

Thinking Green Can Save You Green

Believe the costs of sustainable design outweigh the benefits? A new brand of thinking has found ways to satisfy the environmentalists and cost-cutters alike.

By Dave Wolkowitz

TODAY, THINKING GREEN isn't just in vogue, it can also help you save green - money, that is. By adopting green building practices and a philosophy of sustainability, experts say, companies build long-term value and can reduce operating costs while still capturing a number of short-term benefits.

Stephan Vachon, assistant professor at Clarkson University's School of Business and Center for the Environment, says that incorporating sustainability principles into a company's core philosophy is not merely about meeting code for a specific project. "If you are a proactive firm in general, you will build up abilities and resources that will help you reduce regulatory costs across the board. You will also more easily find innovative solutions for any regulation that comes up," he adds.

Vachon believes companies that are advocates of sustainability are better able to adapt to highly volatile environmental regulations. For instance, changes in the political climate could alter the direction of the EPA, making regulations stricter and leaving those who tried to ignore sustainability feeling a bit behind the times.

Certified Planners

With sustainability and green building gaining popularity, experts wonder whether various certifications will become required. Since site planners have a global view of the location process, knowing which certifications might be required for those on their teams could be important. Otherwise, negotiations with municipal decision-makers could be stalled or derailed altogether. Vachon suspects that certifications might become the norm; for instance, site planners may have to make sure that blueprints presented at community meetings have been prepared by an architect certified in the areas of sustainability or green-building techniques.

Experts cite two key certifications. The International Organization for Standardization offers its ISO 14000, an organization-level certification for environmental management practices. In addition, the organization says its ISO 14001 is a "model for implementing an environmental management system" that not only helps deal with international environmental regulations, but also delivers business benefits by taking into consideration concepts important in finance, operations, and marketing. Additionally, the U.S. Green Building Council offers LEED (Leadership in Energy & Environmental Design) certification, which focuses on green-building techniques.

Strengthening Negotiations

Once a philosophy of sustainability is adopted, companies can leverage that knowledge to gain greater strength at the bargaining table.

Professor Vachon says ISO 14000 or LEED certification can engender flexibility among regulatory and municipal officials. Consider a pulp and paper company that wants to locate a new manufacturing facility in the vicinity of a residential neighborhood and other businesses. When officials raise concerns regarding odor, the company might find it hard to comply with the given guidelines. However, if certified, the firm might be able to persuade the officials that it is committed to - and capable of - reducing the odor via another method if more time is allowed.

Don Gallagher, a registered landscape architect and project leader with architectural and engineering firm Kling, agrees. "We find certification gives us leverage through goodwill; it shows the corporation is going to be a good neighbor. It shows a commitment, and municipalities are much less likely to impose additional conditions on development."

Gallagher says that during negotiations he sometimes finds himself educating municipal officials because they aren't fluent in federal guidelines, such as those enforced by the EPA. Other times, creativity inspires change. For instance, during one project Gallagher proposed a system for storm-water management that didn't include the traditional piping and parking-lot curbs - and officials thought his company was trying to pull a fast one. "But once we got their engineer involved and got him to understand it, he embraced our plan. They modified their code for a better result," Gallagher says.

Allison Bergman, an attorney with the law firm Lathrop & Gage, agrees that businesses are often able to help municipalities modify their codes. According to Bergman, when companies provide code guidance to government officials they can gain favor while making the regulatory scheme more inviting.

"Most cities have an antiquated code," Bergman says. By working with officials, Bergman has helped change code requirements so that her clients can still comply with the spirit of the original code while being able to make changes to building-material requirements and other specifications. "You not only help the city move into the next generation of development, but you're doing it in a green way."

Bergman believes that helping to improve code requirements also gives companies leverage when negotiating for incentives. Though industrial and manufacturing companies are accustomed to incentives, they don't often receive them specifically for promoting sustainability principals. As Bergman says, "If incentives are not in place, why not ask for them? Go to them and say, 'Give me some money. Make this happen.'"

Return on Investment

Companies might "think green" because they are forced to by regulations or because they are trying to be good corporate citizens. However, for most companies the key factor when deciding whether or not to go green is the ability to reduce lifecycle costs.

