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What are the benefits of green building for retail? What cost effective measures should be considered?

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Development is an essential element in our economy. Buildings use one-third of our total energy, two-thirds of our total electricity and transform land that in many cases, provide valuable ecological resources. These two realities when considered together create an exciting challenge for everyone involved in development. The retail market is an excellent candidate for consideration of how green building technology can benefit the developer, owner, retailer and consumer. If we focus on the retail developer, the benefit of building green appears more obscure since so much of retail begins with land master planning, site planning and creation of a "shell" which is then leased and fitted-out by a tenant. The U.S. Green Building Council (USGBC) LEED rating systems has responded to this reality by creating a rating system for "core and shell" and is in the "draft pilot" phase for LEED for retail-commercial interiors.

Many businesses have elected to plan new energy efficient facilities for energy conservation and have been very successful. Others have made it an image issue and are designing and constructing new facilities with LEED accreditation as a major objective.

But what are the benefits of green building for the retail developer? What cost effective measures should be considered?

Site/Masterplan:

- * Build on a documented environmental assessment site.
- * Develop a "brownfield" site.
- * Design a storm water management quality and quantity control system: Storm harvesting system - impervious surface management.
- * Heat island reduction site improvements: Parking surface design and parking under buildings.
- * Exterior site lighting: Light controls.
- * Water efficient irrigation: Storm harvesting system to provide non-potable water needs.
- * Reduce site disturbance: Use of native vegetation and promote biodiversity.

Building:

- * Envelope performance design.
- * Construction waste management: Divert construction, demolition and land-clearing debris from landfill and incineration disposal.
- * Building lighting: Light pollution, energy use reduction and controls.
- * Use of regional materials.
- * Low emitting envelope materials with low VOC's.
- * Reduced energy use.

How can a design professional introduce the concept to clients?

- * Brainstorm potential for green development.
- * Establish hierarchy of green concept application.
- * What is readily achievable now?
- * How to implement higher levels of technology?
- * Discuss and promote sustainable design with tenants.
- * Strategize with clients at initial planning stage to evaluate benefits of existing and new buildings.

A common sense approach can be to phase-in sustainability so initially low risk applications are considered such as dual flow toilets, waterless urinal, aerated faucets, fluorescent and incandescent mixed lighting with controls such as key cards and occupancy sensors.

Here are a few items to consider:

- * Lighting is about half of the energy usage for a large number of retail establishments. Reducing the energy (not light) usage for lighting will have a considerable impact in operating costs, initial costs in electrical and mechanical system sizes, and also move toward a LEED certification for a project.
- * Retail indoor lighting automatic controls are a reasonable approach that can be achieved with a modest investment in electrical time-clocks and wiring.
- * Retail utilizing high efficiency fluorescent fixtures can produce 4 to 5 times more light than incandescent fixtures and stay within the lighting power allowance limits of the model energy code and help in meeting prerequisites towards LEED certification.

Various types of design services can be offered beginning with heat flow analysis, lighting studies and energy modeling. A second level may include water and indoor air quality analysis. Building materials and installation methods provide another phase of design. Commissioning provides added value during the design and construction process by impacting material and systems selection. It also provides monitoring during initial start-up and system operations and maintenance.

Initiating discussions within your development team will place you in a position to be the leader in your community by considering sustainable design.

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