HELPING HVAC PROFESSIONALS TAKE THE "LEED"

Achieving LEED® certification

LENNOX®

Innovation never felt so good.®

GREEN PROOF OF PERFORMANCE PAYS

Sustainable design saves energy, opens doors, improves building status

The rapidly growing segment of industry professionals incorporating elements of sustainable or "green" design in construction is creating buildings that meet today's needs without compromising future potential. Buildings that are models of efficiency—as well as healthy, productive, comfortable environments—are not only ecologically sound, but also economically sensible, driving demand for efficiency certification.

Considering "going green"?

*Lower costs and increased availability of green products mean sustainable buildings may cost no more to construct than standard designs.**

*Reducing operating costs can help enhance profitability. Utility expenses make up the third-largest component of operating costs for unleased retail space and the fourth-largest component for leased retail space.***

Buildings that meet certain efficiency and environmental standards may be eligible for ENERGY STAR® or LEED® certification, which not only improves efficiency, but also provides a marketable advantage over competitors.†

PUTTING LEED® TO WORK FOR YOU

LEED certification

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ was developed by the U.S. Green Building Council (USGBC) to assist in the design, construction and operation of high-performance green buildings. A national benchmark for creating green buildings, LEED is used by federal agencies as well as state and local governments nationwide. Canada adopted a similar rating system administered by the CaGBC (Canada Green Building Council).

The LEED system awards points for:

- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation in design

In addition, bonus points are awarded for regional priorities.

REDUCE YOUR CARBON FOOTPRINT

Replacing an older rooftop unit with a high-efficiency Energence® rooftop unit is equal to removing two passenger vehicles from the roadway*

There are many benefits for companies that install high-efficiency HVAC equipment: lower operating costs, increased employee productivity and lower CO_2 emissions. Since many customers value "green-conscious" companies, businesses looking to improve brand loyalty and market share can use LEED certification to demonstrate their commitment to efficiency and the environment.

**Replacing a 20-ton 9.0 EER/9.5 IPLV rooftop unit with a 20-ton Energence rooftop unit. An average vehicle consumes 550 gallons of gas annually (AAA, 2007). 550 gallons of gas equals approximately 10,600 lbs. of CO_2, which equals 4.8 metric tons of CO_2. An Energence rooftop unit saves 11,280 kWh per year, which is equivalent to 10.3 metric tons of CO_2. The result is a 40% reduction in CO_2 emissions.*

**Green Building Makes News, Buildings.Com by Rick Fedrizzi, August 2006*
Energy Management & Investor Returns: The Retail Merchandising Sector,* ***www.energystar.gov
†LEED for New Construction, ***www.usgbc.org***

SELECTING PRODUCTS AND SERVICES FOR LEED® CERTIFICATION

The LEED® program is being used as a benchmark for both private and government buildings, with the federal government requiring all U.S. General Services Administration (GSA) new construction projects and substantial renovations to be LEED-certified. Many local governments are also making LEED certification a requirement for construction and design. The USGBC has more than 18,000 members, with membership open to professional design, construction, management, finance and insurance businesses, and those who own and occupy buildings, government and nonprofit agencies. For more information, visit the USGBC at ***www.usgbc.org*** and ***www.cagbc.org*** in Canada.

Guidelines

There are multiple LEED rating systems, based on the building type or project under construction.

The LEED rating systems:

- New Construction and Major Renovations **(NC)**
- Schools – New Construction and Major Renovations **(SCH)**
- Commercial Interiors **(CI)**
- Existing Buildings – Operations and Maintenance **(EB)**
- Core and Shell Development **(CS)**

LENNOX HELPS YOU GET THE CREDIT YOU DESERVE

			High-Efficiency Rooftop Units	Standard-Efficiency Rooftop Units	High-Efficiency Split Systems	Standard-Efficiency Split Systems	Controls	Air Handlers	Dehumidification	Accessories
Credit #	**Applicable Rating Systems**	**Credit Description**	**Strategos®, Energence® with Prodigy® unit controller**	**Landmark®**	**S-Class®, T-Class™**	**T-Class**	**Thermostats, Sensors, L Connection® Network**	**TAA**	**Humiditrol® for Rooftop Units & Split Systems**	**Economizers, Zoning Equipment, Dampers, ERV, UVC**
EAp1	NC; CS; SCH; CI	**Fundamental Commissioning of Building Energy Systems**	◆							
EAp2	NC; CS; SCH; EB; CI	**Minimum Energy Performance**	◆		◆					
EAp3	NC; CS; SCH; EB; CI	**Fundamental Refrigerant Management**	◆	◆	◆	◆				
EAc1	NC; CS; SCH; EB	**Optimize Energy Performance**	◆		◆					
EAc1.3	CI	**Optimize Energy Performance—HVAC**	◆		◆			◆		◆
EAc2	NC; CS; SCH	**On-Site Renewable Energy**	SunSource®							
EAc4	NC; CS; SCH; EB	**Enhanced Refrigerant Management**	◆	◆	◆	◆				
IEQp1	NC; CS; SCH; EB;	**Minimum Indoor Air Quality Performance**	◆	◆	◆	◆		◆		◆
IEQc1	NC; CS; SCH; CI	**Outdoor Air Delivery Monitoring**	◆	◆			◆			
IEQc2	NC; CS; SCH; CI	**Increased Ventilation**	◆	◆	◆	◆		◆		◆
IEQc5	NC; CS; SCH; CI	**Indoor Chemical and Pollutant Source Control**	◆	◆		◆		◆		
IEQc6.2	NC; SCH; CI	**Controllability of Systems—Thermal Comfort**	◆	◆	◆	◆	◆			◆
IEQc10	SCH	**Mold Prevention**							◆	
IDc1	CS; SCH; EB; CI	**Innovation in Design**	◆	◆	◆	◆		◆		◆ (UVC)

