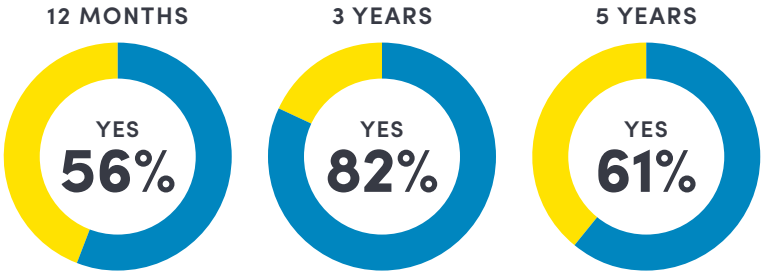
2017

# SURVEY OF ENERGY & ENERGY EFFICIENCY WORKFORCE NEEDS


cbia | EDUCATION & WORKFORCE PARTNERSHIP

# INTRODUCTION

The 2017 Survey of Connecticut Energy & Energy Efficiency Workforce Needs, commissioned by the Connecticut Department of Energy and Environmental Protection, using a U.S. Department of Energy grant, and developed in collaboration with the CBIA Education & Workforce Partnership, was conducted to understand Connecticut's energy workforce. This survey was designed to help businesses better target, develop, and retain qualified workers, particularly in entry-level positions.




**Do you plan on hiring new employees over the next 12 months? 3 years? 5 years?**

With increasing national attention on energy efficiency, renewable energy, and other energy solutions, businesses in Connecticut see a rising demand for qualified workers in the energy sector.

Connecticut is home to 63,000 jobs in the energy industry at 5,600 businesses. The design, installation, and manufacturing of energy efficiency products and services account for nearly 34,000 of those jobs, according to a 2017 U.S. Department of Energy report. The largest share of those employees work in high efficiency HVAC and renewable heating and cooling firms, followed by traditional HVAC.

A shortage of skilled labor makes it increasingly difficult to meet this demand. This year's and a 2015 CBIA energy workforce survey show that an increasing number of employers struggle to fill energy-related positions as the industry continues to grow.

# CONTENTS

## HIRING THE ENTRY-LEVEL WORKER

The four most popular resources for recruiting job applicants are referrals from current employees (22%), state technical high schools (17%), online job boards (15%), and through company websites (11%).

The most successful of those resources are employee referrals (36%), online job boards (28%), and state technical high schools (17%).

Five percent of respondents draw job applicants from Connecticut universities, while only 3% hire from state community colleges.

**91%** **of respondents have entry-level employees under the age of 30**

More than half of respondents (57%) have difficulties acquiring entry-level workers for jobs related to energy and energy efficiency activities—in particular, HVAC and plumbing. The biggest barriers related to hiring these employees include lack of required technical skills/certifications (73%) and basic career competencies, such as teamwork, communication, and problem-solving (45%). Failure to meet minimum educational requirements (15%), pass a drug test (12%), or pass a background check (12%) are barriers as well.

In lieu of formal education and training certificates, 78% of respondents accept prior work experience in hiring entry-level energy and energy efficiency workers.

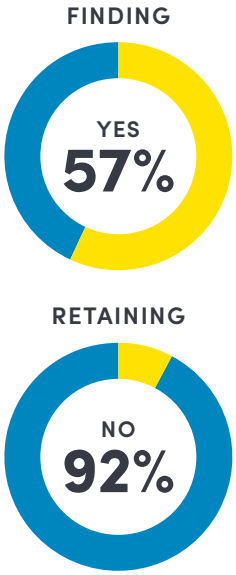
On average, employers prefer their entry-level job candidates have at least 1.6 years of experience working in the energy industry. It's worth noting that some energy-related jobs may require workers to have a license or apprentice card, even if no previous experience is needed. Some employers may enroll new workers in apprenticeship programs to qualify them for certain jobs.

