



# Energy Program

WASHINGTON STATE UNIVERSITY

## Our Mission

To advance environmental and economic well-being by providing unmatched energy services, products, education and information based on world-class research.

## About Us

Our staff of energy engineers, energy specialists, technical experts and software developers work out of Olympia, Washington.

The WSU Energy Program is a self-supported department within the University.

## Within WSU

We are part of the College of Agricultural, Human and Natural Resource Sciences.

Our Director reports to the Dean of the College.

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## The Alphabet Soup of Energy Efficiency Workforce Certifications



A qualified energy efficiency workforce is vital as cities, states and other entities adopt more strategies and regulations to increase energy savings in commercial buildings. Knowledgeable and highly trained workers are needed to fill the employment opportunities that these strategies open up. This article describes various certifications attained through preparatory study and exams, which provide the required or desirable qualifications for energy efficiency jobs in commercial buildings. These job positions include, but are not limited to, resource conservation managers, energy managers, energy efficiency technicians, energy auditors, and building commissioning professionals.

To create consistent, quality, industry-standard credentials for the energy efficiency field, the U.S. Department of Energy (DOE) and the National Institute of Building Sciences (NIBS) collaborated with industry stakeholders in 2013 to develop voluntary national guidelines. The results of their efforts – the Better Building Workforce Guidelines (BBWG) – are high quality guidelines for four energy-efficiency related jobs in

the commercial building field – Building Energy Auditor, Building Commissioning Professional, Energy Manager and Building Operations Professional. See the table below for the job descriptions.

Better Buildings Workforce job titles and descriptions for commercial buildings	
Job Title	Job Description
Energy Manager	Responsible for managing and continually improving energy performance in commercial buildings by establishing and maintaining an energy program management system that supports the organization's mission and goals.
Building Energy Auditor	Assesses building systems and site conditions, analyzes and evaluates equipment and energy usage, and recommends strategies to optimize building resource utilization.
Building Commissioning Professional	Leads, plans, coordinates, and manages a commissioning team to implement commissioning processes in new and existing buildings.
Building Operations Professional	Manages the maintenance and operation of building systems and installed equipment, and performs general maintenance to maintain the building's operability, optimize building performance, and ensure the comfort, productivity and safety of the building occupants.

In addition to DOE's Better Building Workforce Guidelines, a couple of other agencies give accreditation to high quality programs that train workers. The American National Standards Institute (ANSI), a private non-profit organization offers ANSI/ISO/IEC 17024 (ANSI Standard 17024) recognition to certain certification programs. ANSI is well-recognized within the industry as the highest standard of personnel certification. ASHRAE Standard 211-2018 for Commercial Building Energy Audits specifically recognizes certification programs that train to the details in that standard.

Certifications recognized by DOE, ANSI, and ASHRAE assure employers that staff will have the appropriate skills, knowledge and experience to successfully fulfill job responsibilities. Other certification programs are also highly acknowledged, and recognized by many cities, states and other jurisdictions, such as the Building Operators Certification (BOC) and Leadership in Energy & Environmental Design (LEED).

## Employer and Employee Considerations

Workers looking for employment – as well as employers seeking staff to fill a new or existing position – may find the information in this article useful. Employers must decide how much experience and knowledge is needed for an open position and if the agency's budget is adequate to cover a position with a certain certification. (However, pay scales for different certifications are not covered here.) Some employers may assist with program fees and offer time off for an existing employee to obtain a certification.

Job seekers may want to consider the varied eligibility requirements, cost and time commitment of different certification programs. In general, to be eligible to take the preparatory course in advance of the certification exam, it is necessary to have an associate's or bachelor's degree and a certain number of years of related experience – the higher the degree, the fewer years of experience required. Some certification programs accept applicants with no degree with a high number of years working in the related field. Also, there may be opportunities to work toward a certification while employed to attain a higher position at an agency. Agency funds at times may be leveraged to pay for the certification, because it benefits the agency as well as the employee.

## Listings

The certifications below are grouped by the Better Buildings Workforce Guidelines job titles. Each listing includes the organization that provides the credential and if it is recognized by DOE, ANSI, ASHRAE, and/or jurisdictions and agencies. Further information can be found by performing an internet search for that certification and agency.



## Energy Manager

### **Certified Energy Manager (CEM®),** Association of Energy Engineers (AEE)

- Recognized by DOE Better Buildings, ANSI, ASHRAE Standard 211, and many cities, counties, and states. CEM was the first recognized program under the Better Buildings Workforce Guidelines. A well-respected certification, CEM opens job opportunities for energy management, building performance ordinances, benchmarking programs and more. A CEM degree alone fulfills eligibility requirements for an EBCP, or CBCP.

