

Green is the New Gold in Lodging

May 28, 2008 / By John Scaggs , Gregory P Hartmann

Environmental Sustainability offers the greatest opportunity to the lodging industry since the innovation of niche products like limited-service, extended-stay, all-suite, and focused-service hotels and the greatest "perceived" threat since the innovation of teleconferencing. Many of us who have been in the Lodging Industry for 20 years or more will remember when "fads and fears" were discussed around the cannibalization of offering guests the same guest room (or perhaps even a suite) for a price below that of a full-service hotel. Similarly, for over a decade during the 1980s the industry feared (and still does) the effect teleconferencing will have on business and meeting travel. In the wake of these innovations, largely because of one and in spite of the other, the lodging industry went on its most profitable 20-year run in history from 1987 to 2007.



But "going green" is more than a product innovation or even a new technology, although there will certainly be both associated with this latest shift in our industry. For such a change, we must go back to the movements of the 1960s when the lodging industry was only a participant in the much larger societal pivot towards accepted civil rights for all. As then, you will have individuals who harbor their own often times misguided views of the movement, but the fact remained, anyone in business who failed to adopt those policies were quickly rendered obsolete by the market and/or government. Similarly a hotelier today, who waits too long to act, will find his or her property considered antiquated by the market demand for green products and services and by government requirements for green certifications. Although many doubts about the veracity of this new paradigm were expressed to me by individuals attending the 2008 ALIS and Hunter Conferences, one only need look at the majority of ads on TV, the top of agendas for most federal and local legislative bodies, and even the oil companies themselves who have committed billions to alternative energy resources so as not to get caught in the myopia that prevented the horse and buggy manufacturers from profiting from the automobile boom of the early 20th century to understand the profound significance of this movement.

This is all great news for the lodging industry, and we predict for the U.S. economy, both of which could use an updated version of the tech boom to get back on track. Now that being green is considered hip, we are finally poised to make a major, permanent, industry-wide shift toward environmental sustainability that transcends the granola-eating, Birkenstock-wearing, counter culture and resonates that environmental sustainability is much more about making money than saving the planet. And isn't it nice that we are now in a position to do both.

Many hoteliers have a "deer in the headlights" reaction to the green movement as it represents a somewhat radical departure from the status quo, and this fear of the unknown causes understandable apprehension and exaggeration of potential risks. Many are skeptical that hotels can adopt more environmental practices while maintaining cost control and guest satisfaction levels. Again, our research indicates that you can do both.

The current worldwide movement toward environmental sustainability appears to be heeding the call that Austin-based science fiction writer Bruce Sterling issued in his January 3, 2000, "Viridian Manifesto," which puts forth that, "Civil society does not respond at all well to moralistic scolding," but it can however, "be led anywhere that looks attractive, glamorous and seductive." He adds that, "The task at hand is therefore basically an act of social engineering. Society must become Green, and it must be a variety of Green that society will eagerly consume. What is required is not a natural Green, or a spiritual Green, or a primitivist Green, or a blood-and-soil romantic Green. The world needs a new, unnatural, seductive, mediated, glamorous Green. A Viridian Green, if you will."

Summary

Environmental awareness offers the greatest opportunity to the industry since the innovation of niche products like focused-service hotels. This article discusses various certification programs, and demonstrates the business case for green lodging.

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Sterling asserts that aesthetically rich environmental design, techno-progressivism, and fostering a sense of global citizenship will be the most critical components to ensure worldwide adoption of this social transformation. "Energy meters, for instance, should be ubiquitous. They should be present, not in an obscure box outside the home, but enshrined within it. This is not a frugal, money-saving effort. It should be presented as a luxury. It should be a mark of class distinction. It should be considered a mark of stellar ignorance to be unaware of the source of one's electric power. Solar and wind power should be sold as premiums available to particularly affluent and savvy consumers. It should be considered the stigma of the crass proletariat to foul the air every time one turns on a light switch."

