



KENTUCKY ENERGY EFFICIENCY WORKFORCE ANALYSIS



**BUILDING
PERFORMANCE**
ASSOCIATION

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ABOUT OEP

The **Office of Energy Policy** (OEP) was created through an Energy and Environment Cabinet reorganization during the 2018 Kentucky legislative session. The OEP retains many functions of the former Department for Energy Development and Independence but has a more streamlined organizational structure to help them approach energy policy issues and energy programs in a manner that reflects current challenges and opportunities. Funded partially through the U.S. Department of Energy's State Energy Program (SEP), the OEP is part of a nationwide network of State Energy Offices and is tasked with enhancing energy security, advancing state-led energy initiatives, increasing investments and economic growth, and maximizing the benefits of decreasing energy waste. Programs and initiatives administered by the OEP are tailored for Kentucky's unique energy resources, delivery capacity, and energy goals.

ABOUT HPC

The **Home Performance Coalition** (HPC) is a nonprofit 501(c)3 industry association that serves as the hub for businesses, nonprofits, and government agencies working to make America's homes more comfortable, healthy, and energy efficient. The **Building Performance Association** (BPA) is a 501(c)6 industry association committed to advancing the home performance industry by supporting policies and programs that will improve and increase the expansion of home and building performance, energy efficiency businesses, and industries. Together, HPC and BPA share a board of directors and staff that advance the mission and priorities of the Association.

ACKNOWLEDGEMENTS

The workforce survey, formation of the Kentucky Affiliate group and this report was made possible through funding provided to the Association by the Office of Energy Policy (OEP) through U.S. DOE State Energy Program (SEP) funding. More than a dozen individual and group meetings were held over a nine-month period which required hundreds of hours of volunteer time from the energy efficiency industry in the state. These volunteers include Mark Adams (Kentucky Housing Corporation's REE Center), Ashley Runyon and Lona Brewer (Commonwealth of Kentucky Energy & Environment Cabinet), Sandy Beck (Beck Group), Eric George (Building Performance Group), Chris Woolery (Mountain Association), Andrew Isaacs (Allegheny Science and Technology), Rick Hall (Building Science Professional Training), David Horton (Horton Brothers/Scarpello Consulting) and Bruce Maybriar (Building Institute of Central Kentucky).

We want to thank all who set aside the time to complete the survey, participate in virtual and in-person events and who are out on the ground every day working to improve the homes of Kentuckians.



We also want to specifically thank OEP for having the foresight to begin this project ahead of the application due dates for workforce funding under the Infrastructure Investment and Jobs Act (IIJA) of 2021 and the Inflation Reduction Act (IRA) of 2022. These efforts support OEP in identifying gaps and barriers to equitable distribution and implementation of programs that aim to establish, expand, and prepare the energy efficiency workforce in the state.

OEP joins other State Energy Offices that are preparing to implement historic federal investments in energy efficiency through workforce development and rebate programs made possible by IIJA and IRA funding.

EXECUTIVE SUMMARY

The Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA) significantly increased the Office of Energy Policy's (OEPs) capacity to fund energy related projects across the state. Kentucky has been allocated a **total of \$134 million to implement the Home Energy Rebate Programs authorized through IRA section 50121 (\$67 million) and section 50122 (\$66.9 million)**. OEP has been able to access **\$3.3 million of the total amount to support early administrative activities**. With a \$62 billion investment in funding toward a more equitable clean energy future, the IIJA and IRA are two of the most historic federal investments of our time.

Through these programs, the Commonwealth has been awarded \$6.9 million in additional [State Energy Program \(SEP\) funds](#), \$69.5 million in [National Electric Vehicle Infrastructure \(NEVI\) Formula Funds](#), and \$11.1 million in allocations from section [40101\(d\) for Preventing Outages and Enhancing the Resilience of the Electric Grid](#).¹

OEP has also applied for, but has not yet been awarded, **\$2.2 million for Energy Efficiency and Conservation Block Grants (EECBG)**. Additionally, OEP has applied for the **Training for Residential Energy Contractors (TREC)** grant program to expand or implement the recommendations and strategies identified in this assessment as crucial for supporting the anticipated surge in demand for energy efficiency upgrades across the state. OEP has also been selected to receive **\$62,450,000** through the **Solar for All grant competition** to develop long-lasting solar programs that enable low-income and disadvantaged communities to deploy and benefit from distributed residential solar across Kentucky through the United States Environmental Protection Agency (EPA). If solar will be placed on residential homes, this will require additional workers to ensure houses are energy efficient prior to the sizing of the systems to ensure homes maximize potential energy savings.

Supporting the state's energy efficiency advancement through robust workforce development efforts provides Kentuckians with opportunities to actively participate in the energy efficiency industry. Kentucky's workforce has a once-in-a-generation opportunity to learn about energy efficiency careers that are available within their

¹ [Kentucky Energy & Environment Cabinet Programs](#)



communities and participate in the state's transition to a healthier, safer, more comfortable, and efficient residential environment.

Included in energy efficiency occupations are home performance contractors and weatherization professionals. These are people who have undergone specialized training that has equipped them with the ability to diagnose a home's problems (drafty, moldy, expensive to heat or cool, uncomfortable) and determine the most effective ways to fix them. Each home has a distinctive system involving the building itself, its occupants, and all devices in the home that use energy, including lighting, appliances, fans, and HVAC equipment. A home performance professional understands and addresses the subtle interactions of the components of the house as a system and considers, at every step, that a change to one part of the system will affect the other parts.

Weatherization professionals perform a variety of activities to weatherize homes and make them more energy efficient. Measures include repairing windows, air sealing, adding insulation, and more. [The U.S. Department of Energy's \(DOE\) Weatherization Assistance Program \(WAP\)](#) takes the "whole-house weatherization" approach that analyzes how the home system's components work together. This includes the building envelope, heating and cooling systems, electrical system, and electric baseload appliances—through the completion of an energy audit to determine if energy efficient measures are needed.

Energy efficiency occupations also include the manufacturing of and installing of high efficiency systems, insulation, or ENERGY STAR® certified appliances in residential structures, or the design and construction of energy efficient homes and buildings. Energy Efficiency occupations also include those who upgrade or repair equipment, educate homeowners and others on the importance of energy efficiency, or analyze building data to identify opportunities for energy efficiency measures.

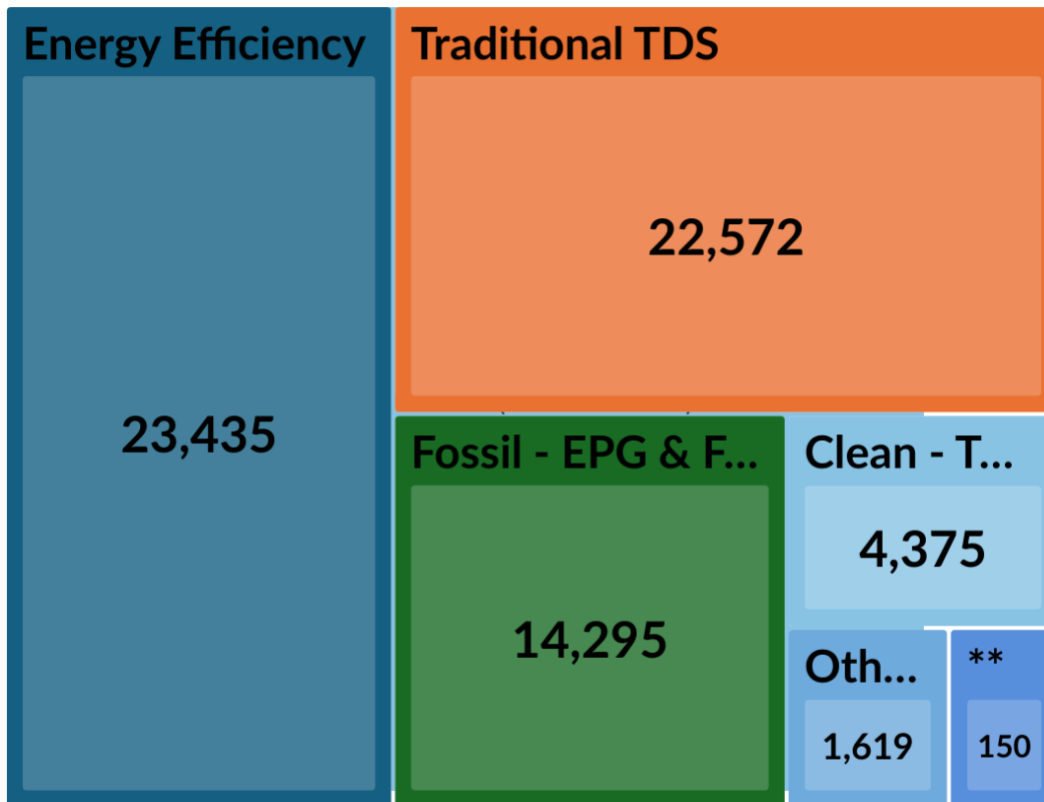
The energy workforce in Kentucky, comprising of multiple sectors including energy efficiency, had 150,111 energy workers statewide in 2022 according to the USEER 2023 Energy and Employment report. These sectors include Transmission, Distribution & Storage (TDS), Fossil – Electric Power Generation, Clean TDS, EPG, and fuels, and Others (such as ethanol, wood/biomass, large hydropower, etc.)

Of all energy workforce reported in Kentucky, energy efficiency is the largest sector. From 2021 to 2022, the energy efficiency sector in Kentucky increased by 728 jobs, with 23,435 workers in the state representing a 3.2 percent increase from 2021 to 2022.²

² [E4 The Future Energy Efficiency Jobs in America 2022 report](#)



Kentucky Energy Sector Workforce



TDS = Transmission, Distribution & Storage

EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

**Nuclear (EPG & Fuels) = 150

Figure 1: Recreated image from E4TheFuture, Energy Efficiency Jobs in America Report; Kentucky, 2023.

In the Kentucky Office of Energy Policy's TREC grant narrative, it is noted that while this growth appears positive, the Bureau of Labor Statistics reveals that **only 55 percent of Kentuckians participate in the workforce** which is well below the national average. While there are many factors that can affect this number, educational attainment is one of the most significant factors. Within the narrative, OEP identifies Eastern Kentucky as the area with the lowest educational attainment rate, highest energy burden, and largest geographical gaps for training centers and educational institutions statewide. This region also has the lowest workforce participation.

Based on initial research done by OEP, Kentucky is forecasted to need an additional 542 trained and licensed or certified professionals to join the workforce to implement Inflation Reduction Act (IRA) programs. Utilizing TREC funding, OEP plans to provide funding for training and certifications to 87 percent of the required need. OEP will primarily target Eastern, Western, and Central Kentucky for recruitment but will also target vulnerable populations statewide, specifically veterans, individuals in substance abuse recovery programs, and the recently incarcerated.



Based on the survey responses, market research, state-specific research, working groups, and anecdotal data, the following key recommendations emerged which aim to guide OEP in advancing the energy efficiency workforce in Kentucky:

- **PROVIDE RESOURCES TO SUPPORT BUSINESS DEVELOPMENT & GROWTH**
- **PREPARE THE INDUSTRY FOR IIJA & IRA PROGRAMS**
- **DESIGN FLEXIBLE TRAINING TO ALIGN WITH FEDERAL REQUIREMENTS**
- **INCENTIVIZE ENERGY SPECIFIC REGISTERED APPRENTICESHIP PROGRAMS**
- **ESTABLISH DEIA REQUIREMENTS IN PROGRAM DESIGN**

The Commonwealth's energy efficiency workforce will benefit from state-led initiatives and programs designed to support and enhance diversification of the workforce through outreach and education efforts, while offering training programs that provide building science principles skills and knowledge, registered apprenticeship programs and others.

OEP can utilize additional funding sources to enhance energy efficiency programs across the state. Numerous sources within the energy sector that concentrate on workforce development exist and should be stacked or braided to offer the greatest value in job creation and robust program design. Additional funding sources that may be utilized are through state-level department of labor and utility energy efficiency programs. Other funding that may be accessible or compliment current OEP sources of IIJA and IRA funding include Department of Energy state-level funding and United States Department of Agriculture.³

The recommendations and strategies identified in this report aggregate data from the Association's energy efficiency needs assessment survey, one-on-one conversations, stakeholder meetings, and additional market research. This report represents the views and recommendations of the Association based on information gathered during the project and is not intended to represent the views of OEP or any state agency.

INTRODUCTION

Energy efficiency is an important and economical tool to reduce energy burdens, decrease greenhouse gas emissions, manage energy demand, create energy jobs, and increase sustainable clean energy for more households. Through funding authorized to states within the Infrastructure Investment and Jobs Act (IIJA) and the Inflation

³ [U.S. Department of Labor funding opportunities; Green and Resilient Retrofit Program \(GRRP\) | HUD.gov / U.S. Department of Housing and Urban Development \(HUD\); Rural Energy for America Program Energy Audit & Renewable Energy Development Assistance Grants | Rural Development \(usda.gov\); State Tax Credits and Tuition Support | Apprenticeship.gov](#)



Reduction Act (IRA), State Energy Offices can design new statewide programs that advance and support the energy efficiency industry more holistically.

An initial step in building the energy efficiency workforce is to examine Kentucky's current landscape. This includes identifying existing workforce programs, certifications available within energy efficiency, state training programs, and opportunities for upskilling employees. It also involves understanding gaps within the industry and developing strategies to overcome shortcomings in training a skilled energy efficiency workforce.

The Office of Energy Policy (OEP) and the Home Performance Coalition (HPC) collaborated to conduct a statewide energy efficiency workforce needs assessment that sought feedback on a multitude of topics ranging from human resource practices and available training or upskilling opportunities, to the range of services offered and location of customers served. Input was requested from energy efficiency businesses, weatherization agencies, contractors, and others within the workforce to help inform the overall recommendations and strategies provided in this report.

Overall, the energy efficiency workforce needs assessment analysis:



Figure 2: BPA Kentucky Energy Efficiency Workforce Needs Assessment Goals, 2023.



Additionally, the report benchmarks Kentucky’s existing energy efficiency assets and highlights key stakeholders for collaboration in creating the programs needed to fill current state gaps within the energy efficiency workforce. Finally, the report defines key recommendations to further develop workforce program planning and explains how leveraging certain resources can address barriers in capacity growth within the industry. These efforts are critical to supporting a sustainable model that will optimize the energy efficiency workforce.

KENTUCKY’S ENERGY LANDSCAPE

The **Office of Energy Policy (OEP)** was established during the 2018 legislative session through a reorganization of the Department for Energy Development and Independence with the legislative directives identified in [KRS 152.712](#).

OEP is tasked with ensuring that Kentuckians are offered affordable and reliable energy while utilizing energy resources to protect and improve the environment, increase investments and economic growth, and advance state-led energy initiatives through five major areas of focus as shown in figure 3.

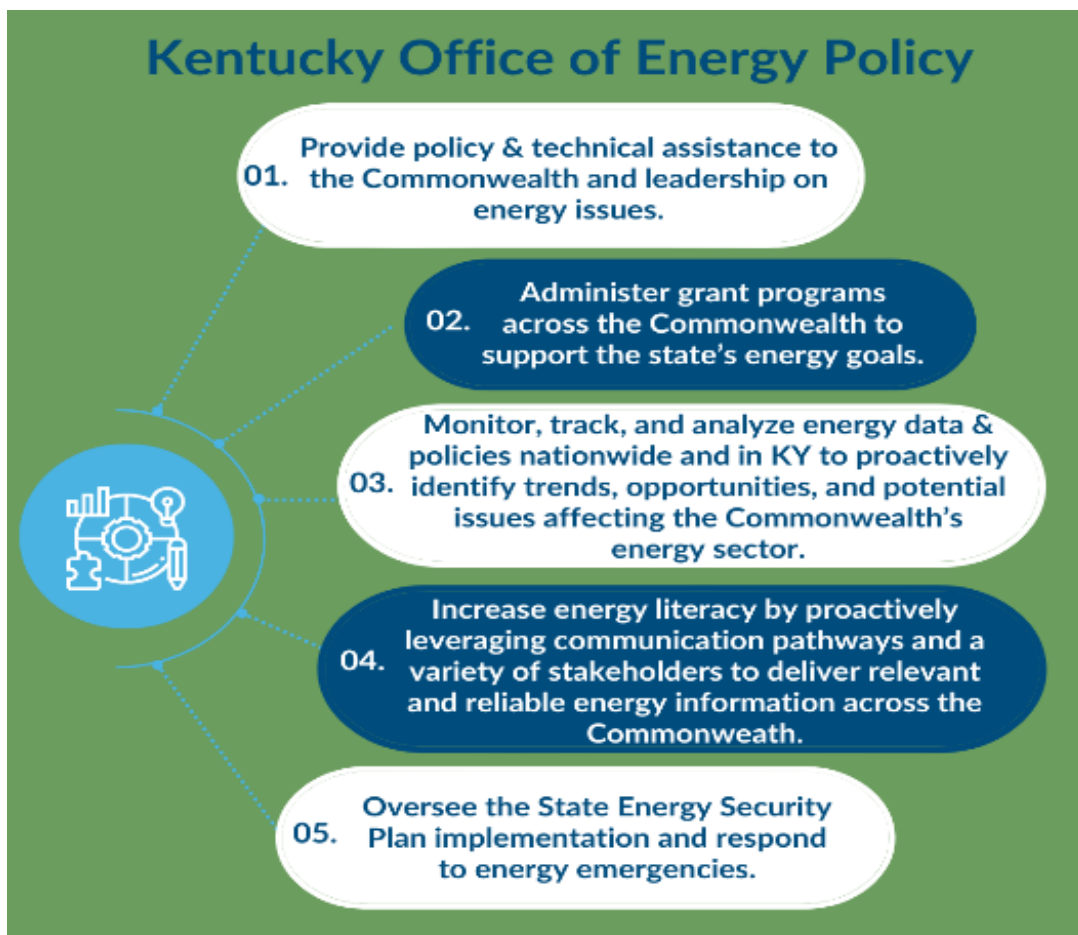


Figure 3: [Kentucky Office of Energy Policy, About, 2024](#).



OEP supports energy efficiency adoption for Kentucky through policy implementation and programs. OEP is supported primarily through U.S. Department of Energy (DOE) State Energy Program (SEP) formula funding and state funds allocated through [KRS 132.020\(5\)](#). OEP actively collaborates with fellow agencies on energy issues to implement Governor Andy Beshear's strategic plan for transitioning the energy landscape of Kentucky through [KYE3: Designs for a Resilient Economy](#). This strategy envisions using economic development as the key for providing resiliency with a focus on community engagement and partnerships.

