building.

The striking level of growth in green from 2011 to 2015 suggests that, in the retail/restaurant market, green is shifting from being a differentiator for these markets to becoming a norm.

Hotel

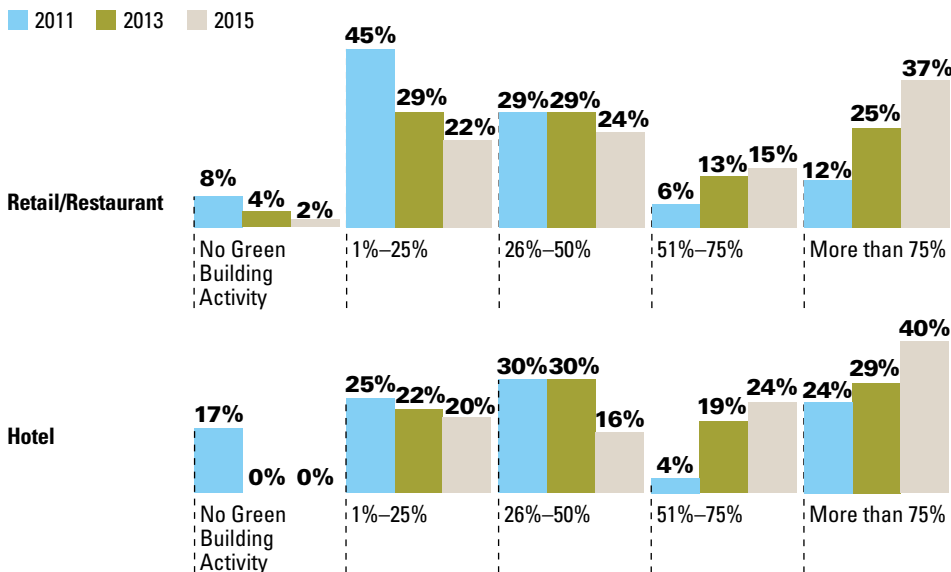
In 2011, more than twice the percentage of hotel owners reported either no green building activity or reported that more than 75% of their projects were green, compared to the retail/restaurant owners. This suggests that this market has evolved through a large percentage of early adopters.

However, by 2013, all the hotel owners were doing at least some green building. As with the retail sector, there is a relatively even distribution of owners in 2013 doing a low, medium or high percentage of green projects. Nearly two thirds of the owners expect more than half of their building projects will be green by 2015, and 40% expect green buildings to account for more than three quarters of the projects that they engaging in at that time.

This pattern of more new green building adoption compared to the retail/restaurant sector suggests that there are strong pressures driving the hotel market to adopt green building. New buildings may need to be green to attract investors, due to increasing market expectations. In addition, the promotion of green hotels to consumers on sites such as TripAdvisor, Expedia and Travelocity may also be driving consumer expectations for green hotels.

Percentage of Green Construction Activity Over Time

Source: McGraw Hill Construction, 2013



Level of Green Activity for Hotel and Retail Projects Over Time, According to Contractors

Contractors also find that green construction is firmly taking hold in the retail/restaurant and hotel sectors. Over a third of contractors were doing no green hotels in 2011, and 28% report doing no green retail/restaurant projects. By 2015, only a small percentage still expect to be doing no green work in these sectors. More importantly, 25% anticipate that over 60% of their retail/restaurant work will be green and 27% of contractors report the same for their hotel projects. Both these percentages demonstrate a dramatic leap from both the 2011 and 2013 levels of green work. These findings correspond with the high level of growth expected by owners in each sector (see page 10 for more information).

There is a notable lack of regional variation in these results, suggesting that the trends noted above are true for these sectors overall, rather than a reflection of greater emphasis on green building in one geographical region. It also demonstrates the influence that national chains may have in the results where there is a consistency to the policies for all their properties.

Retail/Restaurant

While a higher percentage of contractors were doing green retail/restaurant projects in 2011 than were doing green hotels, the majority found that only a small percentage (1%–30%) of their total work in this sector was green. The shift to green appears to be continuing steadily, with the level of increase noted in 2013 relatively

close to the level of increase expected between 2013 and 2015. This suggests that there is an overall push for green buildings in this sector that does not rely on owner or contractor specialization.

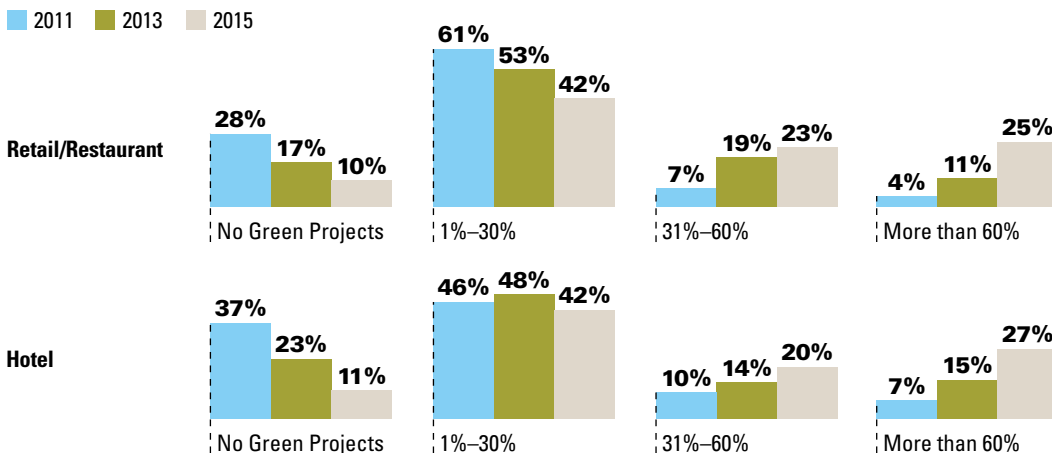
Hotel

A slightly different pattern is visible for hotels. While the percentage of firms doing no green work shifts dramatically between 2011 and 2015, the percentage doing a relatively low level of green work (1%–30%) stays relatively consistent across the four years, with the most dramatic growth visible among those doing more than 60% of green projects.

This difference may be due to a few different factors. Some contractors may either be specializing in green hotels or may be building relationships with owners that tend to favor green hotel buildings. Contractors may also find a wide range in the level of interest in green buildings in their hotel clients and expect that most of those that have not yet adopted a green approach may be less likely to do so in the future as well.

Percentage of Green Projects Over Time (According to Contractors)

Source: McGraw Hill Construction, 2013



Degree of Use of Green Operations and Maintenance

Unlike the different patterns of adoption of green building between the retail and hospitality sectors (see page 10), the two sectors have a very similar pattern for greening the operations and maintenance (O&M) of their existing buildings. While the majority of the properties were not using a green O&M approach in 2011, by 2013 that figure decreased to just about one quarter of their properties. On the other hand, **within just two years, roughly two thirds of the retail respondents and three quarters of the hotel respondents believe that they will have adopted a green/very green approach to O&M.**

This surge in green O&M is no doubt due to its clear business benefits. This may also explain why hotels are slightly more vigorous adopters of green O&M than retailers. While most owners are able to reduce energy and water use through these approaches, hotels in particular, due to their high volume of energy and water use, have a strong potential to reap significant savings from adopting a green O&M approach. In addition, a hotel can be considered green on the basis of its operational approach rather than expensive renovations or new construction; this can influence both businesses and consumers in their choice of where to stay, according to sustainability experts in the hotel sector that participated in the in-depth interviews.

Retail businesses in the restaurant and grocery sector also use a large amount of energy relative to the size of their buildings. This may explain why the adoption of green O&M by 2015 among restaurant owners is slightly higher than among retail owners since the potential for savings is much greater.

Variation by Level of Personal Green Involvement

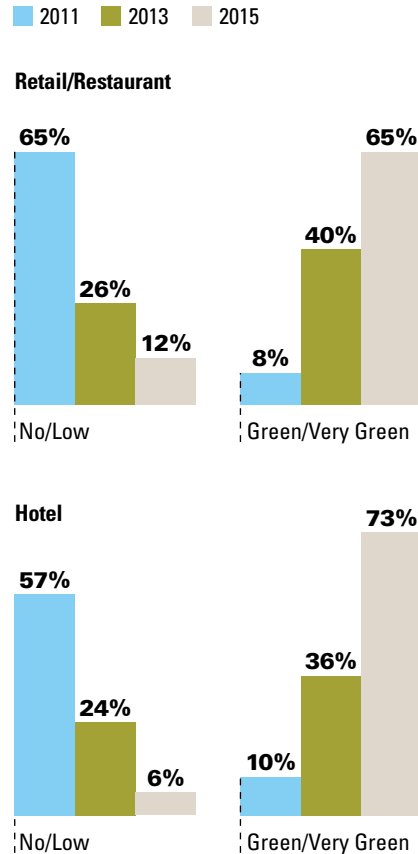
92% of retail owner respondents and all of the hotel respondents with a high level of personal green involvement report that they will have green/very green O&M practices by 2015. Greater personal involvement with green may provide exposure to the strong business case for instituting green O&M.

Variation by Size

While most of the differences are not statistically significant, there is a notable trend for a larger percentage of large retail/restaurant owners (those with 100 buildings or more) to be using green O&M currently, compared to smaller retail owners (those with fewer than 100 buildings).

Degree of Green Operations and Maintenance Activity Over Time

Source: McGraw Hill Construction, 2013



2013: Retail/Restaurant Owners Doing Green/Very Green O&M

- Large Owners: 50%
- Small Owners: 36%

The same pattern holds true for large and small retail/restaurant owners when measured by the value of their construction projects. This may be due to advantages that large retail owners would have over small ones, including economies of scale and staff dedicated to pursuing sustainability initiatives.

There were no significant variations by size for hotels.

The Challenge of Greening Restaurants

Factors like equipment loads, long operating hours, multiple air exchanges and food refrigeration make restaurants particularly difficult to green, but several restaurants have met those challenges and achieved strong performing buildings.

Ever since the opening of Chez Panisse in Berkeley in 1971, restaurateurs have pioneered sustainability in their pursuit of local, seasonal ingredients and urban farming and composting. Yet, as a building type, green restaurants are the oxymoron of the sustainability movement.

“Alongside wet labs and museums, restaurants are one of the most difficult building types for achieving superior environmental performance,” says Arup sustainability consultant Russell Fortmeyer. The Los Angeles-based technology specialist explains that rigorous climate control equipment loads and long operating hours make fast-food restaurants the biggest energy consumers of all building types. In the case of restaurant operations overall, Fortmeyer says, multiple air changes and food refrigeration work against the energy efficiency that is at the heart of building performance.

Use of LEED for Individual Buildings

LEED certification trends verify the difficulty of greening restaurants. Of more than 40,000 projects that have earned a LEED designation, only 45 self-identify as stand-alone restaurants. (Of this smaller number, five earned certification through LEED for Retail, whereas the remainder were submitted via the Commercial Interiors, New Construction & Major Renovations and Core & Shell programs.)

At two Dunkin’ Donuts locations in St. Petersburg, FL, local entrepreneur Robert Aziz achieved Silver and Gold LEED ratings, using different versions of the rating system. Strategies that included erecting insulated concrete foam walls, employing high-performance HVAC and refrigeration equipment, and monitoring energy helped Aziz earn LEED points for energy and atmosphere. On the other hand, as a percentage of the total score, the gains in energy fared poorly compared to the water efficiency and indoor environmental quality of the chain stores.

Freestanding restaurants have faced these energy barriers since the inception of LEED for Retail. For the pilot program, Mexican-food chain Chipotle enrolled a location in Gurnee, IL, and focused precisely on the project’s energy performance—going so far as to install a 6-kilowatt wind turbine on site. But again energy victories were overshadowed by other successes, evidenced by Chipotle’s subsequent replication of sustainability strategies at other locations. Switching to LED lighting allowed a 1-ton reduction in HVAC capacity, and recycled and low-VOC materials, as well as tankless water heaters, are widely used through its portfolio.

There are examples of individual restaurants using creative means to overcome these energy challenges. Lucy Restaurant & Bar, part of the LEED-Platinum Bardessono resort in Yountville, CA, uses geothermal heating and cooling, and electricity

supplied by 940 photovoltaic panels. However, few restaurants have access to these kinds of resources.

LEED Volume Program

Jacob Kriss, spokesperson for the USGBC, cites another way toward sustainability, better suited for the Dunkin’ Donuts and Chipotles of the world. The LEED Volume Program streamlines certification for multiple buildings of a similar type through prototyped standards. “Several groups have joined USGBC’s LEED Volume Program to commit to integrating LEED and sustainable design and construction into their global portfolios,” Kriss says. “Organizations such as Starbucks, McDonald’s, and Chick-fil-A have partnered with USGBC to achieve the common goal of building a healthy, sustainable future.”

Could all restaurants start looking more like Starbucks as a result? The coffee empire has certified 154 stores in 17 countries through LEED, thanks to sourcing of recycled and nontoxic materials, illuminating via LEDs and water conservation. Fortmeyer applauds the effort, while warning that corporations should presume nothing about sustainability rating systems. As LEED and competing scorecards expand their reach to elements like the transportation emissions generated by building users (both customers and employees), current concerns about energy efficiency and mechanical loads may appear quaint in comparison. ■

Data: Benefits of Green Buildings

Impact on Annual Operating Costs of Green Buildings

Sixty-six percent of retail respondents and 51% of hotel respondents report that they see decreases in the annual operating costs of their green buildings compared to the operating costs of non-green buildings.

Retail

The average decrease in operating costs reported for retail is 8%. This is consistent with several other studies conducted by McGraw Hill Construction, including the 2013 *World Green Building Trends SmartMarket Report*, which reported an 8% operating cost reduction for new green buildings and a 9% reduction for green retrofits (according to owners, architects, engineers and contractors in 62 countries), and the Siemens/McGraw Hill Construction 2012 *Achieving Higher Building Performance Report*, which found that high performance retrofits provided annual operating cost decreases of 8% in the higher education sector, 10% in the office sector and 11% in the health care sector.

Hotel

The hotel data, however, do not correspond to data on other sectors. The average savings in this sector is only 1%, although the median savings is 4%. There are multiple factors that would diminish the impact of efforts made by hotels to reduce annual costs. The biggest is the ability of guests to control the energy use in their space. One expert on sustainability in the hotel sector who participated in the in-depth interviews affirmed that guests often feel freer to engage in wasteful practices, including leaving the lights on, turning up the heat or air conditioning and taking longer showers, than they do at home because they feel that they have paid for the privilege of doing so.

The data from the hotel sector are also unusual because a large percentage of hotel owners (50%) report higher energy use in their green buildings, but nearly all of those seeing reductions noted levels of 10% or more, with almost half finding that their reductions exceeded 20%. This suggests that many hotel owners have found strategies that effectively address the unique challenges of this sector and that investment in those strategies can see strong returns. More education on strategies used in high-performing hotels could help increase interest in green building overall by helping more hotels achieve similar savings.

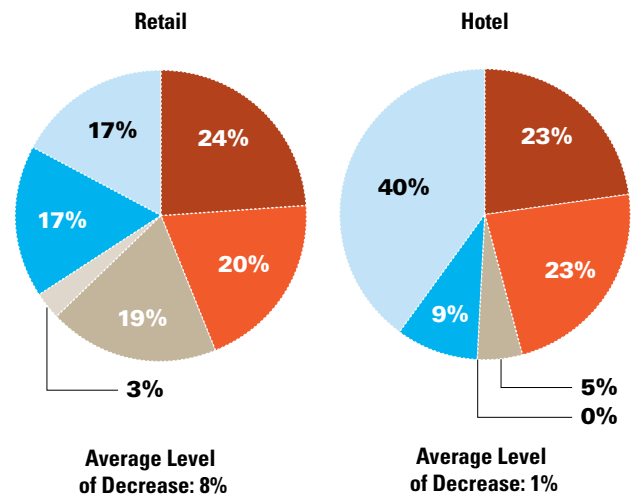
Restaurant

Three quarters of restaurant owners found that operating costs were higher in green buildings. This represents a significant challenge to green building investments in this

Impact of Green Buildings on Annual Operating Costs

Source: McGraw Hill Construction, 2013

- Decreased 20% or More
- Decreased 10%–19%
- Decreased 5%–9%
- Decreased 1%–4%
- Stayed the Same
- Increased



sector, and more research is needed to address how to reduce their consumption of water and energy.

Contractor Findings

Sixty-six percent of contractors believe that their green retail, restaurant and hotel projects reduce annual operating costs, with the largest percentage expecting reductions in the 5% to 9% range. These findings are typical of savings reported on green building projects in other sectors in previous *SmartMarket Reports* looking at the office, education and health care sectors. The differential between the owner and contractor responses suggests that contractors may assume that green operations will have the same impact in the retail, hotel and restaurant sectors as in other sectors. Consequently, contractors may benefit from more information about the challenges facing these three sectors to help improve their impact on final building performance.

Impact of Green Building on Energy Use

Fifty-eight percent of retail/restaurant owners and 67% of hotel owners report reduced energy use in their green buildings compared to non-green buildings. While only 10% of hotel owners report seeing an increase in energy use in their green buildings, 16% of the retail/restaurant owners find this to be true, and the percentage of retail owners reporting an increase (18%) is much higher than restaurant owners (9%). In the retail sector, there is close correspondence among those seeing a negative impact on their energy consumption and annual operating costs. However, the restaurant finding is at odds with the previous data, which found that annual operating costs are higher in green buildings for most restaurant owners (see page 14). This reinforces the need for more research about the impact of green building on annual operating costs in the restaurant sector.

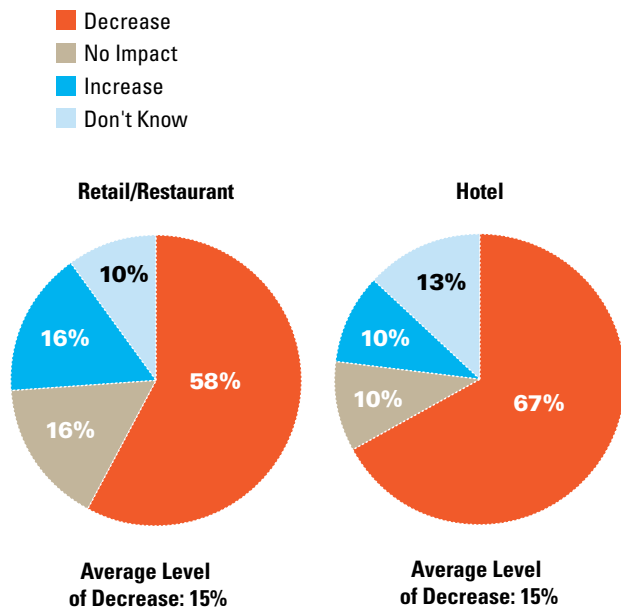
However, owners in both the retail/restaurant and hotel sectors report an average 15% decrease in energy use, a remarkably consistent and positive result, although it should be noted that the median decrease for retail owners is 10%, reflective of the 29% of retail/restaurant owners reporting tremendous energy savings of 20% or more.

The customer-focused nature of retail may account for both the owners who find increased costs and those who report very strong savings. Compared to other sectors, retail/restaurant owners employing technologies that enhance the customer experience and still save energy may have greater opportunities to make gains given their emphasis on flattering lighting and strong temperature control. Conversely, some retail/restaurant owners may be willing to sacrifice energy performance, even in their green buildings, if they anticipate a negative impact on customer experience. The in-depth interviews conducted with sustainability leaders in the retail sector support this conclusion. All emphasized the cost savings and business benefits they were able to achieve with green building, but they also cautioned that any changes to their buildings had to be considered based on the impact on their stores' bottom lines and their customers.

Interestingly, no statistically significant differences exist in all three sectors between owners doing a higher percentage of green buildings and those doing less in terms of the impact on energy use they observe—either the overall impact or level of reduction. This suggests that the energy use reductions achieved do not depend on the green expertise of the owner. They may also be reflective of the relative ease in measuring energy use.

Impact of Green Building on Energy Consumption Compared to Non-Green Buildings

Source: McGraw Hill Construction, 2013



Contractor Findings

Sixty-six percent of contractors report energy use reductions in their green retail/restaurant and hotel projects, which corresponds to the owner findings. Unlike the owners, the level of green building engaged in by contractors influences the likelihood that they have observed energy use reductions.

Contractors Reporting Energy Use Reductions (By Level of Green Activity):

- More than 60% green projects: 71%
- 31%–60% green projects: 83%
- 16%–30% green projects: 67%
- 15% or fewer green projects: 52%

These findings may be influenced by several factors, including greater green expertise leading to better results or broader awareness of reductions.

Impact of Green Building on Asset Value

Sixty-one percent of retail owners and 71% of hotel owners find that the asset value of their buildings increased as a result of green improvements. About two thirds of the restaurant owners report asset value increases as well, consistent with the retail findings, despite the small number of restaurant respondents.

The impact on asset value reported by all respondents is considerable.

Average Increase in Asset Value:

- Retail Owners: 7%
- Restaurant Owners: 12%
- Hotel Owners: 11%

In order to encourage investment in green improvements in hotels, this finding is particularly important. Hotel buildings frequently change hands, and therefore, hotel owners may not be encouraged to make green investments based on typical payback periods for energy and water savings. However, an 11% increase in property value could easily help justify many green improvements to the property.