Evidence that the hospitality industry has begun to embrace this viridian concept is illustrated in the photo that appears on the Gaia Hotel and Spa webpage, which portrays eco-pioneer Wen Chang proudly standing before energy meters in the lobby of his LEED Gold Certified Gaia Hotel and Spa in the Napa Valley.



To underscore the importance of adopting eco-friendly building and operations practices, numerous industry associations and government entities are emerging to assist the commercial building community with adopting and implementing environmentally sustainable practices. The American Institute of Architects (AIA) has formed a Sustainability Task Group that has developed the "2030 Challenge." This position statement calls for the immediate energy reduction of all new and renovated buildings to half the national average for that building type, with increased reductions of ten percent every five years so that all buildings designed by the year 2030 will be carbon-neutral (meaning that they will use no fossil fuel energy). In June 2006, the U.S. Conference of Mayors unanimously adopted the 2030 Challenge¹.

While new green building projects are garnering the majority of attention, the fact that there are roughly 50,000 "unsustainable" hotels currently in the existing U.S. building stock represents a tremendous opportunity to improve existing operations and maintenance practices in an attempt to meet the "2030 Challenge."

In addition to the previously noted barriers to adoption by the hospitality industry, there is no uniform standard for measuring and rewarding environmental commitment. While many local entities such as PACE (Partners for a Clean Environment) in Boulder, Colorado, the Bay Area Green Business Program in greater San Francisco, and the Florida Green Lodging Program attempt to recognize and reward environmental commitment, they all use inconsistent criteria to measure and reward environmental commitment.

The Ecotel certification program, developed by HVS and the Rocky Mountain Institute in 1994, was a pioneering program that recognized environmental commitment in the lodging industry. Unfortunately it was a bit ahead of the curve and was unable to achieve broad market acceptance in the mid-1990s. This program is comprised of five categories: environmental commitment, solid waste management, energy efficiency, water conservation and preservation, employee environment education and community involvement. While the program has remained somewhat dormant in the U.S., it has experienced recent growth in India and in other parts of Asia. The certification criteria are currently undergoing an update in preparation for a re-launch in the U.S. in the near term.

Another program that is gaining significant traction is the U.S. Green Building Council's (USGBC), Leadership in Energy and Environmental Design (LEED) certification system. The USGBC is a nonprofit membership organization whose vision is a sustainable built environment within a generation. Its membership includes corporations, builders, universities, government agencies, and other nonprofit organizations. Since USGBC's founding in 1993, the Council has grown to more than 13,700 member companies and organizations, a comprehensive family of LEED green building rating systems, an expansive educational offering, and a network of 72 local chapters, affiliates, and organizing groups². There are currently over 46,000 LEED Accredited Professionals who have completed an extensive education curriculum and passed a rigorous exam testing their knowledge on the LEED certification principals.

Doug Gatlin, Vice President of Market Development for the USGBC indicated that their staff of 120 full-time employees based in Washington D.C. field approximately 2,000 media inquiries monthly; their website, www.usgbc.org, receives a staggering two million hits per month.

Shortly after its formation in 1993, the USGBC identified the sustainable building industry's need for common definitions and criteria to identify projects as "green buildings." The USGBC quickly formed a diverse committee comprised of architects, realtors, attorneys, building owners, and environmentalists to research the topic and to devise an action plan. The result of the collaborative efforts of this diverse committee was the LEED Pilot Project Program, or LEED Version 1.0. The LEED building certification program has gone through several iterations since its initial launch at the USGBC Summit in August 1998, including Version 2.0 that was released in March 2000, and the LEED for Existing Buildings (EB) Operations & Maintenance (O&M) which was announced in January 2008.