Don Rudy, a senior project manager and LEED-accredited architect with Jones Lang LaSalle, says companies concerned with sustainability aren't looking solely at upfront costs. "A developer might say it's cheaper to asphalt the whole place, but the question is, How much will this cost long term?" While asphalt might be cheaper initially, in the long term managing storm-water runoff and coping with the heat generated from the surface may pose greater costs, including ill-will

from the community. "There are many things in sustainable design that aren't common practice, but they are common sense," Rudy says.

Under the LEED system, facilities can achieve scores that place them at certain levels of accreditation, such as silver, gold, or platinum. Rudy says a LEED-accredited professional can help companies decide which level is most appropriate by considering the timeframe desired for economic payback and the appropriate level of upfront investment. Though higher levels of accreditation may mean greater upfront costs, Rudy suggests that over the long term the company will see an economic benefit.

Locating Sustainability

According to Rudy, industrial and manufacturing facilities can realize savings of as much as 20 percent on lifecycle costs. With that level of cost-reduction possible, it's clear why location professionals should look for environmentally friendly ways to reduce energy costs and pollutants.

To reduce electric bills, experts suggest utilizing cogeneration - capturing heat created by the manufacturing process and converting it back into electricity. By choosing cogeneration, companies become less reliant on the power grid and can increase their LEED rating at the same time.

Another way to cut energy costs is to reduce reliance on artificial lighting by using natural daylight. Several factors can influence the utilization of daylight: the materials used to construct the building, the design of the building, and its location and orientation. To improve solar potential, glass can be used in nontraditional ways to maximize daylight penetration - on roofs, for instance. Also, buildings can be designed and oriented for east-west exposure. The location of the building is an integral part of enabling those factors. For instance, a building in a normally overcast area or in a deep valley surrounded by tall trees would not have much solar potential.

Gallagher advises companies to be mindful of the tradeoffs that are sometimes associated with efforts to utilize solar potential. For instance, sites with complicated topography might require cost-prohibitive investments in infrastructure or earth-moving in order to allow a building to rely heavily on natural light.

Managing storm and waste water is also a major concern when siting a facility. Gallagher suggests using storm water for irrigation, and perhaps for firefighting or emergency cooling. Waste water can be cleansed in specially designed ponds or with filters. He says treating waste water on site not only will reduce water and sewage bills, but might actually help increase the groundwater supply.

"Sometimes we will use a vegetated wetland to clean water. The wetlands actually allow sediments to filter out, and they uptake nutrients to avoid fertilizer runoff," Gallagher says. Some municipalities, he notes, require active treatment such as running storm water through a chamber with a real structure and filters before it runs off the site.

Jones Lang LaSalle's Rudy cites the creation of heat islands as a concern for facilities in dense and urban areas. "Some companies use tilt-up buildings and have acres of parking lot all around them that heat up the surrounding area," he says. The orientation of the building should be considered in site planning, he says, as should finding sites that are suitable for solutions such as underground parking.

Rudy points out that environmentally friendly practices can reduce internal and external liability. For instance, during a power failure cogeneration might allow a company to continue production, thereby mitigating the harm caused by total work stoppage. To reduce external liability, Rudy

advises spill-prone manufacturing facilities to treat all the water on site without having it exit into the sewer system. Liability will be reduced because pollutants will not leave the site in the event of an accident.

Calling on the Professionals

In response to the increased importance of sustainability and green building, more professionals are becoming certified. Ideally, companies should seek sustainability consultants who have worked with clients in the same industry. This is useful because, for example, a pulp and paper factory has far different environmental concerns than an electronics assembly plant. But beyond the nuts and bolts of experience is the importance of passion and the ability to look for creative solutions.

"You want someone flexible and creative. You don't want a green fascist. Some people can go over the top with this," Rudy says. "You want someone grounded in the economics of the process," and able to overlay sound business judgment with sound design, he says.

Rudy also suggests considering the quality of expertise within the company. For instance, if a company does not have a great deal of in-house location expertise, it might seek out a development consulting firm that can help guide it through the location process while using principals of sustainability as a major guiding force.

Rudy says most companies he works with are eager to incorporate principles of sustainability and green building into their projects. "They are excited, and they are challenged by it. When we're approached with a project and we tell clients we're not going to cookie-cut it, I think that charges them up," he says. "While you certainly have interdisciplinary conflicts, it's a very energizing process."