Variation by Percentage of Green Buildings in Portfolio

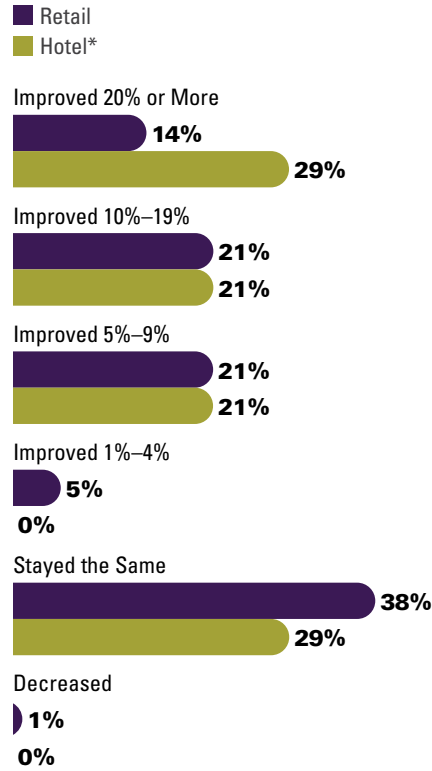
Retail owners that have more than 50% green buildings in their portfolio estimate the average asset value increase for green at 9%, while those with fewer green buildings estimate an average asset value increase of 5%. Owners that have more than 50% green building activity also report higher asset values than those with less, although the difference between those groups is narrower at a two percentage point difference.

These findings suggest that greater green experience enhances the ability to create more asset value through green improvements. This could be due to a number of different factors, such as greater knowledge about the financial impact of green by owners with more green buildings, or the ability of owners with more green buildings to capitalize on their green reputation in the resale of their buildings.

There were no significant differences between hotel and restaurant owners based on level of green involvement.

Impact on Building Asset Value Due to Green Improvements

Source: McGraw Hill Construction, 2013



* Based on Small Sample Size

General Contractor Findings

General contractors' estimation of the impact of green on building value closely corresponds with that of the retail and hotel owners, with 67% recognizing that green building improvements increase the value of retail and hotel buildings.

However, about one third of those recognizing the benefit expect the increase in asset value to be less 5%, and about one third expect it to be between 6% and 10%. In other research conducted by McGraw Hill Construction, contractors are often more conservative in their estimates about the scale of benefits achieved from green, and this finding corresponds with that general trend. This more conservative result may mean, however, that contractors are not emphasizing asset value increases as heavily as other benefits of green, which is a lost opportunity with owners who consider this a strong benefit.

Sustainability and Asset Value in the Hotel Industry

Although, for now, the impact of sustainability on hotel asset values may be extremely difficult to quantify, in the future, it is unlikely that hotels will be unable to retain value without it.

The hospitality industry is heavily committed to built assets, consumes copious quantities of electricity, trembles at water shortages, and—as the plummet in occupancy rates during the recession made clear—is largely dependent on discretionary spending. According to Deloitte’s Hospitality 2015 report, sustainability is set to become “a defining issue for the industry in 2015 and beyond.”

Quantifying the Impact

In the North American market, however, quantifying the impact of sustainability on hotel asset value presents a challenge. According to Jones Lang LaSalle’s Global Real Estate Transparency Index 2012, the North American real estate market is only “semi-transparent” with regard to sustainability requirements and measures. As hotel REITs do not report on sustainability factors, investors are left with limited ability to register a preference for green.

Even within a hotel’s own portfolio, gauging the impact of sustainability on asset value can be difficult. The development team at Marriott Hotels, an early adopter of the U.S. Green Building Council’s LEED Volume Program, recently looked into whether properties have sold at a premium due to LEED certification. “Due to the variations of properties, we have not been able to demonstrate that LEED hotels are higher valued at this time,” said Karim Khalifa, Senior Vice President, Global Standards, at Marriott.

Furthermore, the Great Recession floored hotel investment, green or otherwise. “Many hotel owners are still licking their wounds,” says David Marvin, president of Atlanta-based Legacy Property Group. “Green initiatives that save an operator money and effort, like encouraging guests not to have their sheets and linen laundered every day, are prevalent, but real new investment in green has been limited over the past five years.”

Value as a Function of Cash Flow

If sustainability’s impact on asset value is hard to quantify directly, it still registers: As investments, hotels are valued principally on net operating income. On that basis, the value of sustainability to investors lies in its impact on cash flow, which comes down to two things: cost and revenue.

“Green’s most tangible opportunity to impact value is in utility cost savings,” says Marvin. Lights are on in significant portions of a hotel’s floor area 24 hours a day, for example. Suppose investing \$100,000 in new, high-efficiency fixtures in these areas yielded \$30,000 to \$40,000 per annum in utility savings. Capitalized, these savings could boost asset value by \$300,000 to \$500,000.

“So much of the value that you capture is dependent upon your disposition,” says George Favaloro, Managing Director in PwC’s Sustainable Business Solutions

Group. “Franchisees and owners that embrace sustainability make great progress with it. Skeptics don’t allow themselves to access its value.” Skeptics are a diminishing number, however, notes Favaloro. “Sustainability is a growing phenomenon.”

Drivers for Sustainability

The hospitality industry’s level of attention to sustainability over the last seven or eight years shows a “very significant jump,” according to PwC’s benchmarking. Major chains all now have substantial sustainability programs, bringing the hotel industry on par with other sectors.

Moreover, the industry has introduced effective ways of standardizing sustainability indicators, such as Green Key and Green Engage, which make hotels’ sustainability status increasingly legible. And with online booking services, checking a hotel’s green status takes just one click. A recent survey by TripAdvisor found 79% of travelers attach importance to eco-friendly practices in accommodations. And a Deloitte survey of business travelers found 95% believed the hotel industry should be undertaking green initiatives.

“By 2015, the consumption of goods and services seen as environmentally irresponsible is likely to be challenged by new social norms,” Deloitte predicts. “Luxury items [like hotels]... risk being seen as increasingly unacceptable.” ■

Impact of Green Building on Building ROI

Hotel owners report a stronger positive impact on building ROI than retail/restaurant owners. The average ROI increase due to green building improvements for hotels is 14%, with a median value of 10%, while retail owners report an 8% average increase, with a median of 5%. The difference is even more pronounced when looking only at retail buildings and excluding restaurants. Owners of retail buildings only report an 8% average increase. Restaurants trend in the middle with about a 12% average and 10% median.

It is likely that this result is directly influenced by the increased asset value noted by hotel owners. Since hotels have a short ownership cycle, increased asset value has a more immediate impact on building ROI. Not only are hotel owners more likely to experience this benefit sooner, but they also report higher results (see page 16).

However, retail owners are still reporting significant gains, with over two thirds reporting improved ROI, and most of them evenly split between increases of 5% to 9%, 10% to 19%, and 20% or more. The data suggest that restaurants in general see higher ROI than typical retail buildings. This may be due to the frequency with which restaurants change hands, with the sale of the building or its value as a space to be leased impacting its overall ROI more than a traditional retail store.

Variation by Percentage of Green Buildings in Portfolio

As with asset value, retail owners with a higher percentage of green buildings in their portfolio also experience greater improvements in ROI. The average percentage of ROI improvement by those with more than 50% green buildings is 11%, compared to 7% for those with fewer green buildings. Many of the same factors explaining the differential in building value no doubt impact this finding.

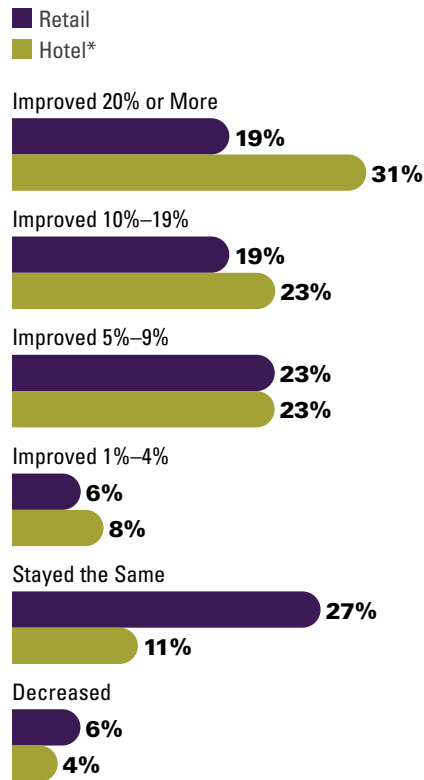
There is no significant difference for hotel owners based on the size of their green portfolio, probably because most of the hotel owners that see ROI improvements report them at high levels.

Variation by Level of Personal Green Involvement

Retail respondents that had a high level of personal involvement in green find that their buildings achieve an average of 16% ROI improvement. This is significantly higher than those with more minimal personal involvement with green, who only see a 5% increase.

Impact on Building ROI Due to Green Improvements

Source: McGraw Hill Construction, 2013



* Based on Small Sample Size

As with the other green factors, there is no significant difference among hotel owners based on their level of green involvement.

Impact of Green Building Activities on Worker Health and Well-Being

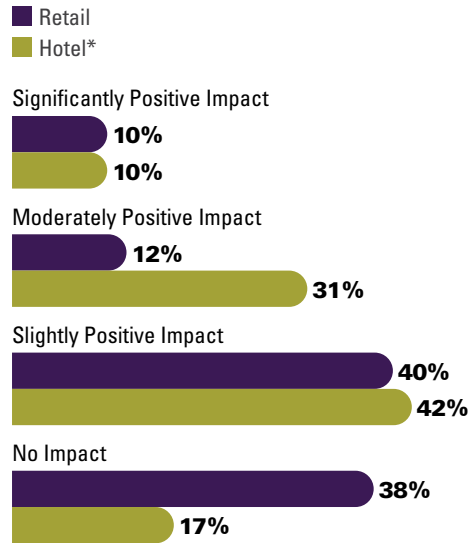
Sixty-two percent of retail owners and 83% of hotel owners find that their green building activities have a positive impact on worker health and well-being. A high percentage of restaurant owners (85%) also note an overall positive impact, although nearly all restrict the impact to being slightly positive. However, this difference reinforces the importance of health-related concerns, particularly in the hotel and restaurant sectors.

Fifty-four percent of retail owners with 50% or more green buildings in their portfolio report moderately to significantly positive impacts. Although not statistically significant, the same trend can be seen among hotel and restaurant owners. However, owners doing more green projects do not see stronger impacts, like those with more green buildings in their portfolios. This finding suggests that owners particularly value their green operations and maintenance initiatives for their health impacts, even more than the green systems installed in buildings.

82% of retail respondents with a high degree of personal involvement with green also see positive impacts on worker health and well-being due to green building, perhaps due to greater awareness of impacts.

Impact of Green Building Activities on Worker Health and Well-Being

Source: McGraw Hill Construction, 2013



* No Retail or Hotel Respondents reported a negative impact

Impact of Waste Reduction

One key finding in this study is that waste reduction is very important to retail and hotel owners. Increased recycling is an important aspect of green building for nearly two thirds of the retail (62%) and hotel (63%) owners; in fact, increased recycling is second only to improved energy efficiency in the percentage of retail owners who find it important (see page 24). In addition, the largest percentage of retail owners (77%) require green waste handling practices over any other type of green product or practice, and the second highest percentage of hotel owners (73%) do the same (see page 52).

These sectors put such a high value on sustainable waste management because they devote so much of their budgets to waste. Therefore, increased recycling and sustainable waste management practices in their operations and maintenance can typically save them money, especially in regions with expensive waste markets. For

example, the InterContinental Barclay Hotel in New York City has saved \$1,500 a month due to recycling and \$600 a month due to composting. In the 2010 *Green Building Retrofit and Renovation SmartMarket Report*, Founding Farmers Restaurant in Washington, DC, noted 40% cost reductions due to operational standards like solid waste recycling, composting, oil recycling and green cleaning. Savings are not confined to hotels and restaurants alone: the Lincoln Plaza office building in Dallas, TX, featured in a case study in the 2011 *Business Benefits of Green Buildings SmartMarket Report*, also reported annual waste removal expense savings of \$55,679.

The 2010 *Sustainable Construction Waste Management SmartMarket Report* revealed that 72% of contractors find sustainable waste management to have a positive impact on client satisfaction, a critical business factor encouraging wider adoption.

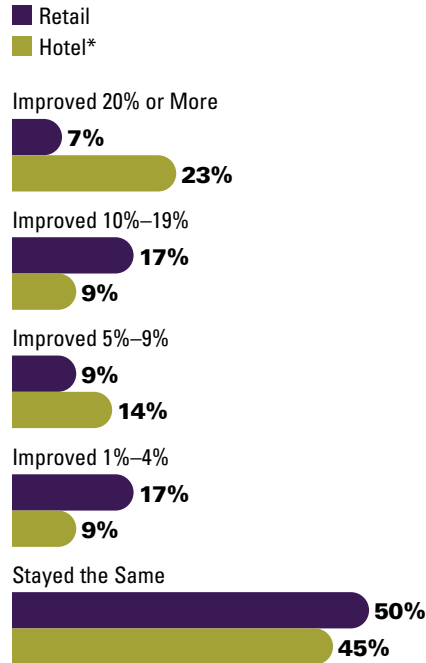
Impact of Green Building on Sales Velocity and Customer Traffic

Fifty-five percent of hotel owners and 50% of retail owners find that their green building efforts have a positive impact on sales velocity and customer traffic. The largest percentage of retail owners report increases in the 1% to 4% and 10% to 19% range, but most of the hotel owners seeing increases report improvements of over 20%. Over one third of the restaurant respondents also report increases of over 10%. All of these findings demonstrate the strong business impacts of green investments and the more positive results reported by the hotel sector.

Among retail owners, this impact is particularly pronounced among those committed to green. **63% of those doing 50% or more green projects see a positive impact, compared to 38% of those doing a lower percentage of green work.** This suggests that having a sufficient number of green buildings allows retail owners to better capitalize on their efforts, probably by gaining a reputation as a green retailer.

Impact of Green Buildings on Sales Velocity and Customer Traffic

Source: McGraw Hill Construction, 2013



* Based on Small Sample Size

Impact of Green Buildings on Building Occupancy Rates

While the number of respondents to this question overall is small in both the hotel and retail sectors, **the data still suggest that hotels see significant benefits on their occupancy rates from their green efforts.** Nearly half of the respondents (46%) in the hotel sector report increased occupancy rates, and the majority see increases on the order of 15% or higher.

Increased occupancy is likely to be a factor in the improved ROI reported by green hotels, and it may even help increase their building asset value. For hotels, occupancy is critical for profitability and a closely watched metric, especially in conjunction with revenue per room.

Retail respondents see less impact, with most reporting no impact on their occupancy rate as a result of their green improvements. While hotels clearly see

that having a green building influences a guest's choice, owners of retail buildings believe their potential tenants have less interest. This may be influenced by the fact that there are fewer designations at the consumer level for distinguishing green retail stores than there are for distinguishing green hotel buildings. Until consumer demand for green stores is more evident, retailers are less likely to consider green to be an important factor in their leasing decisions, especially since as tenants, their operational costs are a minimal part of their budget.

The size of the retailer appears to have no impact on the findings, with those that do \$20 million worth of construction work or less per year reporting the same impact as those that do more than \$20 million worth of construction.

Impact of Green Building Activities on Customer Satisfaction

Sixty-nine percent of hotel owners report that their green building activities have a positive impact on customer satisfaction. Many factors could contribute to this finding, including hotel guests wanting to maintain the same standards of sustainability that they have at home. In addition, McGraw Hill Construction’s green studies in other sectors, such as residential and office, find a link between green and the perception of higher quality, a factor that could be even more important in a sector like hotels, where guests are seeking luxury. Finally, green could be linked in some consumers’ minds with better health.

45% of retail/restaurant owners report a positive impact on customer satisfaction. Green building activities may be less visible to customers in the retail and restaurant sectors than they are in the hotel sector, which could lead to less direct customer response.

Variation by Level of Green Activity

In all sectors, greener owners see stronger customer satisfaction. **86% of hotel owners and 57% of retail/restaurant owners whose construction projects are 50% green or more find increased satisfaction**, compared to 45% and 37% of hotel and retail owners with less green involvement, respectively. An owner with more green buildings may have a stronger green reputation, leading to greater customer awareness of its green efforts and thus, increased satisfaction.

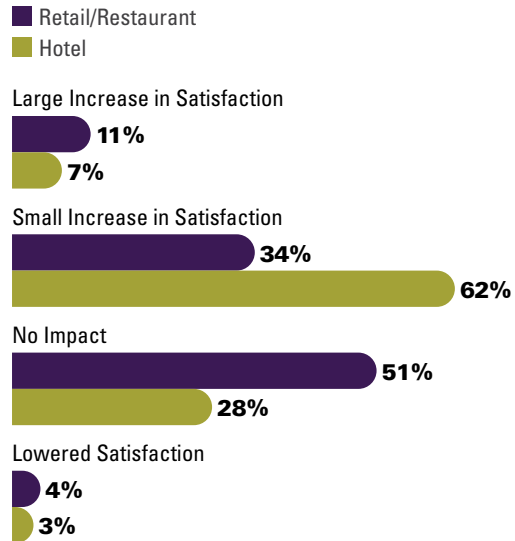
Variation by Level of Personal Green Involvement

Retail respondents with any level of personal green involvement report more customer satisfaction than those with no personal green involvement. In fact, among those with a high level of green involvement, 60% report that customer satisfaction is increased, compared to 29% among those with no level of green involvement.

Hotel respondents follow a similar pattern, with all of those highly involved with green reporting increased customer satisfaction, compared to only 56% of those with no green involvement reporting increased customer satisfaction and 64% of those with some green involvement.

Impact of Green Building Activities on Customer Satisfaction

Source: McGraw Hill Construction, 2013



There are several factors that underlie these results. Those most actively involved with green may be more optimistic about their customer response to green due to the way they engage with customers. On the other hand, they may also have more exposure to data on green trends among consumers and have greater awareness of the impact that green can have on customers.

Leadership Through Green Building in the Supermarket Sector

Price Chopper Supermarkets

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS

Grounded in a tradition of social responsibility and strong ties to its local communities since it began operating in 1933, the supermarket chain Price Chopper has a strong green building program that is focused on constructing its new stores according to green building principles and making sure its existing stores undergo green retrofits and renovations.

The supermarket chain currently has four LEED certified buildings from the U.S. Green Building Council in its inventory. Three of those were certified under the LEED for Retail pilot program—two have received silver certification and one gold certification. The other is the LEED gold certified corporate headquarters building in Schenectady, NY. The company has 12 additional projects registered for LEED certification, and they anticipate another four more will be registered within the next month.

This green building program stems from a strong corporate commitment that originates with the Chairman of the Board and the CEO. The company's current policy is to ensure that all new ground-up construction of Price Chopper supermarkets minimally achieve LEED certification.

Price Chopper's green building strategy and LEED certification efforts are managed and directed by Joe Berman, the manager of corporate social responsibility and the LEED AP BD+C for the company. Berman was hired in 2009 when the company embarked on its green building efforts, and it became clear early on in the process that they would benefit from having a LEED-accredited internal resource who could shepherd projects from



The Malta, NY, store location is a greener supermarket as a result of significant efficiency upgrades to its refrigerated foods section.

within the firm rather than relying on external LEED consulting services.

Using LEED as a Framework for Evaluating Progress

Price Chopper uses LEED guidelines as their main framework for evaluating their progress on green construction projects. Berman says, "We utilize LEED as a set of guide wires for best management practices and for tracking and quantifiably improving our environmental performance." He adds that they have found that structuring their building program through the LEED rating system has helped them effectively organize their building process at a strategic level. "The ability to develop and manage critical document packages that accompany your building process, such as your

owner's project requirement, basis of design, site design criteria, master design criteria, and all those types of foundational documents that identify for all project participants what your best management practices are, has helped us define in a lot of ways what our building process necessitates at a foundational level," says Berman.

In addition to its new sustainable construction efforts, the company is also aggressively retro-commissioning its existing stores. According to Berman, their approach is to use the performance enhancements they have seen through their commissioning process under LEED for New Construction as a guide when undertaking their retrofit and renovation activities. Berman says, "We are taking the new technologies we have deployed that have produced substantial

Price Chopper Supermarkets

incremental efficiencies in our new constructions, and we are using those technologies in our retrofits and renovations and integrating them into the existing facility systems.”

On all of their green projects, Berman points to the important role of Benny Smith, the Vice President of Facilities for Price Chopper. According to Berman, Smith’s engineering background, his involvement on FMI’s energy committee, and his involvement in the U.S. EPA GreenChill partnership since its inception seven years ago, have greatly benefitted the company’s current green building efforts. He says, “Benny has prioritized systems efficiency and has renovated and retrofitted with new efficient technologies for such a long period of time that trying to capture LEED certification was actually something that was not very difficult for us.”

Operational Cost Savings a Major Benefit but Not the Whole Picture

The supermarket chain has seen a variety of benefits as a result of their green building efforts. They have realized a substantial reduction in operational costs for their facilities resulting from a strong emphasis on energy efficiency. They continue to see cost reductions across their existing stores as they aggressively swap out older technology, be it HVAC, lighting or refrigeration, with the highest efficiency equipment available on the market. Berman states, “We’ve become more effective at achieving operational efficiency, and it’s made the operation of our buildings more

effective from a cost perspective.”

Price Chopper has also been recognized as an environmentally sustainable and socially responsible corporation, and has seen ancillary brand-related and market-related benefits as a result, including an increased ability to attract customers. “I think that customers absolutely will gravitate toward something that they think is philosophically aligned with what it is they prioritize.” Berman says. He also points to factors such as the use of daylighting through skylights, LED lighting and improved indoor air quality as a result of a higher rate of air exchanges that contribute to growing customer appreciation of their stores.