The LEED rating scale is quickly becoming part of the modern vernacular. Born out of the commercial building sector, individuals not involved with the commercial building industry had little exposure to the rating system. Certifications such as LEED for Homes, which was launched in December 2007, and LEED for Neighborhood Development, Retail, and Healthcare, which are currently in pilot testing stage, are only expected to broaden the mainstream familiarity with the LEED brand. To illustrate the adoption rates, nearly 3.2 billion square feet of commercial building space is currently involved with the LEED Green Building Rating system, and according to McGraw Hill Green Building Smart Market Report 2006, approximately 10% of commercial construction starts are expected to be green by 2010³. The current array of LEED certifications includes the following:

- New commercial construction and major renovation projects (LEED-NC)
- Existing building operations (LEED-EB)
- Commercial interiors projects (LEED-CI)
- Core and shell projects (LEED-CS)
- Homes (LEED-H)
- Neighborhood Development (LEED-ND)⁴

According to Gatlin, a web-based tool is currently under development scheduled for completion by the end of 2008, which will replace the various different certifications and offer a single rating system, which takes into account the characteristics and unique qualities of various building types. Thus, the clamoring for a "LEED for Hospitality" certification is essentially a moot point.

The original version of the LEED-EB certification included several components that were deemed administratively burdensome, and put disproportionate emphasis on capital-intensive property upgrades and retrofits, which hindered broad adoption particularly within the hospitality industry. The most current version, LEED for Existing Buildings: Operations & Maintenance includes modifications designed to streamline the documentation process, clarify previously ambiguous language, and reduces the number of financially onerous credits to encourage higher rates of market adoption. Additional objectives include fewer prerequisites, a greater focus on operations

and maintenance best practices, ease of scale for greening large portfolios, more rewards for environmental performance, and a move away from prescriptive credits. The changes in the new version do not affect the underlying principals of LEED for Existing Buildings Version 2.0, rather they are designed to clarify its intent, and encourage market adoption.

Marc Heisterkamp, Manager, Corporate & Investment Real Estate at USGBC indicated that, "The LEED rating system has and will continue to evolve over time. As the building industry adapts to LEED, we will raise the performance levels as necessary so that the program continues to recognize market leadership. Additionally, we are always working on making the necessary refinements to our existing certification systems. Currently the LEED for Existing Buildings: Operations & Maintenance is a good fit for many space types, including hospitality, but we are investigating how to make improvements and refinements."

Continuing to target the three areas: people, planet, and profit, the LEED for Existing Buildings: Operations & Maintenance certification continues to focus on the following categories and goals within each category:

- **Sustainable Sites**
 - ◊ Protect and/or restore sites
 - ◊ Reuse existing buildings and/or sites
 - ◊ Protect natural and agricultural areas
 - ◊ Reduce the dependence on vehicular transportation

- **Water Efficiency**
 - ◊ Water use reduction
 - ◊ Reduce quantity of water needed
 - ◊ Reduce municipal water supply and treatment burden

- **Energy & Atmosphere**
 - ◊ Optimize energy efficiency and system performance
 - ◊ Encourage renewable and alternative energy sources
 - ◊ Support ozone protection protocols

- **Materials & Resources**
 - ◊ Reduce the amount of materials needed
 - ◊ Use materials with less environmental impact
 - ◊ Reduce and manage waste streams

- **Indoor Environmental Quality**
 - ◊ Establish good indoor air quality
 - ◊ Eliminate, reduce and manage the sources of indoor pollutants
 - ◊ Ensure thermal comfort and system controllability
 - ◊ Provide for occupant connection to the outdoor environment

To illustrate the current impact that the built environment has on resource and waste loads in the U.S. the USGBC presents the following facts:

U.S. Buildings	39%	of total energy consumption
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Impacts on	71%	of electricity consumption
Resources	39%	of Carbon Dioxide emissions
	30%	of raw materials use
	30%	of waste output
	12%	of potable water consumption
Source: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1718		

While some are skeptical about the actual savings of green building in terms of resource and financial savings, the following statistics released by the USGBC on resource savings are compelling:

Energy Savings	30-50%
Carbon Emissions	35%
Water Use	40%
Solid Waste	70%
Source: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1720\LEED EB.ppt	

Gatlin indicated that energy savings are directly correlated with the various LEED certification levels, certified, silver, gold, and platinum. He indicated that certified projects achieve 20% overall savings, Silver 30%, and Gold and Platinum certified projects achieve overall savings of 40% and beyond.