Utility providers large and small in Kentucky play an important and significant role in advancing energy efficiency programs in the Commonwealth. By implementing demand-side programs that result in energy savings, utilities provide customers with the knowledge and resources needed to adopt energy efficiency practices within their homes. Programs such as appliance replacement and recycling, smart thermostats and other demand conservation measures are all important pieces of the transition to higher adoption of energy efficient practices by consumers. Kentucky is made up of three investor-owned electric utilities, twenty-six electric cooperatives, and twenty municipal utilities in the state that supply electricity to customers.⁴ Many of these utility providers offer residential energy efficiency rebate programs and other options that help customers reduce energy costs and burdens.

KENTUCKY ENERGY EFFICIENCY PROGRAMS & PROJECTS

Through existing funding, the Kentucky Office of Energy Policy (OEP) has partnered with more than half a dozen organizations to advance energy efficiency in the Commonwealth which includes energy efficient renovations or developments, education and outreach, and rebates.⁵

OEP partners with organizations such as the [Housing Development Alliance, Inc.](#) (HDA) and [River City Housing](#) (RCH) who work with low-to-moderate-income families to provide funding to cover the inspection and certification process for homes to become ENERGY STAR® certified and offer rebates for increased energy efficiency measures in qualified homes.

The Energy Efficient Housing Project, administered by HDA, offers rebates for ENERGY STAR® rated heat pumps which are required for certification. The Home Energy Efficiency Rebate Project, administered by RCH, requires that the energy efficiency measures implemented will increase energy affordability by directly lowering utility bills.⁶ Additionally, through State Energy Program (SEP) funding authorized within the IJA, OEP has funded a Home Energy Efficiency Rebate Project with RCH to provide rebates for

⁴ EPA. "Energy Efficiency and Electric Infrastructure in the State of Kentucky."

⁵ KY OEP Projects: [Office of Energy Policy - Project Explorer \(arcgis.com\)](#)

⁶ [Kentucky Office of Energy Policy - About OEP](#), 2024



energy efficiency measures in at least seven homes being developed or renovated by RCH, and then purchased by first-time home buyers.⁷

OEP also supports [Appalachian Energy Works](#) (AEW) to expand the workforce in eastern Kentucky through their project that aims to increase awareness of available energy jobs to the eastern Kentucky region and build workforce capacity locally. AEW also offers energy audits and efficiency upgrades to homeowners in the region.

As of April 2022, there are 270 businesses and organizations in Kentucky that participate in the US Environmental Protection Agency's (EPA) ENERGY STAR® program with an estimated 1.5 million customers served by ENERGY STAR® utility partners in 2021.⁸

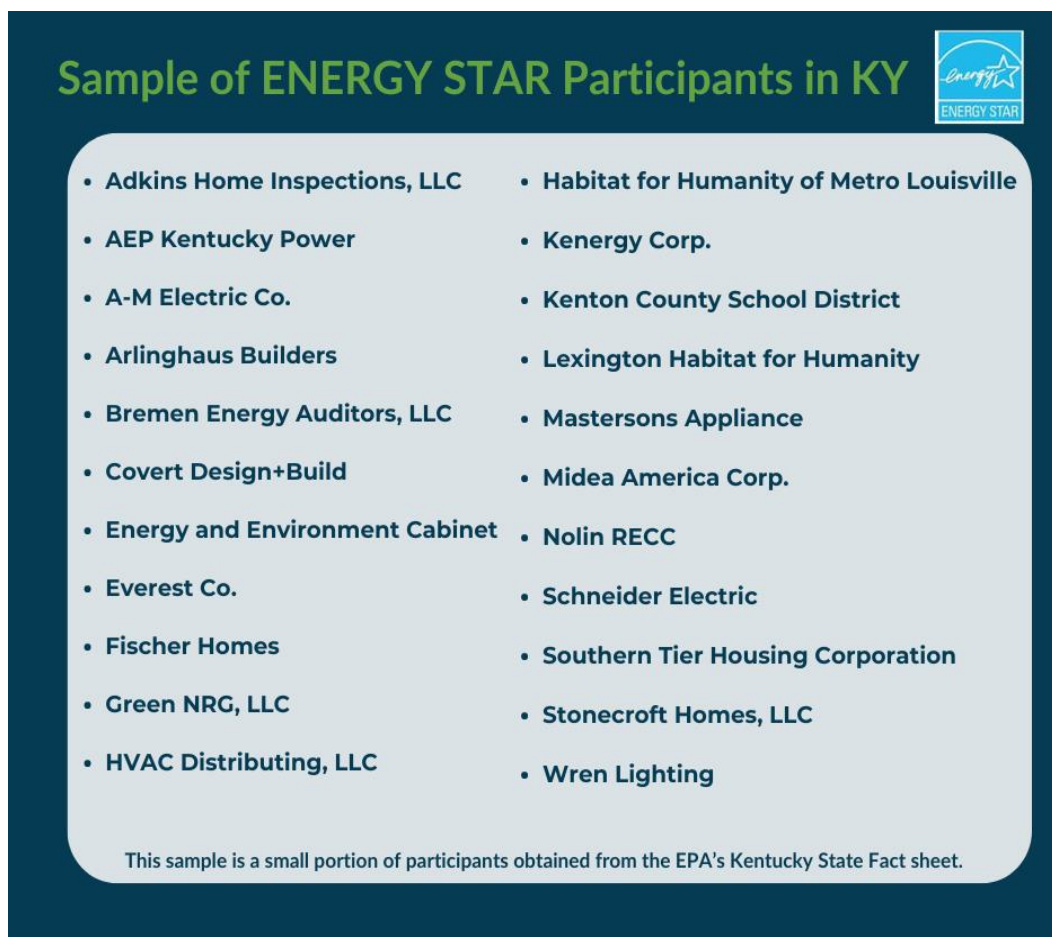


Figure 4: Sample recreation of ENERGY STAR® participants – The Environmental Protection Agency, Kentucky State Fact Sheet, 2023; [Kentucky ENERGY STAR® Partners](#).

In addition to the programs that the OEP funds, [Kentucky Housing Corporation](#) (a self-supporting, public corporation of the Commonwealth) oversees the Weatherization Assistance Program—a program designed to decrease the energy burden of low-income

⁷ [Kentucky OEP IJA Programs](#)

⁸ [Kentucky ENERGY STAR Partners](#)



households through energy efficiency measures and installations. The energy burden for low-income and disadvantaged communities can be as high as 18 percent. The weatherization program is delivered through a network of twenty non-profits and has established a Residential Energy Efficiency Training Center. The program weatherizes approximately 600 homes per year.⁹

Through [Together We Save KY](#), cooperatives across the Commonwealth provide customers with residential energy efficiency rebates for certain equipment and other incentives. Each cooperative offers different incentives or rebates for energy efficiency equipment or measures such as heat pumps, air conditioners, duct and air sealing and insulation.

Energy programs that advance the efficiency of the built environment across the Commonwealth are abundant, however, without the workforce needed to implement the additional influx of funding, advancing energy efficiency statewide will be a challenge. Improving residential buildings, lowering utility bills across the Commonwealth, and providing equitable access to energy efficiency career opportunities will ensure the continued success of OEP in designing and implementing residential energy efficiency programs.

METHODOLOGY

Through this project, the BPA Kentucky Affiliate was formed to aid in informing the final report's contents, provide ground-level feedback, and support this project's efforts to maximize outreach and engagement efforts. State Affiliates are made up of active members of BPA, collaborating to drive the growth and development of the energy efficiency industries within the state.

Enthusiastic about advancing energy efficiency workforce practices, education, and outreach efforts to existing and new job seekers and overall energy goals of the state, the team created an intricate process for data collection to identify hiring needs, workforce development gaps, and barriers faced by employers and employees in Kentucky. The data collection process involved four primary methods:

- A 55-Question Online Survey;
- A 1-day in-person event;
- Working Group Meetings; and
- Anecdotal data.

The online survey was designed to gather comprehensive information from various energy efficiency workers, business owners and contractors across Kentucky. It was comprised of multiple-choice and open-ended questions, enabling the collection of both quantitative and qualitative data.

⁹ [State and Community Energy Programs Project Map – Kentucky | Department of Energy](#)



The survey was widely distributed to over 17,000 contacts through various channels, such as email invitations, social media platforms, online communities, and by partner organizations in Kentucky. The survey aimed to reach a diverse range of participants and respondents were encouraged to provide honest and detailed responses to ensure the reliability and validity of the collected data.

In addition to the online survey, the team conducted virtual and in-person working group meetings. These meetings were facilitated to gain a deeper understanding of the energy landscape in the Commonwealth and to garner additional participation in the survey. The in-person event provided attendees with updates on Kentucky's Training Residential Energy Contractors (TREC) grant application, Registered Apprenticeship opportunities, federal rebates and more.¹⁰ The insights and expertise shared during these meetings provided valuable qualitative data to complement the survey responses.

Furthermore, the team collected anecdotal data through stakeholder discussions, working group meetings and existing reports and documents relevant to the energy efficiency workforce in Kentucky. These additional data sources contributed to the report by supporting identified patterns, gaps and recommendations and provided a broader contextual understanding of the energy efficiency landscape that enriched the process.

ABOUT THE SURVEY

As mentioned, Home Performance Coalition (HPC), in collaboration with the Office of Energy Policy (OEP) and volunteers from the BPA Kentucky Affiliate Group, created a 55-question survey **designed to identify hiring needs, workforce development gaps, and accessibility barriers facing program managers, energy efficiency businesses, employees, and contractors in Kentucky.**

HPC developed the survey questions in collaboration with OEP and the Affiliate group, refining them to better capture the needs of the energy efficiency workforce in the Commonwealth. The survey aimed to identify current resources, certifications, and challenges within the workforce, establishing a baseline to inform where efforts and funding should be directed. This baseline would help OEP understand the existing landscape, allowing them to meet workers where they are and provide opportunities for upskilling, while also addressing the most common barriers in current programs and identifying specialties needed for implementing Home Energy Rebate Programs.

To develop an understanding of the energy efficiency workforce in the state, the survey paid specific attention to employers and employees in the home performance industry. These professionals provide services that result in a decrease of energy consumption while increasing the health, safety, and affordability of homes and multi-family buildings.

¹⁰ [Kentucky March 7, 2024, Meeting Recap](#)



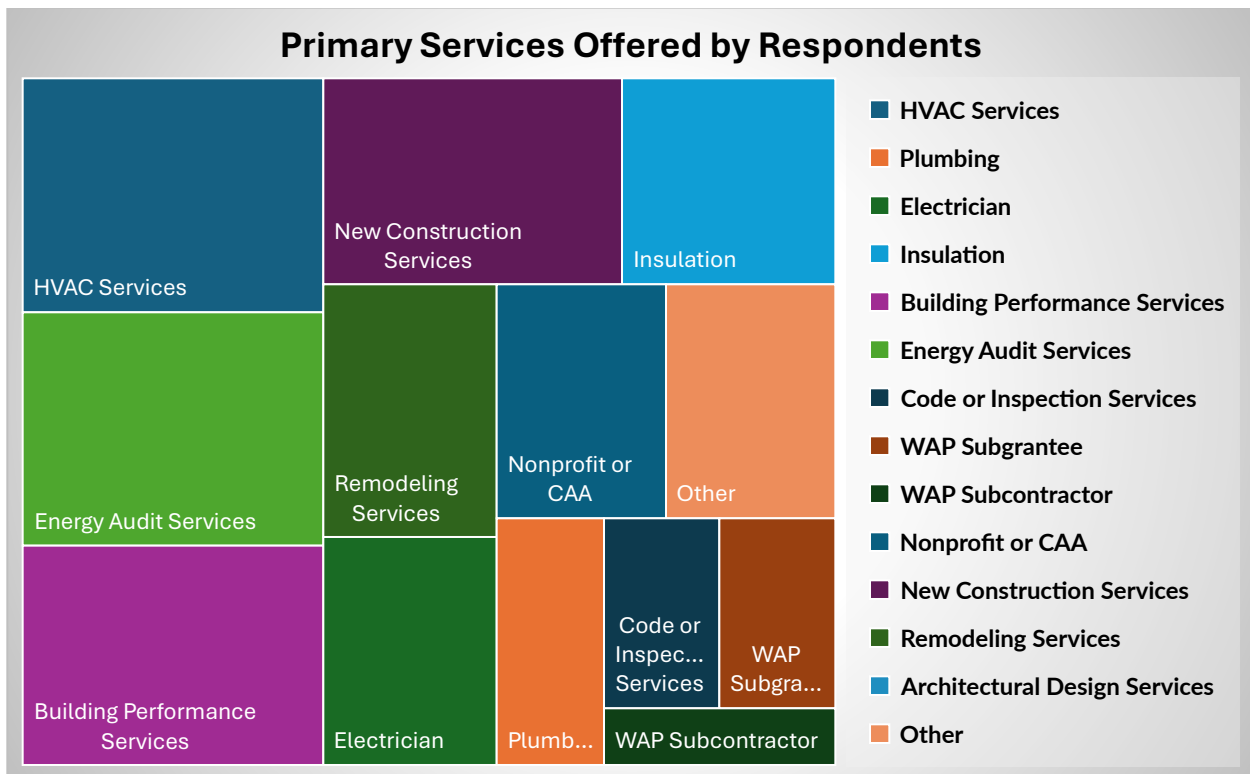


Figure 5: BPA Kentucky Workforce Needs Assessment Survey, 2023; Q13: What is your company or organization's primary business? (Check all that apply if a primary service is offered).

Understanding the types of training available, the benefits and support services provided, and the typical commute for workers to jobsites or training locations is equally important. This data will enable OEP to ensure that the energy efficiency workforce is not only prepared to implement current programs funded by IIJA and IRA but is also well-positioned to sustain the industry over the long term, beyond the next decade.

Furthermore, identifying where services are currently provided aids in identifying areas of the state that would further benefit from energy efficiency and weatherization programs and funding. Additionally, areas that have a higher saturation of market demand, such as the Bluegrass area, could indicate a willingness to participate in energy efficiency programs, an awareness of programs and financial assistance available and where to focus workforce efforts.

As shown in Figure 5, respondents provide services to customers all over the state with Bullitt, Fayette, Jefferson, Jessamine, Madison and Woodford counties having the highest customer base.



Respondents' Customer Locations by County

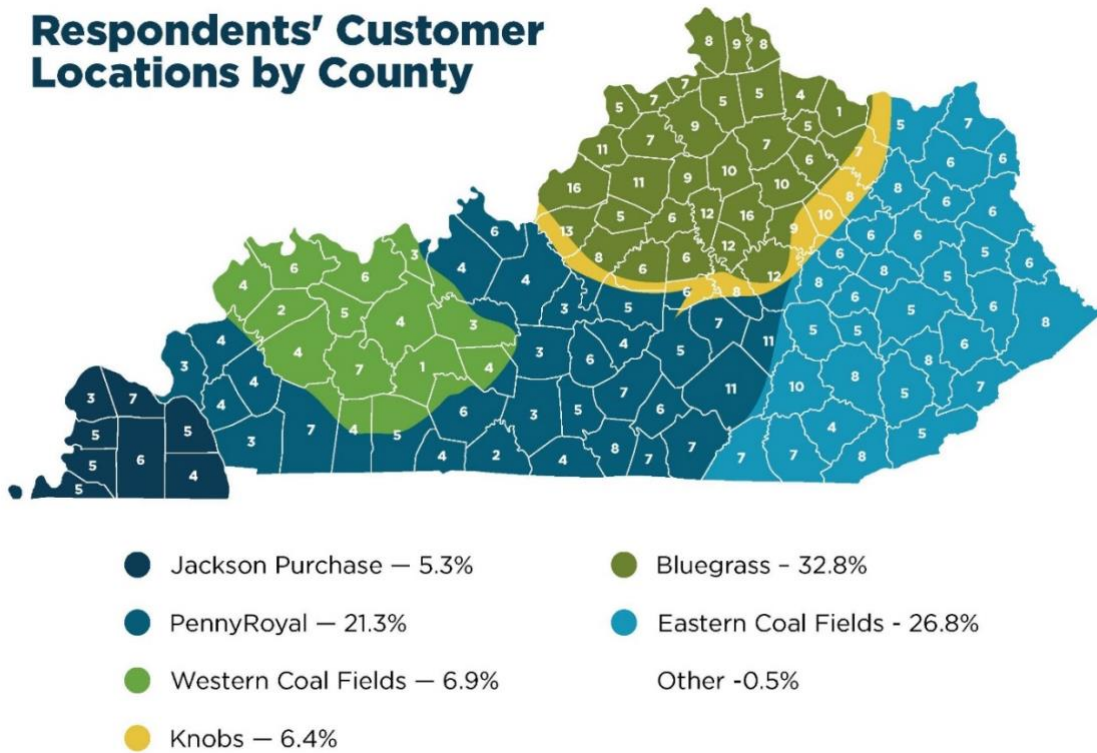


Figure 6: BPA Kentucky Workforce Needs Assessment Survey, 2023; Q19: "Please indicate the county or counties that your customers reside. Check all that apply."

Following the data collection phase, the team analyzed the quantitative data to identify patterns, provide descriptive statistics, and generate insights and recommendations on how OEP and partners can promote, expand, and sustain the energy efficiency industry in Kentucky after current available funding has been expended. The data sets helped identify emerging themes that captured key findings related to workforce development barriers. The team reviewed, categorized, and further developed these findings under key recommendations and supporting strategies.

RECOMMENDATIONS AND STRATEGIES

While recommendations and strategies are geared toward Kentucky's Office of Energy Policy (OEP), the goal of this report is to be a valuable resource for all stakeholders and implementers of energy efficiency in the Commonwealth.

The assessment process produced multiple recommendations, from the importance of firsthand experience gained via on-the-job training to the value in recruiting tomorrow's workforce today, however - a pervasive theme throughout these recommendations emerged - robust outreach, education, and training initiatives and programs are essential for the growth, success, and inclusivity of the energy efficiency industry in Kentucky.



This report highlights five key recommendations with supporting strategies that aim to guide OEP in expanding and improving the state's energy efficiency workforce through strategic and thoughtful implementation of innovative programs.