In addition, the company is seeing benefits from talking to customers and stakeholders in the communities where they do business about their sustainable business approach and the associated positive environmental and social impacts.

Refrigeration a Unique Challenge for Greening Supermarkets

Because of its need to operate and maintain large refrigeration units, Price Chopper has seen challenges, not just on the energy efficiency side, but also regarding the environmental impacts of the refrigeration itself—both in terms of global warming potential and ozone depletion potential.

The company has been on the forefront of the industry shift towards developing systems and design approaches that quantifiably minimize the impact of refrigeration. Price Chopper is a multiple GreenChill award-winning

refrigeration design company and has adopted some of the most energy-efficient building systems available for their type of operation in the industry. Berman states, “We were the first supermarket chain in North America to possess a CO₂ cascade for low temperature refrigeration system, and we were an early adopter of CO₂ low temperature refrigeration system design at our Colonie, NY, store location.”

Social Responsibility Is the Overarching Driver Behind Green Efforts

According to Berman, several factors have encouraged Price Chopper to embark on its green building program and invest in green efforts. One of the primary factors has been the cost savings associated with green building and green retrofitting and renovation. Other important drivers according to Berman are the desire to adopt critical industry best management practices and the public relations, marketing and branding benefits resulting from green buildings. However, Berman points out that the overarching factor behind their green building program is the desire to reduce the environmental impact of their operations because it’s the right thing to do. He says, “At baseline, we want to be a socially responsible company. It’s something that’s been part of our core corporate value structure for 81 years now, since we were born as an organization. We really feel that building environmentally sustainable buildings is a very tangible way of demonstrating that core corporate set of values and embodying that within the communities that we do business in.” ■

Data: Value of Green for Owners and Customers

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS DATA

Importance of Aspects of Green Building

The unique demands of the different building sectors have a strong influence on the aspects of green building considered important by the respondents.

Retail/Restaurant

RETAIL

The highest percentage of retail owners select energy efficiency as the most important aspect of a green building. This is consistent with research conducted previously by McGraw Hill Construction on the office, health care and education sectors as well. **Despite this high level, the 73% of retail owners considering energy efficiency important is not only low compared to the restaurant and hotel sectors (both of which are above 90%) but also low compared to previous research by McGraw Hill Construction on other sectors.** However, it is worth noting that all of the retail respondents with a high personal involvement in green find improving energy efficiency important.

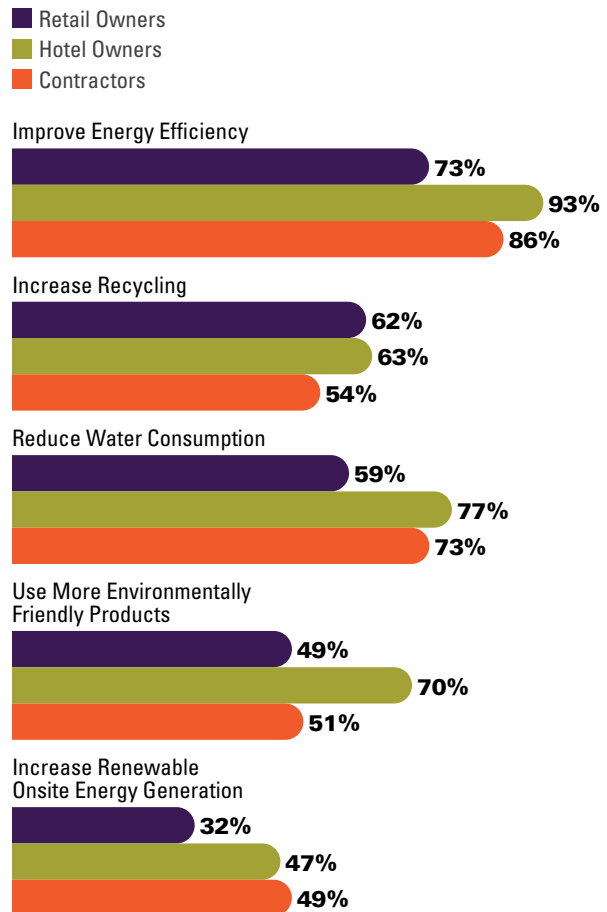
One factor that may contribute to this finding is the fact that many retail stores are leased, and therefore, building owners may not pay for the energy bills, leading to less interest in energy savings. In addition, many retailers may be more interested in the quality of light and customer experience than in energy savings because of the impact of an appealing environment on sales. Green leases, concern by retailers that they be perceived as green by their customers and continuing improvements in the quality of energy-efficient lighting may all help address these concerns in the long run, but currently they create less interest in energy savings in this sector.

Recycling is a close second to energy in importance to the retail sector, with 62% considering this aspect important. Dealing with waste is a considerable expense in this sector, and the high level of awareness on the operational side has also manifested in a strong degree of concern on the building side.

A significantly higher percentage of retail owners doing more than 50% green projects find energy consumption (84%), water consumption (71%) and recycling (76%) more important, compared to those doing less green work. In addition, a high percentage of retail respondents with a high personal involvement with green find reducing water consumption (83%) important. This is consistent with the typical priorities of companies more highly engaged in green work in other McGraw Hill Construction studies.

Aspects of Green Building Considered Most Important

Source: McGraw Hill Construction, 2013



RESTAURANT

Nearly all restaurant respondents consider energy efficiency an important aspect of green building. Unlike in typical retail buildings, energy costs account for a much larger share of a restaurant's budget due to the high cost of cooking and ventilation. Even a small reduction could offer a strong payback in this sector.

Over two thirds of the respondents also find that water conservation is an important green building element. Restaurants also typically use a much higher volume of water per square foot than other businesses, so again the direct cost savings make water conservation more of a priority.

Hotel

Nearly all hotel owners consider energy conservation to be very important, but water conservation is also important—selected by 77%, a very high percentage.

Unlike retail owners, hotel owners are typically directly responsible for their utility bills, and their business makes them high energy and water consumers.

A large percentage (70%) of hotel owners note the importance of using environmentally friendly products.

These can include both products that reduce material resource consumption and products that have a positive impact on indoor environmental quality. Hotels may have a particular interest in being able to promote their spaces as healthy. Also, consumer awareness of green is often associated with resource conservation, and using products clearly made from recycled materials, like reclaimed wood, can be visible representations of green commitments to hotel guests. Given the importance hotels give to consumer awareness of green (see obstacles on page 38), these products may hold a particular appeal in this sector.

Contractor Findings

Unlike the majority of the contractor questions in this study, for this topic contractors were asked about the general importance of aspects of green building, rather than asked to rate them according to their importance in

the retail or hotel sector. Therefore, their findings mirror findings that have typically emerged from previous McGraw Hill Construction studies of green building in other sectors, such as office and health care.

Energy efficiency is considered important by 86%, followed by water conservation at 73%. All other factors were selected as important by roughly half of the contractors, suggesting that they are widely recognized as important green elements, but that energy and water conservation are considered fundamental.

All five aspects of green building also tend to be selected by a higher percentage of contractors doing more green work, compared to those doing less green work, with nearly all the firms that do more than 60% of their projects green reporting that energy and water conservation are important, and roughly two thirds reporting that the rest of the categories are important.

There is also a trend for a higher percentage of general contractors to find most of the green aspects important compared to specialty trade contractors. The only exception is the use of renewables, which slightly more specialty trade contractors consider important. General contractors will typically be involved in all aspects of a green building, whereas specialty trade contractors may be less involved in some and more involved in others, depending on their trade.

Most Important Green Operations and Maintenance Activities

A limited number of owners in the retail, restaurant and hotel sectors also indicated the most important green operations and maintenance (O&M) activities. While the number of respondents is too low to do a full quantitative analysis, certain trends emerge from their responses.

■ **Reducing Water Consumption Is Highly Important in O&M:** For all three sectors, reducing water consumption was mentioned by the highest percentage of respondents. While water is important to hotel owners in new construction as well, it ranks second to energy, with a 16 percentage point difference (see page 24).

- **Energy Is Important for Retail and Hotel:** Energy tied with water with the highest number of mentions in the hotel sector, and it closely followed water in the retail sector. While mentioned by a low percentage of restaurant owners, it was one of only three features—water, energy and recycling—mentioned by these owners.
- **Recycling Is the Only Other Important Green O&M Activity:** Recycling is the only other aspect mentioned by one fifth or more of the owners from all three categories. Among hotel and restaurant owners, it ranks second, while for retail owners, it ranks third.

Value That Building Owners Place on Green, According to Contractors

Contractors find that hotel building owners place a much higher value on green building than do owners of retail buildings. In fact, the percentage of contractors who think that hotel owners place a moderately high to high value on green buildings is twice as high (44%) as the contractors that see the same interest in retail owners (22%).

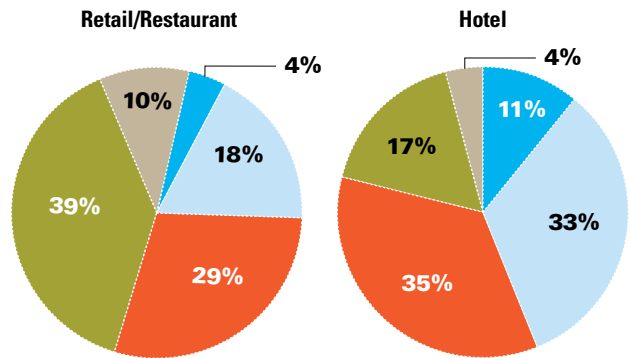
The greater importance of green building to hotel owners could be due to a number of factors. Hotels may find that having green buildings makes them more appealing to corporations, which may be more likely to host meetings and encourage employees to stay in green hotels to meet their corporate sustainability goals. In addition, consumer sites used to select hotels have begun to differentiate green buildings. Finally, there may be some owners that regard green hotels as a better investment with a higher market value than non-green hotels.

It is also notable that there is no statistically significant difference reported in the value owners place on green buildings in either the retail or the hotel sector between the percentages of contractors that do a large percentage of their work green compared to those doing fewer green projects as a percentage of their overall work. There are also no statistically significant differences in the percentage of contractors by region. This demonstrates broad agreement across the industry that is not biased by the amount of green projects done by any of the respondents or the region in which they work.

Value That Owners Place on Green Buildings (According to Contractors)

Source: McGraw Hill Construction, 2013

- High Value
- Moderately High Value
- Moderate Value
- Low Value
- No Value



Impact of Eco Fee on Hotel Owners' Decision to Build Green

An eco fee involves guests paying extra to stay in a room constructed and operated according to strict green standards. Eco fees are still an unusual practice in the industry in the United States. In fact, even the green leaders in the hospitality sector interviewed for the in-depth interviews were not familiar with eco fees as a hotel practice.

Most of the hotel owners surveyed do not think that having an eco fee would encourage their company to invest more in green buildings, with only 20% agreeing that greater investment is likely. In addition, two thirds of the hotel owners are concerned that the institution of an eco fee would anger guests and therefore damage their brand. Strikingly, as many of the owners strongly agree with this concern as those who just agree.

However, there is less agreement about the impact of an eco fee on guest perception of a hotel's sustainability efforts. With far fewer in strong agreement or disagreement about the positive impact of using an eco fee, it seems that hotels are seeking opportunities to promote their green efforts to current and potential guests. It is critical, though, for any hotel with such a fee to make sure the overall experience fully lives up to the impression of sustainability created by the fee.

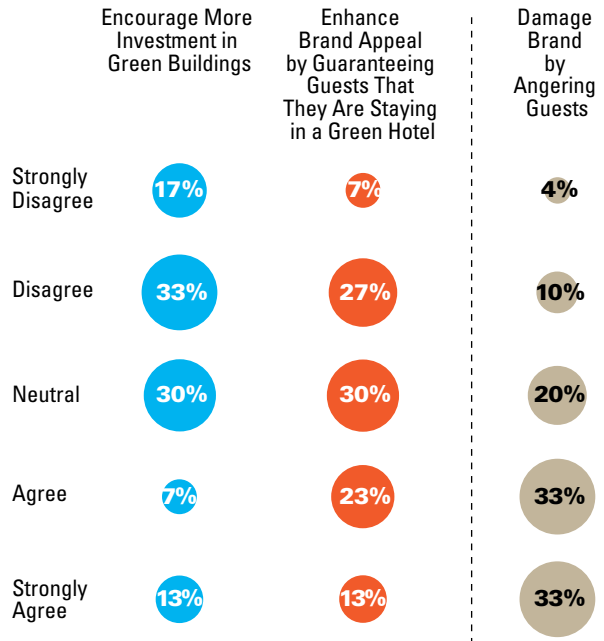
However, there may be one market in which an eco fee may be expected. There is a niche group of eco-resorts that, according to the June/July 2013 issue of *National Geographic Traveler Magazine*, is growing and becoming more sophisticated. Since these resorts are associated with extreme green practices and may be located in protected natural settings, guests have demonstrated willingness to pay extra for these guarantees. A key difference is that the additional fee in this market is tied into the overall guest experience, similar to a resort fee, instead of being perceived as an additional expense on a normal hotel room stay. While this model may not be widely applicable, it does support the importance of connecting green to the overall guest experience of the hotel.

Variation by Level of Personal Green Involvement

Hotel owner respondents with a high personal involvement with green are more neutral about whether an eco fee would encourage greater investment in green building by their company, with 67% falling in this category. However, none of these respondents agree, still suggesting an overall lack of support for an eco fee as a way to encourage greater green investment.

Impact of an Eco Fee (According to Hotel Owners)

Source: McGraw Hill Construction, 2013



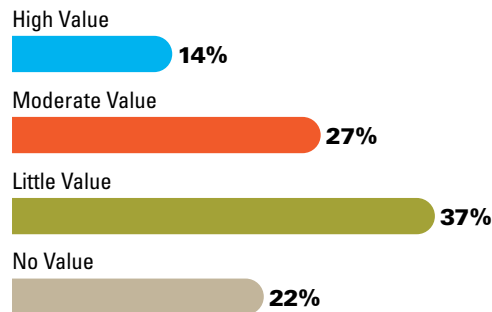
Value Customers Place on Shopping in a Green Building, According to Retail Owners

Forty-one percent of retail owners indicate that customers place moderate to high value on being able to shop in a green building, whereas 59% indicate that customers place little or no value on this factor. This finding is consistent with our findings on page 32, which show that business factors such as lower operating costs (66%) and utility rebates (63%) are more important as drivers than protecting/enhancing brand image (51%) and increasing customer satisfaction (38%) in the decisions of retail owners to construct new green buildings.

This result suggests that retail owners see green buildings primarily as a significant opportunity to cut expenses and secondarily in terms of the customer experience. It also suggests that, in the retail industry, customer interest in sustainability and green may be more focused on the impacts associated with products they buy rather than the impacts of the buildings in which they shop.

Value Customers Place on the Ability to Shop in a Green Building (According to Retail Owners)

Source: McGraw Hill Construction, 2013



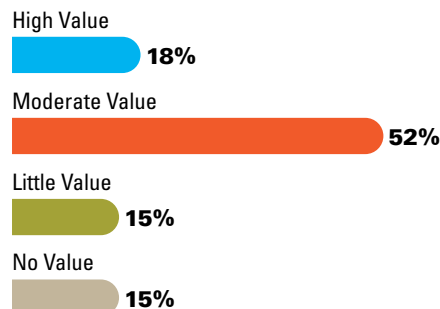
Value Guests Place on Staying in a Green Hotel, According to Hotel Owners

Seventy percent of hotel owners report that guests place moderate to high value on the ability to stay in a green hotel, while only 30% say guests place little or no value on this factor. This finding is consistent with our findings on page 33, which show that protecting or enhancing brand image (73%) and increasing customer satisfaction (53%) are among the top factors driving new green buildings according to hotel owners. It is also in line with the responses received from hotel owners in our in-depth interviews, which reveal that green buildings are seen as tied to the core mission of innovation that provides brand identity and that guest loyalty due to sustainability initiatives helps with brand competitiveness.

Hotel owners view customer interest in green as a more significant factor influencing the customer experience in a green building, compared to retail owners. This is not surprising, given that the hotel industry thrives on the customer experience of their hotel space, whereas in the retail industry, the customer interest on green and sustainability is centered on the products for sale rather than the space in which they are purchased.

Value Guests Place on the Ability to Stay in a Green Hotel (According to Hotel Owners)

Source: McGraw Hill Construction, 2013



One niche area of the hotel industry where guests clearly place value on green hotels are eco-lodges. (See page 27 for a discussion of eco-lodges.) However, this finding demonstrates that the value of green for hotel guests extends beyond this specialized market.

Data: Triggers and Obstacles

Influence of Key Project Players on Whether a Project is Green, According to Contractors

According to the contractors surveyed, the influence of key project players when determining whether a project is green is roughly the same between the hotel and retail sectors.

Owners are the most influential players on the decision to make a project green in both sectors. This finding is not surprising, given the fact that the owners not only determine project budget and scope, but they also will see the most benefit from operating cost savings resulting from a green building. This is also the reason why this report focuses on owner opinion; they are the player that ultimately determines the level of investment in green activity.

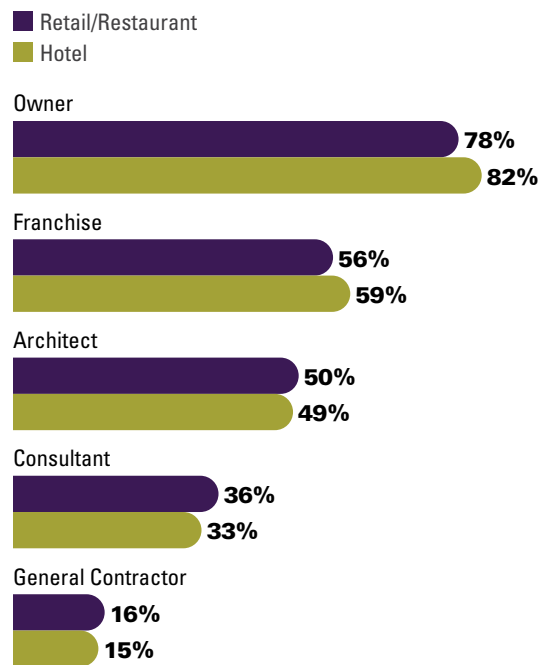
The second most influential player on the decision to make a project green is the franchise. With well over half of the contractors agreeing on the influence of the franchise, it is clear that they play a big role. For many retail outlets and hotels, franchises create prototype designs for building construction, and these can include green elements. In addition, many franchises that do not directly own properties will require design and construction reviews to make sure that the buildings correspond with brand requirements.

About half of the contractors also find the architect very influential. The most successful green projects are designed from the start with the intention to achieve specific green goals, so it is not surprising that architects are also recognized as influential in making projects green.

Strikingly, contractors do not believe that general contractors have a very large influence on the ability to green the project. This may suggest that they believe that very few decisions that can influence building performance are still possible once construction begins in these sectors. However, even the contractors that are involved in design on more than 10% of their hotel or retail projects still find that contractors in general have a relatively low influence level, with only 21% in the retail sector and 18% in hotels believing that general contractors influence the decision to go green. While this percentage is higher than the other contractors, it is not a dramatic difference and still suggests that contractors believe they have far less influence on green decisions than architects or consultants. This may be due to the fact that design firms have more aggressively engaged in green building, or it may reflect a limited role for general contractors in the design process in terms of establishing the fundamental goals of a project. Interestingly, there

Influential Players on the Decision to Make a Project Green (According to Contractors)

Source: McGraw Hill Construction, 2013



are no meaningful differences in the estimation of the influence of the general contractor between general contractors and specialty trade contractors, which further reinforces the validity of this finding.

However, contractors do play an important role in final product installation decisions, which can have dramatic impact on the “greenness” of a project. Therefore, it is important that contractors recognize that they can influence the end result of the project.

Factors That Influenced the Decision to Build Green

The highest percentage of retail and hotel owners report being influenced to build green by financial factors, including operating cost savings and financial gains. These findings are consistent with McGraw Hill Construction's studies of green markets in other building sectors like office, health care and education, in which immediate business benefits were the most widely influential of all factors in the decision to build green.

While restaurant owners align with the retail and hotel owners by ranking operating cost savings and financial gains first, a much higher percentage of restaurant owners consider these factors strongly influential, compared to the other two sectors. While the limited number of restaurant respondents prevents firm conclusions from being based on this data, the findings reveal that helping restaurants achieve operational cost savings is critical to accelerate its adoption of green building practices.

The degree of influence of the remaining factors varies sharply by sector.

Retail and Restaurant

Retail and restaurant respondents closely correspond in the percentage that consider the remaining factors influential in their decision to build green. **Over 40% consider human impacts and sustaining or improving the volume of business significantly influential.**

- **Retail:** The association of retail businesses with positive human impacts may be critical, as well as concerns about staff productivity. Also, the growing interest in sustainability among the general public and in the retail sector makes being green increasingly relevant to garner customer loyalty and interest.
- **Restaurant:** Clearly restaurants benefit from being associated with healthy practices, and restaurants also have high productivity demands from their employees.

Brand and public relations (PR) advantages are key drivers for the lowest percentage of retail/restaurant respondents, but with over one third considering them important, they clearly has some influence. That influence may grow as green becomes more standard in these sectors—and if the public becomes more vocal about their expectations of green building from their retailers.