Ninety-four percent of respondents say less than a fifth of their workforce is made up of entry-level workers. Of the entry-level positions, most skilled-trade mechanics and apprentices (64%)—such as mechanics, electricians, and plumbers—are required to have energy-related skills. Employers struggle to fill these positions, despite more than one-quarter (28%) of jobs offering an hourly wage of $20 or higher.

**"Statewide, we see a need for trained technicians to work in the growing energy efficiency and weatherization industry. We support efforts to close the gaps between workforce training and clean energy industry needs, including the Energy Management degree program at Tunxis Community College."**

**Diane Duva** | Director, Office of Energy Demand, Bureau of Energy and Technology Policy, Connecticut Department of Energy and Environmental Protection

Once businesses hire qualified workers however, they have very little trouble keeping them. In fact, the majority of employers (92%) are confident in their ability to retain entry-level workers.




**Is your company having difficulty finding and retaining entry-level workers for jobs related to energy/energy efficiency?**

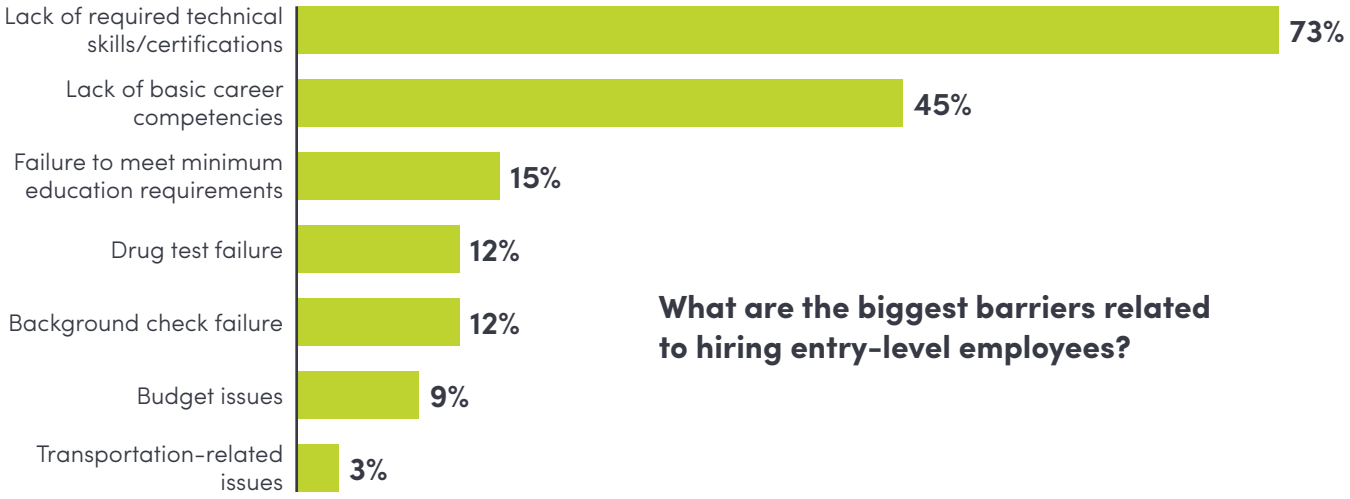
## SKILLS & TRAINING

Most employers in the energy sector (94%) provide on-the-job training to improve employee skills. Some do so by offering certification from vendors (49%), classroom education during (46%) and outside (40%) work hours, as well as online educational opportunities (34%).

Three quarters of respondents use existing staff to train new hires at their facilities, while 17% provide training by current staff members outside of the workplace. Only 6% of new hire trainings are provided by a third-party vendor.