Key Recommendations

- ⚡ PROVIDE RESOURCES TO SUPPORT BUSINESS DEVELOPMENT & GROWTH**
Offering incentives to businesses through federal, state, and local funding opportunities will allow the business owner to provide professional development and career advancement opportunities to their employees without incurring additional costs.
- ⚡ PREPARE THE INDUSTRY FOR IIJA & IRA PROGRAMS**
Preparing the industry will require a multi-pronged approach which could include a robust education and outreach campaign, simple and easy to understand documentation and marketing material, stakeholder listening sessions, and other public processes that will prepare employers and employees in Kentucky for the upcoming workforce development and energy efficiency programs.
- ⚡ DESIGN FLEXIBLE TRAINING TO ALIGN WITH FEDERAL REQUIREMENTS**
Supporting businesses within the energy efficiency, home performance and weatherization industries that provide workers with options to attend industry recognized training and certification programs that are flexible will allow both employers and employees to further participate in workforce development programs.
- ⚡ INCENTIVIZE ENERGY SPECIFIC REGISTERED APPRENTICESHIP PROGRAMS**
Incentivize businesses to establish energy specific registered apprenticeship programs that offer career advancement opportunities through on-the-job training and related technical instruction that is flexible, convenient, and industry vetted is a proven way to increase the energy efficiency workforce.
- ⚡ ESTABLISH DEIA REQUIREMENTS IN PROGRAM DESIGN**
Encourage businesses using workforce programs to adopt DEIA practices that promote the recruitment of diverse talent while offering continuous support and training. Consider including registered apprenticeships as a method for incorporating DEIA in program design.

Figure 7: BPA Kentucky Energy Efficiency Workforce Needs Assessment; Key Recommendations.

OEP is encouraged to evaluate these recommendations and supporting strategies through a holistic view of the energy efficiency workforce ecosystem and adopt or implement recommendations and strategies that align with the Commonwealth's overall strategic goals.

PROVIDE RESOURCES TO SUPPORT BUSINESSES DEVELOPMENT & GROWTH:

The industry experiences similar challenges when considering how to implement federal rebate programs, low-income programs, and/or other energy efficiency programs. Challenges include adequate staffing such as administrative staff or field staff, access to equitable wages, access to training, availability of benefits and others. In addition,



disadvantaged communities typically face additional barriers such as adequate childcare, reliable transportation, access to mental and physical health care providers, or basic job skills such as how to interview or how to prepare a resume.

The survey results highlight a desire for clear career pathways and advancement opportunities for employees. This includes options and resources for on-the-job training, mentoring and apprenticeship programs.

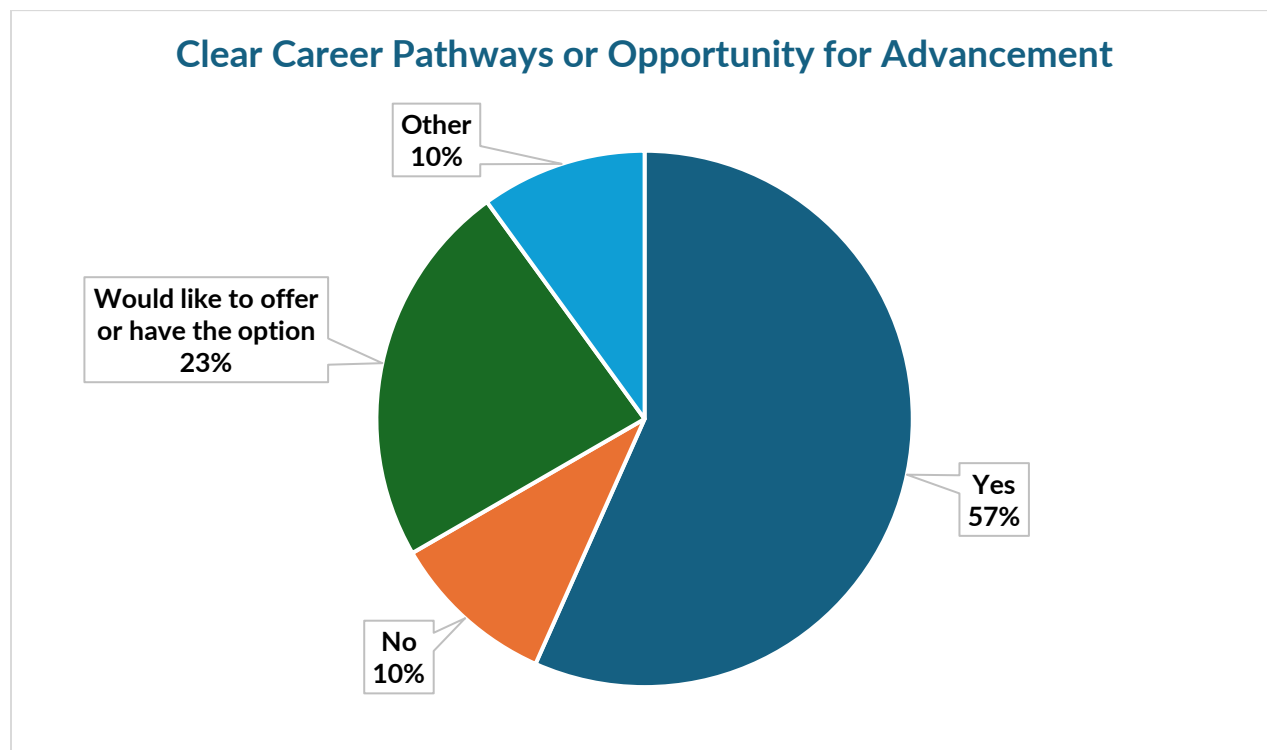


Figure 8: BPA Kentucky Workforce Needs Assessment Survey, 2023; Q50: Does your company offer a clear pathway or opportunity for advancement for employees?

Through the Inflation Reduction Act (IRA) Home Energy Rebate programs sections 50121 and 50122, point-of-sale rebates are available for homeowners to replace existing appliances with high efficiency and/or all-electric appliances. Additional energy-saving measures such as insulation and air-sealing are also allowed. In section 3.2.5 of the program requirements and application instructions, energy assessments are required for every single-family home and multi-family building receiving a home energy rebate.¹¹ This signifies the importance in identifying what percentage of businesses currently offer energy assessments and where there are gaps that can be filled.

When asked if energy assessments are provided as a customary practice among respondents, the survey showed that 59 percent of respondents provide energy assessments of some kind while 37 percent of respondents do not and only 3 percent

¹¹ [U.S. DOE Home Energy Rebates Program Requirements & Application Instructions](#), page 32



offer an alternative method of identifying opportunities to decrease energy consumption within a residence.



Figure 9: BPA Kentucky Workforce Needs Assessment Survey, 2023; Q21. Does your company offer energy efficiency assessments as part of measures on jobs to decrease energy consumption within a home or building? (i.e. energy audits, healthy homes assessments, etc.)

The survey also asked respondents what type of energy assessments were used to determine energy savings measures within the home, the responses provided were quantitative and varied in nature – however, 29 percent referenced “energy audits, credentialing bodies, or software” as their response. Another 13 percent referenced common energy audit tools used for performing energy assessments, but the survey did not confirm if this included a full energy audit as the assessment. In addition, 30 percent of respondents indicated that their company did not offer an energy assessment or chose N/A as their response.

It is important to note that a range of “Other” responses were provided that referenced system performance of HVAC systems, specific recommendation to clients on energy efficient appliances, windows, and doors as energy assessment tools. It will be important for OEP to provide training and education opportunities to the businesses that do not currently offer energy assessments that comply with federal requirements so that they have an opportunity to expand their business offerings and participate in state and federal programs.



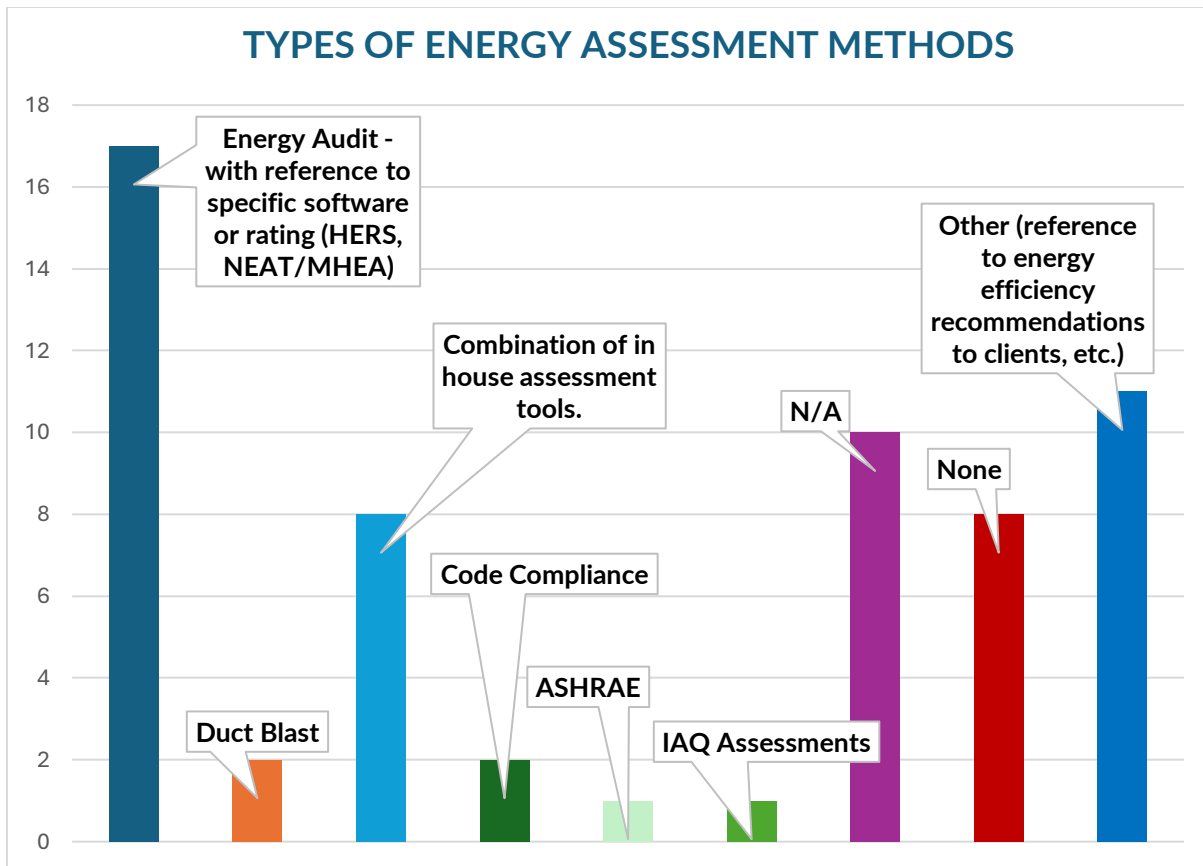


Figure 10: BPA Kentucky Energy Workforce Needs Assessment, 2023; Q Q22: Please specify what type of energy efficiency assessment is used to decrease energy consumption within a home or building.

According to survey responses, wages varied for both entry-level and senior level positions. The average wages for entry-level positions were on par with the national average; and the highest wages within the energy efficiency/home performance industry varied depending on occupation. Meanwhile, management and specialized certifications within the trades received the highest wages. Occupations that comprise those within weatherization and that specialize in energy assessment typically receive a lower wage than specialized certifications. The comparison of responses provided can be seen in Figure 8.



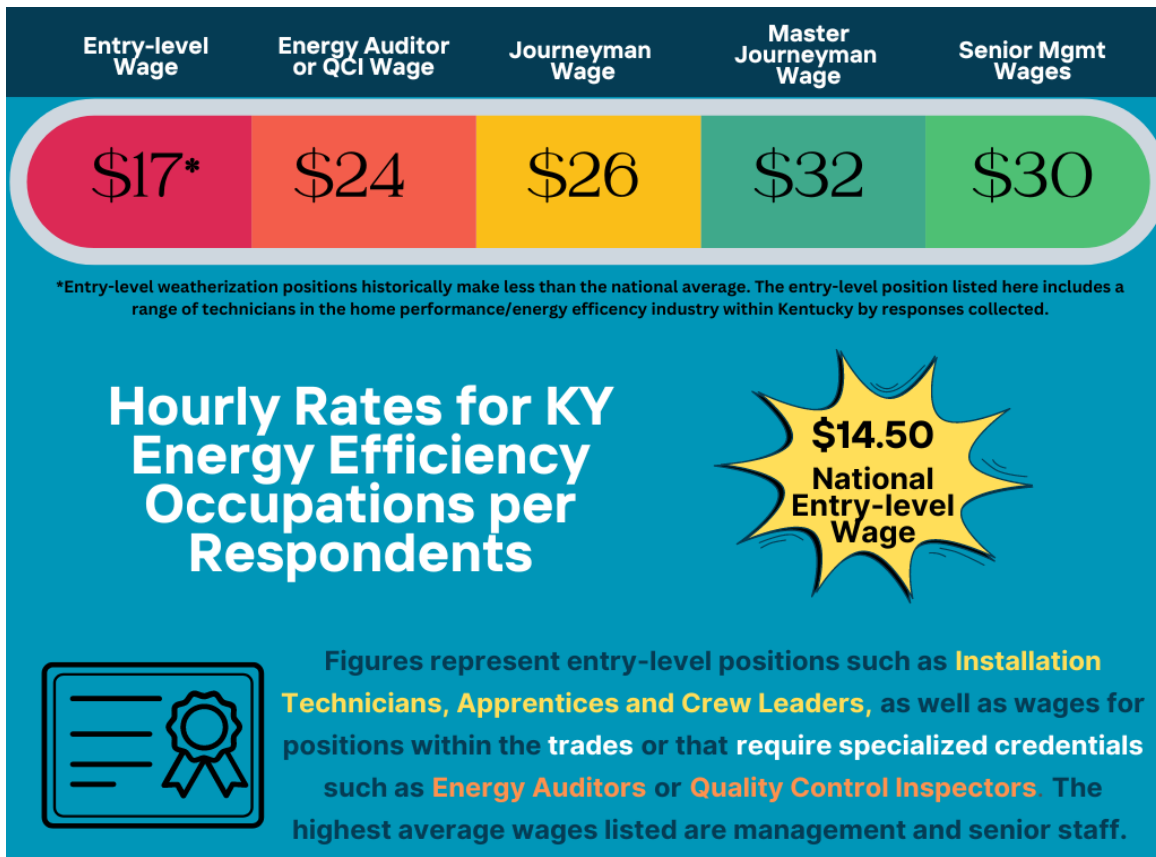


Figure 11: BPA Kentucky Energy Workforce Needs Assessment, 2023; Combined responses and averages from Q45: Please list entry-level positions and the starting pay and Q46: Please list senior positions and starting pay.

Workforce programs designed, implemented, or supported by OEP should consider all barriers faced by Commonwealth citizens. Barriers can range from having adequate child-care to entry-level education requirements and more. Therefore, providing access to community-based and state-based resources for education, training, certifications, benefits, and wrap-around services will help in growing the skilled and available energy efficiency workforce that is needed to implement energy rebate programs.

Key Recommendation: Provide Resources to Support Business Development & Growth - Offering resources and incentives to businesses through federal, state, and local funding opportunities will allow the business owner to provide professional development and career advancement opportunities to their employees without incurring additional costs.

Strategies:

1. OEP can **engage with businesses, trade associations, and state workforce agencies** to provide information, education, and awareness of existing or new incentives and programs that support business growth.
2. OEP could **allocate funds received through workforce development funding streams to cover the costs of Building Performance Institute or other energy**



efficient training and certification programs for new and existing employees to help businesses offset a portion of the costs associated with sending employees to trainings.¹²

3. OEP could **develop a wrap-around service guide** that identifies community-based organizations or state-based programs that provide childcare, transportation, resume or interview assistance, mental health services, and other services that support existing and new workers.
4. OEP could **host one or more energy efficiency career fair** for job seekers within specific communities to engage with contractors, businesses, training centers, and others to connect job seekers with available careers and services.
5. OEP could **allocate funding to set up a resource center on their website**, similar to how the current website is designed with funding projects, which highlight training opportunities and other resources for easy access. This website could provide relevant information on training for programs, partners or providers, wrap-around resources, career fairs across the state, as well as small business resources available.

While OEP cannot directly affect a company's ability to offer health or life insurance, paid time off, holiday pay or other benefits, OEP can provide other support through funding, education and awareness campaigns, and employer incentives that offset costs in other areas.

PREPARE THE INDUSTRY FOR IJJA AND IRA PROGRAMS:

Through the Infrastructure Investment and Jobs Act (IJJA) and the Inflation Reduction Act (IRA), the Office of Energy Policy (OEP) will be deploying billions of dollars into Kentucky's economy. OEP, like other state energy offices, has been charged with designing and implementing multiple energy programs which include rebates and incentives, workforce development, affordable financing, and energy equity.

Designing and implementing multiple equitable, inclusive, and sustainable programs can seem overwhelming, outside of the required planning and preparing, governmental agencies are also required to follow federal and state procurement, contracting and grant management procedures. The IRA allows each state to apply for early administrative funding that can support certain activities that will allow the state to design these programs thoughtfully and carefully. OEP can use a portion of the administrative funding awarded to plan for the Training Residential Energy Contractors (TREC) grant which includes marketing and outreach activities that support industry engagement and education.

Additionally, businesses must also prepare for the increase in available funding by hiring additional staff, ensuring existing staff are adequately certified or licensed, educating themselves and their staff on the technical requirements of any new programs, as well as

¹² Workforce Dollars through IJJA – SEP increase; IRA – early admin funds, TREC, EAT, Solar for All and CPRG



preparing their in-office staff to handle the administrative duties necessary when participating in federal and state programs.

Based on survey responses, 47 percent of respondents were not familiar with the Home Energy Rebate programs authorized through the IRA and only 27 percent of respondents are familiar with the rebates that will be available to consumers. Additionally, when asked about the upcoming TREC grant opportunities, 47 percent were unaware and only 8 percent of respondents indicated they were aware of the TREC funding. While not shown in the graph below, it is important to note that fourteen of the survey respondents indicated that they would like more information on the available opportunities under the TREC funding.

