

Green is Good



Buildings are monuments to progress. We're now at the point where how to build a structure is no longer the question. So it is no wonder that excitement in the building sector has less to do with building big than with the big idea of environmental sustainability.

A Transformation

The commercial and residential building sector accounts for 39 percent of carbon dioxide (CO₂) emissions in the United States per year, more than any other sector. The most significant factor contributing to CO₂ emissions from buildings is their use of electricity. Buildings consume 70 percent of the electricity load in the U.S. "Energy is the single largest operating expense in a typical commercial building," says John W. Conover IV, president of Trane's commercial business in the Americas. "It's become increasingly important for building owners to reduce operating costs without impacting business performance by energy management strategies that incorporate analysis and planning, energy procurement, and energy conservation."

Building green is an easy "get": Green buildings are a vital tool in the fight against climate change.

Scientists predict that, left unchecked, emissions of CO₂ and other greenhouse gases will have profound effects on our planet. Meeting the challenge will require dramatic advances in technologies and a shift in how the world economy generates and uses energy.

The Green Business Case

The U.S. Green Building Council (USGBC) is a leader in advancing the idea that buildings be environmentally responsible in addition to being profitable and healthy places to live and work. Founded in 1993, the USGBC includes more than 15,000 member companies and organizations. Since 2002, the USGBC's membership has quadrupled. "In the last year, the business community has really embraced the idea of green building," says Doug Gatlin, the USGBC's vice president for market development. "What we've seen is a sea change in the demand for green building certification from retail chains, construction companies, property managers, asset managers, and many, many others."

One of the USGBC's chief tools for increasing the adoption of green building practices is the LEED Green Building Rating System, developed in 2000.

LEED (Leadership in Energy and Environmental Design) is a third-party certification system that validates a project's green features and verifies that the building is operating exactly the way in which it was designed. "Greening the operations of existing buildings is the low-hanging fruit," says Gatlin. "Greening existing buildings saves energy, reduces CO₂ emissions, and reduces operating costs."

Green business's case for building with the environment in mind is strong and growing. An upfront investment of 2 percent in green building design, on average, results in life-cycle savings of 20 percent of the total construction costs—more than 10 times the initial investment. Since 2001, the estimated value of LEED construction projects has risen from \$3.24 billion in 2001, to \$7.73 billion today. That's because a \$4 investment (per square foot) in building green nets a \$58 benefit (per square foot) over 20 years.

For owners and tenants, the case is also strong. On a five-year lease of 20,000 square feet, green building can save about 50 cents per square foot each year through strategies that cut energy use by 30 percent. That's \$50,000 or more in five years.

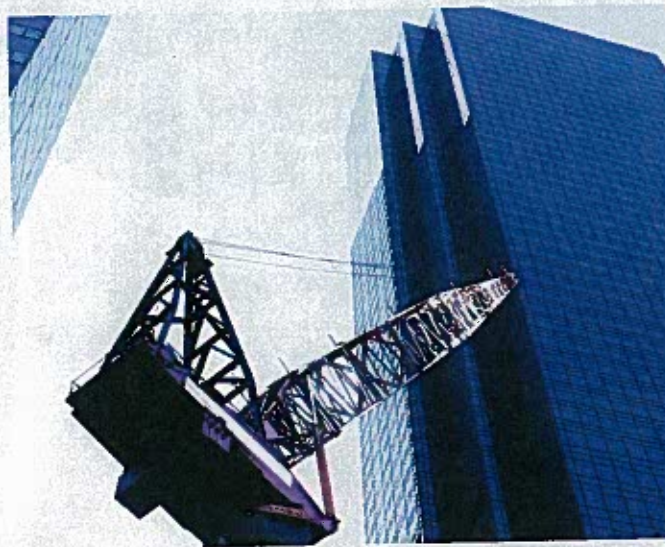
Spotlight: USGBC

With the annual U.S. market in green building products and services at over \$12 billion, membership in the U.S. Green Building Council (USGBC) has become a matter of course for more than 15,000 companies and organizations across the building industry. From building owners and end users to real estate developers, facility managers, architects, designers, engineers, contractors, system manufacturers, government agencies, and nonprofits, all of USGBC's members share the idea that buildings should be environmentally responsible and healthy places to live and work.

