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FUTURE FOCUS
Trade Ally Technical Assistance Research

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STUDY CONDUCTED BY:

mrea
midwest renewable energy association

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For more information on this research project, contact futurefocus@focusonenergy.com.

Future Focus

Future Focus reviews new program ideas, measures, and delivery methods and tests new participation opportunities for future expansion and inclusion in the Focus on Energy program portfolio. The initiative supports energy efficiency and renewable energy research and reviews new and emerging energy efficient technologies. This report is supported through the Environmental & Economic Research and Development Program, Pilot Programs.

Key Definitions

- American Council for an Energy-Efficient Economy (ACEEE): A non-profit organization that focuses on advancing energy efficiency as a means to promote economic prosperity, energy security, and environmental protection.
- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE): A non-profit organization that develops and publishes standards for the HVAC industry.
- Apprenticeship Programs: Structured, long-term training programs that combine on-the-job learning with related instruction typically supported by the employer. Registered apprenticeship programs are approved by the US Department of Labor (DOL) or a state apprenticeship agency. Apprenticeship programs typically lead to a recognized license or credential in a skilled trade.
- Association of Energy Engineers (AEE): A non-profit professional society dedicated to advancing the energy management profession.
- Building Analyst Professional (BA-P): Home performance expert with advanced skills and knowledge certified by the Building Performance Institute.
- Building Analyst Technician (BA-T): An early-career professional in the home performance industry, specializing in data collection and diagnostic testing during a whole-home assessment, and certified by the Building Performance Institute.
- Building Performance Institute (BPI): A non-profit organization that develops standards and credentials for residential energy auditing and upgrade work.
- Building Science Principles (BSP): An educational program that provides a foundational understanding of how different components of a building affect its overall performance.
- Certified Energy Manager (CEM): A credential that recognizes individuals who have demonstrated high levels of experience, competence, and proficiency in optimizing the energy performance of facilities, buildings, or industrial plants.
- Contractor: A licensed individual or business that performs construction, installation, or maintenance services. Contractors may operate independently or as part of larger projects across various industries.
- Distributor: A company/business that purchases products from manufacturers and supplies them to contractors, retailers, or end users. They manage logistics, inventory, and customer support, and provide regional access to equipment and materials.
- Focus on Energy Trade Ally: A vetted contractor or service provider participating in Wisconsin's Focus on Energy Program. Trade Allies assist customers with implementing energy-saving projects and accessing available incentives.
- HVACR: Refers to the systems and technologies used to control the indoor environment, including heating, ventilation, air conditioning, and refrigeration.

- Leadership in Energy and Environmental Design (LEED): Developed by the U.S. Green Building Council (USBGC), a globally recognized green building rating system that assesses sustainability and environmental performance of buildings and communities.
- Manufacturer: A company that produces equipment, materials, or components used in construction, technology, or energy-related systems.
- North American Technician Excellence (NATE): A non-profit organization that provides a NATE certification for HVACR technicians.
- Nonprofit Training Provider: A nonprofit organization that delivers workforce training programs, providing industry-relevant skills and credentials and often focused on community impact and equitable access.
- Residential Energy Services Network (RESNET®): Non-profit that develops standards and provides training and certifications in the home energy rating industry.
    - RESNET® Home Energy Rating System (HERS®) Rater: A certified professional who performs energy audits, calculates HERS Index scores, and provides recommendations for improving a home's energy performance.
- Technical College: A postsecondary institution that offers hand-on, career-oriented education in skilled trades, applied sciences, and technical fields. Programs at Technical Colleges typically lead to associate degrees, diplomas, or certificates.
- U.S. Department of Energy (DOE): An executive department of the federal government that oversees national energy policy, production, and research.
    - DOE Home Energy Score: A standardized rating system that assesses a home's energy efficiency on a scale of 1 to 10.
    - DOE Zero Energy Ready Home Program: National program that recognizes and promotes high-performance homes designed to be so energy-efficient that they can offset most or all of their annual energy consumption with renewables.
- U.S. Environmental Protection Agency (EPA): A federal agency established to protect human health and the environment.
    - EPA 608 Certification: A federal requirement for HVAC technicians who engage in the handling, disposal, and management of refrigerants.
    - EPA Indoor airPLUS Program: A voluntary initiative that aims to improve indoor air quality in new homes by requiring builders to incorporate specific construction practices and product specifications.