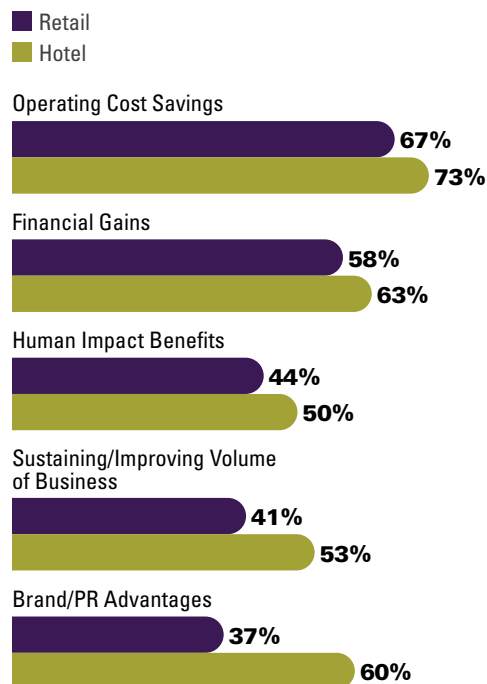
VARIATION BY LEVEL OF GREEN ACTIVITY

Not surprisingly, **all factors are considered more influential by retail owners that engage more in green building, with a higher percentage of owners doing**

Factors That Influenced the Decision to Build Green

(By Percentage of Respondents Highly or Somewhat Highly Influenced)

Source: McGraw Hill Construction, 2013



50% or more green projects considering these factors influential, compared to those doing a lower percentage of green projects.

However, there are two factors for which the differences are great enough to be statistically significant.

- **Operating Costs**
 - Owners Doing 50% or More Green Projects: 79%
 - Owners Doing Less than 50% Green Projects: 55%
- **Financial Gains**
 - Owners Doing 50% or More Green Projects: 68%
 - Owners Doing Less than 50% Green Projects: 48%

Retail owners doing more green projects also report seeing greater financial gains (see page 16), which may demonstrate that in the retail sector, the more green work you conduct, the greater the benefits you are able to reap, which in turn encourages more green building investment. The level of expected adoption growth (see page 10) appears to bear out this conclusion as owners steadily increase their green investments. In addition, 92% of retail respondents with a high level of personal

green involvement report that operating cost savings influenced their decision to do green projects.

Because of the small number of restaurant respondents, there were no significant differences in their responses by level of green activity. However, all the restaurant respondents with a high level of personal green involvement were influenced by financial gains.

VARIATION BY SIZE OF OWNER

Large retail owners (those with 100 buildings or more) also report being more influenced by operating cost savings and financial gains, compared to those with fewer buildings, with 84% reporting operating cost savings to be influential and 74% reporting financial gains. One influential factor may be the ability of owners of large retail building portfolios to take advantage of economies of scale when incorporating green products, technologies and processes into their buildings, making these investments more profitable.

Hotel

The influence of brand and PR advantages is much stronger in the hotel sector than in the retail sector.

The sustainability experts from the hotel sector who participated in the in-depth interviews affirmed that corporate and leisure customers are increasingly considering the level of sustainability as a factor in their choice of a hotel, even if it is not yet a critical deciding factor, and they regard sustainability as particularly important in encouraging brand loyalty.

Over 80% of hotel respondents with a high level of personal green involvement report being influenced by all these factors, including 83% by human impact benefits, 83% by the opportunity to sustain/improve their volume of business, 92% by operating cost savings, and 100% by financial gains and brand/PR advantages.

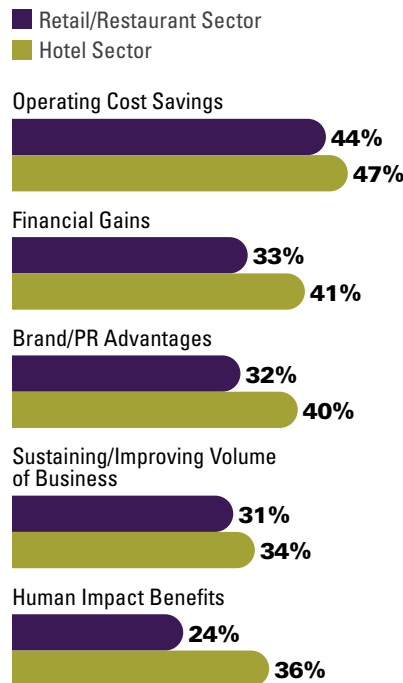
Contractor Findings

Contractors consistently underestimate the influence of most of these factors on owners, with a much lower percentage reporting that owners are influenced by these factors than the owners themselves report. This finding is important because contractors can influence the green decisions made on a project, especially those that involve product selection. Misconceptions about the critical factors that are driving their clients to build green can have significant consequences. For contracting firms that are seeking to grow their green business, they must not underestimate the influence that green building goals can

Factors Influencing Owner’s Decision to Build Green

(According to the Percentage of Contractors That Find Owners Highly or Somewhat Highly Influenced)

Source: McGraw Hill Construction, 2013



have on convincing owners to invest in green.

One factor that is particularly underestimated by contractors is the influence of human impact benefits in these sectors. A focus on productivity, high personnel costs and an emphasis on providing healthy spaces for their customers and guests make this factor important in the retail and hotel sectors; it ranks above brand/PR advantages in the retail sector and sustaining/improving business in the hotel sector.

However, the higher the percentage of green work done by contractors, the more they recognize that these factors hold weight for each of these sectors. Thus, the percentage of contractors doing over 60% of their projects green that rank these factors as influential closely aligns with the percentage of owners that do. This could be due to a few factors, including greater experience on the part of green contractors with owners doing green work in these sectors or greater knowledge of the influence of green drivers in general. Other contractors will need to follow suit in order to compete in this market.

Impact of Business Factors on Decision to Engage in Future Green Projects

Retail

Retail owners (66%) report that lowering their operating costs and increasing their net operating income (NOI) is the most important factor influencing their decision to undertake future green building projects. Retail owners can cut expenses through green and energy-efficient design and construction of new stores. These owners expect that the expense of green building strategies will be offset by lifecycle savings in energy and water consumption and lower operational costs.

The fact that 63% of retail owners consider utility rebates a driver behind their decision to engage in future green projects suggests that they may be planning energy-efficient initiatives and encouraged to move forward more quickly if incentives are available.

Improving ROI is the third most important factor motivating retail owners in their future green project decisions. This is consistent with the findings from other studies conducted by McGraw Hill Construction on green building in the office, health care and education sectors, where improving ROI has consistently ranked among the top drivers to increased levels of green activity.

CONTRACTOR PERCEPTION ON IMPORTANT TRIGGERS FOR RETAIL OWNERS

While contractors clearly recognize the importance that retail owners place on lowering operating costs, they may put too much emphasis on this, as their focus on increases in energy costs suggests. They should also consider that factors like improving ROI and protecting or enhancing brand image are the third and fourth most important drivers for retail owners.

VARIATION BY LEVEL OF GREEN ACTIVITY

A higher percentage of retail owners doing 50% or more green building projects consider all of the factors important, compared to those doing less green building. The most significant differences include:

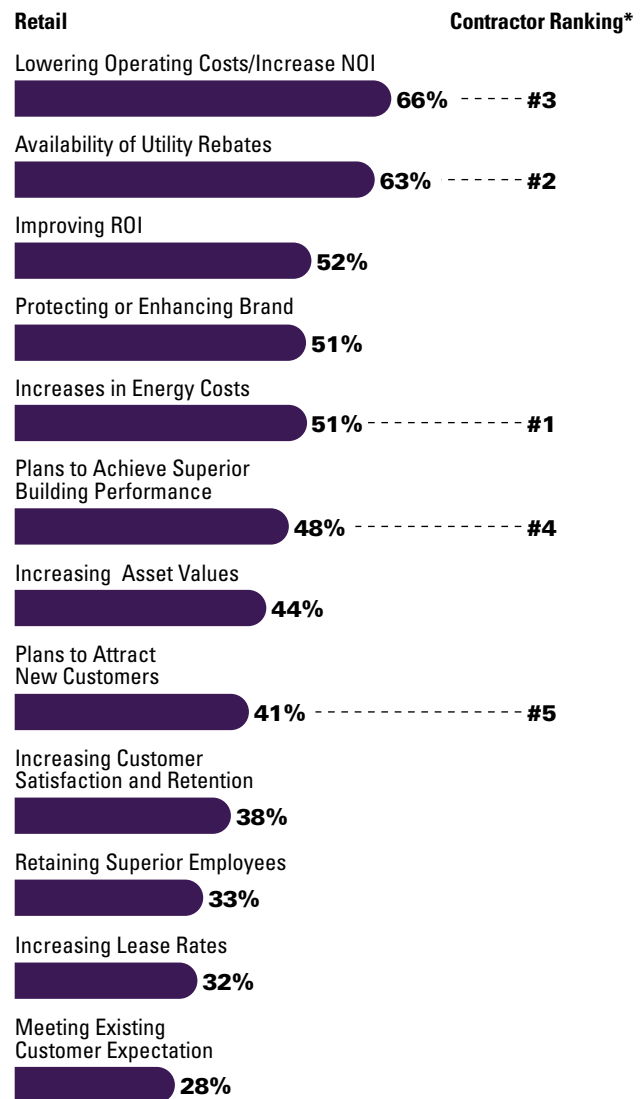
- **Plans to Achieve Superior Building Performance:** 63% of owners with 50% or more green projects
- **Increase in Energy Costs:** 63% of owners with 50% or more green projects
- **Plans to Attract New Customers:** 53% of owners with 50% or more green projects

VARIATION BY SIZE

There is one significant difference by firm size among retail owners: 63% of owners with 100 or more buildings are impacted by plans to achieve superior building performance, compared to 38% with fewer buildings.

Impact of Financial/Business Factors on Decision to Engage in New Green Retail Projects in the Next Two Years (According to Retail Owners)

Source: McGraw Hill Construction, 2013



*Only factors ranked first by more than 5% of contractors selected

Hotel

Higher percentages of hotel owners report that financial/business factors affect their decisions to undertake new green building projects compared to retail owners, but for the most part, both trend similarly.

However, the findings also reveal two areas in which hotels strongly prioritize business factors:

- 73% of hotel owners report that protecting or enhancing their brand will prompt them to engage in new green building projects over the next two years.
- 50% of hotel owners indicate that meeting existing customer expectations will also be a key factor in their decision to build green.

Given the competitive nature of their industry, it is not surprising that hotel owners find protecting or enhancing their brand just as important as lowering operating costs. In fact, most major hotel brands have incorporated some type of sustainability platform into their brand, and sustainability initiatives such as green buildings are highlighted in marketing materials and annual reports.

While not statistically significant, a considerable difference exists between retail and hotel owners when it comes to the impact of increased asset values as a trigger to future activity: 60% of hotel owners report that it is a driver to future green activity, versus only 44% of retail owners. The ownership structure prevalent in the hotel sector, which mostly consists of investors motivated by bottom-line financial returns, may explain the importance of asset values in the hotel sector.

CONTRACTOR PERCEPTION ON IMPORTANT TRIGGERS FOR HOTEL OWNERS

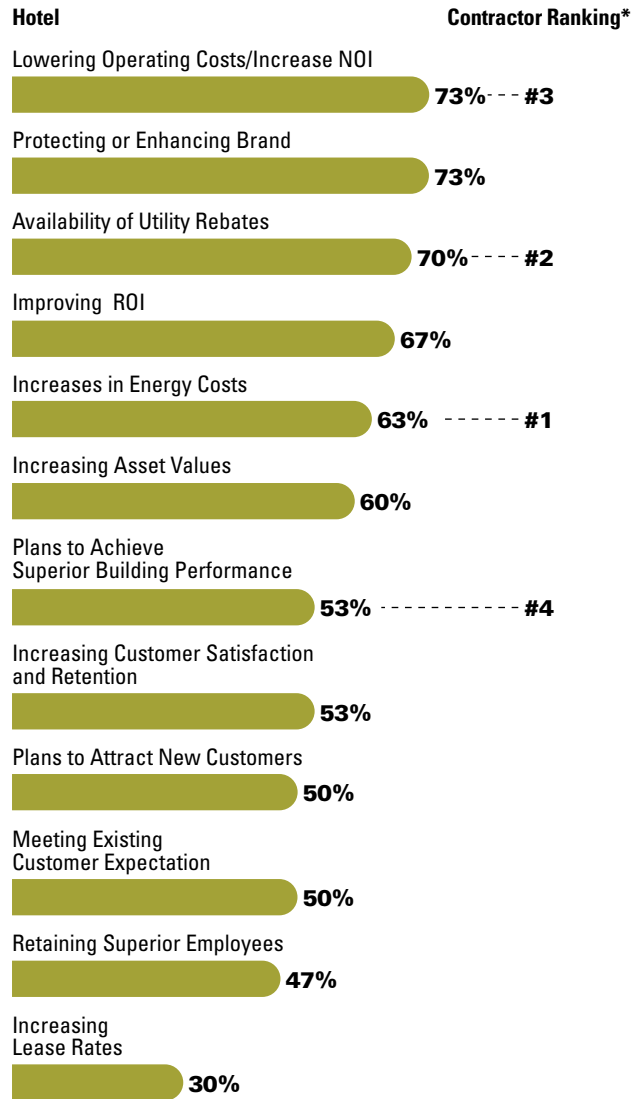
In the hotel sector, contractors also recognize the importance of cost savings, but they would benefit from greater recognition of other drivers. Protecting or enhancing brand image is the second most important driver for hotel owners, motivating future green investments as much as lowering operating costs; however, most contractors currently do not rank it as important to owners. Emphasizing this factor when pursuing green work will help them increase their effectiveness in this sector.

VARIATION BY LEVEL OF GREEN ACTIVITY

A significantly higher percentage of hotel owners doing 50% or more green projects report that attracting new customers (64%) and increasing lease rates (50%) are important factors in their decision to engage in future green activity, compared to those doing less green.

Impact of Financial/Business Factors on Decision to Engage in New Green Hotel Projects in the Next Two Years (According to Hotel Owners)

Source: McGraw Hill Construction, 2013



*Only factors ranked first by more than 5% of contractors selected

Contractor Findings

As noted, contractors do not rank many of the factors that owners consider important as highly as the owners do. Those seeking to do more green work will capture opportunities by giving more consideration to factors driving their clients to build green beyond cost savings.

Impact of Non-Business Factors on Decision to Engage in Future Green Projects

Retail

Retail owners are strongly influenced by government actions in the marketplace. **70% report that local, state and federal government regulations and standards will impact their decision to engage in new green building projects over the next two years.** Retail owners consider this the most influential non-business factor impacting their decisions on future investments.

This may be explained by the rapidly evolving regulatory landscape for sustainable design, construction and performance of commercial buildings. Numerous local green building ordinances have recently been passed to increase energy efficiency, reduce greenhouse gas emissions and reduce waste and other harmful environmental impacts. What began with subsidies for greater energy efficiency now includes expedited permitting for LEED buildings, and in some cases, requirements that all new (generally larger) buildings meet LEED standards. Moreover, many states have tightened their energy codes for new construction and major renovations, and some major cities now require large commercial buildings to annually report and disclose their energy and water usage.

Also, due to the availability of government and utility-based incentives, owners and managers of large retail facilities can now feasibly generate a larger share of their own energy onsite from alternative and renewable energy sources. Large retailers, such as Walmart, have taken advantage of such opportunities primarily through solar installations on their rooftops and in their parking lots.

VARIATION BY LEVEL OF GREEN ACTIVITY

Retailers that are more heavily involved in green construction are more likely to have future activity driven by government regulations.

79% of retail owners that construct 50% or more of their buildings according to green building standards, indicate that government regulations influenced their decision to pursue future green projects. This compares to only 55% of retailers at lower green activity levels.

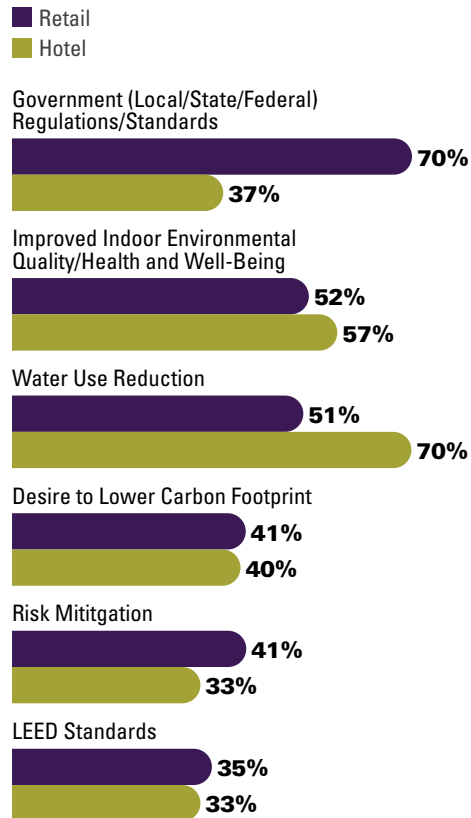
VARIATION BY SIZE

Findings reveal that there is a significant difference based on firm size as well.

82% of large retailers (those with 100 or more buildings) report that government regulations play an important role in their decision to pursue green projects in the next two years. This compares to only 56% of smaller retailers (100 or fewer buildings) stating the same.

Impact of Non-Business Factors on Decision to Engage in New Green Projects in the Next Two Years

Source: McGraw Hill Construction, 2013



Hotel

Only 37% of hotel owners report that government regulations and standards will have an impact on their decisions to undertake future new green building projects.

This difference could be due to the fact that market forces have already forced hotel owners to embrace sustainability and pursue green building projects that go beyond what is mandated by government regulations. Given the competitive nature of the hotel sector and the challenges to increasing revenue, the potential for reduction of operating costs and giving customers a satisfying experience provides a compelling incentive for hotel owners to consider investment in green buildings and efficient operations.

Our findings show that hotel owners are significantly more concerned about water savings than retail owners. 70% of hotel owners report water use reduction as a factor in their decision to engage in future green building activity, compared to only 51% of retail owners.

This finding is not surprising given that water usage

comprises a big portion of the operating costs of hotels. A majority of it is used for cleaning, laundry, landscaping and cooling. According to the U.S. Environmental Protection Agency, water use by the hotel and lodging sector accounts for approximately 15% of the total water used in commercial and institutional facilities in the U.S. As a result, water reduction strategies are likely to play an important part in the green building decisions of hotel owners.

Variation by Respondent's Personal Green Involvement

A respondent's personal involvement with green plays a role in the hotel sector on the impact of non-business factors in future decision making. Those highly involved find the following factors more influential: desire to lower their carbon footprint (67%), mitigate risk (67%) and reduce water use (100%). For retail, the only significant difference is for water reduction, reported as an important factor in future decisions by 75%.

Impact of Business and Non-Business Factors on Decisions to Engage in Future Green Retrofit Activity

Owners were asked an optional open question about whether the business factors and non-business factors they evaluated for new construction (see pages 32–35) have a different impact on their decision to engage in green retrofit projects in the next two years. While the number of responses was very low, they do trend similarly to the responses from owners on factors that impact their decision on future new green building projects.

Business Factors

- **Hotel respondents:** Over one third indicate that cost savings due to energy and water savings are important factors in their decisions to engage in future green retrofits.
- **Retail respondents:** Close to one third indicate the importance of operational cost savings due to energy efficiency, and water and waste reduction in future activity decisions. Approximately a third also list increases in ROI, asset value or customer satisfaction as important. Less than a third mention any other factors.
- **Restaurant owners:** About one half indicate cost savings being influential in driving green retrofits.

Non-Business Factors

- **Hotel respondents:** Two-thirds cite the importance of water use reduction as a motivating factor in their decision to engage in future retrofit green projects.
- **Retail respondents:** Close to a quarter find government regulations and approximately another quarter see cost savings as influential factors in future activity.
- **Restaurants:** Most influenced by government regulations and water use savings.

Aside from these findings, the responses do not reveal a clear dominant trend. Factors such as risk mitigation, reduced energy use and reduced water use are among those cited, but not by a large percentage. The low response rate may have reduced top-of-mind mentions for key factors like energy, which does indicate that energy efficiency is not the prevailing element in decision making, which is notable considering the energy reduction benefits of many retrofit activities. The case for green retrofits is clearly more complex.

Impact of Government Policies

Our findings reveal several differences between retail and hotel owners regarding the influences of various types of government policies on their decision to pursue new green projects. Note this refers only to respondents that cited that government policies as having an impact on their decision to engage in future green building activity (see page 34).

For retailers in particular, it is important to note the impact of different programs since for them, government regulation has a high impact in their decision to engage in future green building projects.

Energy and Water Use

Fifty-three percent of retail owners report that peak demand surcharges impact their decisions to pursue green projects, compared to 45% of hotel owners. This finding is not surprising given that the retail sector incurs the highest energy costs in the commercial building sector in the U.S. according to the U.S. EPA. Stores use energy mainly for lighting, heating, cooling and refrigeration, and mostly operate during the day when there is peak demand for electricity. As a result, there is a strong incentive for retailers to invest in energy efficiency.

Water restrictions and policing are slightly more important a factor for retail owners (45%) than hotel owners (36%). It is interesting that the presence of government regulation is not very influential at triggering hotel owner action in this area. This may be due to the strong water saving practices that have already taken hold in the hotel sector since the 1990s.