In fact, leaders from within each sector participate in developing the LEED Green Building Rating System that validates a project's "green-ness" and verifies that it's operating exactly the way it's supposed to.

As concern increases over the issues of global warming, energy use, and public health (most people are spending over 90 percent of their time indoors), so does USGBC membership, which has experienced a ten-fold rise since 2000. And every business day, \$464 million worth of construction projects are registered with LEED, with over 3.2 billion square feet of commercial building space currently registered or certified.

As Americans come to understand that their buildings account for 39 percent of the CO₂ emissions per year, USGBC likes to remind people of the good news: Their buildings can be 39 percent of the solution.



"Energy efficient and environmentally responsible buildings are more valuable assets," says Trane's John Conover. "Businesses with energy efficient building systems and sound energy management policies can reduce on-peak energy usage—which translates to the bottom line."

Occupants of green buildings are more productive and healthier, too. The linkages are subtle. For example, sales in stores with skylights are up to 40 percent higher than similar stores without skylights, and students with the most "day lighting" in their classrooms progressed 20 percent faster on math tests and 26 percent faster on reading tests in one year than those with the least day lighting.

Sustainable materials of many types are becoming increasingly important to commercial and residential customers. "Sustainable wood products are an important element of any green building project," says Karen Brandt, vice president of market affairs for the Sustainable Forestry Initiative, a globally recognized forest certification program that provides an on-product label for certified wood. "Builders, architects, and others like the idea of independent verification that confirms the products they're buying were legally harvested and come from a well-managed forest."

Owning the Future

For companies large and small, getting energy and water use under control and mitigating climate change are fundamental parts of a long-term strategy. Wall Street companies in particular have begun to tie their future to green building initiatives. Firms including Credit Suisse, Morgan Stanley, and Goldman Sachs have all instituted at least some programs to profit from the advantages of building green.

Many of these greener corporate building initiatives are done in tandem with Trane, a company

Building for the Future

Companies across the country are investing in a new wave of earth-friendly construction and renovation projects.



that supplies energy-efficient indoor comfort systems, services, and performance-based solutions to 50 percent of the commercial buildings in America. "We enable commercial building owners to have a significant favorable impact on the environment, human health, and business profitability," says John Conover. "Trane starts by understanding how building owners measure business success. From there, we design, manufacture, service, and maintain customized building systems that deliver on these requirements."

Building green is one of the best strategies for meeting the challenge of climate change because the technology to make substantial reductions in energy and CO₂ emissions already exists. As enthusiasm for building green grows, not doing so will increasingly be seen as a missed opportunity.

Web Directory

Sustainable Forestry Initiative (SFI)
www.sfi-program.org

Trane
www.trane.com

U.S. Green Building Council (USGBC)
www.usgbc.org

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WHEN IT COMES TO HIGH PERFORMANCE BUILDINGS, TRANE BELIEVES ENERGY EFFICIENCY AND SUPERIOR DESIGN GO HAND IN HAND WITH ENVIRONMENTAL RESPONSIBILITY. THAT'S WHY TRANE PROVIDES SYSTEMS AND SERVICES THAT MINIMIZE THE COMBINED IMPACT UPON OZONE DEPLETION AND GLOBAL WARMING. FOR INSTANCE, OUR EARTHWISE™ SYSTEMS LEAD THE INDUSTRY WITH SUPERIOR PERFORMANCE, A "NEAR ZERO" REFRIGERANT EMISSIONS LEVEL AND AT THE SAME TIME ARE FAR MORE ENERGY EFFICIENT THAN COMPARABLE SYSTEMS. IT'S TRANE'S WAY OF NOT JUST CONTRIBUTING TO BETTER BUILDINGS BUT TO A BETTER WORLD.



It's Hard To Stop A Trane®