Building GREEN Saves You GREEN

When trying to appease the environment, it has been the case, historically, that such a lofty pursuit drives up the cost of doing business. Developing retention ponds, separating sewers, restoring wetlands, and controlling erosion are expensive endeavors that are helping to improve the relationship between man and earth.

While many such projects are due to state or federal mandates, there is growing interest in a voluntary kind of environmental work that is still in its infancy stages in Indiana. Green, or sustainable, design practices are slowly making in-roads in the commercial and institutional sectors in Indiana. Low-flow water fixtures, skylights, solar panels, and high-efficient heating and cooling systems are just a few of the many features found in a sustainably designed building. The most popular green building practice is based on the Leadership Energy and Environmental Design (LEED) rating system. LEED is the national benchmark for the design, construction, and operation of high-performance buildings. LEED-certified buildings possess the following characteristics:

- Lower operating costs and increased asset value
- Reduced waste sent to landfills
- Less energy and water consumption
- Reduced greenhouse gas emissions

Indiana University South Bend will be the first among all IU campuses to have a LEED-certified building when the Student Housing Community Building is completed later this year. The 7,400-square-foot building, designed by The Troyer Group, will feature energy-efficient heating and cooling systems, waterless bathroom fixtures, automated lighting controls, natural plantings around the exterior, and high-efficiency washers and dryers. Additionally, all project supplies are coming from within 500 miles of South Bend and all scrap wood and metal from the project is being recycled, said IUSB director of facilities management Michael Prater. While the upfront costs for going so green on the facility will be a little more, Prater said it won't take long to recoup those expenses due to energy savings.

It might be presumed that constructing and installing environmentally friendly measures will escalate construction costs, but according to a 2007 study, there is no dramatic difference in average costs between green and non-green buildings. The country's largest general builder Turner Construction Corporation is at the forefront in green building. Mike Kaiman, vice president/general manager of Turner Corporation's Indianapolis office, said green building costs one-half to 5 percent more than non-green construction. In addition to the construction cost differential being nearly negligible, green building has a remarkable financial advantage in operational costs.

"People start out thinking they will do green building for the environment, but it makes a lot of business sense as well. You are spending less on your building for operational and maintenance costs, and therefore profits are going up," said Bill Barnard, vice president of architecture at The Troyer Group.

It's hard to overlook, among the many striking advantages to building green, particularly how it takes less time to pay back upfront, construction costs compared to non-green buildings. Robert Koester, director of Center for Energy Research Education and Services at Ball State, said return on investment is a better measurement for determining the value of green building. The return on investment for building green is generally higher than conventional construction because of the operational savings that accumulate substantially over time. The return on investment when building green is around 7 percent, an amount that's consistent with stocks, bonds, and CDs, Koester said.

Not only is there a long-term cost savings by building green, there are other benefits. Studies have illustrated employee productivity and academic performance increase when working in a building where the air is cleaner and there's natural light. As a result, morale improves, absenteeism decreases, there are fewer sick days and health costs go down. There's also evidence to support claims that retail sales jump in stores where there's more natural light, and hospitals with elements of sustainable design experience earlier discharges, according to Koester.

Still, Eric Burch, communications director for the Indiana Office of Energy and Defense, acknowledged there is still some headway to be made in terms of getting more builders to go green for commercial and industrial construction.

"You are using less electricity and there's a reduction in your energy bill. When you build green, it pays for itself in the short and long term," he said.

Kaiman of Turner Construction predicts that 50 percent of all new commercial and industrial construction across the country within 10 years will be LEED certified. Turner Construction believes its role as a green builder to be critical in making sustainable design mainstream within the estimated $1 trillion building industry.

"We take pride in leading initiatives and being cutting-edge," Kaiman said. "We can be part of the future of having less waste going into landfills, using less energy and better utilization of resources. It's just the right thing to do." ◆

BUILDINGS IN THE U.S. ACCOUNT FOR THE FOLLOWING:

- 65% of electricity consumption
- 36% of energy use
- 30% of greenhouse gas emissions
- 30% of raw materials use
- 30% of waste output
- 12% of portable water consumption

Source: U.S. Green Building Council