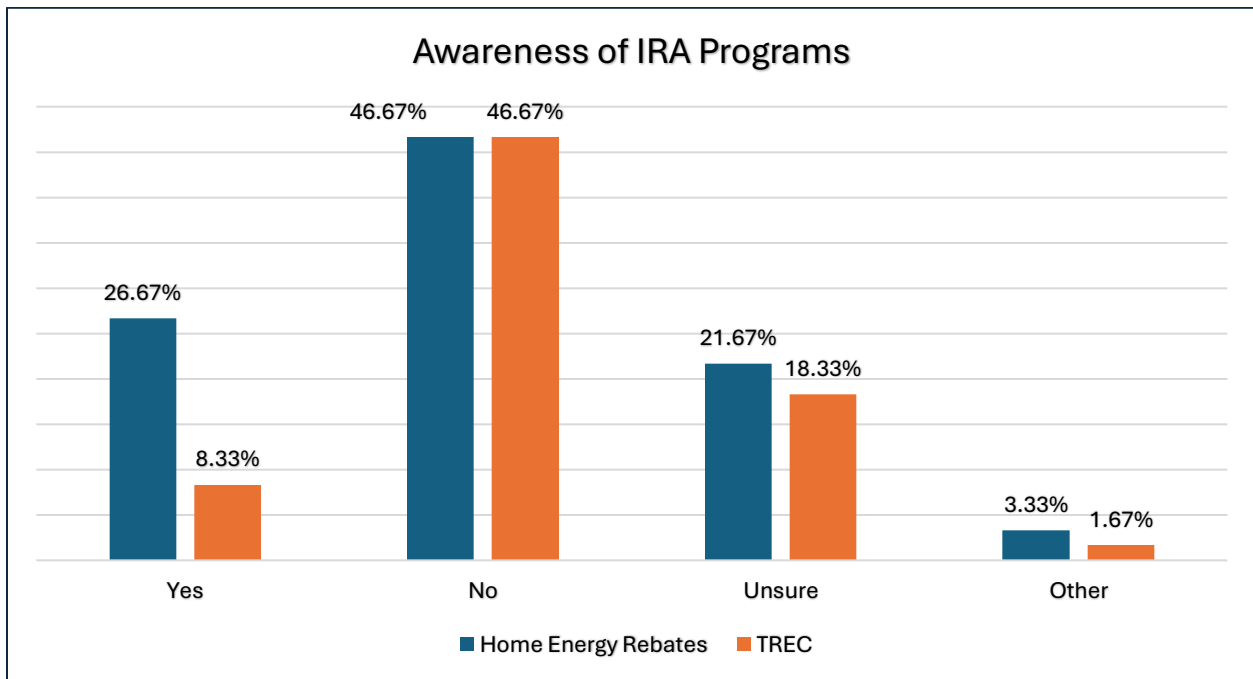


Figure 12: BPA Kentucky Energy Workforce Needs Assessment, 2023; Q34 & Q52.

Furthermore, survey respondents were asked which types of positions were most needed to meet anticipated demand. Survey respondents indicated that a range of positions would be needed with the most needed occupations identified as Installer Technicians, Crew Leaders, Energy Auditors, and Specialty Contractors (HVAC, Electrician, Plumber). Interestingly respondents also indicated that Management, Sales, and Outreach/Education positions are also needed to meet the expected demand under home energy rebate programs.



Anticipated Need to Participate in State and Federal Rebate Programs

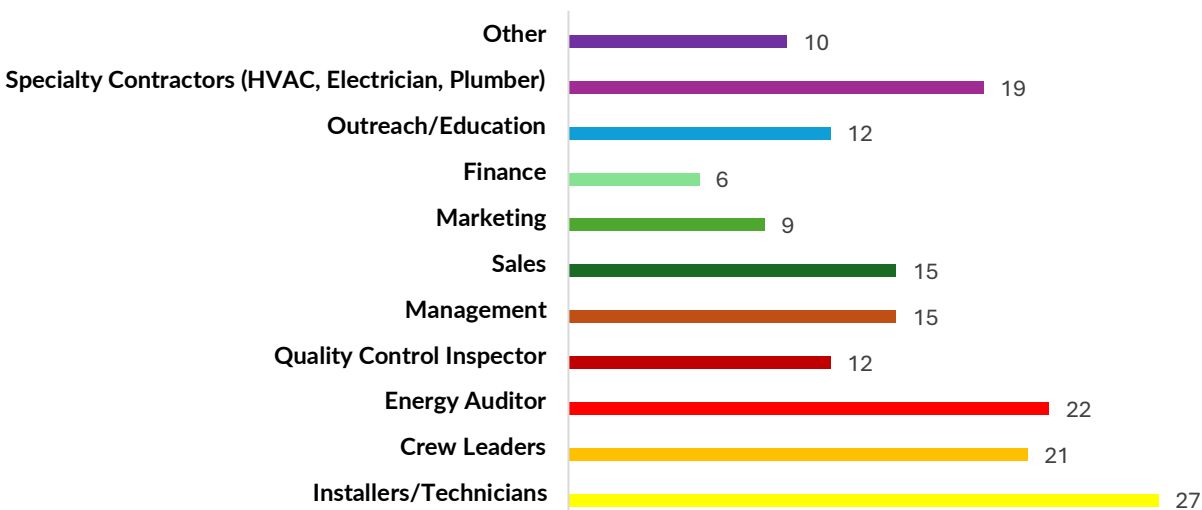


Figure 13: BPA Kentucky Energy Workforce Needs Assessment, 2023; Q36: Which types of employee titles do you anticipate your company, or employer will need to hire or train to participate in state or federal rebate programs that become available? (Check all that apply).

Weatherization Technicians are often entry-level positions which do not require formal education, and employers often only prefer a high-school diploma, GED or equivalent of potential employees.¹³ According to Green Workforce Connect, free on-the-job training is provided through weatherization programs to ensure that all technicians have the necessary knowledge and skills to perform energy efficiency upgrades.¹⁴ Those dedicated to a career in this field often stay in a technician position for two years before advancing to the next level.

Crew Leaders are the next level within the field and require more training, knowledge, and additional skills. Crew Leaders come with additional responsibilities such as communicating with the client, oversight of projects and retrofit installation technicians. Therefore, Crew Leaders are often paid slightly higher salaries.

Energy Auditors are found to be the next step in the weatherization and residential energy retrofit workforce career path. Energy Auditors are a pivotal piece of the energy efficiency workforce as evidenced by the twenty-two respondents that identified this as an anticipated position necessary to implement the home energy rebate programs.

Energy Auditors can work in both residential and commercial sectors. A residential Energy Auditor assesses the performance of homes, identifying energy efficiency measures that make homes more comfortable and save money. Energy Auditors also

¹³ [NASCSP National-WX-Careers](#)

¹⁴ [Green Workforce Connect Weatherization Retrofit Installer](#)



collaborate with the homeowners to develop a plan for implementing the energy efficiency improvements.¹⁵

Specialty Contractors are also essential in both the residential and commercial sector. These occupations include HVAC (Heating, Ventilation, Air & Cooling), Electricians, and Plumbers. Specialty Contractors require various certifications to obtain Journeyman and Master Journeyman levels, as well as state licensure within Kentucky. Typically, these occupations have a larger presence in the industry but have also declined in recent years as trade occupations have not been pursued as often by youth. Additionally, incorporating entry-level certification in Building Science Principles will help tie energy efficiency workers and specialty contractors together.

Key Recommendation – Prepare the Industry for IIJA and IRA Programs – Preparing the industry will require a multi-pronged approach which could include a robust education and outreach campaign, simple and easy to understand documentation and marketing material, stakeholder listening sessions and other public processes that will prepare employers and employees in Kentucky for the upcoming workforce development and energy efficiency programs.

Strategies:

1. Through targeted outreach and engagement, OEP could **provide energy efficiency businesses with up-to-date information about the opportunities available** through IIJA and IRA to support the energy efficiency workforce. This could be in the form of a regular newsletter, website specifically focused on workforce and programs designed for energy efficiency work, as well as documents that are designed to keep businesses aware.
2. OEP could **support the expansion of the energy efficiency workforce** by designing educational awareness campaigns that include opportunities on energy efficiency careers. Awareness campaigns should target audiences within disadvantaged communities on careers while providing education on the importance of energy efficient homes and the health, safety, and cost-effectiveness in lowering energy consumption.
3. **Providing template marketing materials to Community Action Agencies, businesses, contractors, and partners as a tool for growth** would benefit the industry, OEP, and consumers. OEP could provide this collateral to organizations that currently lack marketing and communications staff to enhance their outreach efforts and potentially garner more interest in the services offered.
4. OEP could **provide technical assistance to contractors and businesses within the state through the creation of simple, easy to understand documentation, forms, systems, and processes** that highlight requirements of IIJA and IRA programs. Technical assistance could also be contracted out to lessen OEP's administrative capacity.

¹⁵ [Green Workforce Connect Weatherization Energy Auditor](#)



The need for trained and experienced employees to meet federal and state energy efficiency workforce needs is evident to employers. While businesses are becoming more aware of the upcoming funding for training and workforce development, there is much more to be done to ensure future programs are designed and implemented successfully.

DESIGN FLEXIBLE TRAINING TO ALIGN WITH FEDERAL REQUIREMENTS:

OEP can support employers that want to upskill existing staff through incentives, direct funding, and other mechanisms. Training and testing facilities that offer flexible options which include in-person, on-the-job, online, evening and weekend courses provides both employers and employees opportunities to participate in training without sacrificing time and resources needed for a job.

Providing flexible training options ensures that the workforce has the appropriate certifications, skills, and abilities to implement rebate programs and is essential to the success of OEPs program. Survey results highlight the need to build upon current workforce development initiatives and connect workers with available resources.

Participants in the survey overwhelmingly identified that a mixed method of training is most beneficial and preferred. Multiple respondents chose individual options but also selected 'All of the Above' or 'Mixed Method.' As seen in Figure 10, forty-two total responses choose either 'All of the Above' or 'Mixed Method' which is an overwhelming 70 percent. Thirteen specific responses identified 'On-the-Job Training' which represents 21 percent of the participants.

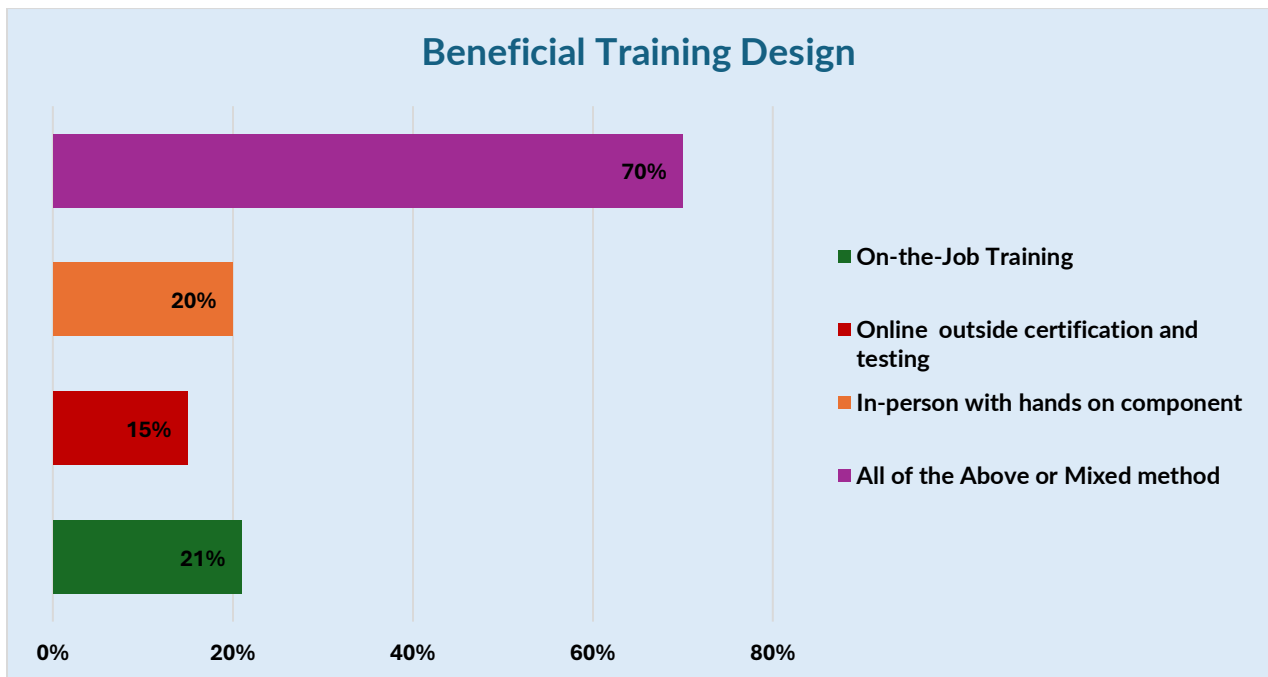


Figure 14: BPA Kentucky Energy Workforce Needs Assessment Survey, 2023; Q38: What type of training would benefit your company?



Offering employers opportunities to upskill their existing staff through a mix of options would aid in building and sustaining a healthy work environment, promote equitable advancement in a chosen career path and ensure that the workforce is up to date on standards, state or federal requirements and educational requirements.

OEP has an opportunity to provide incentives to companies that offer a mixed method of online, in-person, and on-the-job training, and according to survey responses, multiple barriers exist that prevent employers and employees from pursuing, obtaining, and maintaining certifications needed.

Time commitment, lost production on jobs, and cost were the top barriers to certification; indicating that training programs need to be flexible to the energy efficiency sector. Training programs should incorporate various delivery mechanisms that offer incentives for employers and employees to participate.

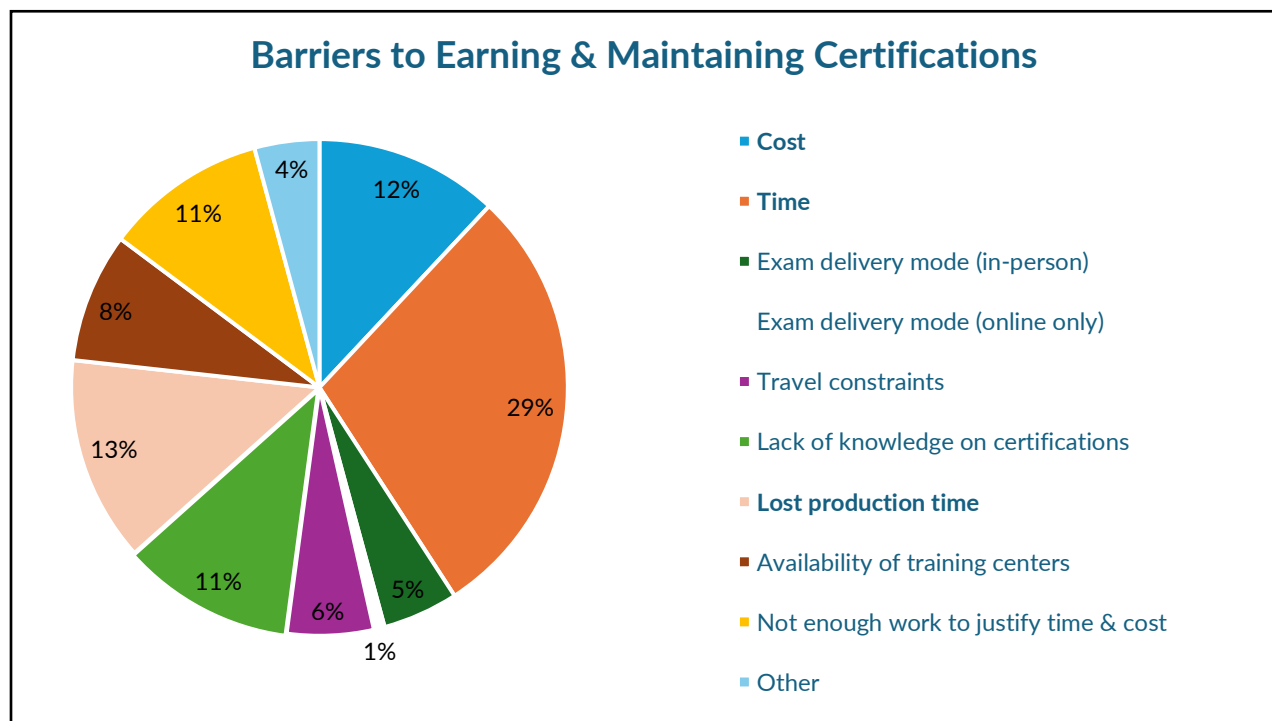


Figure 15: BPA Energy Workforce Needs Assessment, 2023; Q37: What barriers to earning or maintaining certifications exist for you, your staff, or subcontractors?

Additionally, respondents indicated that lack of work, lack of knowledge on certifications available, and the availability of training centers are also barriers for earning and maintaining certifications. This should not be overlooked when supporting training programs that will benefit a larger number of individuals, as well as provide opportunities for increasing promotion and education on energy efficiency and the occupations available now and in the future.

When asked about specific industry certifications and credentialing, only nine respondents indicated that their company or people within their company do not hold a



specific certification or credential from one of the twelve organizations listed in question number 23 of the survey. While this is positive, when asked which certifications were held, twenty-four of the respondents answered N/A, this could indicate that they are aware of certifications and credentials held but unaware of which ones specifically.

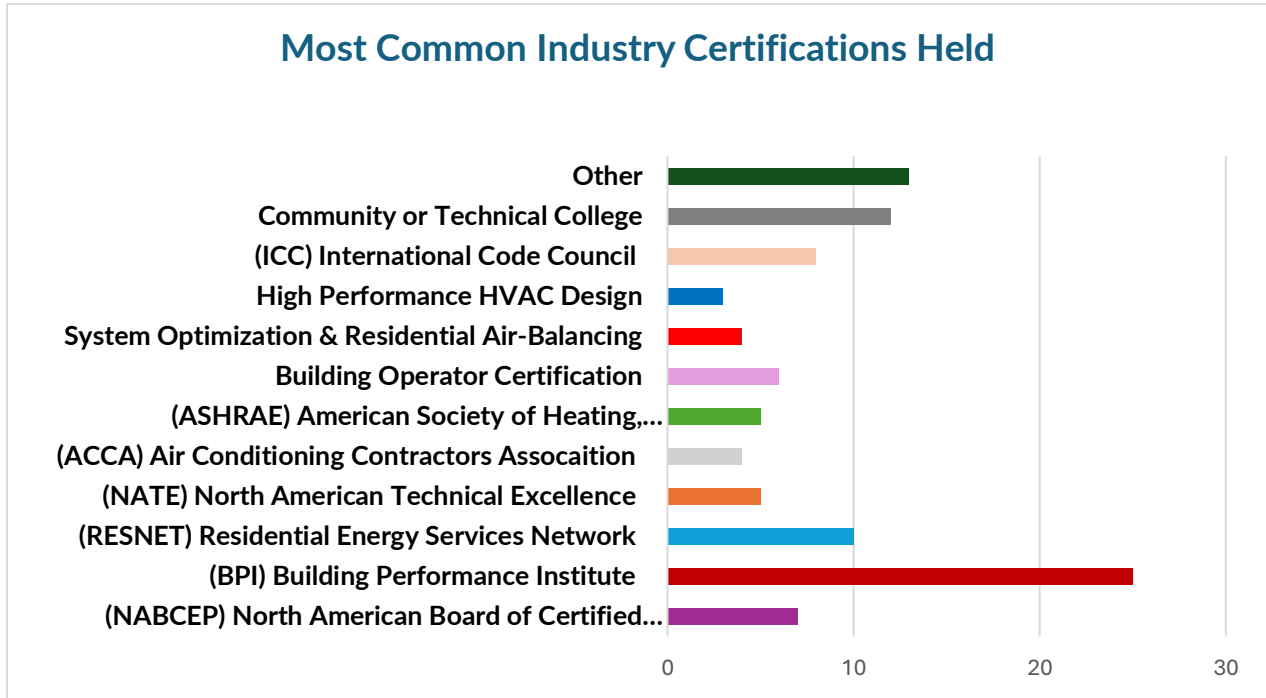


Figure 16: BPA Kentucky Energy Workforce Needs Assessment, 2023; Q23: Do you or anyone in your company hold a certification or credential from the following industry associations? (Please select up to four options).