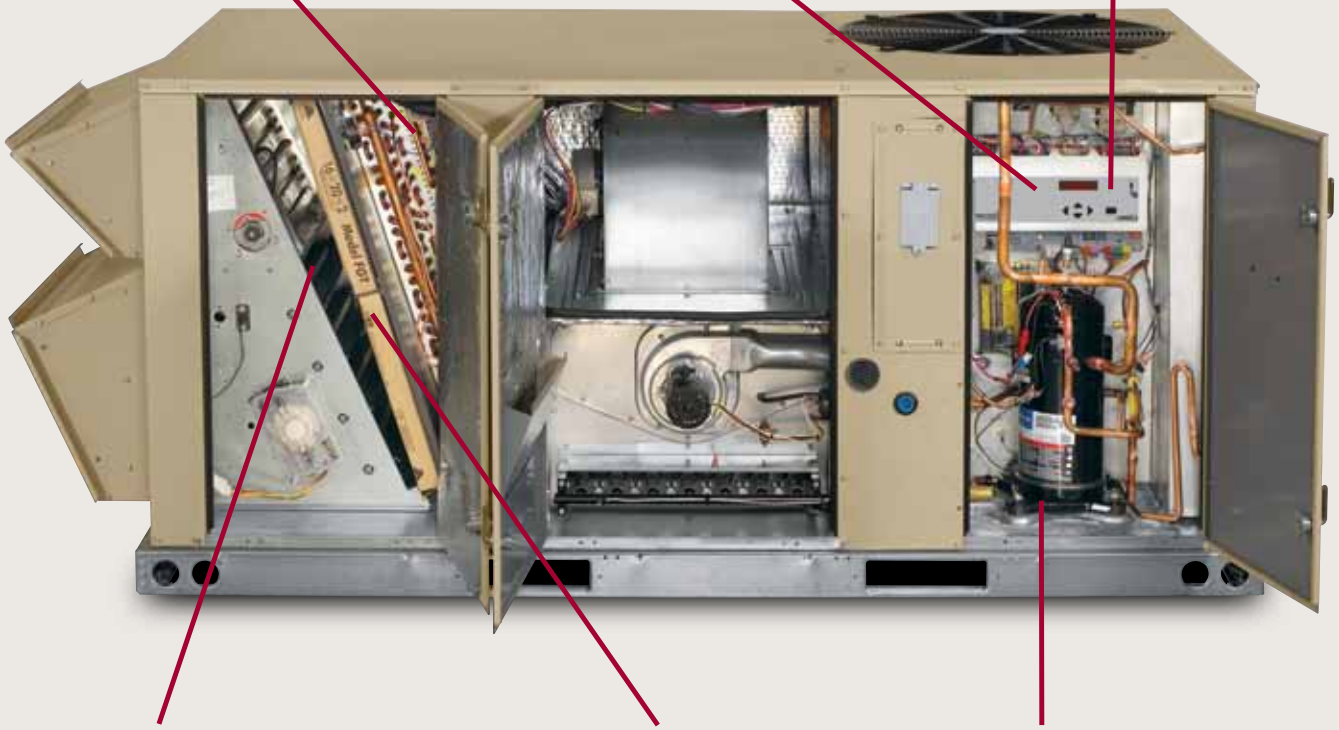
Based on 2009 USGBC rating system.

THE LENNOX SOLUTION

Mold Prevention (IEQc10)
Humiditrol® dehumidification system removes excess humidity

Commissioning (EAp1)
Prodigy® unit controller helps verify installation and performance of unit accessories

Outdoor Air Monitoring (IEQc1)
Prodigy unit controller and sensors can monitor and help manage CO_2 levels



Minimum Indoor Air Quality Performance/Increased Ventilation (IEQp1/IEQc2)
Damper, economizer and ERV options for ventilation

Indoor Chemical and Pollutant Source Control (IEQc5)
MERV 13+ filtration options

Refrigerant Management (EAp3)
Zero chlorofluorocarbons with R-410A refrigerant

On-Site Renewable Energy (EAc2)
Use on-site renewable energy systems to offset building energy costs