Licenses, credentials, and trainings required for entry-level workers, as provided by respondents, include (but are not limited to):

- OSHA 10-, 20-, 30-, or 40-hour Safety Training Certificate
- Building Performance Institute (BPI) Auditor, Quality Control Inspector, and Building Analyst
- Commercial Driver's Licenses (CDL-A and CDL-B)
- Leadership in Energy and Environmental Design (LEED) Green Associate and Accredited Professional
- Building Operator Certification (BOC)
- Limited Warm Air, AC and Refrigeration Contractor (D1) and Journeyperson (D2)




**What are the biggest barriers related to hiring entry-level employees?**

**71%**
$10–$19.99

**22%**
$20–$29.99

**6%**
$30 or more

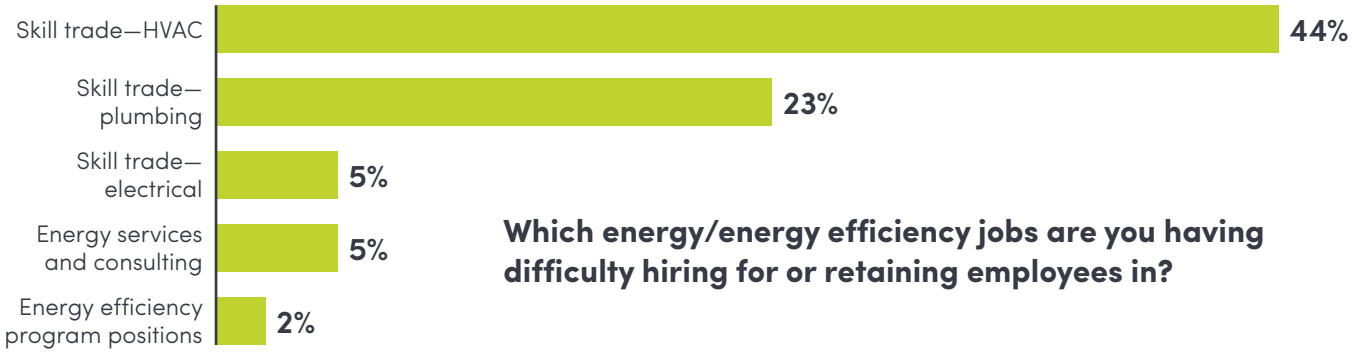
**What is the typical hourly wage range for an entry-level job within your company?**

> **"The state has responded robustly to the needs of the manufacturing sector. While the need in terms of numbers in the energy sector may not be as high, the aging of the workforce is just as real. We must be committed to ensuring that all businesses in the state have the talent pipeline needed to thrive and contribute to our economy's health."**
>
> **Andrea Comer** | Vice President, Workforce Strategies, CBIA Education & Workforce Partnership

- Unlimited Heating, Piping and Cooling Contractor (HVAC S1) and Journeyperson (HVAC S2)
- Unlimited Electrical Journeyperson (E2)
- Connecticut Home Improvement Contractor License/Registration (HIC)
- EPA Lead Certification
- Registered apprentice
- Educational degree, ranging from a high school degree or GED as the minimum, to a four-year bachelor's degree as the most desired

Other job-specific qualifications cited by respondents as requirements to fill job vacancies include:

- EPA Refrigerant Certification
- EPA Universal Waste Rules
- Refrigerant Reclaim Certification
- Engineering bachelor's/master's degree
- Professional engineer license
- Assembling skills