Putting these general, somewhat abstract figures into more a more tangible context, the USGBC presented the following case study to illustrate the compelling business case for green building.

Adobe/Cushman - San Jose, California - LEED Platinum Certification



Description	Cost	Rebate	Savings	ROI
Load Management	\$445,248	\$205,437	\$729,185	304%
Lighting	\$300,701	\$44,918	\$155,616	61%
Equipment	\$298,439	\$122,575	\$107,976	61%
Monitor & Controls	\$39,472	\$11,000	\$12,001	42%
Water Management	\$145,732	\$5,396	\$31,287	22%
Waste Management	\$0	\$0	\$137,380	-
Office Supplies	\$0	\$0	\$8,700	-
Janitorial	\$0	\$0	\$0	-
Indoor Air Quality	\$0	\$0	\$0	-
Alternative Trans.	\$0	\$0	\$0	-
Alternative Energy	\$16,000	\$0	\$0	-
LEED Consulting	\$105,000	\$0	\$0	-
Registration/Cert.	\$12,000	\$0	\$0	-
Total	\$1,362,592	\$389,326	\$1,182,145	121%

As reflected above, the combination of savings and rebates associated with the property upgrades totaled roughly \$1,600,000, which reflects a 121% return on investment, with a payback period of ten months.

While the Adobe/Cushman business case presented above reflects savings achieved through significant retrofitting, the new LEED for Existing Buildings: Operations & Maintenance certification targets savings through cost-effective, environmentally sustainable operations and maintenance programs, and sustainable purchasing practices that can be quickly and conveniently implemented.

A business case prepared by Michele L. Diener, Amisha Parekh, and Jaclyn Pitera, graduate students at the University of Michigan pursuing a dual Masters degree (MBA and MS) at the Erb Institute, helps to provide contextual reference to the general savings figures presented above. The Orchard Garden Hotel case study is one of nine that will be published in a book on green building in the near term.

The Orchard Garden Hotel, San Francisco's first LEED certified hotel, illustrates the utility savings and increased levels of occupant enjoyment through the utilization of sustainable building and ongoing operational principals. Many of these high-performance materials or maintenance practices came at little to no cost premium, and as clearly illustrated below, the hotel benefits from an attractive design scheme.

Orchard Garden Hotel - Public Areas



Orchard Garden - Guestrooms



The following table reflects the key performance highlights and projected savings of the hotel:

Hotel Construction and Operations Highlights

- The location is characterized by dense urban infill development close to public transportation, following smart growth principles.
- During the construction of Orchard Garden, actions were taken to reduce the amount of soil erosion, sedimentation in waterways, and dust.
- The total amount of recycled materials in the building construction is over 10% (based on cost).
- The building's construction specifies fly ash in the concrete to avoid landfill disposal, to conserve natural resources and to reduce thermal cracking effects.

Site

- 55% of the materials were extracted locally, and 22% of the materials were manufactured locally.

Materials and Resources and Waste Management

- Out of the total new wood in the facility, the hotel uses 50% Forest Steward

Council (FSC) certified maple from Minnesota for most of the furniture and trim.

- Every guest room provides in-room recycling for plastic bottles, metal cans, and paper and the hotel offers used battery collection for guests.
- Day lighting is incorporated in 82% of Orchard Garden's occupied areas.
- A high albedo roof coating on the hotel decreases heat island effect and saves energy.
- The property employs a guest room key card energy conservation system that is projected to lower electricity consumption by 20%.
- The building's central hydronic heating and cooling system is more efficient than a fan coil system.
- Through commissioning, the team solved problems in advance, and reduced energy consumption with more accurately performing systems.
- Laundry practices, including bulk washing and less frequent washing, conserve resources.