Optimize Energy Performance (EAc1)
High-efficiency units improve building performance and energy consumption

Innovation in Design (IDc1)
UVC options

Individual Comfort Controls (IEQc6.2)
ComfortSense® touchscreen thermostat and comfort sensor

Minimum Energy Performance (EAp2)

For more information on how Lennox® products can help you get LEED® certified, visit the "Green Building" section on www.lennoxcommercial.com

HOW IT ALL ADDS UP

LEED® certification has become an essential component of sustainable design in the building and construction industry. Smart HVAC design is one of the best areas to help projects obtain LEED points, with multiple opportunities to help achieve the highest LEED level of designation:

HOW HVAC DESIGN CAN HELP YOUR BUILDING ACHIEVE LEED CERTIFICATION

Credit #	Credit Description	Credit requirements:
EAp1	**Fundamental Commissioning of Building Energy Systems**	Verify the installation and performance of the systems to be commissioned
EAp2	**Minimum Energy Performance**	Improve/meet building performance targets for energy consumption
EAp3	**Fundamental Refrigerant Management**	Zero use of chlorofluorocarbon (CFC)-based refrigerants in new base building heating, ventilating, air conditioning and refrigeration (HVAC&R) systems
EAc1	**Optimize Energy Performance**	High energy performance
EAc1.3	**Optimize Energy Performance—HVAC**	Install heating, ventilation and air conditioning (HVAC) systems that comply with the efficiency requirements outlined in the New Building Institute's Advanced Buildings™ Core Performance™ Guide Sections 1.4: Mechanical System Design; 2.9: Mechanical Equipment Efficiency; 3.10: Variable Speed Control
		Demonstrate that HVAC system component performance criteria used for tenant space is 15%–30% better than a system in minimum compliance with ANSI/ ASHRAE/IESNA Standard 90.1-2007
		Interior spaces must be separately zoned. Private offices and special occupancies (conference rooms, kitchens, etc.) must have active controls capable of sensing space use and modulating the HVAC system in response to space demand.
EAc2	**On-Site Renewable Energy**	Use on-site renewable energy systems to offset building energy costs
EAc4	**Enhanced Refrigerant Management**	Select refrigerants and heating, ventilation, air conditioning and refrigeration (HVAC&R) equipment that minimize or eliminate the emission of compounds that contribute to ozone depletion and climate change
IEQp1	**Minimum Indoor Air Quality Performance**	Meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality
IEQc1	**Outdoor Air Delivery Monitoring**	Install permanent monitoring systems to ensure that ventilation systems maintain design minimum requirements
		Configure all monitoring equipment to generate an alarm when the airflow values or carbon dioxide (CO_2) levels vary by 10% or more from the design values via a building automation system alarm to the building operator
		Monitor CO_2 concentrations within all densely occupied spaces
IEQc2	**Increased Ventilation**	Increase breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2007
		For mechanically ventilated spaces, use heat recovery, where appropriate, to minimize the additional energy consumption associated with higher ventilation rates
IEQc5	**Indoor Chemical and Pollutant Source Control**	In mechanically ventilated buildings, install new air filtration media in regularly occupied areas prior to occupancy; these filters must provide a minimum efficiency reporting value (MERV) of 13 or higher
IEQc6.2	**Controllability of Systems—Thermal Comfort**	Provide individual comfort controls for 50% (minimum) of the building occupants in workspaces to enable adjustments to meet individual needs and preferences
IEQc10	**Mold Prevention**	Provide heating, ventilating and air conditioning (HVAC) systems and controls designed to limit space relative humidity to 60% or less during all load conditions, both occupied and unoccupied
RPc1-4	**Regional Priority**	Earn 1–4 of the 6 Regional Priority credits identified by the USGBC regional councils and chapters as having environmental importance for a project's region
IDc1	**Innovation in Design**	Innovative performance in green building categories not specifically addressed by the LEED building rating systems

Based on 2009 USGBC rating system.
*For more information, visit **www.usgbc.org**.*

SOLUTIONS FOR CUSTOMIZED COMFORT

Don't just choose a Lennox® product…choose a Lennox Commercial Comfort System. These complete packages of HVAC solutions provide tools to create a healthy and comfortable environment.

Packaged Units

- **Strategos® Rooftop Units**
- **Energence® Rooftop Units**
- **Landmark® Rooftop Units**

Split Systems

- **S-Class® Air Conditioners/ Heat Pumps**
- **T-Class™ Air Conditioners/ Heat Pumps**
- Air Handlers
- Indoor Coils

Heating

- **T-Class Separated Combustion Unit Heaters**
- Unit Heaters
- Duct Furnaces
- Furnaces

Commercial Controls

- **Prodigy® Control System**
- **L Connection® Network**
- Systems Integration Solutions
- Commercial Thermostats

Indoor Air Quality

- **Humiditrol® Dehumidification System**
- Demand Control Ventilation
- Energy Recovery Systems
- Air Filters
- UVC Lamps

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Visit us at www.lennox.com, or contact us at 1-877-726-0024

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