



HPBT Training and Certification Research Project

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Project Goals

- Based on feedback from last years workshop at Laney
- Research goals:
 - Better understand options for certification
 - Reach out to key stakeholders
 - See what other groups are doing on certificates and certifications
 - Look for data on employment potential

Process



- Secondary research using web resources
 - Bureau of Labor Statistics
 - Research reports on facility management trends
 - Evaluated certification standards
- Survey sent out to key facility management leaders
- Follow up surveys done with industry leaders

Key Findings



Key Findings

- Lack of formal recognition of the technician as a professional
- Limited availability of relevant occupational data from sources such as the Bureau of Labor Statistics
- Limited availability of appropriate training for technicians
- No recognized national certification for high performance building technicians
- Large projected workforce shortages in the sector due to the growth of the industry and anticipated retirements

Key Findings



- There is a **trend to outsource facility management functions** to regional or national facility management firms.
- **Aging workforce will result in the need for new and better-prepared entrants. Technicians in the field need a path to improve their skills**
- **Technicians in the field need a path to improve their skills** to better deal with issues related to energy efficiency and a healthy indoor environment. The Federal Buildings Personnel Training Act helps to illustrate this challenge.

Recommendations



- Establish a national advisory panel for the BEST Center
- Develop a national certification program for HPBT that follows international quality standards.
- Develop a skills upgrade pathway for industry incumbents

Facility Management Industry



- Focused on safe, reliable, efficient operation of commercial buildings
- Traditionally work was done by the owners staff
- Many owners are now outsourcing this function
- Outsourcing firms are local, regional, and increasingly national (and international)

Outsourcing



- Allows owners to focus on core tasks
- Outsourcing can include some or all tasks such as:
 - Custodial
 - Food service
 - Security
 - Facility operations and maintenance (O&M)
 - Property management (leasing, tenant relations, processing payments, etc.)
 - Repairs
 - Retrofits and other capital improvement programs
 - Project management
 - Brokerage services

Facility Managers Say



- Challenges in finding qualified candidates to hire:
 - Few good training program available
 - Potential job seekers are not aware or do not view building operations as a career path
 - Community colleges viewed as a potential partner, but firms may not be actively working with them to find job candidates
 - Candidates often hired with some skills and learn the rest on the job (OJT)
- Need to assess and develop skills for current hires:
 - Either recognize that there is a need or are already developing tools to evaluate skills
 - Few seem to have a good plan for training those already in their workforce
 - Technicians generally are neither motivated nor incentivized to pursue training on their own outside of the job




Facility Managers Say




- Challenges in retaining technicians:
 - As the economy improves, technicians are leaving building operations and going into more lucrative jobs such as construction where they are paid more and qualify for overtime pay
 - Expect a large number of retirements. For example, one interviewee stated that half of the technicians in that firm are under 35 and the other half are over 55 and expected to retire within the next ten years
- Certification:
 - Most have not given much thought to the idea of a national certification program for HPBT but seem supportive of the idea
 - Not really familiar with the certification paths
- View organizations such as BOMA, IFMA, IREM, and ASHRAE as good partners for a certification program

Job Prospects

- Optimistic job outlook based on HVAC Mechanics and Installers forecast – 21% growth rate.
- Workers have a variety of employment opportunities due to variety of facilities that require technicians on a regular basis.
- Occupational Outlook states “...employers generally prefer applicants with postsecondary education or those who have completed an apprenticeship. Some states and localities require technicians to be licensed.”

	Electrical and Electronics Installers and Repairers	Electrical and electronics installers and repairers install, repair, or replace a variety of electrical equipment in telecommunications, transportation, utilities, and other industries.	Postsecondary non-degree award	\$51,220
	General Maintenance and Repair Workers	General maintenance and repair workers fix and maintain machines, mechanical equipment, and buildings. They work on plumbing, electrical, and air-conditioning and heating systems.	High school diploma or equivalent	\$35,210
	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Heating, air conditioning, and refrigeration mechanics and installers—often called <u>HVACR technicians</u> —work on heating, ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings.	Postsecondary non-degree award	\$43,640