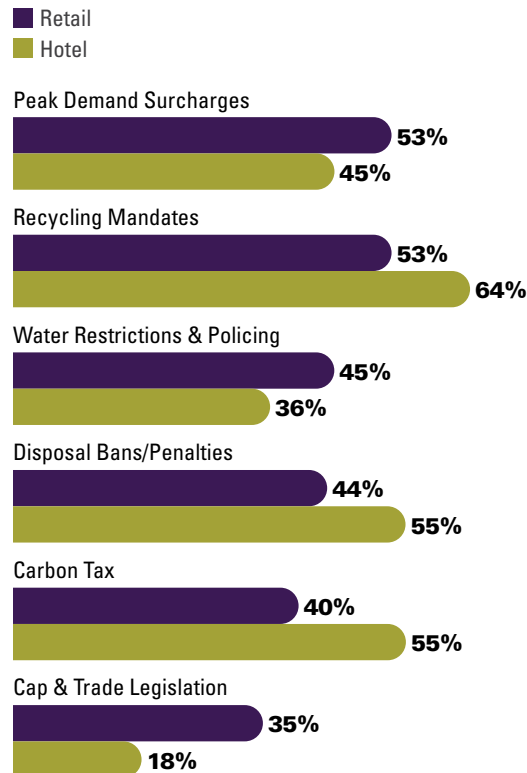
Waste and Recycling

Recycling mandates are as important as peak demand surcharges to retail owners, with 53% indicating that they are an important factor in their decision to undertake new green projects. This is not a surprise given the high volume of waste in the retail industry and the impacts that products, packaging and waste can have on the environment. Mandates include requiring retailers to charge a fee for use of plastic bags, providing a bin for collection of used bags and taking back electronic equipment for recycling.

Hotel owners are even more motivated by recycling mandates than retail owners. Sixty-four percent report that mandates have an impact on their decision to undertake green projects. This higher percentage of hotel owner responses may be due to the importance of having a recycling program available for hotel guests, who are a key driver of investments into sustainable operations at hotels.

Anticipated Impact of Government Policies on the Decision to Do New Green Projects (According to Owners Reporting Government to Be an Important Reason to Build Green)

Source: McGraw Hill Construction, 2013



Anticipated Legislation

Fifty-five percent of hotel owners influenced by government policies report that the potential passage of a carbon tax is a reason behind their decision to pursue green projects, compared to only 40% of retail owners. The multiple activities in a hotel and variability in heating and cooling from guest to guest may make hotels more vulnerable to a carbon tax than retail stores.

Retailers, on the other hand, consider anticipated cap and trade legislation more critical than hotel owners. 35% of retail owners report that such legislation is an important factor behind their decision to pursue new green projects.

Obstacles to Green Building and Major Renovations

Retail

HIGHER FIRST COSTS

The obstacle that is considered to have the greatest impact by owners in the retail sector is perceived higher first costs, with 47% finding this to have a strong impact on the decision to do new green building or green renovations. This finding corresponds to many other studies of green building in other sectors published by McGraw Hill Construction, including the 2013 *World Green Building Trends SmartMarket Report* and the 2012 *Achieving Higher Building Performance Report* (Siemens/McGraw Hill Construction), along with many others.

It also aligns with the consensus of the sustainability experts in the retail sector who participated in the in-depth interviews, all of whom agreed that, while green building activities with acceptable payback periods were being actively pursued by their firms, more expensive initiatives with longer payback periods were much less likely to proceed.

DIFFERENT BUDGET ACCOUNTING

Different budget accounting was another obstacle selected by a high percentage of retail owners, as well as hotel owners, as having a strong impact on their decision to do green building. Again, the same studies cited above also find this a typical problem, with the operations department benefiting from the savings, but any additional cost typically coming from capital budgets.

GREENWASHING

Concerns about greenwashing rank much higher among retail respondents than is typical in studies of green building in other sectors conducted previously by McGraw Hill Construction. This may be due to retailers' increased sensitivity about any claims that could be disputed due to wider exposure to advertising and other direct public relations, compared to other sectors like office, education and health care.

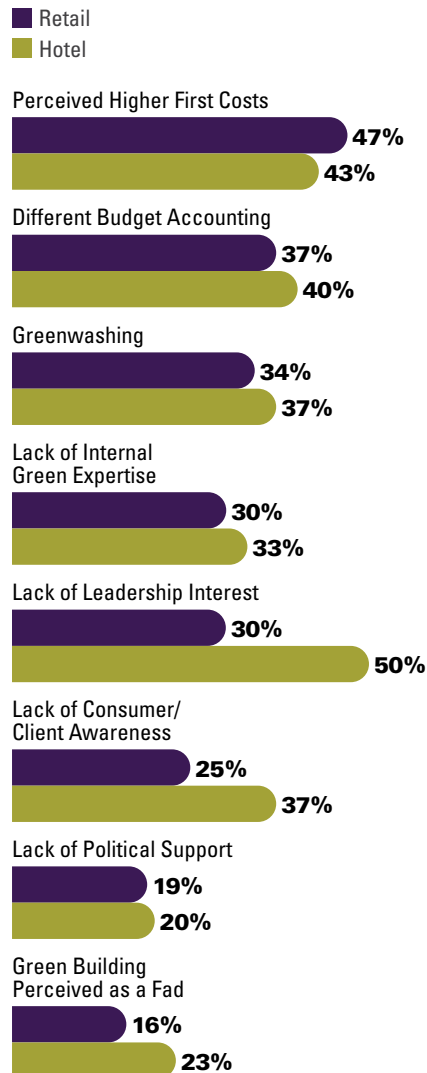
VARIATION BY SIZE

Forty percent of large retailers that conducted over \$20 million worth of construction projects in 2012 are concerned about the lack of internal green expertise within their companies, compared to only 23% of smaller retailers. This may be due to a couple of different factors. Larger retailers may handle more of their construction in-house, and therefore may be more aware of the gaps in their employees' knowledge of green. Conversely, smaller firms may have an expectation that they will

Obstacles to Decision to Engage in New Green Building and Renovations

(By Percentage of Owners That Consider Them to Have a High Impact)

Source: McGraw Hill Construction, 2013



rely on outside expertise for most construction issues, including green building, and therefore do not see lack of internal expertise as a constraint to their green activities.

Hotel

LACK OF LEADERSHIP INTEREST

The obstacle with major impact on the largest percentage of hotel owners is lack of leadership interest.

This may be attributable in part to the typical ownership structure of a hotel. Hotel chains, which would benefit most from factors like brand reputation and customer loyalty due to green, are typically franchises with no direct control over the building. For hotel building owners, the drive to do green projects must rely primarily on operational savings, and these may not be sufficient to compel leadership among investors/owners of large portfolios of hotel properties to undertake green projects. Interestingly, this is also the only obstacle which a significantly larger percentage of respondents with a high personal level of green involvement (83%) selected.

One factor that could help address this problem is the positive impact of green building on asset value (see page 16). Unfortunately, widespread recognition of this benefit across the industry is still emerging (see page 17), so leadership in the hotel ownership sector may not fully recognize the value of green building for their companies.

OTHER TOP HOTEL OBSTACLES

Many of the other top hotel obstacles correspond to those selected by the retailers, including concerns about higher first costs (43%) and different budget accounting (40%). A high percentage (37%) of hotel owners are also concerned about greenwashing, probably due to the same intensive customer focus as in the retail sector.

Lack of consumer/client awareness is also considered a major obstacle by 37% of hotel owners. With the brand/PR advantages a key factor in encouraging hotel owners to build green, consumer and corporate awareness and prioritization of green hotels is necessary to drive further green adoption in this sector. However, as sites like Trip Advisor, Travelocity and Expedia begin to identify green hotels for consumers, the level of awareness should rise, helping to develop this green market further.

VARIATION BY LEVEL OF GREEN ACTIVITY

There is a clear tendency for greener hotel owners—both those doing 50% or more green building projects and those with portfolios of 50% or more green buildings—to be more concerned about the lack of internal green expertise as an obstacle to conducting green projects, compared to hotel owners with fewer green projects and green buildings. In fact, almost two thirds of the owners with a high percentage of green buildings in their portfolios rate this factor as having a high impact on their green work, compared to less than one quarter among those with fewer green buildings. This may be in part due to the need to have staff well versed in both green

building and the hotel industry in order to tackle this sector's unique challenges effectively. As green building continues to gain traction in this sector, it is likely that the green expertise of the staff at large hotel companies will increase, making this less of a concern in long term.

VARIATION BY SIZE

Hotel owners with a high level of construction activity (\$9 million or more in construction in 2012) have a tendency to be less concerned about the lack of consumer/client awareness of green as an obstacle to green building projects. Only one fifth of them express this concern, compared to over half of those with fewer building projects.

Contractor Findings

Unlike the retail, restaurant and hotel owners, contractors were asked to rank the top obstacles for green building in the retail/restaurant and hotel sectors by order of importance. By far, **the greatest obstacle in both sectors according to contractors is higher first costs, selected by 85% of contractors as the top obstacle in the retail/restaurant sector and 68% in the hotel sector.** No other obstacle was selected as the most important by at least 5% of the contractor respondents. Given the emphasis placed on cost savings in construction projects, it is not surprising that contractors would overwhelmingly consider higher first costs to be the most significant obstacle. The recent recession has magnified this concern, with the low volume of work causing owners to expect lower costs for construction projects.

RETAIL/RESTAURANT

Contractors rank different budget accounting (23%) and lack of leadership interest (21%) as the second most important obstacles for the retail/restaurant sector, but only 4% of contractors selected greenwashing. This finding is not surprising given how greenwashing has faded as a challenge for other sectors, but a better acknowledgement of its challenge to this sector could help contractors work more effectively with retail/restaurant owners to make projects greener.

HOTEL

Contractors recognize the concerns that hotel owners have about different budget accounting and lack of internal green expertise. However, they underestimate the importance of concerns about greenwashing in this sector as well, with only 3% finding this to be a challenge.

Obstacles to Implementing Green Retrofits and Green Operations and Maintenance Practices

Retail/Restaurant

Retail and restaurant owners view the obstacles to implementing green retrofits and green operations and maintenance (O&M) practices very differently.

RETAIL

The three factors identified by the largest percentage of retail owners as obstacles to implementing green retrofits and green O&M demonstrate a strong need for retail owners to be able to make the business case for greening their existing buildings: high capital investment, lack of planning and execution resources and lack of leadership interest.

A lower percentage of retailers (18%) doing a high level of green building activity (50% or more of their projects) are concerned about lacking internal green expertise, compared to those doing fewer green projects (42%). This may suggest that establishing green expertise in one area of the company may help encourage wider green expertise in related divisions.

RESTAURANT

Restaurant owners share the concern that retailers have about high capital investment, with the highest percentage considering this factor to have a large negative impact. However, 41% of restaurant owners are also concerned about early adoption risk, ranking this obstacle second, as opposed to last for retailers. The data in this study support the conclusion that restaurants have been slower adopters of green than retailers, and restaurants also pose unique O&M challenges that may make a green approach more difficult to adopt.

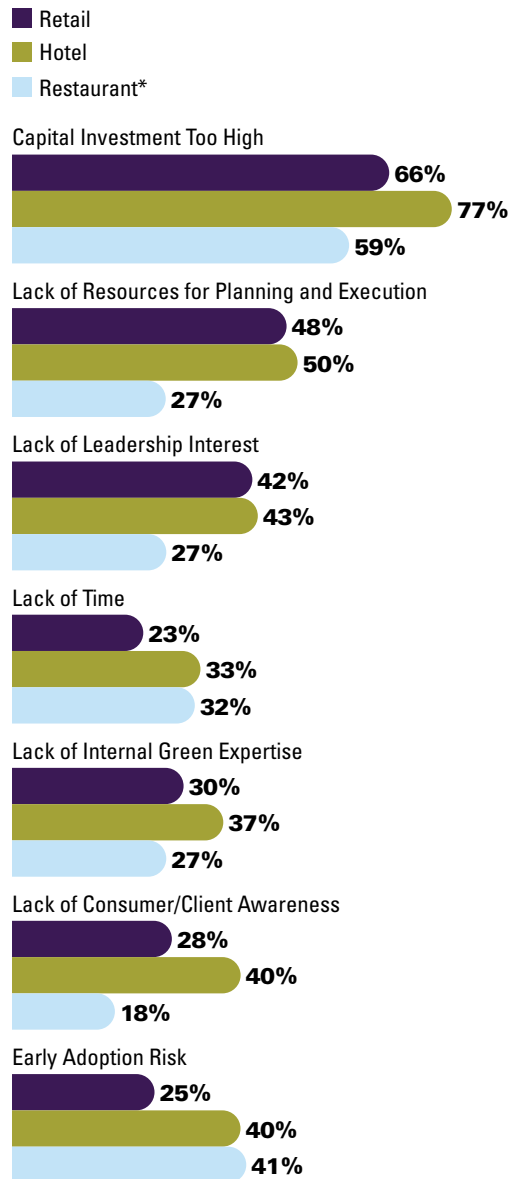
Hotels

In terms of ranking, the top three obstacles for hotel owners to green retrofit/O&M implementation are the same as in the retail sector: high capital investment, lack of planning and execution resources and lack of leadership interest. This demonstrates that making a strong business case would benefit this sector as well.

However, a high percentage of hotel respondents (40%) also consider lack of consumer/client awareness and early adoption risk as highly impactful. The concern about consumer awareness corresponds to other findings in this study that reinforce the importance of market demand for green to encourage more green buildings in the hotel sector. The concern about early adoption risk is more surprising, since a significant percentage of hotels have invested in green practices

Obstacles to Implementing Green Retrofits and Green Operations and Maintenance Practices

Source: McGraw Hill Construction, 2013



*Percentages for restaurants are based on low sample size and are shown for trending purposes only

already (see page 12 for percentage of green activity in this sector). However, given the unique challenges facing O&M in hotels, it is not surprising this sector would be somewhat conservative about changing its approach.

Eco-Restaurants Help Reduce Operational Costs and Improve Customer Satisfaction

Subway Restaurants



Subway's Eco-Restaurant in Kokomo, IN, was constructed primarily using recycled materials and reclaimed stone from the local region.

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS

The Subway restaurant chain, which is recognized as an industry leader in providing healthier options for consumers, is also strongly committed to making its restaurants and operations more environmentally responsible. Starting in 2007, as part of its "Eat Fresh, Live Green" initiative, the restaurant chain has been encouraging franchisees in the development of Eco-Restaurants that are designed with green elements that reduce energy and water consumption and waste.

Providing Support to Franchisees In Their Green Efforts

To date, the restaurant chain has 17 locations that they call Eco-Restaurants. Six of those locations are

LEED-certified, with one being LEED Gold, two LEED Silver and three LEED Certified. They have another four locations that are pending LEED certification. The remaining seven are certified as Eco-Restaurants through an internal process used by Subway that is similar to the LEED approach. Six of those restaurants are in the U.S. and one is located in France.

Subway's internal certification process involves two steps to get the right solutions in place for restaurants that are trying to become Eco-Restaurants. Elizabeth Stewart, who is the marketing director and also heads the corporate social responsibility efforts at Subway, explains, "As a first step, we make sure the solution meets the business needs and that it is cost saving, or cost neutral at worst. Then we incorporate those solutions

that meet the criteria into our standard feature for new and remodeled Eco-Restaurants." Franchisees that incorporate these standard features and rack up enough points qualify for the Eco-Restaurant label. These standard features include LED lighting, motion sensor lighting controls, low-flow faucets, low-flow or dual flush toilets, low VOC materials and Energy Star rated HVAC, ice machines, refrigerators and coolers. "Because we are a franchise organization, our goal is to make it as easy as possible for our franchisees to do their part to protect the planet. That's kind of an over-riding theme for what we do," says Stewart.

For those franchisees that are interested in incorporating more green features above and beyond the established standards, Subway offers secondary optional sustainable features. Pursuing LEED certification is one of those options. Stewart adds, "We have options that we don't mandate because it depends upon each franchisee's business model and whether the return on investment is right for them." Even though each franchisee is responsible for pursuing LEED certification for their own location, the retail chain provides the necessary tools in terms of best management practices and training that can help them in that endeavor.

Several examples of franchisees that have pursued optional sustainable features include the Eco-Restaurant in Kissimmee, FL, which uses solar tubes to bring ample daylight into the restaurant, thereby reducing lighting costs and improving indoor environmental quality; the Eco-Restaurant in Love's Park, IL, which utilizes geothermal energy for heating and cooling; and

Photo Courtesy of Subway Restaurants

CONTINUED

Subway Restaurants

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS

the Kokomo, IN, Eco-Restaurant, which was built as a stand-alone unit using reclaimed stone and recycled materials.

A Sustainable Mission and Energy Cost Reduction Drives Green Efforts

The green efforts at Subway stem from the commitment to social responsibility and sustainability embraced by the CEO and founder, which permeates the organization. Environmental leadership is one of the five pillars of the organization's social responsibility program, which focuses on energy efficiency, water and resource conservation, and waste reduction. The organization is involved in a host of environmental initiatives including a significant recycling/composting program with the goal to achieving zero landfill waste and cleaning practices that use green certified supplies. Stewart says, "It made sense that from that focus would come an effort that asked, what can we do to improve how a franchisee builds out a store from the get-go to make it as environmentally efficient as possible? Also, what can they do as they're operating the place to achieve environmental efficiency?"

Stewart explains that their previous focus was on running operations efficiently, but more from a labor perspective. However, as energy costs continued to rise, it became more important to have tools and options available to reduce energy use.

Solar tubes are used to provide daylighting at the Eco-Restaurant in Kissimmee, FL.

Improved Bottom Lines and Customer Satisfaction Are Key Benefits

According to Stewart, a key benefit of Subway's efforts to make its restaurants and operations more environmentally responsible has been improving the bottom lines of their franchisees while having a positive impact on the environment. For example, all of Subway's new and remodeled restaurants use low-flow water faucets that save an estimated 182.1 million gallons of water annually.

In addition, the organization is getting significant positive feedback from its customers about how important it is for them to eat at a green building run by an organization that cares about the environment. Stewart says, "We're evolving with what people are looking for in terms of what they want to eat and where they can feel good about eating."

Challenges to Mandating Green Solutions to Franchisees

Influencing the energy efficiency, resource conservation and waste reduction efforts at its restaurants has been a unique challenge for Subway. The restaurant chain encourages its franchisees to make

their buildings or remodeling efforts as environmentally responsible as possible, while also staying committed to helping them attain profitability and business growth. To that end, they provide them with tools and best management practices necessary in these efforts.

Stewart explains that green solutions have to pass the test of being cost-effective before they can become standard requirements for the retail chain's restaurants. "Green solutions aren't always cost-effective at the get-go. In those instances, when we know the solution is the right way to go in the long run, we implement it as an option and then sell it in as a best practice. As we get feedback from franchisees that it's really generating a savings or a benefit to the organization, and also as the technology improves and we see a cost reduction occur, we then implement it more broadly and put it into our standard." A good example Stewart says, is the LED technology used in their restaurants. Four years ago it was an option, but now it is a part of their standard build out.

The restaurant chain regularly communicates to its franchisees the estimated savings of greening efforts and tries to motivate them to improve their environmental efficiencies. ■



Metrics Used to Evaluate Green Building Impacts

The largest percentage of retail and hotel owners use decreased operating costs and return on investment as the metrics by which they evaluate green buildings. These findings correspond closely to research done on other building sectors by McGraw Hill Construction in earlier *SmartMarket Reports* including office, health care and education. A clear trend has emerged, both in the U.S. and globally, that business benefits and cost savings are the most important factors driving green building and therefore the most frequently tracked.

However, for other metrics, differences by sector emerge. A larger percentage of hotel owners use internal benchmarks for energy and water use to measure the effectiveness of their green building efforts, compared to retail or restaurant, with the difference in the use of energy benchmarks being statistically significant.

Another statistically significant difference is the wider use of emissions footprint reductions by hotel owners. One factor that may influence these results is the focus by large corporations on their sustainability goals, many of which now involve travel or meetings. Hotels may have corporate clients seeking more detailed information on these factors, leading to broader tracking across the industry. The fact that large hotel owners (those with more than 15 buildings in their portfolio) are more likely to track water use and emissions footprint than smaller hotel owners supports this conclusion.

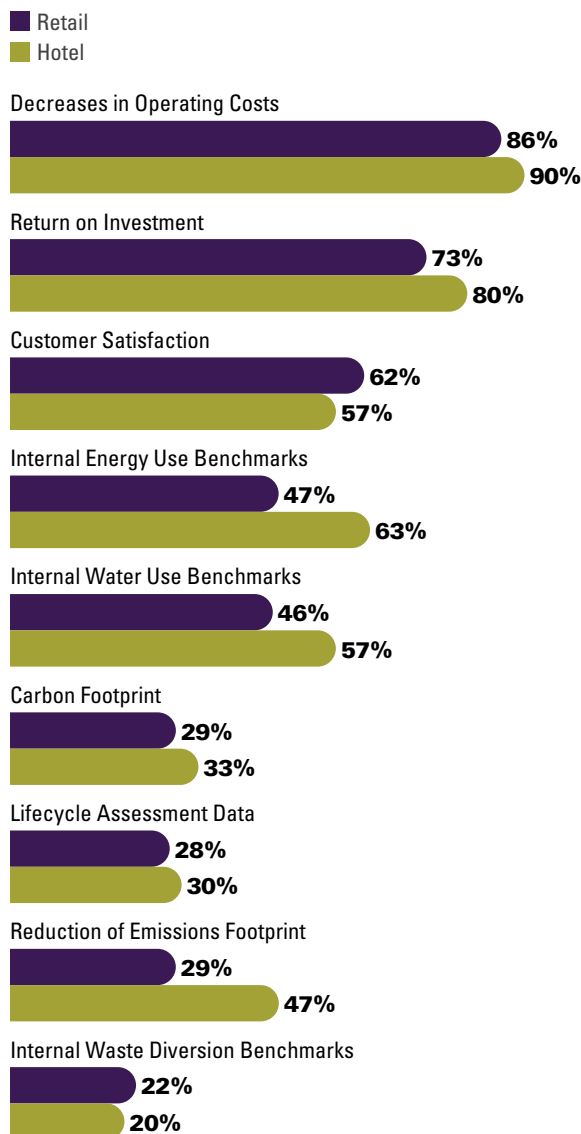
Variation by Level of Green Activity

Not surprisingly, a higher percentage of retail owners that invest more in green building activity also report that they are tracking more measures to understand the impacts of those investments. The most significant differences include the following:

- **Internal Energy Use Benchmarks**
 - 50% or more green building projects: 58%
 - Less than 50% green building projects: 36%
- **Internal Water Use Benchmarks**
 - 50% or more green building projects: 61%
 - Less than 50% green building projects: 30%
- **Lifecycle Assessment Data**
 - 50% or more green building projects: 39%
 - Less than 50% green building projects: 18%
- **Customer Satisfaction**
 - 50% or more green building projects: 74%
 - Less than 50% green building projects: 52%

Metrics Used to Evaluate Green Building Impacts

Source: McGraw-Hill Construction, 2013



There is also a trend for a significantly higher percentage of hotel respondents with higher green building activity levels to use the following benchmarks: decreases in operating costs (100%), reduction of emissions footprint (71%) and customer satisfaction (71%).

