

Going Green Doesn't Have To Mean Going Broke

Now that the awareness of global warming is at an all-time high, there is little doubt that environmentally friendly construction is the way to go. But what does "going green" mean for the bottom line?

It's often thought that green buildings are expensive. This doesn't have to be the case, especially if an integrated, whole building approach is used.

Experts say that the key to keeping costs down is all in the design. Developers who tout green materials and systems say it's not overwhelmingly costly to make a sizable environmental impact. Projects that cost significantly more due to green features usually include all the bells and whistles.

When we think beyond the individual components of the building (i.e. roof, windows, HVAC) and optimize the building as a holistic system, individual components work together and can be made smaller and hence less costly. And the most "popular" green features, such as solar panels, vegetated roofs and geothermal systems, may be determined not to make financial sense but only after careful, methodical evaluation.

Using the LEED integrated design process, the integration of natural and electric lighting, "smart" building controls and reflective interior surfaces result in a lighting system 40 percent smaller compared with that of a traditional code-compliant building. The HVAC system was designed nearly 25 percent smaller than one for a code-compliant building when this smaller lighting system was combined with other energy-saving features: high performance windows, roofs and walls, demand-controlled ventilation, and "smart" building controls. Smaller, "right-sized" systems translate into cost savings. The potential building and energy cost savings dwarf the additional design and administrative cost of the LEED Certification process.

Future savings is a huge factor when considering sustainable design. A 100,000-square-foot building without sustainable-design features might cost about \$30 million to operate over 40 years. The same building with about \$3.5 million in green design features could save the operator \$8 million in utility costs over the same period, based on current energy prices.

So far, 17 U.S. states and 59 cities including New York and Chicago offer incentives for green buildings or require certification under the Leadership in Energy and Environmental Design (LEED). The LEED process provides the greatest opportunity for a cost effective, energy efficient, healthy and productive facility — at a cost that is not significantly different from that of a non-green building.

There are federal tax breaks of up to \$1.80 per square foot, or 30 percent of the project cost for businesses putting solar systems or solar hybrid lighting into service. In addition, the government offers grants and loans to commercial and agricultural projects implementing solar, wind, geothermal, fuel cell and other renewable energy systems. Grants are available for up to 25 percent of the project cost, with a maximum of \$500,000 per project, and loans covering up to half the cost, with a maximum of \$10 million.

Buildings, more than cars, are the biggest culprits in energy consumption, according to the Montreal-based Commission for Environmental Cooperation. Commercial and residential buildings consume about 65 percent of all electricity in the United States and 40 percent of all raw materials. They suck up a lot of energy to build and a lot more to maintain.

Whether motivated by desire to do what is right, or to polish their public image and fend off government regulation, companies can profit from well-designed strategies that embrace environmental goals.