International Version

Association of Energy Engineers

Energy Efficiency Practitioner™
Training Program

This training program is designed to provide attendees a concise, but comprehensive overview of practices for improving energy management and energy efficiency in buildings and across facilities. Many energy professionals use this program to develop their background knowledge before embarking on a path to the Certified Energy Manager (CEM®) or Business Energy Professional (BEP®) certifications.

What Will You Learn?

- Understand the basics of energy management, including terminology and the technical aspects of systems and equipment that energy managers are responsible for in buildings and facilities.
- Learn the crucial steps of energy management and organizational strategies, including auditing, measurement, commissioning, payback, and maintenance.
- Learn how to identify the low-cost, no-cost system improvements that can provide immediate financial benefits
- Then take energy management a step further by learning the fundamentals of clean and renewable energy, and what to consider for ongoing sustainability.

At-a-Glance

» This training program prepares attendees to take the Energy Efficiency Practitioner™ (EEP™) exam.

» This program is held over 3 days.

» You earn 1.5 CEU | 15 PDH | 3.0 AEE Credits for completing this program.

Key Takeaways

» Work through practical examples to demonstrate the topics and procedures covered.

» Review the various areas of the Body of Knowledge associated with AEE's certification exam.

» Discuss how to apply what you have learned to your business and applications.

» Leave with a course workbook that will become an invaluable desk reference.

Registration

Candidates should contact their local AEE approved training provider for information about available training programs, the certification application process, exam registration, and associated fees. To find your local training provider visit

aeecenter.org/training

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Who Should Attend
AEE's EEP™ certification provides international credibility among energy management, sustainable and clean energy communities. Attendees of this program have included young energy professionals, newly qualified energy engineers, or individuals recently promoted to energy managers. It also includes non-energy professionals looking to gain an insight into energy management theories and practices, such as executives, financial executives, operations managers, architects, and consultants.

Course Outline
- HVAC
- Building Utilities & Energy Bills
- Mechanical Systems
- Building Automation Systems
- Lighting
- Building Heat Transfer
- Maintenance
- Economics
- Instrumentation
- Service Water Systems

Our Instructors
Over three days, one of our professional instructors will guide you, step-by-step through this program. Their teaching and industry experience allows them to deliver information that is of the most relevance and practical value to attendees.

Certification Eligibility
The prerequisites to qualify for the certification process take into account the diverse education and experience applicants may have. Each candidate must meet the required criteria at

aeecenter.org/eep

Global Training Programs
For a complete list of AEE training programs delivered globally visit

education.aeecenter.org/global

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Program Agenda

What is EEP? (Introduction)

Building Utilities & Energy Cost Structures
- Terminology & Units of Measurement
- Energy vs. Power
- Energy Cost Structures
- Electricity Rate Structures
- Building Electricity Bill Components
- Power Factor
- Rate Structures
- Energy Bill Helpful Analysis

Economic Considerations
- Financial Decision Criteria
- Simple Payback Calculations
- Time Value of Money
- Evaluate Financial Alternatives

Audits & Audit Instrumentation
- ASHRAE Audit Levels I, II, & III
- Benefits of Benchmarking
- Facility Electric Load Factor
- Energy Audit Instrumentation Uses

Lighting
- Basics & Terminology
- Lighting Technology Comparisons
- Lighting Savings Calculations (Cu)
- Lighting Design Overview
- Maintenance & Controls

Heating, Ventilation, & Air Conditioning
- System Controls & Common Practices
- Air Quality
- Heat Removal
- A/C Energy Terminology & Calculations
- Equipment Types & Use Overview
- Testing & Balancing (TAB)
- Systems Maintenance
- Energy & Cost Savings Opportunities

Service Water Systems
- Hot Water Energy Cost Analysis
- Maintenance & Savings Recommendations

Building Envelope
- Heat Transfer
- Energy Loss Reduction (Strategy Analysis)

Building Automation Systems (BAS)
- Control Systems (Terminology & Functions)
- PID Control Strategies
- BAS Functions
- Potential Cost Savings Opportunities

Mechanical Drive Systems (Motors & Drives)
- Types of Motors & Terminology
- Motor Speed (Operational Efficiency)
- Fan / Affinity Laws (Variable Speed Drives)
- Variable Volume Options

System Maintenance
- Maintenance Technology & Practices
- Terminology Overview
- Compressed Air & Steam Leaks
- Boiler Scale Buildup
- Motor Maintenance

Helpful Case Studies

Lighting Reference Guide

ASHRAE Reference Resource of EEMs