

TRAINING AND CERTIFICATION OF BUILDING OPERATORS: FREQUENTLY ASKED QUESTIONS

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WHY SHOULD BUILDING OPERATORS BE TRAINED AND/OR CERTIFIED?

Ensuring that building operators are trained in the proper operation and maintenance of energy systems is one of the most cost-effective ways for an owner to improve the efficiency of their building and maintain optimal performance of installed energy and water systems. A building's proper day-to-day operation contributes significantly to its overall efficiency; with appropriate training, employees can better schedule and calibrate the building controls and perform necessary maintenance. This means less wasted energy, improved occupant comfort, and more money saved. Studies have shown that well-trained staff can achieve savings in the range of 5–20 percent.

WHAT KINDS OF TRAINING PROGRAMS AND CERTIFICATIONS ARE THERE?

Trainings and certifications are typically designed for building engineers and maintenance personnel and are tailored to the type of building. Different levels of complexity in a building's systems require different levels of training and certification. Certain programs are only available in certain locations and regions, so each city will need to assess what options are available to meet its specific goals. Overviews of several existing training and certification programs are below:

TRAINING PROGRAM	TARGET AUDIENCE	DESCRIPTION	DELIVERY PARTNER	CERTIFICATION
Building Operator Certification®	Building Operator	Classroom and hands-on projects in HVAC systems operation, management, and upgrading; benchmarking; efficient lighting; low-cost improvements; electrical systems; water efficiency improvements; building automation systems; indoor air and environmental quality; building commissioning; facility motor operation	Regional Energy Efficiency Orgs; Utility Partners	BOC

Sustainability Facility Professional	Facility Manager, Building Operator	Classroom and online courses on organizational strategies for sustainability; tenant engagement and communication; finance and portfolio management; energy, water, materials and resources; workplace management; indoor environmental quality; quality of services; waste and site impact	IFMA Chapters	IFMA SFP
BOMI High Performance Certificate	Building Manager	Classroom and online courses in HVAC systems operation, management, and upgrading; benchmarking; efficient lighting; low-cost improvements; electrical systems; water efficiency improvements; building automation systems; renewable energy; tenant engagement and communication; finance and portfolio management	BOMA Chapters	BOMI HP
GPRO Operations & Maintenance Essentials	Property Manager, Building Operator	Classroom workshop on fundamentals of green building and operations, including construction management; electrical systems; plumbing; HVAC and refrigeration; operations and maintenance	USGBC Chapters	GPRO O&M Certificate
BPI Certified Multi-Family Building Professional	Multifamily Building Operator	Skills- and competency-based credentialing program (no trainings) for multifamily building operators	BPI Testing Center	BPI Multifamily Certification

In addition, several jurisdictions have developed custom approaches to training and certification to meet their particular workforce environments and goals.

Custom Building Operator Training Program: Philadelphia

Philadelphia partnered with the Delaware Valley Green Building Council (DVGBC) and Performance Systems Design (PSD) to develop a custom building operator training program for site staff and building managers that focused on building envelope, HVAC systems, lighting systems, plug load management, building automation systems, building metering and tariff analysis, energy savings strategies, economic decision-making, local incentives, and nationally available recognition tools like EPA ENERGY STAR, DOE Energy Asset Score, and LEED EBOM. Participants can receive continuing education credits for Green Building Certification Institute (GBCI) and the American



Institute of Architects (AIA). This course can also be customized by a local USGBC chapter and offered in other areas.

Community College Courses: Salt Lake City

Salt Lake City partnered with Salt Lake Community College to offer a new, cutting-edge "benchmarking" training as part of its Energy Management program, housed within the SLCC Energy Institute. Beginning with the August 2015 cohort, students participate in a building energy benchmarking test prep course as part of the program's Energy Accounting class. This new class will prepare graduates to meet the increasing industry demand for professionals with expertise in building energy benchmarking, opening new opportunities for high-quality, hands-on jobs. The City aims to train individuals who can help support local initiatives such as the Salt Lake City [Mayor's Skyline Challenge](#) and [BOMA Utah's Kilowatt Crackdown](#).

Green Janitorial Education Program: Los Angeles

The City of Los Angeles partnered with the Service Employees International Union (SEIU), the USGBC LA Chapter, and BOMA LA to create a "Green Janitor Education Program" that trains janitors in effective energy efficiency practices, including shutting off lights and non-essential equipment at night. This program has been well received by all participants.

Better Buildings Workforce Guidelines: U.S. Department of Energy (DOE)

In 2015, DOE issued guidelines for competency-based certifications for several energy related jobs, including a Building Operations Professional, in order to help ensure quality and consistency across the training and certification industry. Certification programs that apply for and meet the Better Buildings Workforce Guidelines will be recognized by DOE and allowed to use the "Better Buildings Recognized Program" logo and designation alongside their certification offerings. To date, no programs have achieved DOE-recognition, but it will be something to look out for in the future as a way to assure high-quality certifications.