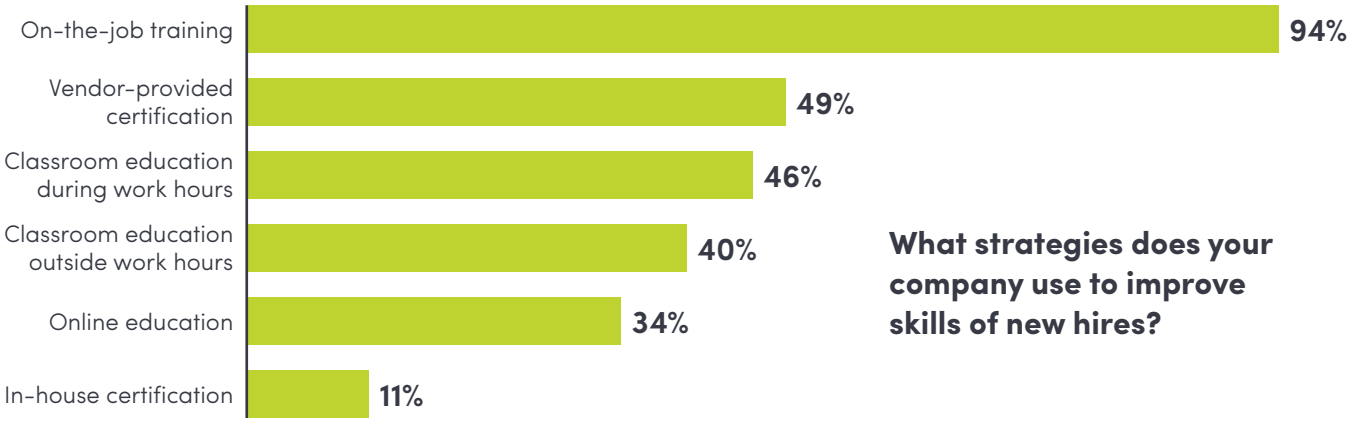



**Which energy/energy efficiency jobs are you having difficulty hiring for or retaining employees in?**

## RECOMMENDATIONS

To overcome Connecticut's entry-level energy and energy efficiency hiring challenges, we recommend the following:

1. State regional workforce development boards should provide **entry-level training in the energy sector for unemployed and underemployed individuals,** in collaboration with industry and community organization partners.
2. **Work-based learning programs that partner with the Connecticut technical high school system** should provide training for energy efficiency positions that are in demand, particularly those in the construction, HVAC, plumbing trades, and those associated with apprenticeships. The utility-CBIA collaboration advancing the Green STEP (Sustainability Technical Education Program) is an example of industry engagement and work-based learning that links high school students to energy industry opportunities and experiences.
3. Support the **establishment of a Connecticut Department of Labor apprenticeship program for the energy sector,** similar to those funded for manufacturing, healthcare, and business services. Preliminary interest indicates that support from energy efficiency businesses and additional training resources are critical for this approach to succeed.
4. **Invest in community college-based stackable certificate and associate degree programs** to fill gaps in training for entry-level and career changing employees in the practical skills needed by energy auditors, analysts, and building automation technicians. The gap is being filled by community college programs such as the Tunxis Community College Energy Management Program. Connecticut should consider expanding support for, and geographically broadening, the availability of such programs to close the skills training gap.
5. **Replicate education programs that enhance 21st century soft skills.** For example, Youth Employability Skills (YES) is an industry-developed curriculum that strengthens communication, customer interface, time management, financial, and organizational skills cited by industry as lacking among jobseekers.