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Executive Summary

The Midwest Renewable Energy Association (MREA) was contracted by FOCUS ON ENERGY® to conduct research to define the workforce development needs of Focus on Energy Trade Allies delivering building energy efficiency and electrification products and services, and the training capacity available to assist them. The findings from this study aim to provide valuable insights for the creation of a workforce development strategy for the Focus on Energy program, increasing the capacity of Trade Allies and training providers, ensuring they can meet the growing demand for energy efficiency and electrification services in Wisconsin.

To achieve the goals of the Focus on Energy program, Trade Allies need a recruitment and training strategy that increases their capacity to deliver energy efficient products and services. This requires leveraging training capacity across the technical college system, the trades, and independent training programs. The research identifies workforce needs and training capacity in Wisconsin by interviewing Trade Allies and related training providers.

Background/Introduction

In 2024, the MREA was contracted by Focus on Energy to conduct the *Empowering Trade Allies for Building Efficiency and Electrification Research Project* to assess workforce development needs and identify strategies to support Trade Allies. This research identified several key findings, including the need for better alignment between training offerings and industry demands, a need for improved training infrastructure, insufficient resources and technical assistance for Trade Allies, and a need for training programs that are flexible and capable of scaling to meet demand. Drawn from these findings were several strategic recommendations that laid the foundation for the next phase of research. These included building on existing workforce training programs, enhancing support for the customer, meeting Trade Allies where they work with tailored training and support, ensuring quality control throughout training delivery, supporting students to improve training outcomes, and empowering instructors with the resources and skills needed to effectively deliver training.

As Focus on Energy moves forward with implementing these recommendations, the MREA conducted follow-up interviews to gather additional feedback on workforce strategies and refine priority actions. This study explores how to develop and structure workforce training programs that are responsive to market needs and accessible to a diverse range of participants, including partnerships to improve training delivery, gaps in training that affect workforce readiness, and resources and technical assistance that would best support the energy efficiency workforce in the state. This report outlines the background, methodology, findings, and conclusions drawn. Research outcomes contain recommendations for optimizing workforce development and training funding to support building electrification and energy efficiency upgrades for utility customers across the state.