Retail respondents with a high level of personal green involvement also report measuring operating cost decreases (100%), emission footprint reductions (50%) and carbon footprint (50%).

Challenges in Measuring Sustainability Performance

Retail

The top challenges reported by retail owners are all related to data gathering, and they are ranked nearly evenly in the percentage of respondents: staff capacity to collect and manage data, availability of data and identifying the right measurements and metrics. This finding suggests that better tools for gathering and analyzing data that require a minimal staff time commitment, along with standardization of the type of data gathered in the industry, would increase the likelihood that retail owners would track sustainability data.

While not included in the chart due to the small sample size, it is worth noting that restaurant owners had very different responses to the challenges, compared to retail owners. More restaurant owners are concerned about the availability of data than the other issues related to the data, but this may indicate that they are currently less engaged in obtaining data than retail owners and may not be as aware of the other challenges. A large group also reports that none of the factors included in the survey are a challenge to them, which could also be because they have not attempted to gather data to the extent of the other sectors.

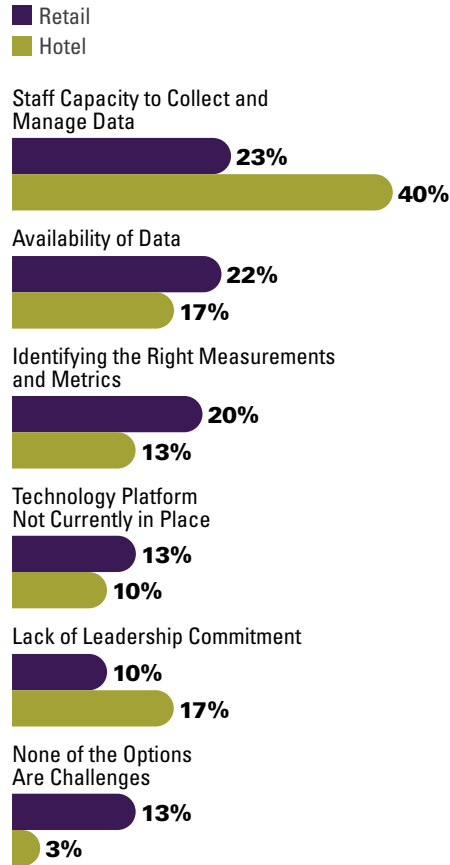
Hotel

By far, the biggest challenge faced by hotel owners is the capacity of their staff to collect and manage data, as reported by 40% of them. Building operations at hotels are particularly complex, and the tasks of tracking and analyzing data must compete with many other priorities that may be considered to have a more direct impact on guest experience.

Given this challenge, it is not surprising that a lack of leadership commitment is selected as important by the same percentage as the availability of data. Leadership support influences what gets prioritized in the activities of department, and prioritizing sustainability is clearly still necessary among a significant percentage of hotels.

Challenges Faced in Measuring Sustainability Performance

Source: McGraw Hill Construction, 2013



Contractor Findings

Contractors working on retail, restaurant and hotel projects were asked about the same challenges as the owners. For them, the biggest challenge is found in gathering data:

- 28% find that data availability is the greatest challenge.
- 27% find identifying the right metrics and measures to be the greatest challenge.

Again, these findings, along with the others, support the need for standardized metrics that are relatively easy to track in order to increase the measurement of sustainability performance.

Use of an Energy Management System to Track Sustainability Performance

Use of an energy management system (EMS) is relatively consistent across the retail, restaurant and hotel sectors, with 29% of the retail/restaurant owners and 30% of the hotel owners reporting its use. Among those using an EMS, there were both commonalities and differences by sector in how they employ this technology.

Widely Used Measures in All Three Sectors

- kWh Consumption
- Waste Generation

Other Top Measures by Sector

- Retail: Recycling Volumes
- Restaurant: Carbon Footprint
- Hotel: Water Footprint

Clearly, use of an EMS is largely determined by factors that can generate the most savings by sector. One example of the sector-specific use of an EMS is the emphasis on waste, with waste generation being considered important to track by all three sectors, and retail owners also tracking recycling volumes. This finding corresponds with the emphasis on recycling and waste evident in the list of the most important aspects of green building (see page 24) and the high percentage of owners that require contractors to adopt green waste handling practices (see page 52). The fact that they are also tracking this measure demonstrates the significant cost saving that can be achieved from waste reduction in these sectors.

For hotels, water is a much higher expense than in most other building sectors, and they too would see strong benefits from consistent tracking of savings in this area.

Variation by Level of Green Activity

There is also a trend for wider use of an EMS for tracking sustainability measures among owners that do 50% or more green building projects compared to those that do less.

■ Retail Owners Using an EMS for Measuring Sustainability Performance

- Owners Doing 50% or More Green Projects: 32%
- Owners Doing Less than 50% Green Projects: 24%

■ Hotel Owners Using an EMS for Measuring Sustainability Performance

- Owners Doing 50% or More Green Projects: 43%
- Owners Doing Less than 50% Green Projects: 8%

Variation by Level of Personal Green Involvement

75% of retail respondents with a high level of personal green involvement use an EMS to track their energy performance, compared to 21% with less or no green involvement. However, there is no statistically significant difference in terms of what they are tracking. This suggests that a commitment to green also informs the need to thoroughly understand the impact of green investments.

Green Building Rating Systems for Retail and Hotel Projects

Owners and developers find a wide variety of options for certification in the retail and hotel sectors, ranging in price and scope. Customer recognition, brand enhancement and better building performance are balanced against the cost of achieving certification.

Use of Green Building Rating System By Retailers

In the retail world, the choices are clear, but the decision process can be tricky, says Jonathan Dunn, associate at MulvannyG2 Architecture in Portland, OR. Dunn, who works with several big box and grocery chain clients, sees certification gaining limited traction in retail.

The U.S. Green Building Council (USGBC) developed its LEED for Retail designation in 2009, which recognizes that retail has “different occupancy characteristics and hours of operation, different parking and transportation considerations, and different process water and energy consumption,” compared to other commercial buildings.

Dunn says that clients may do all of the measures that LEED requires, “but they won’t pull the trigger on the plaque unless it’s developer-driven or a jurisdictional requirement.”

However, he sees many going for an Energy Star rating. He notes that on the West Coast, where he does much of his work, codes have gotten strict enough in recent years that basic building design is often enough to qualify for Energy Star. In weighing cost and marketing benefits, he says Energy Star is often the easy choice. “There’s a lower threshold (to achieve it) and a lower cost associated with Energy Star,” he adds. “Plus, John Q. Public is familiar with Energy Star. LEED is less ubiquitous with the general public.”

Rating Systems Used by Hotels

Corey Enck, director of LEED rating system development for the USGBC, says that the USGBC is moving to improve other sustainable aspects of hospitality projects. Hotel is one of six “market sector adaptations” that will be available under LEED version 4, which is still in the draft stage.

“We realized that our base rating systems have basically everything a project needs, but there are a handful of credits that would be adapted to make them a better fit for certain project types,” Enck says. “It is essentially ‘LEED for Hospitality,’ but nested under the base version.”

Suggested options for hospitality include adjusted requirements for water as well as environmental quality, such as those addressing thermal comfort and interior lighting. A credit is also being considered for operators who purchase food that is local and/or organic.

Sharon Alton, principal of GAIA Consulting Group, says she finds that hoteliers who pursue green strategies typically choose to pursue certification. While she sees many new construction projects seeking LEED, many other certifications are gaining traction as well. Programs like Green Key focus heavily on operational factors and sustainable practices, rather than design- and construction-related aspects. Other available certifications include EcoRoom & EcoSuites and Audubon International’s Green Lodging program. Rating

systems such as Green Seal and the Green Suites Certified Green Hotel Program focus heavily on products used in hotels.

A key driver for these certifications is that the cost is significantly lower than LEED. Rob Gatske, studio director and principal with Gensler in Morristown, NJ, says that can be enticing for owners who see certifications as pure marketing. “At the end of the day, it’s about bragging rights,” he says. “We have a client that achieved LEED Gold certification on two hotels, and they told us they were not going to pursue that again. They had enough to brag about....The thing is, they wanted to keep doing the exact same [sustainable] things on future projects, they just didn’t want to go through the certification process.”

However, that could change if the public’s recognition of LEED becomes more pronounced.

Interiors Challenges

One concern that designers face with both retail and hospitality is the typically short lifecycle of interiors. Given that such facilities need to maintain a contemporary “look” to attract customers, many undergo frequent updates to their interiors.

“It’s a fashion industry, and it needs to stay current,” says Gatzke. “LEED requires using more sustainable materials, but our industry dictates that we replace things like carpet every 7 to 10 years. You end up with a high-end material that goes in a landfill sooner than it should.” ■

Data: Green Building

Rating Systems

Awareness and Use of Specific Green Building Rating Systems

Eighty-eight percent of retail owners and 90% of hotel owners report using a building certification system on at least some of their buildings.

LEED and Energy Star

LEED and Energy Star are the most popular systems, with the use of both systems slightly higher in the retail sector. Given the fact that the level of use of certification systems in retail overall is lower, this finding suggests that retail owners are less likely than hotel owners to use more than one green rating system.

Company-Specific Green Standard

Nearly one quarter of the hotel respondents report using a company-specific internal green certification system, significantly higher than in the retail sector. With no major whole-building hospitality-focused certification system, some hotels may find it challenging to adapt the existing systems to the unique demands of their sector.

Among the hotel respondents that use an internal system, the most widely reported benefit is that it is easier to apply one standard throughout the company worldwide. More than half also note that they can follow LEED or other green certification guidelines without paying extra, they can exceed the requirements of existing standards, they can design green requirements that are specific to the hotel sector, and they can market their company as a green leader.

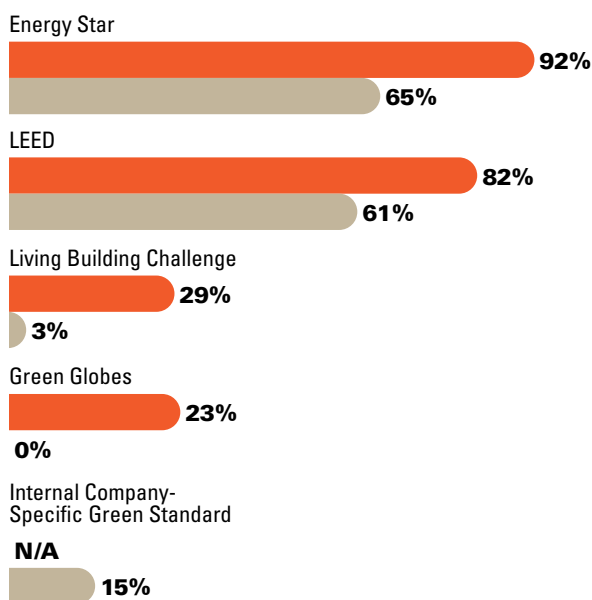
Only 15% of retail respondents report using an internal green system, and the top benefits they report are greater ease in working with suppliers through standardized expectations for green products. Green retailers are increasingly seeking to green their supply chains, and their green procurement practices for the products they sell are sometimes applied to their procurement of building products as well. (See page 59 for more information on the efforts to green the supply chain in retail.) The only other benefit reported by more than half of the retail owners is the ability to create requirements specific to the retail sector.

Awareness and Use of U.S. Green Building Rating Systems

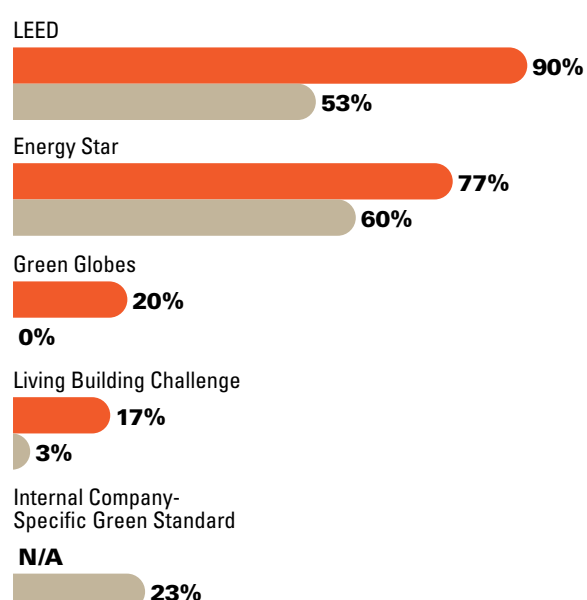
Source: McGraw Hill Construction, 2013

■ Awareness
■ Past or Current Use

Retail



Hotel



GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS DATA

Level of Use/Planned Use of Green Building Rating Systems Over Time

Retail/Restaurants

Both the retail and restaurant sectors are experiencing steady growth in the use of certification. Half of the retail owners were engaged and, though not plotted below, nearly three quarters of the restaurant owners report that they did not use any third-party certification in 2011. However, that percentage shifts dramatically in the future, where those percentages drop to only a quarter reporting the same in 2015—meaning that around three in four are using a rating system at some level on their buildings.

The intensity of certification activity in both sectors is also expected to increase from 2011 to 2015, with those conducting third-party certification on more than 60% of their projects nearly doubling from 11% to 21% in retail, and more than quadrupling from 6% to 27% in the restaurant sector.

VARIATION BY LEVEL OF GREEN ACTIVITY

Thirty-one percent of retail owners doing 50% or more green projects report that over 60% of those projects will be certified by a third party, compared to only 6% of those with fewer green projects. While not statistically significant, a similar trend of low certification activity among those with low levels of green work can be seen among restaurant owners.

The consistency of these findings supports the conclusion that the more green work or green buildings owners invest in, the greater the value they see in pursuing certification for those buildings.

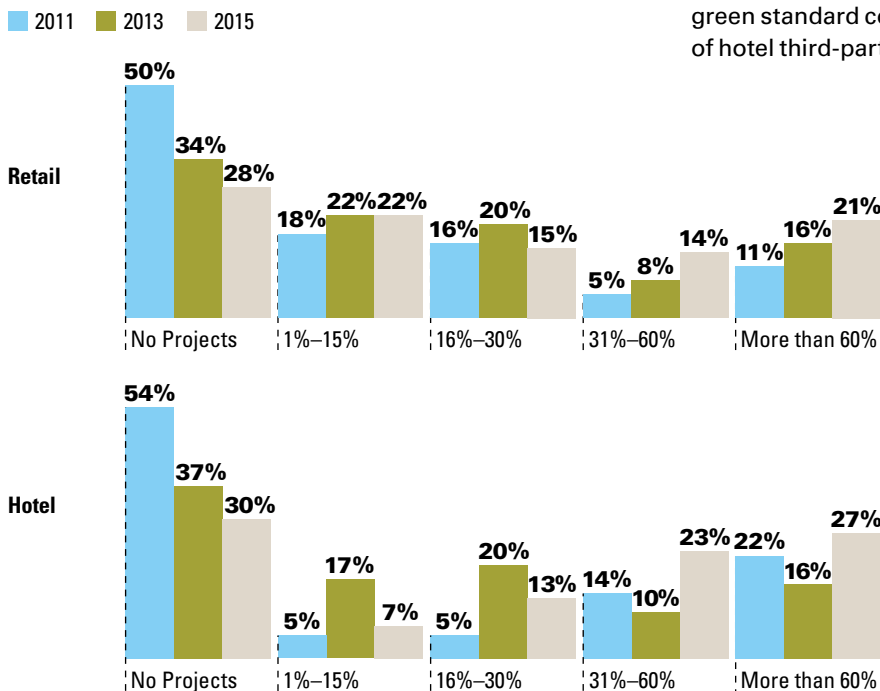
Hotels

Hotel owners also demonstrate a clear shift toward certification of projects. However, their growth in the intensity of certification is less linear, suggesting that hotels are still determining the value of certification, which aligns with their heavier use of their own rating systems (see page 46).

The findings for hotel owners by level of green activity and percentage of green buildings in their portfolio mirror those of the retail and restaurant owners. This suggests that as the hotel owners become greener, it is likely that they will also continue to increase their level of green certification activity. A whole-building hotel-specific green standard could help increase the level and intensity of hotel third-party certifications as well.

Owner Activity Levels of Green Projects Achieving/Pursuing Third-Party Certification (Over Time)

Source: McGraw Hill Construction, 2013



GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS DATA

Use of Green Building Rating Systems by Contractors

Contractors report more consistent use of third-party certification on their retail/restaurant and hotel projects between 2011 and 2013 than owners. While retail and hotel owners see a 16 and 17 percentage point increase in those using certification between 2011 and 2013, respectively (see page 37), the shifts reported by contractors range only one to three percentage points.

This finding is surprising given the growth of green project activity reported in this period in both sectors by the contractors (see page 11) since a corresponding growth in certification would be expected. This suggests that owners may use some contractors more widely than others on certified projects. Factors that would impact that decision could include the number of LEED accredited employees on staff, the level of experience with certification and the contractors' level of promotion of their certification capabilities. If that is the case, then contractors with the goal of growing their green business should consider gaining more expertise in certification, based on the continued growth in certification reported by the owners (see page 47).

Variation by Contractor Type

A higher percentage of specialty trade contractors have at least some projects seeking certification.

RETAIL/RESTAURANT

Percentage of Contractors With Projects Seeking Certification:

- **General Contractors: 66%**
- **Specialty Trade Contractors: 77%**

HOTEL

Percentage of Contractors With Projects Seeking Certification:

- **General Contractors: 65%**
- **Specialty Trade Contractors: 80%**

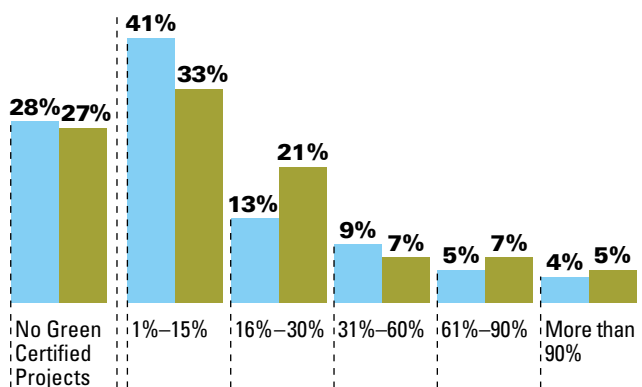
In 2011, the same gap in certification levels occurred for contractors involved in the retail/restaurant sector, but with an even wider differential. This may be due to the fact that specialty trade contractors can work on a bigger group of projects in a given year than general contractors because of the shorter time commitment on any individual project for the trades. This wider exposure may allow specialty trade contractors to be involved with more work that is green certified.

Contractor Use of Third-Party Green Certification By Sector (Over Time)

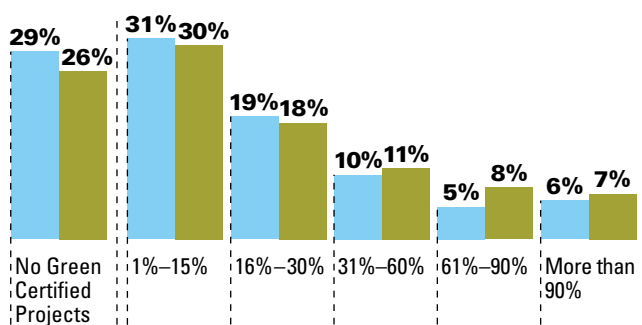
Source: McGraw Hill Construction, 2013

■ 2011 ■ 2013

Retail/Restaurant



Hotel



Green Hospitality-Specific Rating System Considered Most Beneficial by Hotel Owners

Currently, there are several hospitality-specific rating systems for green meetings or conventions, including ASTM’s green meeting standards, the Accepted Practices Exchange (APEX) of the Convention Industry Council, and the U.S. EPA and Green Meeting Industry Council’s Sustainable Event Management System (SEMS). However, despite the unique challenges faced by the hotel industry in greening its new construction and building operations, there is no specific whole-building green building rating system for hotels.

When asked whether green meeting/convention ratings or a hospitality-specific green building rating system would be more beneficial to their organization, **52% of hotel owners reported that having a green whole-building rating system that was specific to their industry would have the biggest benefit.** A whole-building rating system is one that looks at the construction and/or operation of the building as a whole, such as the U.S. Green Building Council’s LEED certification systems. This finding supports the need for the industry to create a green rating system that addresses hospitality-specific buildings.

However, it is also notable that one third of the respondents report that having a green meeting or convention rating system is important. (For more information, see page 45.) These findings demonstrate the value that meeting rating systems provide to the hospitality sector.