Careers in HVACR



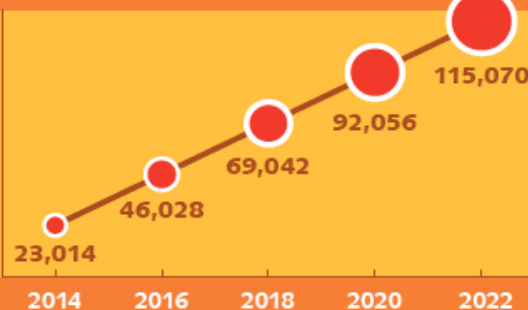
The HVACR Job Market Is **HOT**

**NOW HIRING:
HVACR TECHNICIANS**

Seeking **HIGH SCHOOL STUDENTS, VETERANS** and **SECOND-CAREER ADULTS**. Call your local HVACR employer today, and get to **WORK**.

SOURCE: The HVACR Workforce: Demand Heats Up as Supply Melts Away—A projection of the coming shortfall of HVACR workers and how to fix it


TOTAL EMPLOYEES NEEDED RISES FROM 23K TO 115K



Year	Total Employees Needed
2014	23,014
2016	46,028
2018	69,042
2020	92,056
2022	115,070

More than 115,000 additional HVACR mechanics and installers will be needed by 2022. As a result, students graduating from HVACR training have lots of job options.

Go to www.careersinhvacr.org.



Primary Research Results



- “Half of staff expected to retire within the next ten years.”
- “Looking at a big gap. Lots of folks retiring with few to fill in the gaps.”
- “Was easier to find staff during the recession; now that construction has picked up we are not able to find or retain technicians.”
- “Have lots of folks retiring and the need is growing.”

How Many Techs?



Building Size Range (square Feet)	Number of Buildings (thousands)	Total Square Feet (Millions)	Estimated Number of Techs
1,001 to 25,000	4,890	32,151	97,800
25,001 to 50,000	332	11,915	119,150
50,001 to 100,000	199	13,914	185,520
100,001 to 200,000	90	12,425	165,667
200,001 to 500,000	38	10,718	142,907
Over 500,000	8	7,053	94,040
Total	5,557	88,176	805,083

Certificates vs Certifications



Assessment-based Certificate Program	Professional or Personnel Certification Program
Provides instruction and training (either degree or non-degree granting)	Assesses knowledge, skills, and/or competencies previously acquired
Goal is for participants to acquire specific knowledge, skills, and/or competencies.	Goal is to validate the participant's competency through a conformity assessment system.
Assessment is used to evaluate mastery of the intended learning outcomes, linked directly to the learning event.	Assessment is best used to assure baseline competencies and to differentiate professionals, independent of a specific learning event.
Assessment content may be narrower in scope.	Assessment content is usually broad in scope.
Awards a certificate to recognize mastery of the specific learning outcomes; it is NOT a certificate of attendance or participation, which is awarded to individuals who have attended or participated in a course or training program but did not have to demonstrate mastery of the intended learning outcomes.	Awards designations to recognize achievement.
To earn accreditation, complies with the <i>ICE 1100 Standard</i> and follows the ACAP application procedures.	To earn accreditation, complies with the <i>NCCA Standards for the Accreditation of Certification Programs</i> and follows the NCCA application procedures.

ANSI/ISO 17024 - 2012

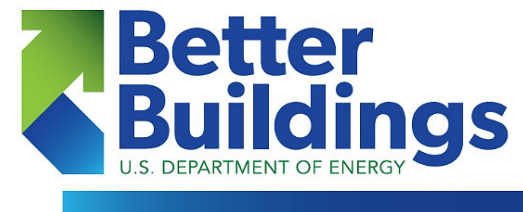


- International standard for certifications
- Appears to be well developed and fair
- Separates out training from granting certifications
- Can not require membership or other restrictions to certification

DOE Better Buildings



- Building energy auditor
- Building commissioning professional
- Building operations professional
- Energy auditor
- Federal facility manager (not finalized)



Certificate Programs



- IREM, IFMA, BOMI, NEEC-BOC
 - Most require membership and classes
 - Various certificates for roles including property managers, facility manager, facility professionals