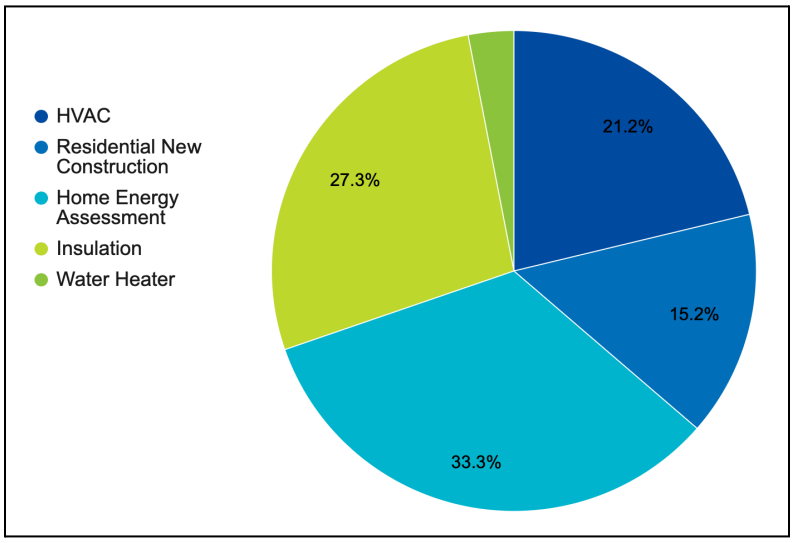
Research Methodology

Working with Focus on Energy, the MREA developed the interview methodology and collaborated with Energy Advisors to identify priority contacts. Between June and August of 2025, MREA conducted interviews using a flexible participation model. Stakeholders were given the option to take part in a virtual interview conducted over Zoom or phone, fill out interview questions in a Word document, or respond to interview questions through a Google Form. This approach allowed for broad participation and accessibility for professionals across the state. A full list of the interview questions is included in the appendix of this report. In total, 30 stakeholders participated in the study. All responses are kept anonymous and are not associated with any individual or business.

Interviews were conducted with four stakeholders representing relevant training and workforce development programs that support building efficiency and electrification workforce capacity. This included one Wisconsin technical college, one independent training provider, and two HVAC distributors that provide training. Three of the training providers were included in the MREA's first round of research, and one was a new organization that had not been involved with the first round.

Interviews were conducted with 26 Trade Allies providing building energy efficiency, energy management, energy auditing, insulation and air-sealing services, and HVAC services. Of the 26 Trade Allies interviewed, 14 were businesses that were included in the MREA's first round of research, and 12 had not previously been surveyed by MREA. Focus on Energy categorizes Trade Allies into distinct groups based on their areas of specialization. The Trade Ally categories represented in this study included HVAC, insulation, home energy assessment, residential new construction, and water heater.

Figure 1. Categories of Trade Allies Interviewed



RESEARCH FINDINGS/OUTCOMES

The following section presents a detailed analysis of the 30 Trade Ally and training provider interviews. Key findings highlight recurring challenges, emerging opportunities, and strategic priorities to inform efforts to strengthen the energy efficiency and electrification workforce.

Trade Ally Research Findings

Topic #1. Training Background

Training and certification play a critical role in the Trade Ally network. Across all respondents, the majority rated employee training and certification as highly important to business success; with an average rating of 4 on a five-point scale. While the rating was generally high across all Trade Ally categories, it was ranked especially important by HVAC contractors, followed by water heater installers, home energy assessors, insulators, and new construction contractors.

Across all Trade Allies, certifications are viewed as valuable tools for credibility, quality assurance, differentiation from competitors, requirement fulfillment, and skills development—though the degree to which they are required varies by role and firm. Many view certifications as milestones within a broader progression of training that unfolds over time, rather than prerequisites for employment. In most cases, training begins with informal, hands-on experiences and is followed by more formalized instruction and credentialing as employees advance in their careers. Additionally, some Trade Allies expressed that while they value certifications, they often rely on subcontractors or partners to carry the required credentials.

- A majority of HVAC/R contractors interviewed reported widespread use of credentials such as NATE (North American Technician Excellence), EPA Refrigerant Handling, and manufacturer-specific credentials (e.g., Bryant, Mitsubishi, RHEEM, Lennox). Some require certifications at hire, but most allow new staff to earn them within 1-2 years. The typical sequence of training begins with new hires working with senior technicians to develop technical skills, learn diagnostics, and understand product-specific installation. Over time, they move into formal training pathways, either internally or through third-party training providers. In-house training is robust in many HVAC firms, with several reporting regular meetings, hands-on training labs, and continuing education on soft skills. Product-specific training is often provided by manufacturers or distributors. Several companies estimate 12-15 hours of training per year per technician, often delivered through a mix of formal events, company-wide sessions, and self-directed learning.
- Home energy assessors most commonly cited BPI certifications (Building Performance Institute) such as the Building Analyst Professional (B-AP) credential. Many employers encourage staff to complete the full certification pathway, beginning with BSP (Building

Science Principles), then progressing to BA-T (Building Analyst Technician), and ending with the BA-P credential. Some require this certification for energy auditors, while others view it as an expectation to be met within the first few years of employment. Continuing education is required every 3-4 years to maintain certification. Most firms offer a mix of in-house training (e.g., mentoring, field-based coaching, technical classroom sessions, and software simulations) and third-party training through groups like Focus on Energy, Green Training USA, RESNET, professional conferences, and manufacturers.