Energy

Water

- Low flow bathroom toilets and faucet aerators help conserve water.
- No outside irrigation system is needed.
- The hotel's central hydronic heating and cooling system requires no ozone depleting substances (CFCs, HCFCs, or halons).

Indoor Environmental Quality

- Housekeeping staff use non-toxic, fruit based cleaning products.
- Adhesives, paints, carpet systems, furniture, and fixtures have low volatile organic compound (VOC) emissions.

The Ambrose Hotel in Santa Monica, California, which anticipates receiving LEED Silver certification by the summer of 2008, notes the following levels of savings as a result of their sustainable practices.

Ambrose Hotel - Guestroom



Operations Highlights

- The installation of low flow shower heads and aerators have resulted in a 20% savings on water cost.

Water Efficiency

- Energy efficiency rating of 100 according to the Environmental Protection Agency's (EPA) Portfolio Manager tool.

Energy Performance

- 30% reduction in energy usage
- Annual savings of \$32,300

Renewable Energy

- 17% of The Ambrose Energy is offset with REC's (Renewable Energy Credits)
- 6,000 kwh per month is equivalent to planting 15,200 trees, taking 12 cars off the road per year or eliminating 392,940 lbs of CO2 emissions per year

Waste Stream Audit/Reduction

- 75% of hotel waste is recycled.
- 13.5 tons of waste avoids landfill per year

Innovations in Operations and Maintenance

- London Cab Hotel Shuttle Conversion to bio-diesel reduces carbon emissions
- Business Transit Access Passes for all Ambrose employees. Complimentary annual bus pass and emergency ride home program in place
- Double-sided printing - savings of \$1,188 annually.

The new LEED for Existing Buildings: Operations & Maintenance certification targets savings through cost-effective, environmentally sustainable operations and maintenance programs, and sustainable purchasing practices that can be quickly and conveniently implemented.

Within the "Sustainable Sites" category, many existing hotels, particularly those in urban environments, can be awarded credits for their proximity to public transportation, and for encouraging employees to utilize alternative transportation methods such as bicycles, walking, carpooling, and green vehicle usage. In addition to reducing carbon emissions, many of these strategies provide the added benefit of improving employees' general health and quality of life, which has a direct correlation to productivity, and bottom-line profitability.

While initiatives to increase "Water Efficiency" are plentiful, many are capital intensive such as retrofitting bathroom fixtures including dual-flush toilets, installing aerated, low-flow fixtures, and retrofitting laundry equipment. Several credits however, can be achieved through cost-effective means such as the installation of water performance meters that allow more accurate benchmarking and performance measuring. Additional credits for potable water reduction can be achieved by adopting a landscaping plan that includes more species that are indigenous to the local ecosystem. Not only do native plant species have more modest irrigation needs, they also contribute to a hotel's aesthetic cohesion with its surroundings. Emphasis on water efficiency will become more pronounced as areas in the West and Southeast experience more severe drought conditions in the coming decades.

For "Energy & Atmosphere" credits, points can be earned for achieving a strong Energy Star rating, and for simply performing an energy usage investigation and analysis. Further credits are awarded for actually implementing an energy management plan. Additional credits can be earned for purchasing renewable energy from the local utility provider and for reporting emissions reduction. While there may be somewhat of a premium for renewable energy today in some markets, government rebates, ongoing research, and increased levels of market adoption are quickly narrowing the gap. According to the USGBC, "Various LEED initiatives including legislation, executive orders, resolutions, ordinances, policies, and incentives are found in 72 cities, 22 counties, 16 towns, 27 states, 12 federal agencies, 10 public school jurisdictions, and 35 institutions of higher

education across the United States."⁵ Many of these initiatives are designed to encourage sustainability through the use of renewable energy sources. With energy costs for full-service hotels and limited-service hotels at approximately 4.0% and 4.5% of total revenue, respectively⁶, targeting utility reduction can have a notable impact on overall profitability.