HOW LONG DOES IT TAKE TO GET CERTIFIED?

Training can range from 15–90 hours, depending on the level of rigor and pre-requisites. Even though it can be a major time commitment for an employee, it's a one-time event that will save money every year, and give the employee valuable skills for his or her career development.

HOW MUCH DOES CERTIFICATION COST?

A class leading to a certification usually costs from \$1,000 up to \$3,000 depending on the specific training and certification program selected.

WHAT DOES A TRAINING AND CERTIFICATION PROGRAM LOOK LIKE FOR A CITY ENERGY PROJECT PARTICIPANT?

There are many ways that a city could design a program for building operator training and certification, depending on the city's goals, resources, and political will:

- **Partner with a local group to offer training programs.** By working in partnership with a local nonprofit, union, efficiency group, or industry association partner, a local government can help design, pay for, and encourage participation in a training program for local private sector building professionals.
- **Require, subsidize, or preferentially hire certified municipal facilities staff.** One of the best ways to grow energy efficiency knowledge in the local workforce is by training and credentialing municipal staff. Also, working with school districts can quickly expand local knowledge, increase availability of local training programs, and yield big energy savings results.
- **Introduce mandatory certification for building operators.** If there is sufficient political will, a city might consider introducing a law that requires building operators to hold specific credentials that ensure the energy operations of a building.
- **Require verification of benchmarking data.** Requiring that energy benchmarking data is verified by a qualified professional is a good way to not only ensure high quality data, but also to encourage more professionals to obtain certifications.

HOW DOES TRAINING AND CERTIFICATION WORK WITH OTHER PROGRAMS AND POLICIES?

Training and certification complements other City Energy Project programs and policies, especially retrocommissioning, challenge programs, and leading by example. Like retrocommissioning, it works with the existing building systems and optimizes what's already there. Skillful operations maximize the benefits of retro-commissioning, as once a building has been "tuned," it's up to operators to keep the building running well. Some cities have included training and certification as a requirement for participating in a challenge program, while others have incorporated certification requirements within the guidelines for managing the city's own buildings, as a way to demonstrate civic leadership by example.

By setting the expectation that appropriate staff certifications are included as an element of participating in these other programs, local governments can help drive demand and increase overall training availability. This can be an important market driver in many areas, especially smaller cities, where there may not be many existing training and certification options.

WHAT ARE THE BENEFITS?

For building owners:

- **Cost savings.** Building owners and managers can save significant amounts of money through proper operations and maintenance. An employee's certification can lead to savings many times over the cost of the class, even in a single year. Building owners and managers save money not only through lower utility bills, but also by avoiding hefty maintenance and replacement costs when things break down: better operations and maintenance can extend the life of equipment, reducing capital costs.
- **Increased property value.** By optimizing their existing equipment, building owners are investing in their buildings in ways that the market recognizes. As companies increasingly adopt sustainability goals and seek lower operational costs, buildings that perform efficiently will command higher value in the marketplace.
- **Better working environment.** Living and working in an energy-efficient building is more comfortable; the thermostats turn off and on at the appropriate times, the lighting contributes to a productive work environment, and the indoor air quality is better for people's health. All these factors make energy-efficient buildings more appealing for prospective buyers and tenants while also increasing property value.
- **Fewer tenant complaints.** Better day-to-day operations should bring a reduction in tenant complaints arising from sub-optimal operations. For a building owner, that's less staff time taken up dealing with such complaints, thanks to good training.

For building staff:

- **Professional development.** Staff will get hands-on training that increases their value in the career marketplace.

For the whole city:

- **Reducing carbon pollution.** Large buildings are responsible for a disproportionate amount of the carbon pollution in major cities. When tune-ups are made, these buildings use less energy, which means they are responsible for less carbon and air pollution and are doing their part to stave off the worst effects of climate change.
- **Increasing resilience to extreme weather effects & air quality problems.** Energy waste presents vast dangers to society: It leads to carbon pollution and air pollution, and contributes to extreme weather events like floods, storms, and droughts. We can prevent many of these problems cost-effectively, through

building energy efficiency, while putting money into the pockets of building owners.

ABOUT CITY ENERGY PROJECT

The City Energy Project (CEP) is a groundbreaking national initiative to improve the energy efficiency of existing buildings in ten major American cities. The partnership between CEP and the participating cities will support bold solutions that can be replicated by other municipalities nationwide and around the world to advance economic development and reduce pollution. CEP is a joint project of the Natural Resources Defense Council and the Institute for Market Transformation.

For more information about the City Energy Project, visit us at www.cityenergyproject.org.

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