Likewise, an overwhelming majority of respondents to the survey indicated that Building Performance Institute (BPI) certifications were most often pursued by themselves or others at their place of employment. Other certifications of significance included those offered by community or technical colleges, Residential Energy Services Network (RESNET) and the International Code Council (ICC) with other certifications sought but not as commonly held by respondents.

Additionally, participants were asked which certification or accreditations they believed were important in the energy efficiency field. As indicated in Figure 13, Building Science Principles, Energy Auditor, Quality Control Inspector, NATE, and Healthy Homes Evaluator certifications were of the top five certifications of value in the industry. The top three are Building Performance Institute certifications and utilized by weatherization providers across the country.



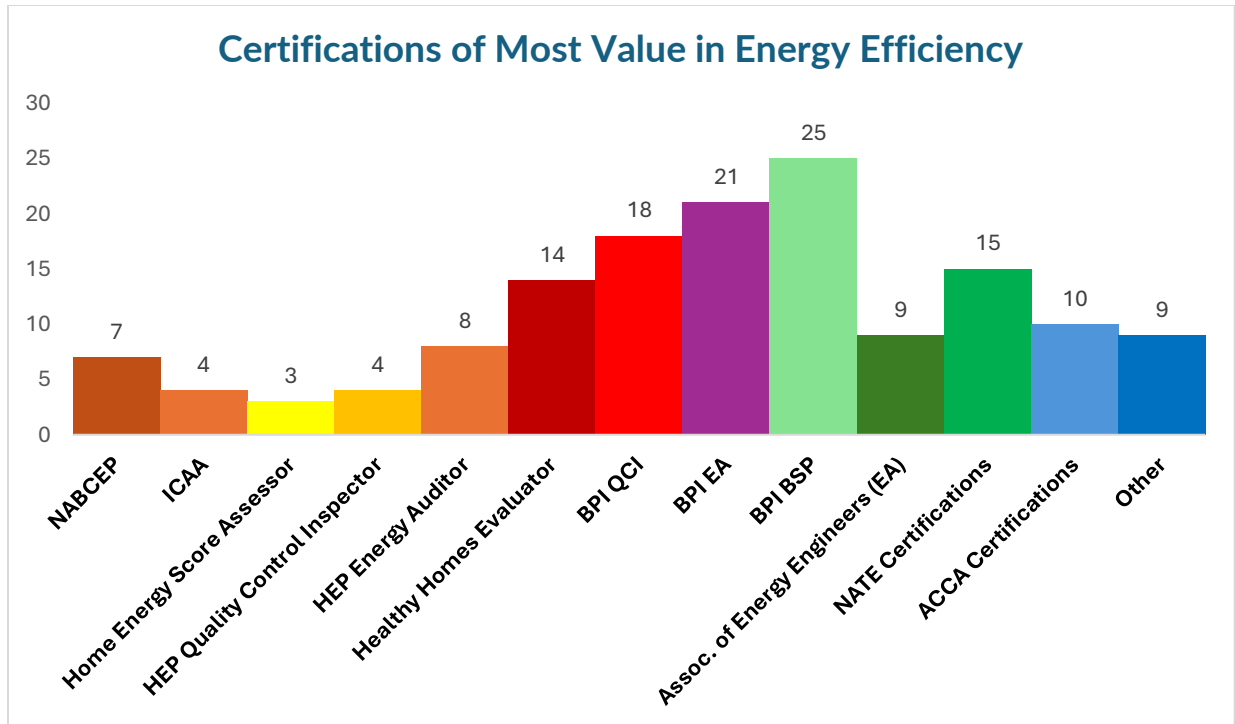


Figure 17: BPA Kentucky Energy Workforce Needs Assessment, 2023; Q25: Which certification or accreditations do you believe are important for individuals to have in the energy efficiency field? (Please select up to 4 options).

Respondents listed the **top 5** certification in the energy efficiency field as the following:

1. **BPI Building Science Principles**
2. **BPI Energy Analyst**
3. **BPI Quality Control Inspector**
4. **NATE certifications**
5. **Healthy Homes Evaluator**

Fundamentals such as Building Science Principles (BSP) can be offered to more than residential energy efficiency contractors; real estate agents, appraisers, brokers, and others that are becoming more prominently involved in the energy efficiency ecosystem would also benefit from this type of training. BSP training and the Certificate of Knowledge course and exam are available to take online in the comfort of one’s home or office, providing flexibility for those interested.

Key Recommendation: Design Flexible Training to Align with Federal Requirements –

Supporting businesses within the energy efficiency, home performance and weatherization industries that provide workers with options to attend industry recognized training and certification programs that are flexible will allow both employers and employees to further participate in workforce development programs.



Strategies:

1. OEP could **provide incentives to businesses and employers that cover the costs of training for employees** to obtain industry certifications and prepare for implementation of the rebate programs. Training should ensure that energy efficiency workers meet the necessary requirements of programs, with flexibility in choice of training providers and methods of delivery.
2. OEP could also **provide financial support to businesses through wage subsidies for on-the-job training**. Through wage subsidies, a portion of the employees hourly wage is subsidized through funding provided by OEP so that the employer is relieved of a portion of the costs associated with providing on-the-job training opportunities. If wage subsidies are not used, OEP should design programs that will cover at least $\frac{3}{4}$ of required training for employers to ensure that maximum participation occurs. Training from Building Science Principles to Energy Auditor/Quality Control Inspector costs approximately \$7,500 per employee. Offsetting the cost of training and retaining employees through reimbursement of wages or training will greatly increase the number of energy efficiency workers within the Commonwealth.
3. OEP can **partner with training organizations that offer convenient mechanisms for training that do not pull employees from the job** – courses that are required for certification should be offered online and in hybrid modes. Opportunities exist to partner with Kentucky Housing, Building Institute of Central KY, and privately held certified trainers. In addition, allowing community college credits to be built into program design may attract additional students into the field.
4. As part of the program design, OEP could **require that employers or businesses partner with specific qualified training providers** that offer flexible training options such as a mix of online and in-person classes and exams, direct training or on-the-job training or even offering night, weekend, and evening courses.

OEP has a unique opportunity to guide the advancement of the energy efficiency industry in the Commonwealth. Through direct funding, incentives, or other methods, OEP can support training programs that offer flexibility and align with industry standards to build the energy efficiency workforce.

INCENTIVIZE ENERGY SPECIFIC REGISTERED APPRENTICESHIP PROGRAMS:

A Registered Apprenticeship Program (RAP) is an industry-driven, high-quality career pathway where employers can develop and prepare their future workforce, and individuals can obtain paid work experience, certifications depending upon the occupation, and a nationally recognized credential. Apprenticeship programs provide an opportunity to incentivize the workforce through on-the-job training, state-directed funding or tax credits, and other mechanisms. The return on investment to employers, as well as overall retention rates make apprenticeships a necessity for small businesses and the overall workforce.



The Kentucky Career Center’s Office of Employer and Apprenticeship Services is the state’s approving agency for the Registered Apprenticeship Program. The program helps businesses develop their workforce, serving the critical need of increasing employee retention and finding qualified candidates for hard-to-fill jobs. It grows talent through work-based training initiatives, combining on-the-job training with first-hand experience. Over 1,500 occupations are recognized for apprenticeship programs, going beyond traditional construction and skilled trade positions to encompass the jobs of tomorrow.¹⁶

Kentucky offers a variety of apprenticeship programs in the energy sector. For instance, the [Louisville Electrical JATC](#) provide comprehensive training for electricians. Similarly, the [Kentucky Sheet Metal JATC](#) prepare apprentices for careers in fabricating and installing HVAC systems, which are essential for energy management in buildings. The [Kentucky Rural Water Association](#) also offers a program for Water Systems Operations Specialists, focusing on the operation and maintenance of water systems, a key component of the energy ecosystem. These programs, among others, combine on-the-job training with classroom instruction, ensuring that apprentices are well-equipped to meet the challenges of today's energy needs and contribute to a sustainable future.¹⁷

According to the survey results, 32 percent of respondents participate in apprenticeship programs or utilize training providers for employees, with the same number of respondents indicating that they do not currently participate in an apprenticeship program but are interested in learning how to do so. This is a strong indication that employers are aware of and using registered apprenticeship programs already, which makes it less costly for everyone when introducing and establishing a new program.

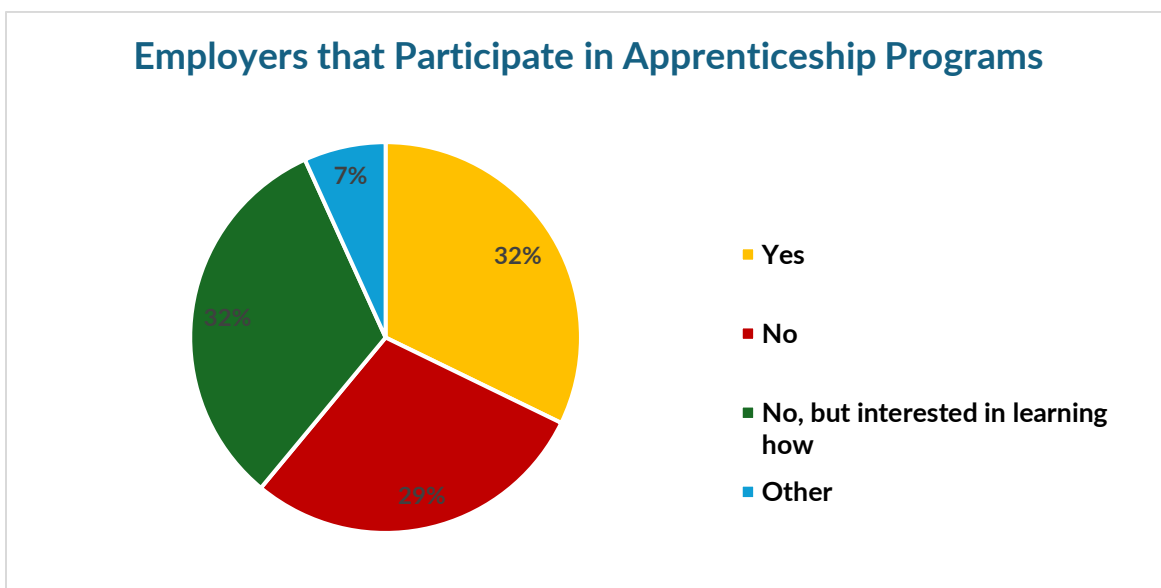


Figure 18: BPA Kentucky Energy Workforce Needs Assessment, 2013; Q51: Does your company or employer utilize training providers for employees or participate in apprenticeship programs?

¹⁶ [Kentucky Career Works Registered Apprenticeships](#)

¹⁷ [Kentucky Career Works Registered Apprenticeship Programs – Construction](#)



Among the plethora of available registered apprenticeship programs is the Energy Specialist pathway. The Energy Specialist pathway prepares energy efficiency workers (whether a home performance worker or a weatherization worker) in the whole-house approach to ensure a home is healthy, safe, and energy efficient. The pathway utilizes Building Performance Institute (BPI) certifications as a mechanism for testing the competency of apprentices. These certifications must be obtained to complete the apprenticeship and receive national recognition. The Energy Specialist RAP includes 2,000 hours with a trained mentor for on-the-job shadowing and an additional 144 hours for related technical instruction. The on-the-job training is a paid position and as apprentices demonstrate knowledge and competencies in the field, apprentices are rewarded with wage increases. Core certifications are built into a progressive pathway in the Energy Specialist registered apprenticeship program as shown in Figure 16.



Figure 19: BPA Energy Specialist Registered Apprenticeship Pathway, 2023.

Other registered apprenticeships that will be useful for OEP to consider building into program design– are [Weatherization Technicians/Home Performance Laborer](#), [Electrician](#), [Plumber](#), and [HVAC Journeyman](#). Utilizing registered apprenticeship programs will help OEP to fully achieve energy goals under federal and state funding. Concentration in these fields will help to build the energy workforce in Kentucky.

Although the survey did not specifically address whether employers would be interested in receiving incentives for training – nationally while partnering in the [ACE \(Apprenticeships in Clean Energy\) Network](#) – a coalition of industry, training, and workforce development leaders to expand and diversify Registered Apprenticeship opportunities, BPA has found that employers interested in implementing registered



apprenticeship programs are more eager to establish a program when incentives are provided to offset the hiring, on-boarding, and training costs of new employees.

Key Recommendation: Incentivize Energy Specific Registered Apprenticeship Programs

- Encouraging businesses through incentivized funding opportunities to establish energy specific registered apprenticeship programs will be an important step to ensure the growth of Kentucky's energy efficiency workforce. Registered Apprenticeship Programs provide career advancement opportunities through on-the-job training and related technical instruction that is flexible, convenient, and industry vetted. These programs are a proven way to increase the energy efficiency workforce.

Strategies:

1. **Include registered apprenticeship programs with options for multiple training providers in energy workforce programs.** OEP can design programs that provide dedicated financial support for businesses while allowing a choice among multiple training providers such as community and technical colleges, private industry trainers, the Kentucky Housing Training Center, and the Building Institute of Central KY to offer a tailored approach to related technical instruction. Providing a variety of designated providers will increase participation in energy efficiency workforce programs. Designing programs that include registered apprenticeships will benefit businesses by providing a proven return on investment and secure higher retention rates. Registered apprenticeship pathways should include the Energy Specialist, Weatherization Technician/Home Performance Laborer, Plumber, Electrician and HVAC Journeyman.
2. **Work with local agencies to incentivize businesses or offer resources to offset on-boarding and training** of an apprenticeship program. Partner with community and trade colleges for college credits where applicable and work extensively with the Kentucky Workforce Cabinet to meet registered apprenticeship requirements, while utilizing current training providers in the state as the related technical instruction of a registered apprenticeship program. KY Workforce Cabinet offers funding and tax credits for Kentuckians and businesses to pursue registered apprenticeship programs. The **Work Opportunity Tax Credit (WOTC)** is intended to incentivize businesses to hire specific target groups that typically face significant barriers to employment and range from \$1,200 – 9,600, depending on the target group. Additionally, businesses can receive \$100 per eligible employee through the **Unemployment Tax Credit (UTC)** and tuition credit is available to Kentuckians pursuing certain occupations (this includes the construction sector) and tuition assistance is provided for students to receive a maximum of 60 credit hours towards career certifications and associate degrees in applied science.
3. **Partner with Kentucky Housing** to provide home performance and energy efficiency training for weatherization agency subcontractors and home performance contractors across the state to further support a skilled workforce in energy efficiency. This will also help to ensure that both sectors are cross trained in industry standards.



4. **Provide opportunities for apprenticeships in HVAC, Plumbing, and Electrical fields** to include *Building Science Principles or Total Home Performance* as a connection to energy efficiency content that will help to build a more robust network of contractors dedicated to the whole house approach. Encourage existing apprenticeship programs to include either introductory course for greater awareness of the whole home approach and to provide a greater understanding of building science knowledge – while increasing the pool of qualified workforce for programs that OEP designs.
5. Partner with the Building Industry Association of Central KY's [Building Institute](#) to offer **beginning courses in energy efficiency** such as “Building Science Principles” or “Total Home Performance”. Additional opportunities also exist for developing registered apprenticeship programs in the Weatherization Technician/Home Performance Laborer and Energy Specialist pathways at the Building Institute within the home performance and weatherization sectors. The **Training Residential Energy Contractors (TREC) grant** is a perfect match for the training currently provided at BIA's trade school.
6. **Connect employers** to the **KY Workforce Cabinet** or with **Building Performance Association** to establish an “Energy Specialist” or “Home Performance Laborer/Weatherization Technician” registered apprenticeship program in KY. The Building Performance Association provides ongoing technical assistance to employers by partnering with the workforce cabinet, training providers, and energy efficiency leaders in state while assisting employers in the creation of a RAP in their state, providing expertise and assistance in required paperwork, and helping to identify funding for training.

RAPs (Registered Apprenticeship Programs) are a proven tool for recruiting and retaining skilled and diverse workers. The return on investment is a clear indication of a registered apprenticeship program's success in building workforce needs. For clean energy companies, interest in apprenticeships is growing rapidly thanks to new incentives in the Inflation Reduction Act (IRA). Apprenticeship programs will help expand the energy workforce and build a pipeline of highly qualified and diverse talent.

ESTABLISH DIVERSE, EQUITABLE, INCLUSIVE & ACCESSIBLE REQUIREMENTS IN PROGRAM DESIGN:

Based on survey responses and supported by national findings, the energy efficiency industry in Kentucky is comprised mostly of middle-aged white men, a makeup accurately represented by the survey respondents and meeting participants. Of the sixty respondents, 80% identified as male, and 89% identified as White or of European descent. Diversifying this workforce could bring a range of perspectives, innovative solutions, and a broader skill set, ultimately enhancing the effectiveness and reach of energy efficiency initiatives across the state.

Additional findings and opportunities:



- The central theme of this report is the lack of diversity in the energy efficiency industry.
- Promoting inclusivity and representation of underrepresented groups is a critical factor for DEIA's success.
- Advancing inclusion in the industry can increase overall profit margins and create job sustainability, which can help eliminate poverty.
- Implementing targeted marketing and recruitment in diverse and underrepresented demographics will promote diverse representation in the energy efficiency industry.

Additionally, the [2022 USEER Kentucky Fact Sheet](#), shows that 73 percent of the energy efficiency workforce in the state is male with 72.5 percent being White.