Within the "Materials & Resources" category, the primary emphasis is on the implementation of a sustainable purchasing plan, which focuses on products with high levels of recycled materials, rapidly renewable resources, and purchasing organic foods from local sources. With the green wave sweeping across nearly all aspects of the hotel industry, many vendors now offer eco-friendly alternatives at little to no cost premium, which maintain high performance standards.

Perhaps the most pronounced increase in emphasis on operations and maintenance is within the "Indoor Environmental Quality" category, which awards as many as nineteen credits for improving indoor air quality and adopting a more eco-friendly cleaning program. Up to nine credits can be earned for implementing a documented educational program, and utilizing cleaning products with lower volatile organic compound (VOC) levels. An additional ten points can be achieved through upgrades to a property's ventilation system, including filter upgrades, offering occupant controls for temperature and lighting (features which nearly all hotel rooms currently offer), and offering daylight and outdoor views to occupants (another feature which hotels inherently offer). To put these credits levels in perspective, the current LEED rating scale is as follows:

- Certified 34-42 points
- Silver 43-50 points
- Gold 51-67 points
- Platinum 68-92 points

This latest iteration of the LEED for Existing Buildings: Operations & Maintenance certification program should yield higher adoption rates among hotels in the U.S. in the near term as administrative and financial hurdles are now far less onerous. Growth of corporate social responsibility initiatives that encourage eco-friendly business travel and corporate events, coupled with the growth of the viridian movement in the lodging industry should provide any further motivation hoteliers may need to adopt more environmentally sustainable practices.

With the market demand shifting towards environmental awareness, we can see government initiating what will likely become ubiquitous insistence of state and federal employees to patronize hotels certified by third-party designations like the USGBC's LEED certification or HVS' Ecotel program. Given that all three remaining Presidential candidates have "the development of green industry" as a major part of their economic platforms, you can count on these kind of government interventions to increase dramatically in 2009.

The best news of all, however, is that the previously formidable cost of going green has become almost negligible and in some cases even less expensive with regard to new hotel development. Similarly, existing hotel operations can benefit from increased efficiency regarding water use, energy conservation and employee retention and performance by adoption of many green practices. Unfortunately, the existing buildings that house our current hotel operations may require capital expenditures to retrofit outdated windows, antiquated HVAC equipment and wasteful plumbing fixtures to achieve environmental certification. But you may be pleasantly surprised that your old hotel may in fact already have many of the attributes that convert into points towards LEED or Ecotel certification before you even spend a penny on retrofits. Attributes such as the use of existing materials (that are already in your hotel), proximity of your location to staff and demand generators and the implementation of sustainable purchasing, maintenance, and staff education plans, are all directly convertible into points towards LEED and Ecotel certification. That is more assured direction than the much more nebulous Star and Diamond ratings you get from Mobil and AAA.

Amidst all of these obvious trends and market shifts, we do have the issues of an evolving perspective and scorecard that makes it very difficult for hotel owners and executives to navigate their properties and brands toward cost effective and value enhancing practices. As quickly as the global environment may be deteriorating

due to the carbon and chemical emissions of the last century, the political and economic environment as it relates to green practices, certification and adoption changes even more rapidly. As we have done since the establishment of HVS Eco Services in 1994, we will continue to monitor, analyze and inform the lodging industry. Our focus is always to evaluate and recommend environmentally sustainable practices that reduce costs, generate revenues, and increase value for a lodging facilities, and ownership and management companies to distinguish them from fads, green washing, and reversible trends that will cost your hotel or brand in expenditures and image, both of which comprise the cornerstones of lodging valuation.

¹www.aia.org/sustainability_test

²www.usgbc.org

³USGBC/Green Building Facts/Green Building by the Numbers, March 2008

⁴www.nrdc.org/buildinggreen/leed.asp

⁵www.usgbc.org/DisplayPage.aspx?CMSPageID=1779

⁶Smith Travel Research HOST Report 2007