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What Logistics Can Learn from LEED

Many supply chain leaders devoted to environmental sustainability practice what they preach by designing those values into their industrial facilities.

By Hugh F. McMahon IV

The importance of sustainability in developing and operating distribution centers and plants has become a popular logistics topic. So has LEED, the Leadership in Energy and Environmental Design (LEED) certification program. LEED, created by the U.S. Green Building Council (USGBC) (www.usgbc.org), offers a checklist of various building improvements and operational standards that, when implemented, provides a blueprint for achieving a "green" facility. The program has helped elevate the importance of sustainability in the real estate development community.

However, sustainability should be addressed from a larger, more holistic perspective. The building we operate in is part of the sustainability story, but in the industrial sector, and most notably in logistics, the facility itself is not the driver of sustainability.

Unfortunately, to date, the USGBC's LEED program has not provided guidance for achieving sustainable operations specific to the unique needs of the industrial sector. Its checklist approach to the development process and its list of green targets in construction, energy use and design are currently most applicable to developers of office, hospitality and large retail properties where significant numbers of people use and interact with a facility. Industrial properties, due to their unique operational purpose and that purpose's heavy reliance on energy intensive and emissions creating processes, inherently need a different checklist from which to operate to guide and document resource consumption reduction and efficiency.

LEED reflects the development process, design technique and systems installation during construction, but does not take into account the operational purpose of the property, its long-term performance and its effects on the surrounding environment.

In fact, according to a 2007 report on green building in the

warehouse sector from Gazeley, a leader in Europe's sustainable building movement and a wholly-owned subsidiary of Wal-Mart Stores Inc., a mere eight percent of a building's impact on the environment occurs during construction. The majority, at 92 percent, occurs during a building's operational life. For the industrial developer pursuing LEED certification based on current criteria, the actions taken to satisfy a checklist have been limited in scope—like installing a bike rack to earn a point on that checklist. That actually provides little real impact for a warehouse facility, and may not even have the long-term benefits that other actions taken on a broader scale might have in achieving large-scale sustainability.

The 1450-acre Tejon Ranch Commerce Center is home to an IKEA distribution center.

Holistic Logistics

When evaluating an industrial building's level of sustainability, it is vital to look beyond its walls and to embrace a more holistic approach. Builders and others interested in holistic sustainability should consider the backbone infrastructure of a master planned industrial park, and the proximity to existing infrastructure and regional transportation patterns, just as closely as they measure onsite energy use and green design technique. For LEED to truly be adopted in the industrial sector, it must begin to award points for sound site selection that creates efficiencies and reduces resource consumption throughout the supply chain.

Therefore, to "lead" in adopting sustainable and green best practices in the industrial sector requires more than just pursuing "LEED" certification. While adopting its current criteria can be beneficial, LEED certification is only one part of large-scale supply chain sustainability and should not serve as a substitute. To its credit, the USGBC has been studying ways to make the LEED rating system more applicable to the industrial real estate sector. However, it costs money to register and pursue certification, and viable sustainable developments in the industrial sector are understandably reluctant to take on that additional cost when certification is not necessarily a true measure of their sustainability.

Tejon Ranch maintains more than 270,000 acres of land holdings for the development of sustainable operation. The Tejon Ranch Commerce Center accounts for 1,450 of these acres. It is a master planned industrial/commercial development located at the junction of Interstate 5 and Highway 99 in central California. The Tejon Ranch Commerce Center is already home to major distribution centers for IKEA and Famous Footwear, two internationally recognized leaders in logistics and supply chain efficiencies.

True sustainability for warehouse, distribution and industrial operations is significantly more than the current checklist offered by the USGBC. It begins at the macro level, master planning a location that could have major positive impacts

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Famous Footwear is also famous for its logistics and supply chain efficiencies, as practiced at its central California distribution facility.

on emissions reduction through improved inbound and outbound movements while avoiding impacts on adjacent or nearby residential communities. From there it advances to the micro level of design, energy efficiency, water conservation, and systems improvements at the individual facility.

By focusing on a facility's sustainability impacts throughout the supply chain, higher levels of sustainable and environmentally-conscious operations can be achieved than what is called for by the current LEED checklist.

A sustainable facility should be judged by how it fits into a finely tuned supply chain. While reducing environmental impacts caused by operations, improving inbound and outbound transportation of goods, and mitigating the effects of any harmful processes, bottom line benefits also accrue. But real leadership looks beyond the building to the big picture and to those operational questions that are critical to achieving large-scale, holistic sustainability.

Sustainable Development Checklist

Here is a checklist of initiatives that should be considered for any modern industrial facility, warehouse or distribution center looking at sustainable best practices for both efficiency savings:

• **Consider Existing Transportation Infrastructure**—By locating a facility near an existing transportation infrastructure, a strategically located industrial facility can achieve streamlined inbound/outbound goods movement, reduce fuel costs, and simultaneously reduce related emissions from destination travel.

• **Route Outside of Urban Congestion**—By moving inbound/outbound logistics patterns outside of the congested urban core, operators can conserve fuel and reduce emissions from excessive idling of diesel-fueled trucks.

• **Site Outside of Residential Environments**—By strategically placing a development at a location with no adjacent residential development, but one that has existing transportation infrastructure for regional employees and efficient inbound/outbound goods movement, operators can reduce impacts on regional quality of life.

• **Design for Energy Efficiency**—The use of modern, high efficiency Energy Star-rated systems will reduce energy consumption at a significant level. But industrial buildings have the additional advantage of using extensive skylights to provide natural light, and large footprint roofs perfect for adding solar panels as a carbon neutral energy source.

• **Conserve Water**—By investing in drought tolerant landscape and recycling waste water and runoff onsite for use in irrigation, industrial facilities can significantly reduce water consumption.

• **Re-Visit Facility Design**—Black Roof/White Roof technologies can help conserve energy by heating/cooling (respectively) a facility more effectively, thereby reducing dependence on energy intensive HVAC systems.

• **Re-Design Truck Courts**—By ensuring ample room dedicated to the truck courts at a modern warehouse or industrial facility, improved circulation and ample trailer storage space will reduce emissions from excessive idling and trailer repositioning.

• **Re-Examine Materials Procurement**—By securing construction materials produced within a 500 mile radius of the project site, a development can significantly reduce the carbon emissions created by transporting materials to the facility site. MH&L

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