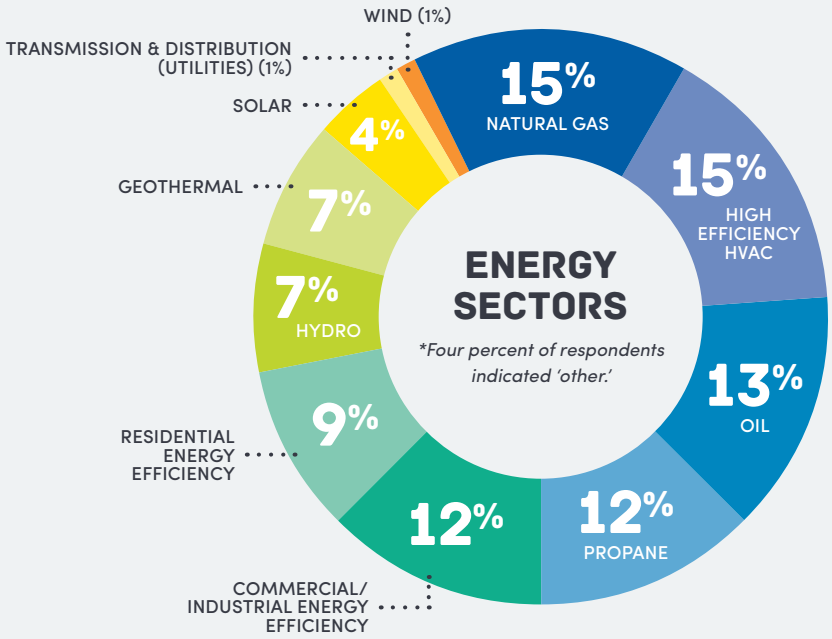
# ABOUT THE SURVEY

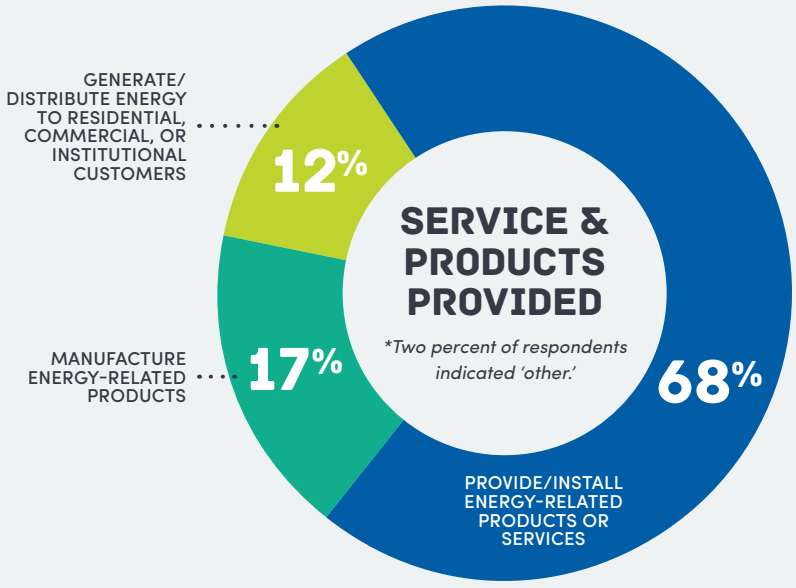
## METHODOLOGY & DEMOGRAPHICS

Our survey was emailed and mailed to energy manufacturers, installers of energy products, and generators and producers of energy throughout Connecticut in April 2017. The survey was distributed to 820 businesses and had 62 respondents for a 7.56% response rate and 4.6% margin of error with a 95% confidence level.

Funding was provided in part by the U.S. Department of Energy, State Energy Program, and administered by the Connecticut Department of Energy and Environmental Protection.

Respondents' businesses are primarily based in Hartford County (36%), followed by Litchfield (17%), New Haven (17%), Middlesex (14%), Fairfield (8%), New London (6%), and Tolland (3%) counties. No respondents are located in Windham County.



# ABOUT DEEP

## CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

The Connecticut Department of Energy and Environmental Protection is charged with conserving, improving, and protecting the natural resources and the environment of the state of Connecticut as well as making cheaper, cleaner, and more reliable energy available for the people and businesses of the state. The agency is also committed to catalyzing jobs and playing a positive role in Connecticut's economy to foster a sustainable and prosperous economic future for the state.

**Visit ct.gov/deep | energizeCT.com | getintoenergyCT.com**

# ABOUT CBIA EDUCATION & WORKFORCE PARTNERSHIP

Established as the CBIA Education Foundation in 1983, the Education & Workforce Partnership works with member businesses statewide to strengthen the talent pipeline and encourage economic growth.

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## WE BELIEVE...

- If we provide people with the skills, experience, and credentials needed
- If we engage businesses in the development of training and curricula
- If we establish meaningful partnerships to eliminate the gap between employers and job seekers

... then Connecticut will have a strong and sustained economy that spurs business growth.

**Learn more at cbia.com**


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