### **Energy Management Professional (EMP),** Energy Management Association

- Recognized by DOE Better Buildings, ANSI, ASHRAE Standard 211, and many cities, counties, and states.

### **Energy Manager In-Training Certification (EMIT),** AEE

- An option for those who do not meet all the eligibility criteria for a CEM. The EMIT certification is valid for 6 years, which allows time to complete the full CEM.

### **Green Building Engineer Certification (GBE™),** AEE

- This certification provides special recognition to those who hold an active CEM certificate and a Professional Engineer license.

### **Certified Business Energy Professional (BEP®),** AEE

- Awards special recognition to those business/marketing and energy professionals who have demonstrated a high level of competence and ethical fitness for business/marketing and energy management related disciplines.

### **Business Energy Professional In-Training (BEPIT),** AEE

- An in-training option for those who do not meet the BEP eligibility requirements.

### **Energy Efficiency Practitioner (EEP™),** AEE

- Helps educate and qualify new or recent entrants into the energy management field on best practices for improving energy efficiency and sustainability. Often used as a foundation for other professional development such as CEM or BEP.

## Building Energy Auditor

### **Certified Energy Auditor (CEA™),** AEE

- Recognized by DOE Better Buildings, ANSI, ASHRAE Standard 211, and many cities, counties and states.

### **Building Energy Assessment Professional Certification (BEAP),** ASHRAE

- Recognized by DOE Better Buildings, ANSI, ASHRAE Standard 211, and many cities, counties and states.

### **Certified Energy Auditor In-Training (CEAIT),** AEE

- For those who do not yet meet the CEA eligibility requirements.

### **CEA Masters (CEAM),** AEE

- Offers energy expertise past a typical auditor, including indoor air quality, O&M, and risk mitigation.



## Building Commissioning Professional

**Commissioning Authority (CxA)**,  
AABC Commissioning Group (ACG)

- Recognized by DOE Better Buildings and ANSI.

**Building Commissioning Professional Certification (BCxP)**,

ASHRAE, (CPMP Recertification as a BCxP)

- Recognized by DOE Better Buildings and ANSI.

**Certified Commissioning Professional (CCP)**,  
Building Commissioning Certification Board (BCCB)

- Recognized by DOE Better Buildings and ANSI.

**Commissioning Process Professional (CxPP)**,  
National Environmental Balancing Bureau (NEBB)

- Recognized by DOE Better Buildings and ANSI.

**Certified Building Commissioning Professional (CBCP®)**, AEE

- Recognized by many cities and other jurisdictions, as well as the General Services Administration.

**Existing Building Commissioning Professional (EBCP™)**, AEE

- Recognized by many cities and other jurisdictions.

**CEM** is also recognized for audits.

## Other Credentials

**Building Operator Certification (BOC®)**  
(Northwest Energy Efficiency Coalition – NEEC).

- Nationally recognized competency training and certification program for facilities personnel.

**LEED** (Leadership in Energy & Environmental Design) certification through the U.S. Green Building Council is a long-established highly regarded professional certification, denoting proficiency in sustainable design, construction and operations standards.

- **LEED Green Associate** is a foundation of core competency in green building principles.
- **LEED AP** (Advanced Professional) signifies expertise in green building and at least one of the LEED rating systems.

## Operations & Performance Management Professional Certification (OPMP),

ASHRAE

- This program was developed with APPA (Leadership in Educational Facilities) and the General Services Administration. Provides understanding and knowledge of facility operations and maintenance, and HVAC&R systems performance.

## Associate's or Bachelor's Degree in Sustainable Building Science Technology

- South Seattle College and Lane Community College are two of the Pacific Northwest's degree programs for energy efficiency jobs. Both offer online courses.

## A Taste of Alphabet Soup

An example of a recent job opening for a commercial building “tune-up specialist” for the City of Seattle Tune-up Program exemplifies the alphabet soup of certifications. The position requires an applicant to have at least seven years of experience, plus one of the following: Level II BOC, CEM, EBCP, CCP, CxA, PE, or a Sustainable Building Science Technology Bachelor of Applied Science from South Seattle College or equivalent program.

## A Growth Industry

The number of agencies seeking energy efficiency professionals continues to grow. Certifications assure employers that their hires have the skills and competency needed for the job, while workers with certifications enjoy the greater opportunities that such growth in the industry brings.

The WSU Energy Program Resource Conservation Manager (RCM) Program supports the creation and successful implementation of RCM programs in the public sector by providing program and technical support. Public sector RCMs and energy managers in the State of Washington may join the RCM listserv to receive informative monthly RCM Newsletters.

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