Gender in the Kentucky EE Workforce

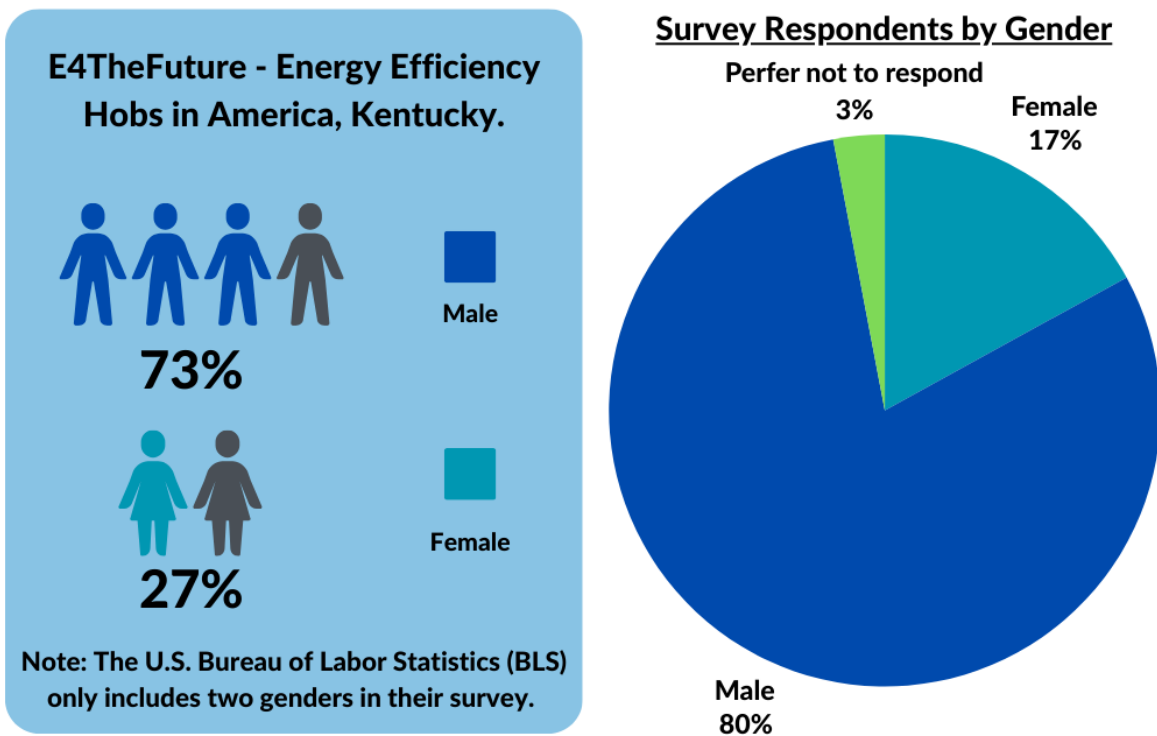


Figure 20: Combined data from BPA Kentucky Workforce Needs Assessment Survey, 2023; Q10: What is your gender? And E4The Future, Energy Efficiency in America, Kentucky.

Support and wrap-around services are not additional perks, but crucial determinants in the job seeking process. The provision of support services such as health and life insurance, paid time off, and holiday pay significantly influences the career choices of individuals. Moreover, it is important to recognize that disadvantaged communities often grapple with heightened economic challenges, making the availability of such benefits even more critical. These challenges include adequate childcare, reliable transportation,



educational attainment from high school diploma to higher education, and professional skills.

Respondents, who were primarily employees from various industries and company sizes, were asked what types of benefits their employer or company offers. Twelve answered that their company provided 'no benefits' or 'not applicable,' although these businesses are smaller, individually owned, or without employees. Figure 18 provides a snapshot of the benefits offered by respondents, with a majority indicating that their employers or companies offer paid time off (36), vacation (41), sick (40) leave, and holiday (43) pay.

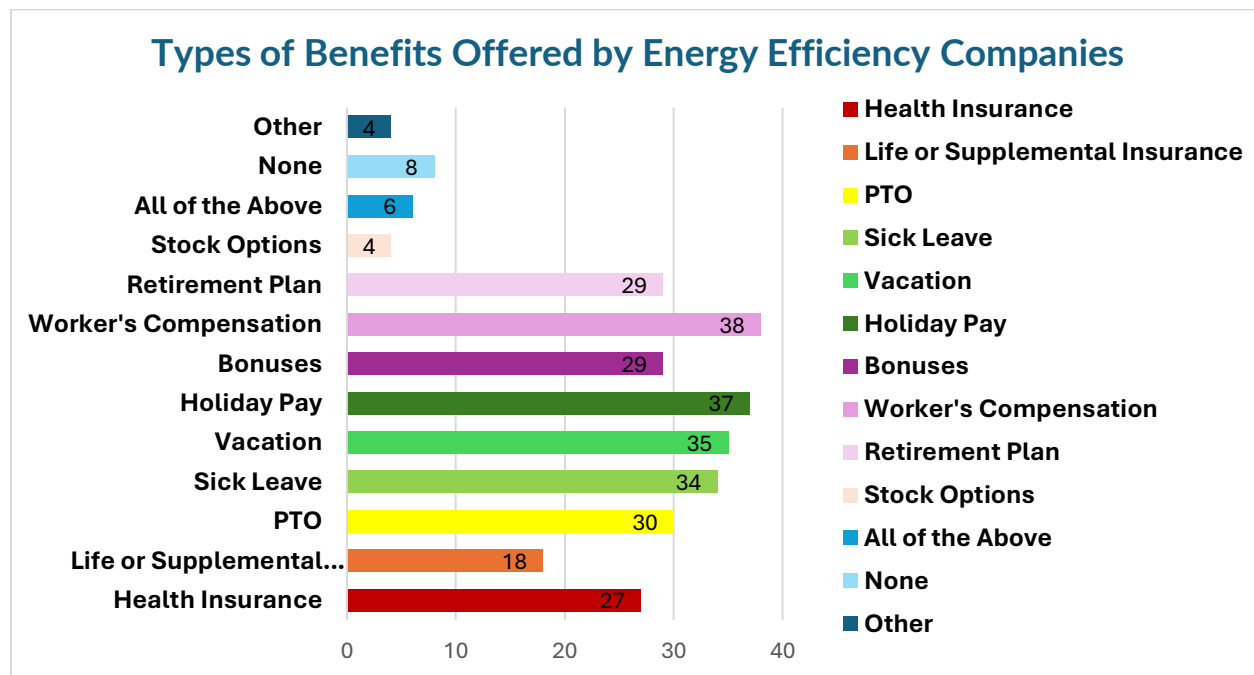


Figure 21: BPA Kentucky Energy Workforce Needs Assessment, 2023; Q40: Does your company or employer offer any of the following benefits?

Based on survey results, benefits such as life or supplemental insurance and health insurance are less commonly offered by energy efficiency employers in the Commonwealth. While a little more than half of the respondents indicated that their company offered health insurance, less than half offered life or supplemental insurance to its employees.

A small but promising amount of survey responses indicated their business was Minority-owned, Women-Owned, or Veteran-owned. OEP has an opportunity to increase businesses owned by these classifications by partnering with the Kentucky Small Business Development center to help promote energy efficiency businesses in the state and provide employers with the tools needed to increase diversity and support human resources management.



It is important to note that more than 50 percent of employers indicated a desire for incentives that would help offset the cost associated with benefits according to responses to question #42 of the survey.

Key Recommendation – Establish Diverse, Equitable, Inclusive & Accessible

Requirements in Program Design: Encourage businesses using workforce programs to adopt DEIA hiring practices that promote the recruitment of diverse talent while offering continuous resources, support, and training. Consider including registered apprenticeships as a method for incorporating DEIA in program design.

Strategies:

1. **Provide energy efficiency businesses with education on topics such as unconscious biases, understanding communication differences, team building, and DEIA hiring processes.** OEP can establish requirements in program design that will provide equitable hiring processes while equipping businesses with targeted outreach for connecting with underrepresented communities to attract a diverse range of applicants.
2. **Provide businesses with additional training incentives that hire candidates from low-income, disadvantaged, and minority communities.** OEP can also connect businesses to adjacent workforce initiatives such as re-entry or veteran programs, as well as other community resources to help support hiring and training.
3. **Support businesses with marketing efforts that appropriately reflect diverse communities and include DEIA practices, such as inclusiveness and equitable opportunities.** This should include all ages, genders, disabilities, social-economic backgrounds, and communities. Providing funding to directly support DEIA practices will expand the reach of businesses by enabling them to recruit employees and gain exposure in hard-to-reach communities. This will ensure that Kentucky's energy efficiency industry offers more equitable training, education, and job placement to a variety of candidates and also provide businesses with potential new employees.
4. **Include Registered Apprenticeship Programs (RAPs) in program design for added support in DEIA practices.** The apprenticeship model ensures that diversity, equity, inclusion, and accessibility principles are embedded into hiring and training. RAPs also include strong non-discrimination and anti-harassment recruitment practices.

It is apparent that there is a large gap in the overall diversity of the energy efficiency workforce in Kentucky. Supporting businesses that provide equitable access to career opportunities is pivotal to diversifying the workforce.



CONCLUSION

Energy efficiency is an important segment of Kentucky's economy and is rapidly increasing with the influx of federal funding to support lower carbon emissions and increase the energy efficiency in buildings (and especially in homes). This is especially true given Kentucky's energy goals over the next five years. With an estimated 23,435 energy efficiency workers identified in the state and an additional 472 potential workers that engage in the home performance industry for installation, maintenance, and repair, an unprecedented opportunity exists for greater partnership, training, and education in energy efficiency in Kentucky.

Kentucky's efforts have been commendable on energy education and offer a unique opportunity not found in many states to expand upon these efforts through greater partnerships. However, to ensure the continued growth of energy efficiency occupations and meet the state's goals, the Kentucky Office of Energy Policy (OEP) and others must diligently work together.

While HPC collected 60 survey responses, a more robust marketing and engagement effort could have elicited additional responses. HPC recommends that future engagement by OEP with the community be done through in-person settings and following up with tangible resources. This includes considering commuting challenges of a central location, providing financial or educational incentives to businesses and workers for participating in sessions, and providing support services to those within disadvantaged communities so they may also attend.

OEP should also continue to build robust partnerships with community leaders to support equitable access to training and workforce development programs. OEP should provide partners with easily understandable marketing and engagement materials that are easily accessible without the internet to ensure that training and workforce development programs reach all communities. It is also important for these items to also be accessible by mobile phone. OEP can partner with a variety of individuals and organizations within hard-to-reach communities to help distribute materials and engage community members. This is imperative if OEP and partners are to bring awareness of programs and reach targeted disadvantaged populations. Without a robust engagement and education plan, efforts by OEP may not be fully recognized and participation in programs deployed may be lower than expected.

This report serves as a roadmap for energy efficiency practitioners and those in workforce development across the state to guide agencies, workers, and employers to make informed and effective decisions that will benefit the sector and the state's workforce development goals while maximizing available funding through new and existing resources.



APPENDIX A: KENTUCKY ENERGY PROGRAMS AND PROJECTS

OEP Funded Projects:¹⁸

- **Energy Efficient Housing Project (ENERGY STAR® Certifications)** - The [Housing Development Alliance, Inc.](#) (HDA) is a non-profit organization and has been providing affordable, energy efficient housing in southeastern Kentucky for over 25 years, including housing for lower and moderate-income populations. Through several programs being undertaken by HDA, knowledge of energy efficiency and home ownership affordability shall be expanded within the southeastern Kentucky housing market. This project will provide funding to cover the inspection and certification process for up to thirty-six homes to become ENERGY STAR® certified. Additionally, this project will provide these homeowners with rebates for ENERGY STAR® rated heat pumps which are required for certification. ENERGY STAR® certified homes are at least 10 percent more efficient than homes built to code and achieve a 20 percent improvement on average. Homes achieve this level of performance by utilizing comprehensive air sealing, insulation, high performance windows, high-efficiency heating and cooling systems, and energy-efficient lighting and appliances.
- **Kentucky Energy Education Project** - The National Energy Education Development (NEED) project works with teachers and students in both Eastern and Western Kentucky to increase knowledge of energy and energy efficiency, to improve science, technology, engineering, and math (STEM) skills, and to improve workforce readiness skills. NEED will provide [energy training and curriculum](#) for educators, students, and school district energy/facilities staff that aligns with Kentucky Academic Standards and supports learning about energy, energy efficiency, conservation, and workforce readiness with a focus on high energy burdened school districts. NEED will coordinate at least three on-site classroom visits for at least ninety students in which an energy professional will deliver energy curriculum and training. The year will conclude with the Kentucky Youth Energy Achievement Awards Luncheon and students will be encouraged to participate in the [National Youth Energy Conference and Awards](#). Learn more about NEED's work [here](#).
- **Central Kentucky Energy Education Project** - [Bluegrass Greensource](#) (BGGs) is a non-profit organization focusing on the Central Kentucky Region. BGGs will undertake a multi-faceted program to improve knowledge on energy efficiency in Central Kentucky, as well as aiding in removing barriers to receiving the benefits of energy efficiency for low-income and under-served Central Kentuckians. They will do this primarily through [workshops and distribution](#) of energy efficiency kits and other basic resources. Additionally, BGGs will use their robust pre-K

¹⁸ <https://experience.arcgis.com/experience/cf5c38b388da4c40a9cc8a1994fc8efa/page/About-the-Office-of-Energy-Policy/>



curriculum, developed during FY22-23, to further educate preschool teachers, community members, and families on energy and energy efficiency.

- **Home Energy Efficiency Rebate Project** - [River City Housing](#) (RCH) develops high-quality sustainable houses for first-time, low and moderate-income buyers and has provided these services in Louisville/Jefferson County for more than 20 years. This project will provide rebates for increased energy efficiency measures in at least seven homes being developed or renovated by RCH and then purchased by first-time home buyers. These homes must meet a [Home Energy Rating System](#) (HERS) score of 75 or lower, meaning they are at least 25 percent more efficient than a standard, similar home in order to qualify for the rebates. These energy efficiency measures will increase energy affordability for these first-time homeowners, and subsequent owners of the home, by directly lowering their utility bills - providing long term stability for families who diversify and strengthen the neighborhoods in Louisville.

Utility Providers Energy Efficiency Programs:

- **Kentucky's Touchstone Energy Cooperatives** - Cooperatives across the Commonwealth provide customers with residential energy efficiency rebates for certain equipment. Each Cooperative offers different incentives or rebates for energy efficiency equipment or measures such as heat pumps, air conditioners, duct and air sealing and insulation. <https://togetherwesaveky.com/cooperatives>
- **Louisville Gas and Electric Company (LG&E) and Kentucky Utilities (KU) Company** - Louisville Gas and Electric Company and Kentucky Utilities Company, part of the PPL Corporation (NYSE: PPL) family of companies, are regulated utilities that serve more than 1.3 million customers and have consistently ranked among the best companies for customer service in the United States. LG&E serves 333,000 natural gas and 429,000 electric customers in Louisville and 16 surrounding counties. KU serves 566,000 customers in 77 Kentucky counties. <https://lge-ku.com/energy-efficiency-programs>
- **Kentucky Power** - Kentucky Power, headquartered in Ashland, Ky., provides service to approximately 162,000 customers in all or part of 20 eastern Kentucky counties. Kentucky Power's distribution operations work from service centers in Ashland, Hazard and Pikeville and from area offices in Paintsville and Whitesburg. Kentucky Power's Targeted Energy Efficiency Program provides weatherization and energy efficiency services to qualifying residential customers who need help reducing their energy bills and improving their homes' safety and comfort. Kentucky Power provides funding for this program through the Kentucky Community Action network of community action agencies. <https://www.kentuckypower.com/savings/home/targeted-energy-efficiency>



- **Duke Energy** - Duke Energy (NYSE: DUK), a Fortune 150 company headquartered in Charlotte, N.C., is one of America's largest energy holding companies. The company's electric utilities serve 8.4 million customers in North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky, and collectively own approximately 54,800 megawatts of energy capacity. Its natural gas utilities serve 1.7 million customers in North Carolina, South Carolina, Tennessee, Ohio and Kentucky. <https://www.duke-energy.com/home/savings>

APPENDIX B: KENTUCKY'S ENERGY WORKFORCE PARTNERS

- **Community Action Kentucky** - <https://www.capky.org/network/>The Community Action Kentucky Partnership is comprised of twenty-three local agencies representing every county in the commonwealth. This network provides resources to Kentuckians in need while offering programs and services. Many agencies within this network house a weatherization department to provide low-income energy efficiency measures to those in need. <https://www.capky.org/>
- **Department of Workforce Development**- The Department of Workforce Development (DWD) connects Kentuckians to employment, workforce information, education, and training. The department's agencies, the Office of Vocational Rehabilitation and the Office of Employer and Apprenticeship Services, work together to provide services through the Kentucky Career Center. Also, under the direction of DWD is the Office of Adult Education. <https://elc.ky.gov/Agencies/Pages/Department-of-Workforce-Investment.aspx>
- **Eastern Kentucky Concentrated Employment Program**- The Eastern Kentucky Concentrated Employment Program, Inc. (EKCEP) administers Workforce Innovation and Opportunity Act (WIOA) programs in twenty-three mountain counties and manages the Kentucky Career Center JobSight network of workforce centers, which provides access to more than a dozen programs and services for jobseekers and employers under one roof. <https://www.ekcep.org>
- **Mountain Association**- Is a non- profit working toward an economy that is more diverse, sustainable, equitable and resilient. Mountain Association provides energy assessment services, business support and lending services. <https://mtassociation.org/>
- **Shaping our Appalachian Region (SOAR)**- SOAR is a regional nonpartisan non-profit that champions local projects, programs, and advocacy for the 54 Appalachian Regional Commission (ARC)-mandated counties in Eastern Kentucky. SOAR's mandate: To fill the economic gaps left by the decline of the coal industry. SOAR's task: To rally communities to help achieve these goals together for the good of all. <https://soar-ky.org>



- **Home Builders Association of Kentucky-** The Home Builders Association of Kentucky (HBAK) is a statewide voluntary trade organization comprised of 4,000 member companies in the housing and construction industry representing well over 30,000 employees across the Commonwealth. About one-third are home builders and remodelers. The rest work in closely related specialties such as sales and marketing, housing finance, and manufacturing and supplying building materials. <https://www.hbak.com>
- **Kentucky Community & Technical College System (KCTCS)-** The mission of the Kentucky Community and Technical College System is to enhance the quality of life and economic vitality of the Commonwealth by serving as the primary provider of College and Career Readiness, Transfer Education, Workforce Education and Employment Training. <https://kctcs.edu>
- **Housing Oriented Ministries Established for Service, Inc. (HOMES, Inc.)** provides affordable and efficient housing solutions to distressed communities in Eastern Kentucky through new construction, home repair, solar system installations, and rental opportunities. <https://www.homesincorporated.org>
- **Northern Kentucky Area Development District-** is a collaboration of local leaders and staff educating and empowering communities by implementing quality services through specific areas of expertise in: Aging and Disability Services, Local Government Services, and Workforce Development, Serving the Northern Kentucky communities in Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, and Pendleton counties. <https://www.nkadd.org>
- **Federation of Appalachian Housing Enterprises (FAHE)-** is a regional, non-profit, financial intermediary based in Berea, Ky. that provides collective voice and access to capital for the creation of housing and promotion of community development in Appalachia. <https://fahe.org>
- **Kentucky Housing Corporation** invests in affordable housing solutions by offering programs and services designed to develop, preserve, and sustain affordable housing throughout the state. <https://www.kyhousing.org>
- **Kentucky Habitat for Humanity (KyHFH)** is part of a global, nonprofit housing organization operated on Christian principles that seeks to put God's love into action by building homes, communities, and hope. <https://www.kyhabitat.org>
- **Kentucky Workforce and Innovation Board (KWIB)** serves as an advisory board to the Governor on workforce training and development issues. The KWIB is charged with creating a statewide vision for workforce development and adopting a plan to move Kentucky forward through workforce training and development. <https://kwib.ky.gov>



