



Examining real world return on investment for green retail design and construction

November 12, 2012 - Long Island

The number of retail design and construction projects incorporating sustainable strategies is rising at an exponential rate. Naturally, so are the questions that retailers have regarding initial implementation costs, tracking measures, and return on investment. With an increased understanding of key items such as the premiums associated with sustainable design specifications and returns on various LEED credits, retailers can integrate the latest in green building innovations within their facilities and see social, environmental, and economic benefits.

Green Impact on Retail Design

The rise of green building is affecting the design of retail facilities, with some of the most noticeable changes occurring in lighting design. These changes include the introduction of more natural daylight into retail spaces and the blossoming of LEDs as a mainstream lighting solution. Daylighting strategies include skylights, clerestory windows, and more expansive storefronts. The introduction of daylight is coupled with dimmable or staged lighting controls, yielding substantial reduction in the use of electrical power.

Advances have also been made in heating and cooling design for retail facilities, with a notable move toward high-efficiency HVAC equipment. HVAC systems are reaching a level of performance that is 20% more efficient than those on the market just five years ago. One recent innovation is a commercial HVAC system that integrates directly with solar power. This system yields an efficiency level of 34 SEER (Seasonal Energy Efficiency Rating), and allows for integration of solar energy without any changes to the building's electrical infrastructure. The installation costs 15% less than traditional solar energy systems and helps meet Credit EAc2 On-site Renewable Energy on the USGBC's LEED rating system.

LEED Project Premiums

Based on case studies of a mid-size, national architectural firm with a 60% weighting in retail and shopping center projects, as well as a \$7 million per year regional general contracting company with a 90% weighing in retail and shopping center projects, fee premiums for sustainable design appears to be increasingly becoming a non-prohibitive factor.

From 2007 to 2012, the architectural firm experienced an increase in the number of LEED projects from 5% to 25% of their jobs. During that same period, the fee premium for LEED projects plummeted from 100% to 10%. Comparably, from 2007 to 2012, the general contracting company saw an increase in LEED projects from 0% of their work to 60% of their work. During that same period, the construction cost premium for LEED projects dropped from 25% to 5%.

ROI for LEED Credits

The mysteries and complexities of registering and administering a LEED project have been significantly reduced as more design professionals, contractors, manufacturers, and suppliers bring

green products and services into the marketplace. The employment and role of commissioning authorities has expanded, yielding better and more detailed information about HVAC units, fans, and other mechanical equipment. Quite often, minor adjustments to fans, belts, and programming of controls can lead to 10% to 20% savings in operational energy costs.

In addition, when evaluating the ROI for green design and construction, all three benefit aspects should be considered - social, environmental, and economic. Consider, for example, the WEc1 LEED credit for water use reduction. The social benefit of achieving this LEED credit is the promotion of water efficiency and awareness of this effort; the environmental benefit is the reduction of potable water demand to protect the natural water cycle and save depleting water resources; and the economic benefit is a reduction in long-term operating costs and related end-use energy in exchange for a small premium to obtain high-efficiency fixtures.

While the history of results from green strategies in retail design and construction is much shorter than in other building types, there are already useful metrics at the disposal of retailers and shopping center managers to track ROI. The primary measurement tool is the 12-month tracking of comparable utility bills (electric, gas, and water) from sustainably designed and built facilities to traditional construction. In addition to achieving a competitive advantage via energy savings, national retailers which have embraced sustainability are realizing benefits including healthier and happier employees, leading to increased employee retention, as well as positive communication of brand ideals to customers, leading to increased shopper-loyalty.

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