

BEYOND

SMART CITIES



ENERGY AND ATMOSPHERE - GREEN BUILDING
TECHNOLOGY TRAINING PROGRAM
FOR ENERGY AND GREEN BUILDING SPECIALISTS

KRISHNAJI PAWAR, LEED AP BD+C, GSAS CGP, ISO 14001:2015, GCP
ENERGY SPECIALIST CURRICULUM



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INTRODUCTION AND COURSE OUTLINE
FOR ENERGY AND GREEN BUILDING PROFESSIONALS

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ONLINE TRAINING COURSE

ENERGY AND
ATMOSPHERE - LEED
RATING SYSTEM
TRAINING PROGRAM

ENERGY SPECIALIST CURRICULUM

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LEARNING OBJECTIVES



Recognize how the credits reflect the holistic approach to reducing energy use, designing for energy efficiency, and using renewable energy sources.

Fundamental Commissioning and Prerequisite Verification

Building-Level Energy Metering

Fundamental Refrigerant Management

Enhanced Commissioning

Optimize Energy Performance

Advanced Energy Metering

Grid Harmonization /Renewable Energy

Enhanced Refrigerant Management

WHO IS THIS COURSE FOR?

This course is designed to help energy professionals, including energy managers, LEED Engineer, energy engineers, facility and business managers, Green building engineers, supply chain professionals, utility officials, consultants, contractors, financial officers, and energy service company professionals become more aware of and effective at identifying and implementing the best energy management strategies.

Building Professionals who want to learn more about Energy Management and Energy Efficiency.

For those who are starting their journey in the Energy Management and Energy Efficiency Profession.

KEY TAKEAWAYS

The Energy & Atmosphere credits, which focus first on reducing energy loads and demand, using necessary energy efficiently, and applying renewable sources where possible.

This course covers each prerequisite and credit in a credit-by-credit format presenting technical requirements and strategies that work to achieve them

Recognize how the holistic approach of addressing the reduction of energy use, energy efficient design strategies, and renewable energy sources are reflected in the credits.

Recognize synergies between multiple credits.

Recognize how credit requirements lead to higher performing buildings and market transformation




**GET READY TO LEARN ENERGY AND
ATMOSPHERE - GREEN BUILDING
TECHNOLOGY
KNOWLEDGE AND ENROL NOW!**






ENERGY AND ATMOSPHERE



The Energy and Atmosphere (EA) category approaches energy from a holistic perspective, addressing energy use reduction, energy-efficient design strategies, and renewable energy sources

CRITERIA IN THIS CATEGORY

- EA PR FUNDAMENTAL COMMISSIONING AND VERIFICATION
- EA PR MINIMUM ENERGY PERFORMANCE
- EA PR BUILDING-LEVEL ENERGY METERING
- EA PR FUNDAMENTAL REFRIGERANT MANAGEMENT
- EA CR ENHANCED COMMISSIONING/EA CR OPTIMIZE ENERGY PERFORMANCE
- EA CR ADVANCED ENERGY METERING / EA CR DEMAND RESPONSE
- EA CR RENEWABLE ENERGY PRODUCTION / ENHANCED REFRIGERANT MANAGEMENT

MAXIMUM POSSIBLE CREDITS : 4 P / 33 C

ENERGY AND ATMOSPHERE



The Energy and Atmosphere (EA) category approaches energy from a holistic perspective, addressing energy use reduction, energy-efficient design strategies, and renewable energy sources.

The current worldwide mix of energy resources is weighted heavily toward oil, coal, and natural gas. In addition to emitting greenhouse gases, these resources are nonrenewable: their quantities are limited or they cannot be replaced as fast as they are consumed.

Though estimates regarding the remaining quantity of these resources vary, it is clear that the current reliance on nonrenewable energy sources is not sustainable and involves increasingly destructive extraction processes, uncertain supplies, escalating market prices, and national security vulnerability. Accounting for approximately 40% of the total energy used today, buildings are significant contributors to these problems.



ENERGY AND ATMOSPHERE +



Energy efficiency in a green building starts with a focus on design that reduces overall energy needs, such as building orientation and glazing selection, and the choice of climate-appropriate building materials. Strategies such as passive heating and cooling, natural ventilation, and high-efficiency HVAC systems partnered with smart controls further reduce a building's energy use.

The generation of renewable energy on the project site or the purchase of green power allows portions of the remaining energy consumption to be met with non-fossil fuel energy, lowering the demand for traditional sources.

The commissioning process is critical to ensuring high-performing buildings. Early involvement of a commissioning authority helps prevent long-term maintenance issues and wasted energy by verifying that the design meets the owner's project requirements and functions as intended.



ENERGY AND ATMOSPHERE +



In an operationally effective and efficient building, the staff understands what systems are installed and how they function. Staff must have training and be receptive to learning new methods for optimizing system performance so that efficient design is carried through to efficient performance.

The EA category recognizes that the reduction of fossil fuel use extends far beyond the walls of the building. Projects can contribute to increasing the electricity grid's efficiency by enrolling in a demand response program. Demand response allows utilities to call on buildings to decrease their electricity use during peak times, reducing the strain on the grid and the need to operate more power plants, thus potentially avoiding the costs of constructing new plants.

Similarly, on-site renewable energy not only moves the market away from dependence on fossil fuels but may also be a dependable local electricity source that avoids transmission losses and strain on the grid.



ENERGY AND ATMOSPHERE +



The American Physical Society has found that if current and emerging cost-effective energy efficiency measures are employed in new buildings and in existing buildings as their heating, cooling, lighting, and other equipment is replaced, the growth in energy demand from the building sector could fall from a projected 30% increase to zero between now and 2030.

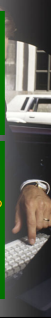
The EA section supports the goal of reduced energy demand through credits related to reducing usage, designing for efficiency, and supplementing the energy supply with renewables.



ENABLING PROGRESS AND SUSTAINABILITY THROUGH ENERGY EFFICIENCY

Energy remains one of the most pressing problems of the future. Organizations must strike a balance between operational effectiveness and sustainable development. Given the escalating cost of energy and the diminishing availability of natural resources, it makes good financial sense to identify energy-saving opportunities throughout the design, production, and operations phases.

One method for reducing energy costs is to increase energy efficiency in order to optimize existing resources and make the appropriate investments in new technologies. This will help manage operating expenses, improve service delivery to customers, and reduce environmental impacts while mitigating risk. In addition, a documented commitment to sustainable development is a potent and effective means of demonstrating social responsibility and adapting to shifting customer preferences.

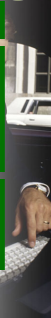


GREEN BUILDING & ENERGY AND ATMOSPHERE

The electricity for the building should be generated on-site from renewable sources such as solar or geothermal energy.

Developers should eliminate the usage of chlorofluorocarbons (CFCs) from heating, ventilation, air conditioning, and refrigeration (HVAC & R) systems while converting an old building into a green structure. Eliminating the usage of CFCs minimizes ozone depletion and prevents the health concerns caused by exposure to high quantities of these substances.

The energy systems of the building should be optimized to exceed the requirements established by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers and the Illuminating Engineering Society of North America.



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THANK YOU

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MARKETPLACE