- **Bluegrass Greensource** provides environmental education, resources and outreach that inspires, equips, and empowers Central Kentuckians with knowledge and tools to help ensure clean, healthy, and enjoyable environments for future generations. <https://bggreensource.org>
- **The Building Institute of Central Kentucky** provides training in the residential and commercial construction trade occupations and is approved by the State of Kentucky to license students in half the time as compared to not going to a trade school. The mission of BIA is to educate those who wish to excel in the skilled trades related to the Residential and Commercial Construction Industry with the most highly trained and highly skilled workforce possible. The institute was formed by the [Building Industry Association of Central Kentucky](#). The BIA of Central KY is the trade association for the building & construction industry in Central KY, with jurisdiction over 10 counties. Members of the BIA Central KY include home builders, remodelers, plumbers, electricians, HVAC service providers, realtors, carpenters, and more. <https://www.buildinginstituteky.com>

APPENDIX C: REPORT REFERENCES

- <https://www.education.ky.gov/CTE/ctepa/Pages/default.aspx>
- https://www.education.ky.gov/CTE/cter/Documents/24-25_CTE_POS.pdf
- <https://data.census.gov/table?q=Kentucky&t=-00:-1000:Race percent20and percent20Ethnicity&g=040XX00US21&y=2022>
- <https://nascsp.org/wp-content/uploads/2022/02/National-WX-Career-Flyer.pdf>
- <https://nascsp.org/wp-content/uploads/2024/03/FY21-State-Factsheet-Kentucky-Final.pdf>
- <https://www.appalachianenergyworks.com/>
- https://www.energystar.gov/ia/partners/downloads/mou/state_resources/State_Profiles_Kentucky_508.pdf
- <https://www.tva.com/about-tva>
- https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/about-tva/fact-sheets/state-fact-sheet-ky-20222a0272cf-bcd5-4a51-828a-2be9a2858528.pdf?sfvrsn=3878ed94_3
- <https://lge-ku.com/energy-efficiency-programs>
- <https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=47568>
- <https://www.capky.org/network/>
- https://www.aceee.org/sites/default/files/pdfs/State_Scorecard/2022/one-pagers/Kentucky.pdf
- <https://togetherwesaveky.com/cooperatives/>
- <https://kyworks.ky.gov/Services/Pages/Registered-Apprenticeships.aspx>
- <https://programs.dsireusa.org/system/program/ky>



- https://www.energystar.gov/ia/partners/downloads/mou/state_resources/State_Profiles_Kentucky_508.pdf

APPENDIX D: KENTUCKY SURVEY AND RESPONSES

60 respondents, which primarily consisted of contractors and business owners, completed the Kentucky Needs Assessment survey.

Responses for survey questions #1, 2, 7, 8 & 9 are not shown below due to the anonymous nature of the survey.

SURVEY

3. Title/Position:

Responses:

- | | | |
|---|--------------------------------|---|
| • Commercial Energy Association | • Energy Auditor/QCI Inspector | • Quality Assurance Designee |
| • Commissioning Engineer | • Energy Projects Coordinator | • Regional Sales Director |
| • Construction Manager | • General Manager* | • Residential Energy Efficiency Manager |
| • Demand Side Management Program Manager | • Housing Director | • Sales Estimator |
| • Director of Energy Programs | • HOUSING PROGRAM COORDINATOR | • Sales/Management SECRETARY |
| • Dwelling needs Evaluator/ Quality Control Inspector | • Manager | • Senior Energy Analyst |
| | • Monitor/Trainer | • Service Manager |
| | • Owner* | • Vice President* |
| | • prefab coordinator | • Weatherization Director* |
| | • President* | |
| | • Program Developer | |

**Indicates multiple responses for the same title or position: General Manager 3; Owner 20; President 3; Vice President 7; Weatherization Director 4*

4. City:

Responses:

- | | | |
|------------------|-----------------|----------------|
| • Benton | • Grand Rivers | • Olive Hill |
| • Berea* | • Greenup | • Owensboro* |
| • Campbellsville | • Hazard | • Richmond |
| • Cincinnati | • HENDERSON | • Russell |
| • Clinton | • Lawrenceburg* | • Russellville |
| • Cold Spring* | • Lexington* | • Sacramento |
| • Crestwood | • London | • Shelbyville |
| • Elkton | • Louisville* | • Versailles* |
| • Florence | • Manchester* | • Warsaw |
| • Frankfort | • Mayfield* | • West Liberty |
| • Franklin* | • McDowell | • Williamstown |
| • Ft Wright | • Monticello* | • Winchester* |



*Indicates multiple responses for the same city: Berea 5; Cold Spring 2; Franklin 2; Lawrenceburg 2; Lexington 6; Louisville 5; Manchester 2; Mayfield 2; Monticello 2; Owensboro 2; Versailles 2; Winchester 2

5. Zip code:

Responses:

- 40475
- 40014
- 40065
- 40208
- 40218*
- 40228
- 40229
- 40245
- 40342
- 40383*
- 40391*
- 40403*
- 40502
- 40503
- 40505
- 40508
- 40511*
- 40601*
- 40962*
- 41011
- 41042
- 41076*
- 41095
- 41097
- 41144
- 41164
- 41169
- 41472
- 41647
- 41701
- 42025
- 42031
- 42045
- 42066*
- 42134*
- 42220
- 42276
- 42301
- 42303
- 42372
- 42420
- 42633*
- 42718
- 45240
- 49743

*Indicates multiple responses for the same zip code: 40218: 2; 40383: 2; 40391: 2; 40403: 5; 40511: 2; 40601: 2; 40962: 2; 41076: 2; 42066: 2; 42134: 2; 42633: 2

6. State:

Responses: All reported Kentucky except for one from Ohio

10. What is your gender?

Responses:

- Female: 10
- Male: 47
- Non-binary and Transgender: 0
- Prefer not to answer: 2

11. What is your ethnicity?

Responses:

- American Indian or Alaskan Native: 0
- Asian: 0
- Black or African American: 1
- Hispanic Latino or Spanish: 0
- Middle Eastern or North African: 0
- Native Hawaiian or Other Pacific Islander: 0
- White or European Descent: 52
- Two or more nationalities: 1
- Prefer not to answer: 5
- Other: 0

12. What type of buildings do you primarily work on? (Multiple responses allowed).

Responses:

- Single family residential: 48
- Multifamily residential: 16
- Commercial or public buildings: 23
- New construction: 22
- Other: 4



13. What is your company or organization's primary business? (Check all that apply if a primary service is offered).

Responses:

- HVAC Services: 16
- Plumbing Services: 6
- Electrical Services: 9
- Insulation Services: 10
- Building Performance Services: 15
- Energy Audit Services: 16
- Code Compliance/Inspection Services: 5
- WAP Subgrantee: 5
- WAP Contractor: 3
- Nonprofit or Community Action Agency: 9
- New Construction Services: 14
- Remodeling Services: 10
- Architectural Design Services: 0
- Other: 9

14. Is your business classified as any of the following types?

Responses:

- Minority Owned Business: 1
- Women Owned Business: 6
- Veteran Owned Business: 2
- None of the Above: 48
- Other: 3

15. How many employees do you have?

Responses:

- 1-2: 11
- 3-5: 14
- 6-10: 11
- 11-15: 4
- 16-20: 5
- 21-25: 2
- 26-30: 1
- 31-50: 3
- 50+: 7
- Other: 1

16. Do you participate in the ENERGY STAR®, Housing Development Alliance, Inc., Habitat for Humanity, Mountain Association Energy Audit Program or Weatherization Assistance Program for the state of KY?

Responses:

- Yes: 26
- No: 23
- Unfamiliar: 8
- Other: 2

17. Please specify which programs you participate in from Q16. If you do not participate in any, please state N/A or indicate if you are interested in learning more.

Responses:

- N/A: 19
- Weatherization Assistance Program: 9
- ENERGY STAR® only: 4
- Habitat for Humanity: 3
- Mountain Association Energy Audit: 3
- Interest in learning more: 6

Additional individual responses:



- Duke Energy Trade Ally, Community Action programs
- Energy Audits, HERS Ratings for single family and for KY Housing agencies
- ENERGY STAR® & Habitat for Humanity
- ENERGY STAR®, HDA, Mt Assoc.
- HDA, WAP
- RESNET HERS Ratings
- Utility Rebate programs - other city energy programs in N KY
- We did the hvac on our first Habitat House in Versailles, KY this fall. Other than that, fairly unfamiliar with the other programs.
- We do ENERGY STAR®, just do not get house rated for ENERGY STAR®
- We do not participate in housing programs, but we work on sustainable buildings and LEED certification and are interested in learning more.
- We have insulated a few Habitat homes but we're contracted by the GC
- Weatherization Assistance Program, Habitat for Humanity, Utility Company Program
- Weatherization Assistance Program, Housing Development

18. How many employees or sub-contracted individuals do you have for the following positions?

Options available: 1-3; 4-6; 7-10; 11+

Responses:

- Installer or Technician: 1-3: 25; 4-6: 8; 7-10: 4; 11+: 6
- Crew Leader: 1-3: 33; 4-6: 3; 7-10: 0; 11+: 1
- Energy Auditor: 1-3: 21; 4-6: 7; 7-10: 0; 11+: 0
- Quality Control Inspector: 1-3: 27; 4-6: 1; 7-10: 0; 11+: 0
- Healthy Homes Evaluator: 1-3: 9; 4-6: 0; 7-10: 0; 11+: 0
- Building or Home Performance Contractor: 1-3: 15; 4-6: 0; 7-10: 0; 11+: 0
- HVAC Contractor: 1-3: 22; 4-6: 2; 7-10: 0; 11+: 2
- Electrical Contractor: 1-3: 20; 4-6: 1; 7-10: 0; 11+: 0
- Plumbing Contractor: 1-3: 15; 4-6: 0; 7-10: 0; 11+: 1
- Residential Building Inspector: 1-3: 10; 4-6: 1; 7-10: 0; 11+: 0
- Commercial Building Inspector: 1-3: 2; 4-6: 2; 7-10: 0; 11+: 0
- Program Manager or Administrator: 1-3: 21; 4-6: 1; 7-10: 0; 11+: 0
- Education & Outreach: 1-3: 14; 4-6: 3; 7-10: 0; 11+: 1
- Marketing: 1-3: 21; 4-6: 1; 7-10: 0; 11+: 0
- Policy or Lobbying: 1-3: 8; 4-6: 0; 7-10: 0; 11+: 0

19. Please indicate the county or counties that your customers reside. Check all that apply.

Responses:

- | | | |
|---------------|-------------------|----------------|
| • Adair: 7 | • Bourbon: 10 | • Caldwell: 4 |
| • Allen: 2 | • Boyd: 7 | • Calloway: 4 |
| • Anderson: 6 | • Boyle: 6 | • Campbell: 8 |
| • Ballard: 3 | • Bracken: 4 | • Carlisle: 5 |
| • Barren: 3 | • Breathitt: 5 | • Carroll: 7 |
| • Bath: 8 | • Breckinridge: 4 | • Carter: 6 |
| • Bell: 8 | • Bullitt: 13 | • Casey: 5 |
| • Boone: 8 | • Butler: 1 | • Christian: 7 |



- Clark: 9
- Clay: 8
- Clinton: 7
- Crittenden: 4
- Cumberland: 8
- Davies: 6
- Edmonson: 4
- Elliot: 6
- Estill: 8
- Fayette: 16
- Fleming: 7
- Floyd: 6
- Franklin: 9
- Fulton: 5
- Gallatin: 7
- Garrard: 8
- Grant: 5
- Graves: 6
- Grayson: 3
- Green: 6
- Greenup: 7
- Hancock: 3
- Hardin: 4
- Harlan: 5
- Harrison: 7
- Hart: 3
- Henderson: 6
- Henry: 7
- Hickman: 5
- Hopkins: 4
- Jackson: 5
- Jefferson: 16
- Jessamine: 12
- Johnson: 5
- Kenton: 9
- Knott: 6
- Knox: 4
- LaRue: 3
- Laurel: 10
- Lawrence: 6
- Lee: 6
- Leslie: 5
- Letcher: 7
- Lewis: 5
- Lincoln: 7
- Livingston: 3
- Logan: 5
- Lyon: 4
- McCracken: 7
- McCreary: 7
- McLean: 5
- Madison: 12
- Magoffin: 5
- Marion: 5
- Marshall: 5
- Martin: 6
- Mason: 1
- Meade: 6
- Menifee: 6
- Mercer: 6
- Metcalfe: 5
- Monroe: 4
- Montgomery: 10
- Morgan: 6
- Muhlenberg: 7
- Nelson: 8
- Nicholas: 6
- Ohio: 4
- Oldham: 11
- Owen: 9
- Owsley: 5
- Pendleton: 5
- Perry: 8
- Pike: 8
- Powell: 6
- Pulaski: 11
- Robertson: 5
- Rockcastle: 11
- Rowan: 8
- Russell: 6
- Scott: 10
- Shelby: 11
- Simpson: 4
- Spencer: 5
- Taylor: 4
- Todd: 4
- Trigg: 3
- Trimble: 5
- Union: 4
- Warren: 6
- Washington: 6
- Wayne: 7
- Webster: 2
- Whitley: 7
- Wolfe: 8
- Woodford: 12
- Other: 4

20. Please indicate the radius traveled from the primary business location to that of jobs.

Responses:

- <10 MILES: 2
- 10-25 MILES: 6
- 26-50 MILES: 19
- 51-75 MILES: 12
- 76-100 MILES: 10
- >100 MILES: 10

21. Does your company offer energy efficiency assessments as part of measures on jobs to decrease energy consumption within a home or building? (i.e. energy audits, healthy homes assessments, etc.)

Responses:

- Yes: 35
- No: 22



- Other: 2

22. Considering the previous question (#21), please specify what type of energy efficiency assessment is used.

Responses:

- NEAT/MHEA 5
- Energy Audits
- HERS and energy audit report
- recommendations on higher efficiency equipment when replacing old units
- HERS rating
- I would like to offer this
- We use a duct blast on each new construction house to verify duct tightness. We used to do blower door testing and combustion analysis years ago as part of the Kentucky Home Performance program.
- Exceed code requirements on insulation
- Duct pressure test, system examination
- Energy Audits
- Mainly follow the building code and always recommend to the customer the importance of energy efficient windows and exterior doors.
- Car Pool
- HVAC
- Walk-thru audits and reports for businesses, non-profits, and local governments. Audits, models, and reports for residential customers through the How\$martKY program in partnership with 6 rural electric cooperatives.
- blower door, thermal imaging
- Blower door, duct-leakage, thermal imaging, HVAC performance testing, ability to do combustion safety testing, but we don't do it often.
- Energy efficiency of lighting, hvac equipment and our exclusive hybrid energy management control
- We offer energy audits, HERS ratings, and code compliance verification.
- offer higher efficiency systems for replacement customers, dual fuel, etc.
- Whole house energy inspection, infrared
- Blower door test, infrared - whole home assessment
- we use a sub-contractor, when needed, for HERS rating homes
- Energy Audits
- RESNET HERS Rating
- AUDIT
- Energy audits Thermal camera
- HERS Test
- clipboard and walk around / pick the low hanging fruit approach
- On Site Energy Audit, Blower Door Testing, Infrared Camera
- Blower Door, thermal imaging
- HERS Ratings, Energy Audits per BPI standards
- on-site assessments with BOC/BPI certified auditors
- ASHRAE energy auditing standards used as specified by client needs
- In house assessment tools, Portfolio Manager
- Water heater
- IAQ Assessments
- Energy audits

23. Do you or anyone in your company, hold a certification or credential from the following industry associations? (Please select up to four options).

Responses:



- North American Board of Certified Energy Practitioners (NABCEP): 7
- Building Performance Institute (BPI): 25
- Residential Energy Services Network (RESNET): 10
- North American Technical Excellence (NATE): 5
- Air Conditioning Contractors Association (ACCA): 4
- American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE): 5
- Inspection Certification Association (ICA): 0
- Building Operator Certification (BOC): 6
- Duct System Optimization & Residential Air Balancing - National Comfort Institute (NCI): 4
- High Performance HVAC Design - National Comfort Institute (NCI): 3
- International Code Council (ICC): 8
- Community or Technical College Certification or Degree: 12
- Other: 13

24. Please list the specific certifications or credentials indicated in Q23 that are held by you or those at your employment or business in the space provided. N/A for none.

Responses:

- All HEP IDL BA
- All lead mechanics have a journeyman license.
- Backflow insulation and repair. Med gas certification. 50,51,41,21, welding certs
- BOC Level 1, BPI BA-T, NABCEP, Certified Energy Manager
- Bpi building analyst NATE certified techs
- BPI CERTIFIED BUILDING ANALYST, ENERGY AUDITOR, QUALITY CONTROL INSPECTOR
- BPI EA & BP
- BPI Energy Analyst, Envelope Pro since 2010
- BPI Energy Auditor-QCI-Healthy Homes-ASHRAE
- BPI Infiltration & Duct Leakage, NATE core
- BPI QCI and EA
- BPI-QCI, DNE, BA Associates degree in applied science- construction technology
- Building Analyst
- building analyst, Nate certified on heat pump/ac and gas furnace, ACCA member
- Building Analysts, All NCI certifications, ASHRAE 221 committee chair
- Certified Energy Manager
- Certified HERS rater
- Contractors License Master Electrician
- Energy Auditor, QCI
- HERS Rater
- HERS Rater
- HERS Rater
- HERS Rater, NCI Air Balancing & High Performance Design. During ARRA I had BPI certs installer, crew leader, and others
- HERS, BPI, CEM
- Hvac mechanic Refrigeration mechanic Domestic a/c and furnace installer Environmental control system servicer EPA 608 proctor through ACCA Trane certified for city multi unit
- ICC refrigeration certification Mechanical and Electrical ASS degree
- Josh Bills: CEM, NABCEP Chris Woolery: BOC, BPI, HHE Cameron Mott: BOC, BPI, HHE Hope Broecker: BOC, BPI, HHE



- Master
- Master HVAC Kentucky journeyman
- Master installer and project manager
- NABCEP PV Installation Professionals, 6
- QCI, Quality Control Inspector BA, Bachelors Degree DNE, Dwelling Needs Evaluator
- RESNET- Quality Assurance Designee, Rater Trainer / NCI -
- Commercial Air Balancing Technician / ICC- Residential Plans Examiner, HERS ICC Specialist, NABCEP PV Associate
- RIT
- See above Certified Energy Manager, BOC, NACEB, BPI Building Analyst Certification.

