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 gather 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.
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

For more information, visit ***www.usgbc.org***.