Variation by Percentage of Green Buildings in Portfolio

Hotel owners with 50% or more green buildings in their portfolio put a much greater emphasis on whole-building rating systems than those with fewer green buildings. While the total number of respondents is small, there is a clear trend, with nearly three quarters of the hotels with green portfolios preferring whole-building rating systems and with less than one-sixth preferring meeting rating systems.

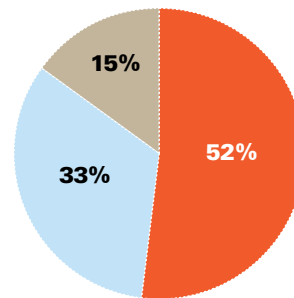
In contrast, hotel owners with less than 50% green buildings are nearly evenly split between valuing whole-building rating systems and valuing rating systems for meetings and conventions.

Once owners make a significant investment to green their portfolios, it seems likely that they would prefer a tool that recognizes this investment, while owners with less of an investment may find meeting ratings a means to address corporate sustainability concerns without making major investments in their buildings.

Most Beneficial Type of Green Hospitality-Specific Rating System (According to Hotel Owners)

Source: McGraw Hill Construction, 2013

- Whole-Building Rating Systems
- Meetings/Convention Rating Systems
- None/Don't Know



Variation by Level of Personal Green Involvement

Sixty percent of hotel respondents with a high level of personal involvement in green consider rating systems for meetings important. Given the fact that these respondents are not using whole-building rating systems like LEED and Energy Star any more than those with less green involvement, this finding may signal their recognition that hotels can benefit greatly from public awareness of these less expensive, less intensive systems while still pursuing their green building goals.

Achieving Green Across the Portfolio by Using a Proprietary Sustainability Rating System

InterContinental Hotel Group



The InterContinental Buckhead Atlanta Hotel in Atlanta, GA, saved \$100,000 in energy costs in one year.

When the InterContinental Hotel Group (IHG) decided to encourage and support the efforts of franchise owners across their brands to adopt green building and operational approaches in their hotels, they realized that an off-the-shelf approach would not accomplish their goals. So in 2009, they created the first version of IHG Green Engage, their online proprietary sustainability tool.

Reasons for Developing a Proprietary Sustainability Tool

Paul Snyder, vice president of Corporate Responsibility at IHG, states that the main impetus for their investment in the IHG Green Engage Tool came from research demonstrating that hotel guests care about staying in sustainable properties. "Seventy percent or more of guests have expressed to us through research that they want a sustainable stay experience. Seventy-five percent of our frequent

travelers feel this way. One out of three business travelers have told us they seek environmentally conscious hotels, and 85% of leisure travelers consider themselves to be environmentally conscious," reports Snyder. "Meeting planners have started asking us questions about the carbon footprint for a meeting or a room night for a group."

However, the unique demands of the hotel sector, including a focus on sustainability that extends beyond construction and renovation, made it clear that there was no existing system that could accomplish what they wanted. "If we wanted the right sustainability platform to make sure that we are preserving or enhancing the guest experience, it was our feeling that we couldn't pull something off the shelf from a third party." Comprehensiveness was critical to Snyder: "I come from a property originally, and I know that as an operator, give me one place to go to achieve my ambitions. We try to make IHG Green Engage that one place to go to achieve an owner's or general manager's sustainability ambitions, no matter what they are."

How IHG Green Engage Works

For the hotel owners and general managers, IHG Green Engage has two main components. First, it is a tool that allows them to track their energy and carbon usage. It also provides benchmarks for energy and water use compared to a representative sample of IHG hotels that have been adjusted for climate zone, as well as hotel size and features. Properties that participate in IHG Green Engage are also audited, which, Snyder explains,

helps to "make sure that the things that the hotel is doing [to create energy, water and waste reductions] are substantial and authentic."

The second component of IHG Green Engage is the one that Snyder believes distinguishes it from other efforts in the hospitality sector. The tool has a module with over 200 solutions that franchise owners and operators can employ to improve their sustainability performance. According to Snyder, "those solutions come with documentation about, not only what you need to do to make a solution happen, but what the level of investment is in terms of time, resources and money, and what the ROI paybacks are and the payback periods."

IHG then uses IHG Green Engage as the cornerstone on which to build other green efforts. As Snyder explains, "We also have efforts that link IHG Green Engage into things like our plan review process and new prototype process....We reach into other parts of the business, be it sales, architecture and construction, or procurement, in order to leverage what we know about our properties and their sustainability performance in other parts of the business." He also describes how it has training modules for employees to learn about sustainability.

Third-Party Certification

IHG also sees IHG Green Engage as a way to help franchise owners achieve third-party certifications. Manjusha Sharma, a specialist in their communications department for the Americas, reports that they have partnered with LEED, Green Globe tourism certification program, Trip Advisor's Green Leaders

InterContinental Hotel Group

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS

Program and Florida Green Lodging Certification so far, and that they are continuing to look into other partners. The tool makes it easier for the partners to determine which IHG hotels are green.

"We allow them to see the certification levels in IHG Green Engage, our requirements for evidence for each green action item," states Sharma. "We really let them see behind the curtain, see all the intellectual property, all the work that we've done. Then we form a partnership that allows our hotels to submit their information [for certification by these third-party systems] through IHG Green Engage... We work with each of those third-party certifications to come up with a package that reduces the cost and the time, the burden and the additional paperwork that the hotel might need to do because it is already there in IHG Green Engage."

Implementing IHG Green Engage

One of the biggest challenges IHG faced when creating and implementing the tool is that the company has a wide portfolio of hotel brands, including limited service brands like Holiday Inn Express, mid-level brands like Holiday Inn, extended stay brands, a boutique brand and luxury brands like InterContinental Hotels and Resorts. As Snyder explains, they had to create an approach to all these different brands that would allow each of them to see the benefit of using the tool: "We are the world's largest hotel company, and we have a very large and diverse ownership base. It is never one argument or any one approach to them. There

are different things that are of value to different owners. We put together business cases, programs and messaging to help our owners become empowered around sustainability in the way that they wish to be empowered, and the way they wish to execute great hotels that guests love."

One factor that helped with adoption was the creation of a robust feedback loop that allows IHG to continually improve the tool. While version one was launched in 2009, version two was built from the feedback that they got from their building owners, and within those versions, constant improvements have been made.

The results of this initiative have been gratifying. Participation is completely voluntary, but when IHG launched version two, they were able to see about half of their enterprise participating. Snyder points out that, "as a subscription platform, [that level of participation] makes it one of the most successful platforms we've ever launched at IHG." He adds, "We are also proud of our ownership and franchisees that have had the vision to be more sustainable and the wit,

quite frankly, to realize that there is money to be made in sustainability."

Benefits Achieved from Adoption of the Tool

The measurements and benchmarking have allowed IHG to report strong positive results from this high level of participation. "We had a 6% to 10% energy reduction goal over the last three years. We actually achieved 11.7%," Snyder reports. "We reduced our carbon footprint by 19% in one year."

In addition to these corporation-wide achievements, individual hotels participating in IHG Green Engage have also reported impressive results.

- **The InterContinental Hotel Buckhead Atlanta Hotel in Atlanta, GA, saw one year reductions of 11% in energy and water use.**
- **The InterContinental Barclay Hotel in New York City has saved \$1,500 a month due to recycling and \$600 a month due to composting since they first started these programs.**
- **The Crowne Plaza Hotel in Knoxville, TN, has saved \$17,000 year-over-year due to decreased energy consumption. ■**

The Indigo Hotel in Athens, GA, uses high efficiency touch screens to reduce paper collateral.



Data: Green Practices and Products

Green Products or Building Methods Required

by Owners by Category of Building Activity

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS DATA

Retail and hotel owners are active participants in their green projects, with a majority requiring specific green products or methods for all categories of construction activity. Restaurant owners are slightly less engaged than their retail or hotel counterparts, with those requiring green products and methods ranging from half requesting specific finishes to about two thirds looking for specific waste handling practices and wood and plastic products or services.

Retail/Restaurant

Over 70% of retail owners are requiring specific green products and services for waste handling, site work and thermal and moisture protection. Given the importance of recycling in this sector (see page 24), it is not surprising that waste handling is the construction activity retailers are most actively engaged with. However, their level of engagement with site work is important and may suggest more interaction between the owner and its construction team on the ways they want their construction sites managed.

The attention paid to thermal and moisture protection is clearly aligned with their business. Retail requires the storage of a wide range of materials, all of which need to be kept in premium condition. Effective thermal and moisture control will help achieve green goals, but it is also essential to maximize their business potential. As the retail participants in the in-depth interviews with sustainability leaders confirm, green efforts that contribute directly to their business are the most frequently pursued in this sector.

For restaurant owners, waste handling is also the top area in which they are actively engaged in greening their project along with wood and plastics. Not surprisingly, there is lower engagement in greening site work on their projects compared to the retail sector.

VARIATION BY PERCENTAGE OF GREEN BUILDINGS AND LEVEL OF GREEN ACTIVITY

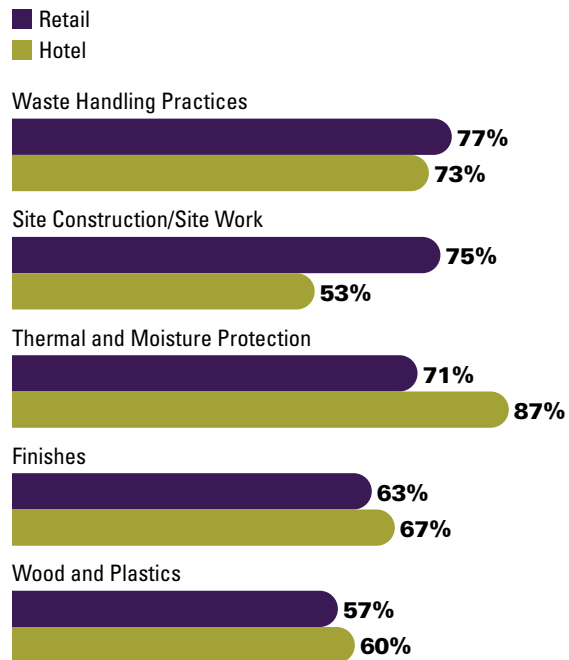
A significantly higher percentage of owners that do 50% or more green building request green products or methods for the following activities compared to those doing less green building:

- Site Work: 84%, compared to 67% doing less green building
- Wood and Plastics: 71%, compared to 45%
- Finishes: 76%, compared to 52%

Even more striking differences are observed among owners with 50% or more green buildings in their

Required Use of Green Products or Green Building Methods in Last Two Years (By Percentage of Owners Requiring Use)

Source: McGraw Hill Construction, 2013



portfolios, compared to owners with fewer green buildings:

- Wood and Plastic: 86% require green building products or methods, compared to 55% of those with fewer green buildings
- Thermal and Moisture Protection: 100%, compared to 65%
- Finishes: 93%, compared to 60%

Companies with more green buildings in their portfolios may have staff with green expertise, stretching from new construction to operations and maintenance, which could help encourage more active engagement in greening their projects. They may also purchase a larger quantity of products providing economies of scale.

Hotel

By far, the highest percentage of hotel owners require green building products or methods for thermal and moisture protection. This finding, especially when considered in conjunction with the finding that hotels also consider green products with environmental benefits

important (see page 25), suggests that hotel owners place a premium on factors that make their buildings healthier for occupants. It is easy to see how such an emphasis could have broad consumer appeal. It aligns with other trends in hotels focused on health, such as completely non-smoking hotels and allergy-sensitive rooms.

Hotel owners are engaged at a similar level to retail owners with greening waste handling practices, finishes and woods and plastics. **However, hotel owners are far less engaged than retailers with green site work.** One factor that could contribute to this finding is the frequency with which hotels change hands and the importance of asset value in this sector. Green site work typically would have a lower impact on the value of the building than green improvements to the building itself.

VARIATION BY PERCENTAGE OF GREEN BUILDINGS AND LEVEL OF GREEN ACTIVITY
Three quarters of the hotel owners with more than 50% green buildings in their portfolio require green products or methods for site work, compared to less than half of those with a lower percentage of green buildings.

All hotel owners with 50% or more green buildings in their portfolios also require green products or methods for thermal and moisture protection, just like the retail owners. However, the opposite is true when it comes to green building activity, where all of the hotel owners that do less than 50% green projects have requirements for thermal and moisture protection, compared to a little more than three quarters of those doing more than 50% green projects. The emphasis across sectors by those with a high number of green buildings, contrasted to those doing a high percentage of green projects, suggests that owners actively engaged in green operations and maintenance have a particularly strong recognition of the impact of green thermal and moisture protection products and methods on the ongoing green operation of the building.

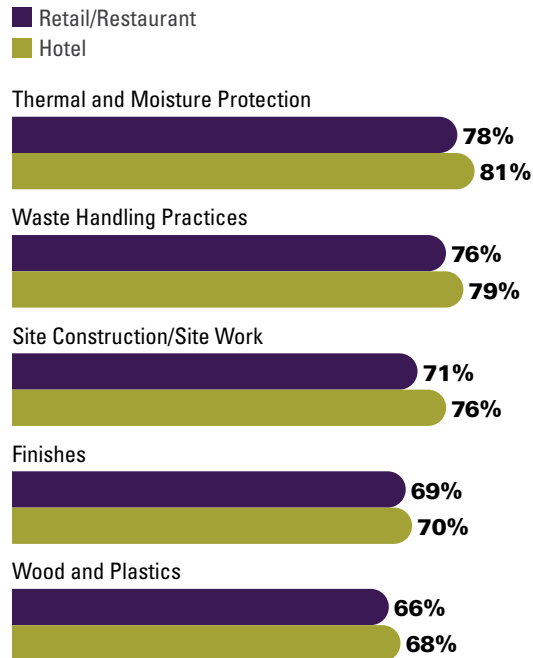
Contractor Findings

Surprisingly, contractors find little difference between the green requirements of owners in the retail/restaurant sector and owners in the hotel sector. There is also little variation among the types of construction activities, with only a 15 percentage point gap between the highest percentage of contractors noting owner requests and requirements and the lowest.

Since there are clear differences in the requirements according to the owners themselves, the lack of

Owner Requests for Green Products and Practices by Category
 (By Percentage of General Contractors Getting Requests)

Source: McGraw Hill Construction, 2013



difference may be attributable to the contractors. Some contractors may actively seek to work with their clients to achieve green goals, while others may be less engaged with the owners. However, considering the influence contractors can have on product selection, it is important that they align with owner wishes.

VARIATION BY LEVEL OF GREEN ACTIVITY

Contractors that do more green work are more likely to note owner requests for green products and methods for nearly every category in the retail and restaurant sector. Some of the green products and practices used by far more contractors doing more green work include:

- **Retail/Restaurant:** Thermal and Moisture Protection and Finishes are reported by 94% and 93%, respectively, for those doing more than 60% green projects.
- **Hotel:** Wood and Plastics are reported by 93% of those doing more than 60% green projects. Thermal and Moisture Protection and Finishes are also highly reported by those doing more than 60% green projects—at 97% for each.

Green Products and Practices Used in Building Operations and Maintenance

More than 95% of retail, restaurant and hotel owners report that they are currently using at least one of the products and practices included in the survey in their O&M activities.

Retail/Restaurant

Over 70% of owners are using four out of seven products and practices in retail and three out of seven in restaurant.

Three out of the top four products/practices employed by retail owners—occupancy/lighting sensors/automatic shutdown, LED lighting and building automation systems—have a direct impact on reducing energy use, which probably accounts for their top ranking among restaurant owners as well. Energy benchmarking is also used by 90% of the retail respondents with a high personal level of green involvement.

Recycling or composting is also being used by 78% of retail owners, but this practice is far less common among restaurant owners (55%). This finding corresponds to the green activities considered most important by retail owners for new buildings, where recycling carries nearly as much weight as energy efficiency (see page 24). In addition, all of the retail respondents with a high personal level of green involvement have recycling or composting programs.

TOP PRODUCTS EXPECTED TO BE USED BY 2015

- **Retail:** All activities will be more highly used in the future. The two products/systems that will be used by the largest percentage include LED Lighting and Building Controls.
- **Restaurant:** The top two products and systems planned in the future—Recycling or Composting and Environmentally Preferable Purchasing—suggest that a more materials-focused green approach is emerging in this sector.

Hotel

For the most part, the hotel sector corresponds to the retail sector, with the same focus on energy savings and recycling. However, hotels are much wider users of environmentally preferable purchasing than retail owners, and all of the hotel owners with a high level of personal green involvement report adopting this approach. These data align with the hotel owners' interest in environmentally friendly products (see page 25) and may reflect a wider interest in improved health for occupants.

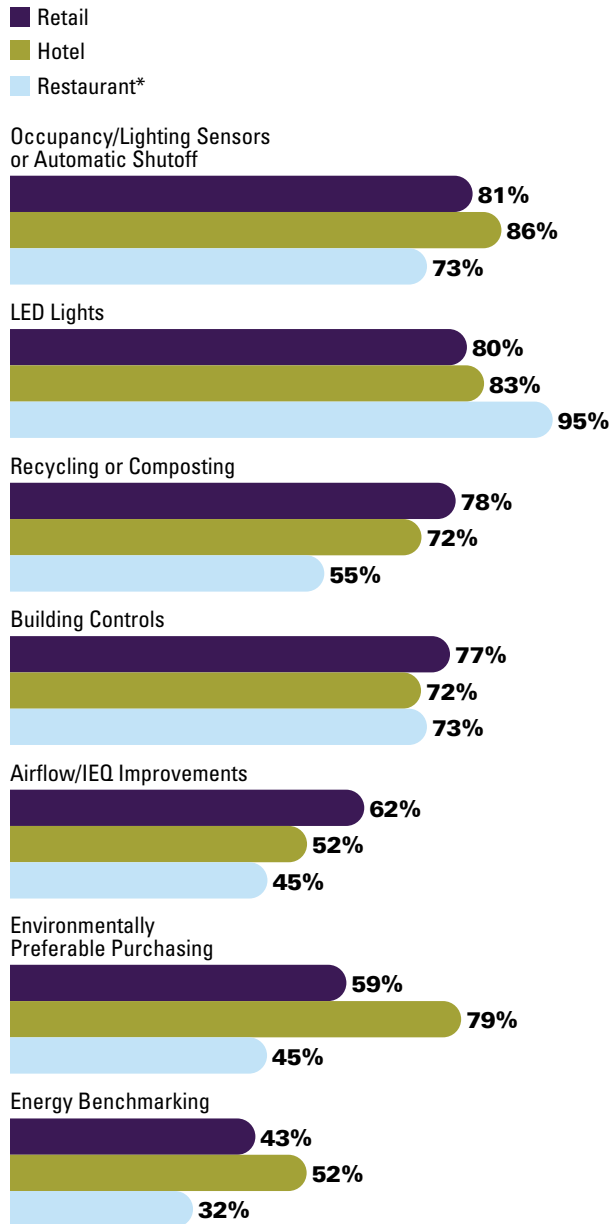
TOP PRODUCTS EXPECTED TO BE USED BY 2015

Energy savings continue to be a priority when hotel owners indicate the top products they will be using:

- Building Controls
- Occupancy/Lighting Sensors and Automatic Shutdown

Green Features and Practices Currently Used in Building Operations and Maintenance

Source: McGraw Hill Construction, 2013



* Percentages for Restaurants are based on low sample size and are represented for trending purposes only

Green Product Rating Systems and Labels

Most of the green product rating systems measured in the survey have similar levels of recognition among retail owners, hotel owners and contractors that work on retail and hotel projects. The data reveal that owners and contractors are not generally relying on rating systems in the selection of green products in these sectors.

Energy Star is the most widely recognized standard across all three groups, and this is to be expected given the high awareness in consumer markets of this label, translating to equally high profile in commercial markets.

Underwriters Laboratory Environment (ULE) is also noted by a high level of respondents, especially among contractors. However, ULE is just one rating system produced for products by UL and relatively new in the marketplace, and it may be seeing increased recognition due to more general familiarity with UL more broadly.

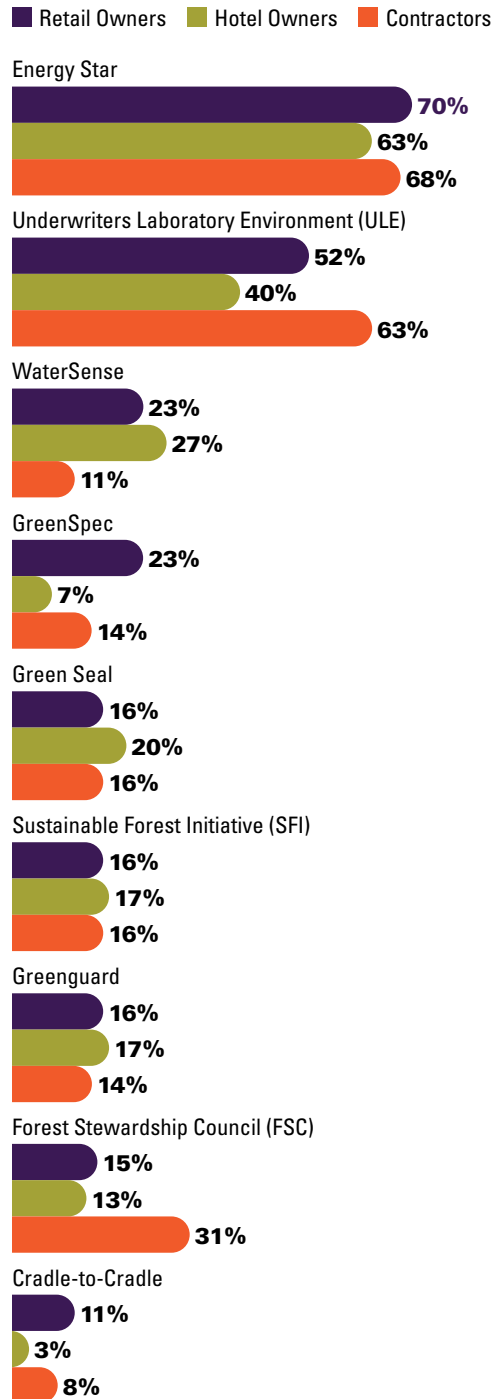
Both retail and hotel owners report being more familiar with the EPA's WaterSense label than contractors are. Nearly one third of the restaurant owners are also familiar with this label. Given the emphasis on water conservation, especially in the hotel and restaurant sectors, this attention to WaterSense is not surprising. Contractors seeking to increase their green work in these sectors may want to demonstrate equal familiarity with this rating system through their product selections. Product manufacturers should also note the sector differences in identifying opportunities—and target owners as well as contractors and architects in their sales/marketing efforts.