Federal Buildings Personnel Training Act



★ Competency Areas

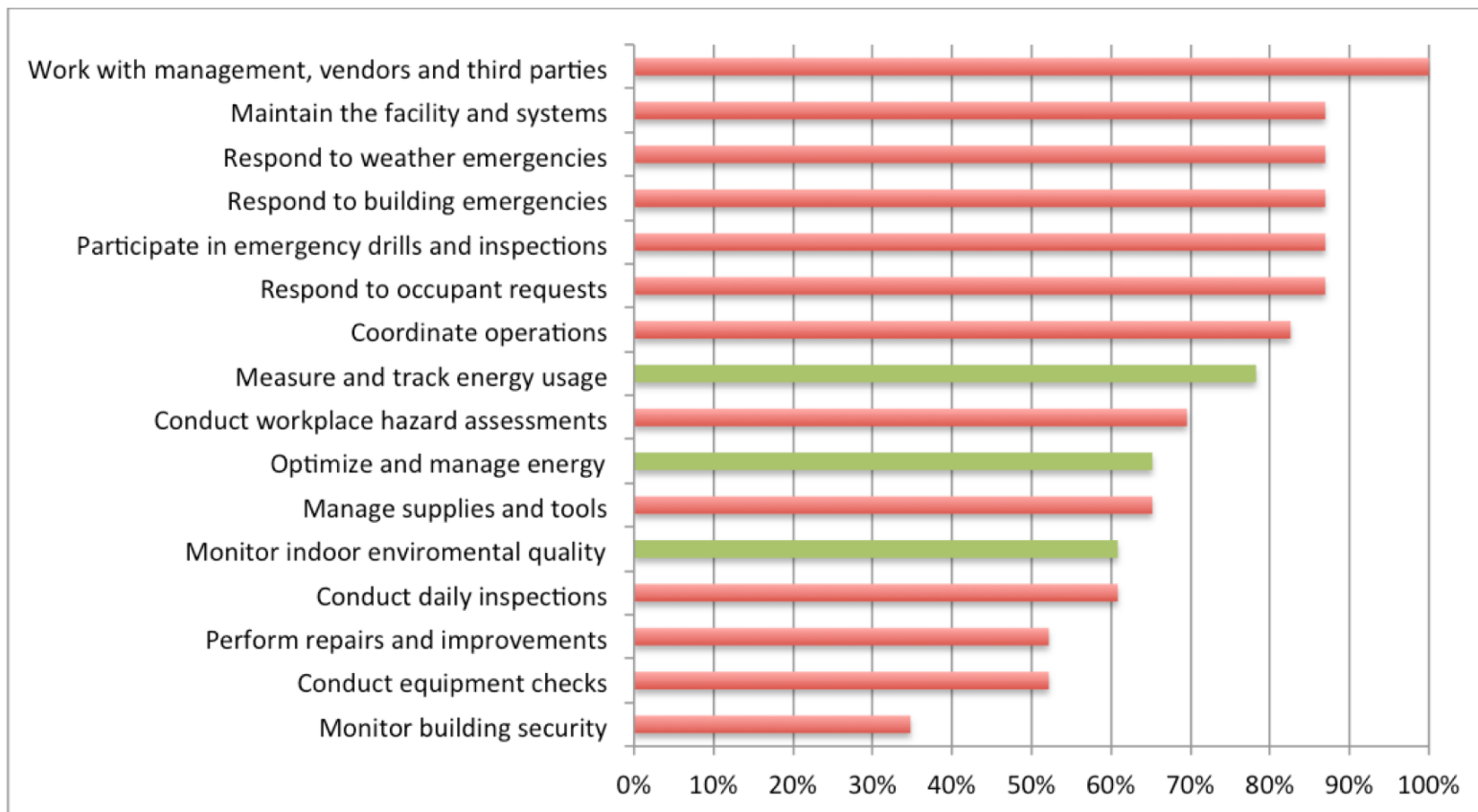
Select a Competency Area to see the competencies associated with it.

Competency Area
1. Management of Facilities Operations and Maintenance
2. Performance of Facilities Operations and Maintenance
3. Technology
4. Energy Management
5. Safety
6. Design
7. Sustainability
8. Water Efficiency
9. Project Management
10. Business, Budget and Contracting
11. Leadership and Innovation
12. Performance Measures

Primary Research Results



- Surveys and Interviews



Questions