25. Which certification or accreditations do you believe are important for individuals to have in the energy efficiency field? (Please select up to 4 options).

Responses:

- ACCA (Air Conditioning Contractors of America) certifications: 10
- NATE (North American Technical Excellence) certifications: 15
- Association of Energy Engineers - Certified Energy Auditor: 9
- Building Performance Institute - Building Science Principles: 25
- Building Performance Institute - Energy Analyst: 21
- Building Performance Institute - Quality Control Inspector: 18
- Healthy Homes Evaluator: 14
- HEP Energy Auditor: 8
- HEP Quality Control Inspector: 4
- Home Energy Score Assessor: 3
- ICAA (Insulation Contractors Association of America) - Qualified Installer: 4
- NABCEP (North American Board of Certified Energy Practitioners) certifications: 7
- Other: 9

26. How many days per month, do you or your employees interact with other contractors to provide whole house, electrification, or multi-measured residential retrofit energy efficiency improvements on jobs?

Responses:

- 1-5 days per month: 21
- 4-10 days per month: 4
- 11-15 days per month: 9
- 16-20 days per month: 1
- 21-25 days per month: 2
- 26-31 days per month: 6
- None: 14
- Other: 2

27. Does your company currently collaborate with any trade unions?

Responses:

- IBEW: 0
- Carpenters union: 0
- Laborers (LIUNA): 0
- No: 56
- Other: 3

28. How many residential single-family or multi-family homes does your company or employer typically serve per year?



Responses:

- 2 respondents answered 5
- 3 respondents answered 10
- 4 respondents answered 20
- 2 respondents answered 30
- 3 respondents answered 100
- 3 respondents answered 150
- 3 respondents answered 200
- 2 respondents answered 250
- 3 respondents answered 1000

Additional individual responses:

- 28
- 25
- 30
- 35
- 40
- 50
- 300
- 600
- Don't know
- Entire state WX jobs.
- First Year in Business
- Over 100
- So far 7 this month
- We don't often serve residential single family. Multi-family jobs include mainly student residential halls on university or college campuses.
- We inspect over 1,000 houses every year for energy code compliance /HERS Ratings.
- 800
- 1200
- 2000
- 3500
- 2
- >24
- 0-3
- 0-5
- 1000+
- 1500+
- 2500 to 3000
- 250-300
- 30-35
- 30-45
- 50-75
- 600+

29. How many commercial buildings does your company or employer typically serve per year?

Responses:

- 16 respondents answered 0
- 2 respondents answered 1
- 4 respondents answered 5
- 6 respondents answered 10
- 2 respondents answered 20
- 2 respondents answered 50
- 2 respondents answered 100
- 2 respondents answered 100+

Additional individual responses:

- 2
- 3
- 12
- 15
- 25
- 60
- 75
- 250
- 400
- <24
- 5-20
- 20-30
- 45 to 60
- 50+
- 50-100
- Probably less than 20 a year.

30. Which tools does your company or employer have direct experience with in assessing the energy savings of energy efficiency measures? (Select all that apply).

Responses:



- Home Energy Score: 3
- RESNET Certified Rating (new construction): 10
- Pearl Certification: 0
- Enterprise Green Communities for Multifamily: 1
- Snugg Home: 6
- Hancock Software: 7
- ENERGY STAR® Portfolio Manager: 3
- TREAT: 2
- WAweb: 5
- Do not currently use tools that model energy performance: 22
- Unknown: 8
- Other: 8

31. Please provide any pros or cons to the tools selected in question #30.

Responses:

- Allows you to know the leakage of the house
- Con - only really useful for new construction. Pro - best software for new construction.
- Constantly updating our in house use of programs
- Determines duct tightness
- Did not select any tools. Not aware of how to get them. Home energy on new homes should be a requirement. This would encourage workers to be Energy Efficiency and become aware of how to achieve it.
- Don't have any
- Expense
- Give a good scale of how well a house preforms efficiency wise.
- Hancock not user friendly IMO. TREAT either. WA Web is too new to know if it has pros or cons.
- Haven't used either enough to say.
- Home Energy Score was too comprehensive
- Pro would be beneficial for the customer Con would be start up cost to contractor
- Pro's- Ekotrope for HERS Raters is an easy to use and very supported product. Cons- its really for new homes and not existing. It does not produce a load calc which would be helpful
- provides concrete energy savings estimates
- The only con is set up time.
- They are all significantly different.
- Trace 3D Plus is highly technical, and can take a long time to complete. However, it is one of the leading software's to assist in achieving LEED status.
- Unsure
- Very good tools to evaluate performance of a house.
- WAweb was/is very buggy.
- We have no experience with any of these tools
- We just started using TREAT with our first multi-family Weatherization Project. It is a struggle as it is very different than NEAT MHEA which we use regularly. TREAT has no known Tech Support.
- We use ekotrope which I believe can be used to accurately determine the energy efficiency of a home and the most cost effective ways to reduce energy consumption.

32. Does your company or employer regularly participate in programs that serve low-income communities? If so, please indicate which ones.

Responses:



- Utility rebate program - state or region; i.e. (Kentucky Power - Targeted Energy Efficiency Program), (KY Electric Cooperatives - Touchstone Energy Program, CARES Program, SimpleSaver Program, Button-Up Program, Manufactured ENERGY STAR® Program, Heat Pump Retrofit Program, Virtual Energy Assessment Program): 20
- State weatherization program: 13
- Other state or federal programs: 13
- Business rebates program through LG&E/KU: 7
- Not sure: 5
- N/A: 25
- Other: 6

33. If you indicated that your company or your employer participates in programs mentioned in Q32, please specify what programs in the space below. (If you indicated no or NA, please put NA in the space provided).

Responses:

- ATMOS Cares
- Button-up program, CARES, and used to the Touchstone Energy program, but utilities dropped it
- Cares
- CARES & WAP
- Demandside management
- DOE/LIHEAP/BIL WX, CARES, AHTF
- Duke Energy , Forest Park, OH rebate program
- Duke Energy Smart Saver - Trade Ally
- government funded home improvement, energy efficiency programs
- Grantee - We oversee the WAP
- I did not select either.
- Kentucky Weatherization CARES program local RECC
- LGE/KU does not offer very many programs.
- LGE-KU business rebates, How\$martKY
- Lighting retrofit incentive thru local utility
- LiHeap, HeadStart, CSBG
- Mostly, serving the energy efficiency and sustainability requirements for low income housing tax credit projects through KHC.
- REAP, OAP grants, OEP audits, EKPC button-up, federal direct pay, tax incentives.
- Rebates, DSM
- Touchstone Energy Program
- Transit, WIOA, CSBG, LIHEAP, ESG, TBRA, HOME, AHTF
- utility DSM/rebate programs/USDA REAP/KADF On-Farm Energy
- Utility Rebate Program, CARES, and State Weatherization Program
- Utility rebates Urban renewal
- We have a low income weatherization rebate. We provide HERS Ratings to low income builders
- Whole state

34. Are you or your employer familiar with the HOMES or HEAR energy efficiency rebates that will be available to consumers?

Responses:

- Yes: 16
- No: 28
- Unsure: 13
- Other: 2

35. If you are familiar with the HOMES and HEAR rebates, will your company or employer need to expand their business in order to participate as a contractor?



Responses:

- Yes: 7
- No: 21
- Maybe: 9
- Unsure: 18
- Other: 4

36. Which types of employee titles do you anticipate your company or employer will need to hire or train to participate in state or federal rebate programs that become available? (Check all that apply).

Responses:

- Installers/Technicians: 27
- Crew Leaders: 21
- Energy Auditors: 22
- Quality Control Inspectors: 12
- Management positions: 15
- Sales positions: 15
- Marketing positions: 9
- Finance positions: 6
- Outreach/Education positions: 12
- Specialty Contractors (HVAC, Plumbers, Electricians): 19
- Other: 10

37. What barriers to earning or maintaining certifications exist for you, your staff or sub-contractors?

Responses:

- Cost of certification: 17
- Time: 41
- Exam delivery mode (in-person): 7
- Exam delivery mode (online only): 1
- Travel constraints: 8
- Lack of knowledge on certifications available: 16
- Lost production time: 19
- Availability of training centers: 12
- Not enough work to justify recertification time and costs: 15
- Other: 6

38. What type of training would benefit your company?

Responses:

- On-the-job training: 18
- Online outside certification and testing: 18
- In-person outside certification courses and testing with hands-on component: 17
- Mixed method of training: 22
- Options for licensure in specific trades associated with home performance: 7
- Apprenticeships: 10
- All of the above: 25
- Other: 2

39. Does your company or employer have a designated Human Resources Officer?

Responses:

- Yes: 25
- No: 32
- No, our organization contracts out an HR company for hiring and personnel needs: 2
- Other: 0



40. Does your company or employer offer any of the following benefits? (Select all that apply).

Responses:

- Health insurance: 27
- Life insurance or other supplemental insurance: 18
- Paid time off (PTO): 30
- Sick leave: 34
- Vacation: 35
- Holiday pay: 37
- Bonuses: 29
- Worker's compensation: 38
- Retirement plan: 29
- Stock options: 4
- All of the above: 6
- None: 8
- Other: 4

41. As an employee or sub-contractor, would you prefer working for a company that provides benefits? (Please place NA in the "Other" option if you are a business owner).

Responses:

- Yes: 37
- No: 4
- Other: 18

42. If incentives were offered by the state to help offset the cost associated with offering benefits to employees, would you be interested in doing so?

Responses:

- Yes: 30
- No: 2
- Depends: 17
- Strictly a 1099 business: 1
- N/A: 8
- Other: 1

43. Does your company or employer permit the hiring of individuals that are any of the following? (Select all that apply).

Responses:

- Re-entry: 22
- Recently completed a rehab program: 22
- Displaced: 14
- Immigrants: 12
- N/A: 29
- Other: 5

44. Does your company allow the hiring of individuals with or without VISAs/work permits?

Responses:

- Yes: 2
- No: 13
- Yes, with VISA: 12
- Yes, without VISA: 0
- Not sure: 31
- Other: 2

45. Please list entry-level positions and the starting pay for these positions at your company or at your employment. Please use an hourly rate in the space provided below.

Responses:



- Installer - \$15
- \$15
- 16
- 16
- \$17
- \$18.00
- \$20.00
- \$20
- \$35
- \$15/hr
- \$17/hour
- \$25-\$30 plus benefits
- 14.00 laborer 16.00 roofer 20.00 sheet metal
- 16 an hour
- Apprentice \$12-15 Journeyman \$25-37 Master <\$35
- Apprentice \$15
- apprentice \$15/hr
- apprentice HVAC tech \$13-\$16/hr
- Assistant installer \$15
- CAC does not do the hiring for the WX program
- Crew Laborer, 13.50 Crew Leader, 16.50
- Duct installer \$15/hr
- DWELLING NEEDS EVALUATOR / ENERGY AUDITOR \$18.50 HOURLY
- Energy installers \$20 p/hr
- Energy specialist, \$22/hour
- Field Inspector - 50k
- Helper \$10
- Helper \$20 per hour
- helper- 12.00
- Helper 12.00 an hour
- In our program, there are no entry level positions.
- Insulation/Air sealing technician - \$16 per hour
- Job specific
- Labor \$15.00 Mason \$20.00
- Laborer 12.00
- laborer 12-14 hourly
- Min of 15\$
- RIT, Retrofit Installer Technician - \$15.17
- Trainee - \$15/hr

46. Please list senior positions and starting pay for these positions at your company or at your employment? Please use an hourly rate in the space provided below.

Responses:

- Inspector - \$21
- 20
- 25
- \$25
- \$25.00
- \$25
- \$25
- \$40
- \$30/hour
- \$32/hr
- \$40-\$45 plus benefits
- 21 an hour
- 24.00 Sheet metal foreman
- Crew Leader- \$16.50 DNE- \$18.00 QCI- \$21.00
- Depends on the candidate
- Energy Auditor \$25
- Energy Projects Coordinator, \$30/hr
- Energy Team Coordinator, \$32/hr
- Senior Energy Specialist, \$35/hr
- Foam Insulation Installer \$32 per hour
- HERS Rater/Energy Auditor - \$25 / Crew Leader - \$30
- HVAC tech \$22 to \$30/hr
- Job specific
- Journeyman tech or installer \$20-\$30/hr
- Lead Install mechanic and Lead service tech \$32
- Lead Installer 20.00
- Lead sprayer \$28
- Manager - \$60k/yr
- Manager \$20-\$28
- Manager \$50



- Monitors = \$30+, Trainers = \$35+, Managers = \$40+
- PROGRAM DIRECTOR \$21.00 HOURLY
- QCI 21.00
- Salary position
- spray foam tech - 18.00 wall spray - 18.00 attic tech - 16.00
- Unsure of any top out scales with COLA involved. 10 yrs senior with Energy Auditor and QCI certs currently making 26.47 an hour

47. Where do you or your employees typically receive training in the building science trades?

Responses:

- In-state accredited training center: 25
- Out-of-state accredited training center: 7
- Independent training provider: 14
- In-house (we train our own staff): 25
- Certification through a community college or trade program: 7
- Online training: 22
- Conferences offering CEU's: 18
- Other: 5

48. Please provide the name of the training center or pathway used for employees or yourself in regard to Q47 and what program is utilized.

Responses:

- REE Training Center
- Actc
- BCxA training, conferences as apply, building enclosure and envelope national conferences and certification, HVAC engineering conferences and certification. Our staff participates in a variety depending on interest and specialty.
- BIA NKY
- BOC (online), Building Science Professional Training (Louisville)
- BPI
- BPI, NATE
- Building Efficiency Resources, HERS Rater Training
- Everblue Training (online), RESNET conference, NCI in person and online training
- HBA
- HERE AT OUR SHOP
- Home bldg IEC
- Huntsman Building Products IDI Distributors
- In house
- Industry conferences
- JCTC, Sullivan University
- KAMC, Bowling Green Technical College, Hvac Supply Houses
- Ky Training center in Frankfort Ky
- Mostly our supply houses
- NABCEP
- Nabcep online
- National Comfort Institute, Energy Smart Institute
- NCI, various online
- NEC Code Book
- Neighbor Works
- on site
- online service
- Only CEU's
- Our Insulation Distributer IDI offers courses and training throughout the year.
- REE
- REE
- REE (KHC)
- REE (RESIDENTIAL ENERGY EFFICIENCY) FRANKFORT KY
- REE Frankfort Ky
- REE in Frankfort ky
- REE located in Frankfort, Ky
- Residential Energy Efficiency Center



- Residential Energy Efficiency Training Center in Frankfort, KY
- RESNET and BPI conferences
- REE Training Center, various online sources including BPI, various conferences.
- SPFA
- Sullivan university
- The BER
- Tradetech Ceuonline

49. How close is the nearest training center or on-site location?

Responses:

- Under 15 miles: 11
- 16-25 miles: 5
- 26-50 miles: 8
- 51-75 miles: 9
- Greater than 100 miles but less than 500 miles: 9
- More than 500 miles: 1
- Out of state: 0
- Online: 9
- Other: 7

50. Does your company offer a clear career pathway or opportunity for advancement for employees?

Responses:

- Yes: 34
- No: 6
- Would like to offer or have the option: 14
- Other: 5

51. Does your company or employer utilize training providers for employees or participate in apprenticeship programs?

Responses:

- Yes: 19
- No: 17
- No, but interested in learning how our company can utilize both: 19
- Other: 4

52. Are you or your employer aware of the TREC (Training Residential Contractor) grants that will be available to states to help offset the cost of training?

Responses:

- Yes: 5
- No: 28
- Unsure: 11
- I would like more information: 14
- Other: 1

53. What types of training programs are needed in KY for businesses, employees, and contractors that perform energy efficiency measures in the residential space?

Responses:

- State training centers specific to energy efficiency: 20
- Community college/trade certifications and classes in energy efficiency: 26
- Options and resources for on-the-job training opportunities: 29



- Mentoring training for individuals "teaching" apprenticeships: 22
- Mixed method of training options: 29
- Apprenticeship programs: 20
- Other: 5

54. Are there other training needs for employees, contractors or others in the energy efficiency space that would benefit recruiting, training, and retention of new hires. Please provide an answer in the space below.

Responses:

- WX program awareness, how it works and the potential for growth for recruiting.
- a program that provided a basic field skills training to get a new hire started
- All hands on training is helpful. The real need is people willing to work and show up.
- Basic hvac duct system testing
- Basic On-boarding training for new employees to make the basics concise and consistent with all employees.
- Better pay and opportunity would make the biggest improvement to the quality of work we see out there and quality of employee
- Community college/trade certifications and classes in energy efficiency
- covered above
- Heat pump water heater installation. Tankless water heater installation. Rain water reclaim.
- I believe that advertising could help educate the public about employment opportunities that will be available in the energy efficiency space from the inflation reduction act.
- Incentives
- Incentives (including wages) for larger institutions (businesses, non-profits, local governments) to hire folks internally to implement energy efficiency and prove that the investments (internal capacity and energy improvements) are worth making at a larger scale.
- Incentives like bonuses
- insulation inspections would be helpful
- Knowing how to do the programs . Paperwork side/ office work side
- Need for quality instruction
- On the job training, and classroom instruction
- probably!
- Provide funding to companies that certify employees.
- The reason why these programs are needed
- trade schools
- Train young people to work
- Training on how to meet federal requirements, training on how to provide quality bids
- Training on how to properly air-seal older houses and seal & repair ductwork
- Unsure given that our company focuses less on residential and working with contractors directly and more with larger buildings and project management. I am curious about contractors' access to mental health/health and general benefits. Just from working around folks in that industry it becomes clear that they work really hard but find it hard to find jobs that take really good care of them.
- Vender specific trading for their product
- Workforce development



- Would be nice to have some type of Computer base module to show contractors.
- yes
- Yes and refer to answer in Q 53 as to hoe the training should be done.
- Yes, for installation.
- Yes, I'm sure there are, just don't know what specifically

55. What type of positions are most needed in your company or by your employer?

Responses:

- Installer/Technician: 33
- Crew Leaders: 13
- Energy Auditor: 17
- Quality Control Inspector: 7
- Program Manager/Administrator: 8
- Marketing: 5
- Sales: 6
- Education/Outreach: 4
- Finance: 2
- Human Resources: 1
- HVAC Contractor: 13
- Plumbing Contractor: 7
- Electrical Contractor: 13
- Solar Contractor: 7
- None needed: 8
- Other: 1

