Solutions for a Sustainable Future

Leadership in Energy and Environmental Design

Factoid: Lorain County Community College's Entrepreneurship Innovation Center is the first new construction building in Lorain County to be officially LEED certified.

Leadership in Energy & Environmental Design (LEED) is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies intended to improve performance in metrics such as energy savings, water efficiency, CO_2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Developed by the U.S. Green Building Council (USGBC), LEED is intended to provide building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

Since its inception in 1998, the U.S. Green Building council has grown to encompass more than 14,000 projects in the United States and 30 countries covering 1.062 billion square feet (99 km^2) of development area. The hallmark of LEED is that it is an open and transparent process where the technical criteria proposed by USGBC members are publicly reviewed for approval by the almost 20,000 member organizations that currently constitute the USGBC.

The Green Building Certification Institute (GBCI) was established by USGBC to provide a series of exams to allow individuals to become accredited for their knowledge of the LEED rating system. This is recognized through either the LEED Accredited Professional (LEED AP) or LEED Green Associate (LEED GA) designation. GBCI also provides third-party certification for projects pursuing LEED.

The development of LEED began in 1993 and was spearheaded by Natural Resources Defense Council (NRDC) senior scientist Robert K. Watson who led a broad-based consensus process that included non-profit organizations, government agencies, architects, engineers, developers, builders, product manufacturers and other industry leaders. In 1998 the LEED 1.0 pilot program was released. During the pilot period, extensive revisions were made and by March 2000, LEED 2.0 was released to the marketplace.

LEED has grown from one standard for new construction to a comprehensive system of six standards covering all aspects of the development and construction process. LEED was created to accomplish the following:

- Define "green building" by establishing a common standard of measurement

- Promote integrated, whole-building design practices
- Recognize environmental leadership in the building industry
- Stimulate green competition
- Raise consumer awareness of green building benefits
- Transform the building market

Green Building Council members, representing every sector of the building industry, developed and continue to refine LEED. The rating systems address eight major areas:

- Location and Planning
- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation and Design Process
- Regional Priority

A 2003 analysis of the savings from green building found from a review of 60 LEED buildings that the buildings were on average 25-30% more energy efficient, but it also attributed substantial benefits to the increased productivity from the better ventilation, temperature control, lighting control, and reduced indoor air pollution.

Factoid: LEED focuses on the design of the building and not on its actual energy consumption, and therefore it has suggested that LEED buildings should be tracked to discover whether the potential energy savings from the design are being used in practice.

LEED has evolved since its original inception in 1998 to more accurately represent and incorporate emerging green building technologies. Today, LEED consists of a suite of nine rating systems for the design, construction and operation of buildings, homes and neighborhoods. Five overarching categories correspond to the specialties available under the LEED Accredited Professional program. That suite currently consists of:

Green Building Design & Construction

- LEED for New Construction and Major Renovations
- LEED for Core & Shell Development
- LEED for Schools
- LEED for Retail New Construction (planned 2010)

Green Interior Design & Construction

- LEED for Commercial Interiors
- LEED for Retail Interiors (planned 2010)

Green Building Operations & Maintenance

- LEED for Existing Buildings: Operations & Maintenance

Green Neighborhood Development

- LEED for Neighborhood Development

Green Home Design and Construction

- LEED for Homes

In LEED 2009 there are 100 possible base points plus an additional 6 points for Innovation in Design and 4 points for Regional Priority. Buildings can qualify for four levels of certification:

- **Certified** - 40 - 49 points
- **Silver** - 50 - 59 points
- **Gold** - 60 - 79 points
- **Platinum** - 80 points and above

- Note that the LEED for Homes rating system is different from LEED v3, with different point categories and thresholds that reward efficient residential design.

- **Certified** - 26-32 points
- **Silver** - 33-38 points
- **Gold** - 39-51 points
- **Platinum** - 52 points and above

LEED certification is obtained after submitting an application documenting compliance with the requirements of the rating system as well as paying registration and certification fees. Certification is granted solely by the Green Building Certification Institute responsible for the third party verification of project compliance with LEED requirements.

I am Jim Steigner (Mr. Comfort), and I just wanted you to know. As always please feel free to contact me at www.mrcomforthvac.com under the "Ask Mr. Comfort Section", with any questions, thoughts or ideas.