Familiarity with GreenSpec is far more prevalent in the retail than the hotel sector, with restaurants falling in between the two. Since GreenSpec is a subscription service, this may imply more active involvement by retail owners in product selection than other owners—important for product manufacturers to note.

The only rating system for which contractors report significantly higher knowledge than the retail, restaurant or hotel owners is Forestry Stewardship Council ratings (FSC). This may be due to higher FSC requirements in other sectors in which the contractors work. With the relatively low requirements for environmentally friendly products in retail compared to hotels and the high emphasis on cost savings, it is not surprising that the FSC rating has such low recognition in this sector. It is less clear why awareness is even lower among hotel owners, although several factors may contribute to this, including the invisibility of the use of sustainable lumber in building construction to their guests, making this a less appealing product than others that guests can more immediately interact with.

Awareness of Green Building Product Labels (By Percentage Reporting Strong Awareness/Knowledge)

Source: McGraw Hill Construction, 2013



Requests by Owners that Suppliers Incorporate Green

Percentage of Owners Requesting that Suppliers Incorporate Green

More than half of the retail and hotel owners request that their suppliers incorporate green into their products or practices, with hotels in the lead:

- Retail: 53%
- Restaurant: 36%
- Hotel: 60%

More than twice as many hotel owners with 50% or more green projects make these requests of their suppliers than hotel owners with fewer projects. There is not a meaningful difference among retail or restaurant owners. This may be related to the greater importance placed by hotel owners on environmentally friendly products (see page 25) compared to retail and restaurant owners.

Also, 83% of the retail owners with a high level of personal green involvement ask suppliers to incorporate green into their products and practices.

There are no statistically significant differences by size, although there is a trend for retail and hotel owners with more buildings to be more likely to request that suppliers incorporate green into their products or practices compared to those with fewer buildings.

Types of Requests Made to Suppliers

The highest percentage of owners in all three sectors request that their suppliers buy locally. Not only is this practice more environmentally sustainable, but it supports regional economic sustainability as well, making it widely appealing. However, for the other green practices and products, the percentage of owners making specific requests varies by sector.

RETAIL

More retail owners ask suppliers to provide lists of materials that make up their products and state the percentage of recycled content.

RESTAURANT

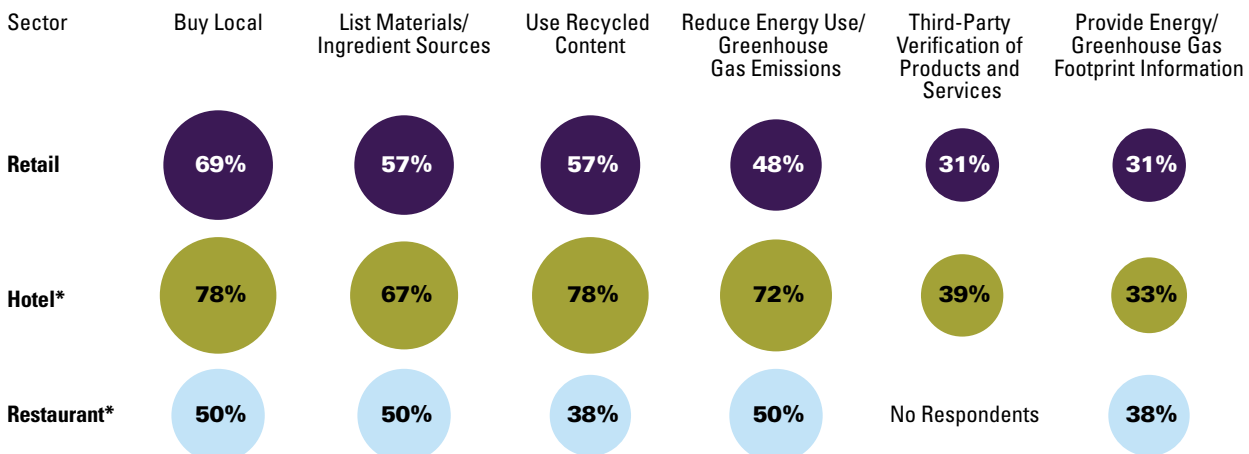
Restaurants also seek information on the materials that make up their products, but they are more interested in how products reduce energy use and greenhouse gas emissions than the level of recycled content. More emphasis on energy and cost savings for restaurants revealed in the data (see page 24) are also reflected here.

HOTEL

In general, a larger percentage of hotel owners seek green product information or practices from their suppliers compared to the other two sectors. Most hotel owners are interested in the reduction of energy use, similar to restaurant owners. Like the retailers, a large percentage also request information about recycled content. More than two thirds also seek the materials/ ingredients list, similar to both other sectors.

Green Product and Practices Requested of Suppliers by Owners

Source: McGraw Hill Construction, 2013



* Small Sample Size - Represented for Trending Purposes Only

Use of an Environmental Product Declaration (EPD) or Healthy Product Declaration (HPD)

One trend that has begun to emerge in building products is the use of an environmental product declaration (EPD) or healthy product declaration (HPD). An EPD is a tool used to communicate the environmental performance of a product, based on a lifecycle assessment. It has a standardized format that provides consistent reporting language to allow comparison between products. An HPD is a similar tool that provides information on the health and environmental impacts of products. Both of these enable manufacturers to standardize the sustainability information they provide about their products. This standardization will help to increase transparency in the process of product selection for green projects.

The highest percentage of owners that require an EPD or HPD for their products are in the retail sector. Retail owners are also much wider users of GreenSpec, a subscription service for evaluating green projects, which suggests that a percentage of them may be actively engaged in product selection (see page 55). Therefore, it is not surprising that they would also be more likely to require an EPD/HPD.

Variation by Percentage of Green Projects in Portfolio and Level of Green Activity

Fifty percent of owners with 50% or more green buildings in their portfolio require an EPD/HPD, compared to 24% of owners with fewer green buildings. This same trend is also apparent among owners that do a higher percentage of green construction activity, with 39% reporting that they require an EPD/HPD. Clearly, more green building experience among retail owners leads to greater need for green product attribute transparency.

Variation by Level of Green Involvement

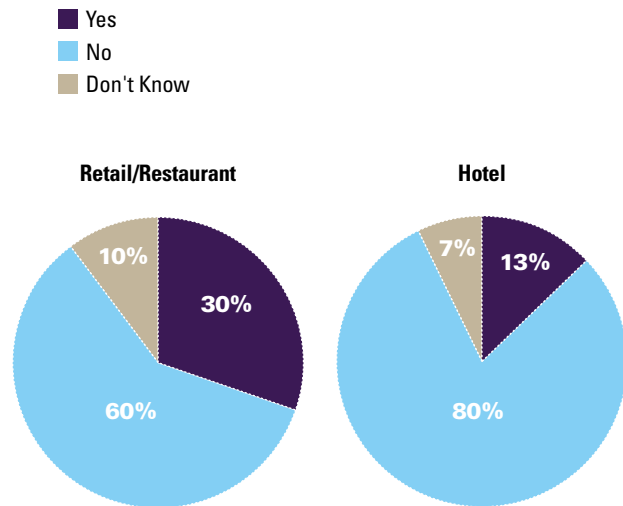
Fifty-eight percent of retail respondents with a high level of personal green involvement also require an EPD or HPD. No similar trend is evident in hotels or restaurants.

Contractor Findings

Eleven percent of contractors have worked with owners that require an EPD/HPD, with a higher percentage (21%) doing more than 60% of their projects green, compared to only 6% for those at low levels (30% or fewer green projects). Clearly, owners are a better target for product manufacturers that have EPDs/HPDs, or they can use these data results to help justify the value they bring by having EPDs/HPDs available to contractors.

Required Use of an Environmental Product Statement/Healthy Product Statement (By Percentage of Owners Requiring Use)

Source: McGraw Hill Construction, 2013



Top Resources for Learning About Green Building Industry Trends

The internet and industry associations are important resources for learning about green building trends for all of the owners surveyed. The ubiquity of the internet as a source of information has penetrated the construction industry as well, and many industry associations are actively promoting the potential for greening buildings. However, there are also differences by sector in terms of resources relied on by owners, which are important for product manufacturers and suppliers to take note of.

Differences by Sector

As is indicated in the chart on the right, a higher percentage of retail owners rely on information from eight different sources included in the survey compared to hotel owners, including the internet and industry associations, as well as suppliers and industry peers. The most significant differences are found in the higher use in the retail sector of information from product manufacturers, government resources, magazines and trade shows. These results demonstrate that those seeking to reach an audience of retail owners are best served by using multiple means of connecting with that audience, rather than targeting one or two.

The best ways to communicate with hotel owners, in addition to the internet and industry associations, are through suppliers and consultants, industry peers and conferences.

Restaurant owners demonstrate a higher reliance on information from trade shows compared to those in the other sectors. The only other sources of information beyond trade shows, the internet and industry associations that more than one quarter of them rely on are government resources and magazines.

Variation by Level of Personal Green Involvement

Retail respondents with a high level of personal green involvement are more likely to use the internet (67%), conferences (42%) and nonprofit organizations (33%) as sources of information on green trends.

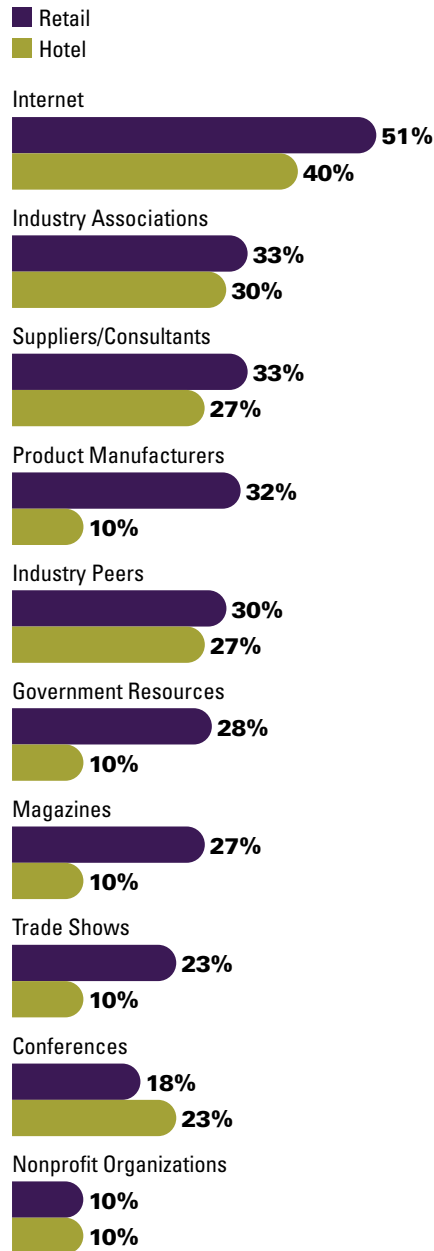
Use of the internet is reported by all hotel respondents with a high level of personal green involvement, and 83% report getting green trend information from conferences.

Contractor Findings

Like the owners, contractors rely on the internet and industry associations. Over 40% also find magazines and suppliers/consultants to be important sources of green trend information.

Top Resources for Learning About Green Building (According to Owners)

Source: McGraw Hill Construction, 2013



Greening the Data Behind Supply Chain Management

For retailers, green supply chain management (GSCM) offers an opportunity to reduce the environmental burden of doing business while at the same time improving their position in the marketplace.

Each stage of a consumer product's lifecycle, from resource extraction to end-of-life disposal, exerts an environmental toll. "We have a responsibility to be sure that precious resources, like water, are available, clean and safe for those who need them today and for those who will need them in the future," said Leslie Dach, Executive Vice President of Corporate Affairs for Walmart, in a recent keynote address. "The other lesson that we've learned is that it helps us reduce costs, make our supply chain more efficient, lower risk and... deliver better goods at better prices for our customers."

Retailers Can Help Drive Green

By making demands on their product suppliers, retailers are critical to the effort to create greener products. Walmart has been a leader in greening the supply chain. In 2012, it announced that at least 70% of its products were going to be covered by a Sustainability Index, which looks at greenhouse gas emissions, energy use, packaging reductions and other factors.

However, Walmart is not the only retailer making efforts in this area. A grocery store chain in the U.K., Sainsbury's, has also committed to a sustainability plan with 20 specific goals they commit to achieving by 2020. Five of those goals are directly related to what they will require

from their suppliers, including ones addressing sustainable water use and reduction of carbon emissions. While Europe is more stringent in green product labelling as compared to the U.S., this example may serve as a model for other companies.

Data and Intelligence Are Key

Having data is critical in greening the supply chain. Buyers need data to make decisions about whether a product complies with their procurement policy, and to compare products from competing suppliers. Suppliers need data to evaluate input materials, document the sustainability of their processes and products, and communicate their value to buyers. Yet an essential challenge hampers progress both in developing more sustainable products and assigning value to them: the lack of consistency in sustainability measurement and reporting.

This lack of consistency creates uncertainty, which drives up the cost of data and reduces its utility. However, the magnitude of the task of systematizing the sustainability data behind the vast array of consumer products is daunting. As a result, existing metrics focus on single issues, such as energy efficiency or recyclability. Without a holistic view of these issues in a product's lifecycle, differentiations between products' sustainability claims are unreliable, and opportunities for improvement are limited.

Standardized Measurement and Reporting

One organization seeking to break through this impasse is the Sustainability Consortium (TSC). They are developing a common, global platform to enable companies to measure and report on product sustainability at every step of the supply chain. According to Euan Murray, Chief Strategy Officer at TSC, the ultimate goal of their tool is to provide "the basis to drive real, radical product reformulation, so that we're genuinely decoupling growth from impact." Transparency about products is essential to accomplish this goal.

Growing interest in tools like this are also evidenced in the rising use of Environmental Product Declarations (EPDs) and Healthy Product Declarations (HPDs) in retail. In fact, 30% of the retail/restaurant respondents in this study report requiring an EPD or HPD (see page 57). These declarations provide full lifecycle assessments in comparable formats including factors like energy use and carbon footprint, water use, toxicity and health impacts.

With consumer products accounting for 30% to 40% of greenhouse gas production in North America, and the growth of the global middle class carrying consumption to new levels, greening the supply chain offers hope that the economy might flourish within the limits of the planet. ■

Methodology:

Green Retail and Hospitality Study Research

GREEN RETAIL AND HOSPITALITY: CAPITALIZING ON THE GROWTH IN GREEN BUILDING INVESTMENTS

McGraw Hill Construction conducted the 2013 Green Hotel and Retail Study to assess the green building markets in these sectors. The research was conducted through a telephone-based survey with owners and an online survey for general and specialty trade contractors between April 15th and May 17th, 2013.

In addition, the study also included five confidential in-depth interviews (IDIs) conducted with owners with advanced green building practices in the retail and hospitality sectors.

Owner Survey

This survey was open to owners, operators and real estate developers of hotel, retail and restaurant establishments that had conducted at least \$5 million in projects in 2010, 2011 or 2012. For the purposes of analysis, owners are identified in this survey as people who work for the owner's firm and act as agents representing the interests of that owner. See the chart to the right for the specific divisions in which the respondents work.

This owner survey had a total of 131 responses. The sample benchmarks at a 95% confidence interval with a margin of error of 8.4%.

- 79 retail owners
- 30 hotel owners
- 22 restaurant owners

Throughout the analysis, retail and restaurant owners are plotted together on charts where their answers align. Where differences occur, only the retail results are graphically depicted, with notable restaurant owners' responses described in the narrative. Because of the low number of restaurant respondents, the analysis is directional, capturing major trends.

Retail respondents are examined throughout the text based on statistically significant differences in responses based on the size of their company or their involvement with green building—for the firm as well as the individual respondent. Due to the limited number of hotel respondents, similar analysis is limited to major trends.

Owner respondents were asked about green activities in which they personally engaged, including being a member of a green organization, publishing a paper on a green topic or other activities. Analysis on the respondent's level of green involvement was based on these answers.

Contractor Survey

The McGraw Hill Construction Contractor Panel was used for this study. Contractors had to have worked on a project in the hotel, retail or restaurant industry in 2012 to participate in the survey. The contractor survey had a total of 183 respondents. This sample benchmarks at a 95% confidence interval with a margin of error of 7.2%.

73 general contractors or construction managers and 110 trade contractors were surveyed. Their sector experience was as follows: 152 contractors worked on hotels, 178 contractors worked on retail, and 145 contractors worked on restaurants.

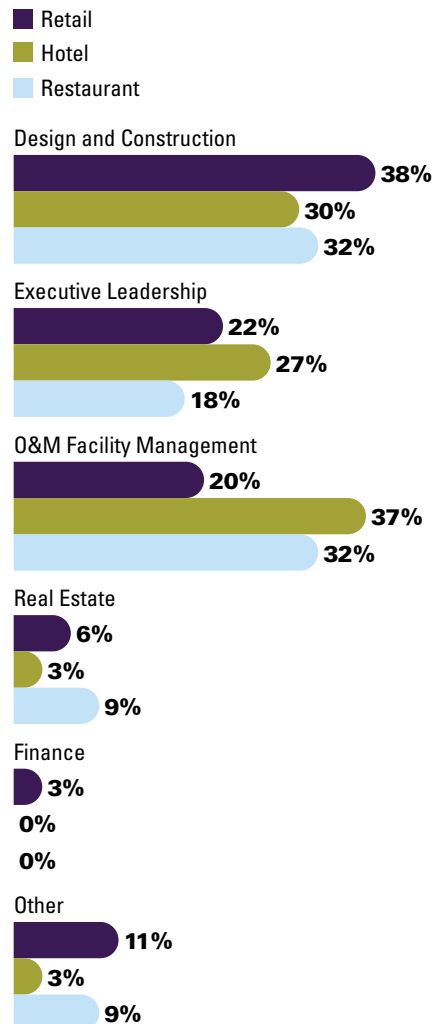
IDI Research

The five confidential IDIs included three retail and two hotel respondents who were responsible for one of the following three departments: sustainability, construction or building operations. The retail respondents worked for a regional furniture retailer, a regional supermarket

chain and a national big-box retailer. The hotel respondents worked for large, international, multibrand hotel companies. The retail companies either directly owned their stores or had land or property leases. The hotel properties were largely owned by a third party. ■

Division at Owner's Company Where Respondent Works

Source: McGraw Hill Construction, 2013



Resources

Organizations, websites and publications that can help you get smarter about green building trends occurring in the retail and hospitality sectors.



McGraw Hill Construction

Main Website: construction.com

Dodge: construction.com/dodge

Research & Analytics:

construction.com/dodge/

dodge-market-research.asp

GreenSource: greensourcemag.com

Architectural Record: archrecord.com

Engineering News-Record: enr.com

Sweets: sweets.com

SmartMarket Reports:

construction.com/market_research

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Waste Management

www.wm.com

Associations:

American Hotel & Lodging Association: ahla.com

American Institute of Architects (AIA): aia.org

Association for Retail Environments:

retailenvironments.org

Building Owners and Managers Association

International: www.boma.org

Food and Marketing Institute (FMI): fmi.org

"Green" Hotels Association: greenhotels.com

Grocery Manufacturers Association

(GMA): gmaonline.org

International Facility Management Association: ifma.org

International Hotel & Restaurant Association: ih-ra.com

National Retail Federation: nrf.com

Retail Industry Leaders Association (RILA): www.rila.org

National Restaurant Association: restaurant.org

National Grocers Association: nationalgrocers.org

Federal Government:

U.S. Department of Energy: energy.gov

U.S. Environmental Protection Agency: epa.gov

ENERGY STAR: energystar.gov

National Institute of Standards and Technology: nist.gov

WaterSense: epa.gov/watersense

Other Organizations:

Alliance to Save Energy: ase.org

Audubon International Green Lodging Program:

auduboninternational.org/green-lodging

ASHRAE: ashrae.org

EcoRooms and EcoSuites: ecorooms.com

The Green Building Initiative: thegbi.org

Green Globe: greenglobe.com

Green Hotelier: greenhotelier.org

Green Key Eco-Rating and Meetings

Programs: greenkeyglobal.com

Green Seal: greenseal.org

GREENGUARD: greenguard.org

The International Living Future Institute

(The Living Building Challenge): living-future.org

The National Institute of Building Sciences: nibs.org

Natural Resources Defense Council: nrdc.org

UL Environment: ul.com/environment

U.S. Green Building Council: usgbc.org

■ Design and Construction Intelligence

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