- Insulators most commonly reference BPI credentials—particularly the BA-T and BA-P certifications—as well as lead abatement training, and asbestos supervisor training which includes annual recertification. Some pursue additional industry credentials such as CEM (Certified Energy Manager), LEED accreditation (Leadership in Energy and Environmental Design), and DOE Home Energy Score Program. Training often begins on the job, with staff learning tasks like foaming, drilling, spray application, and air sealing. After 6 months to a year of field experience, more formal training is introduced through structured pathways or external partners. Many firms send staff to third-party training providers such as Focus on Energy, Green Training USA, professional conferences, and manufacturer sessions.

- Residential new construction contractors most frequently cited RESNET® and HERS® Rater training & certification, although certifications are rarely required for field staff. In-house training is the primary delivery model, with many companies employing their own trainers to support instruction and progression within company-specific roles. Third-party training is less frequently used, although several companies participate in programs through Focus on Energy, EnergyStar, EPA Indoor Air Plus, the DOE's Zero Energy Ready Home program, Green Built Homes of Wisconsin, and the National Association of Home Builders. Some also attend professional conferences or bring in outside experts for sales, leadership, or management coaching.

- Water heater installers tend to rely on state-level certifications and licensures, sometimes working with union training programs. Employees often come into the company with the core training already completed, and are expected to complete additional upskilling every few years. Some offer supplemental instruction through manufacturers or distributors. Partners such as DesignAir, RHEEM, Focus on Energy, and local unions are commonly cited as key third-party training partnerships.

In regards to upskilling employees, contractors discussed informal mentorship and on-the-job training as priority methods. Pairing new hires with experienced staff was described as a low-cost, high-impact way to build skills while reinforcing company-specific practices and values. Some firms also reported success with staggered or progressive training models, where new employees begin with basic in-house instruction and then transition to manufacturer trainings or certifications over time.

The majority of Trade Ally companies pay for all training costs, with some even reimbursing employees for college or unrelated coursework. Based on employer estimates, the overall average amount spent on training per employee ranged from $1,300 to $2,100 each year. Training investments also varied by category, with home energy assessors at the lower end of the scale, followed by insulation workers, HVAC professionals, water heater specialists, and finally residential new construction roles fell on the higher end of the scale. These figures reflect a blend of direct training costs, wages for training hours, certification fees, and external course registrations.

Topic #2. Training Needs

When asked about the most beneficial training they had participated in, respondents most often pointed to highly specific, in-person sessions—especially those focused on new product installation, energy modeling, or software tools. Training that incorporated both classroom-style instruction with hands-on application was repeatedly cited as being effective, particularly when aligned with current program offerings or incentives. Others highlighted job shadowing and one-on-one mentorship as essential parts of their internal training programs.

Overall, in-person and on-the-job training was cited as the most effective across all sectors. This includes job shadowing, mentorship, on-the-job learning, in-person labs, and more. Respondents reported that this format allowed staff to build confidence, retain information more effectively, and directly apply new skills. Virtual training formats and webinars were generally viewed as less effective, with some interviewees noting that they were better suited for continuing education rather than foundational skill-building. Some respondents stated that an online library of technical and product specific resources would be valuable for employees to access on their own time and as needed. Professional conferences and apprenticeships received a handful of mentions, primarily from HVAC Trade Allies, but were not widely adopted across sectors. Few respondents identified degree or certificate programs as a preferred delivery method, further reinforcing their preference for work-integrated learning.

> *“Our worker market is visual/tactile, so seeing and touching things helps drive home the lessons being taught.” - Insulation & Home Energy Assessment Contractor*

Trade Allies also supplement this with third-party training, with nearly all Trade Allies partnering with at least one third-party training provider, and over half of Trade Allies partnering with additional training providers outside of Focus on Energy and their online certification training. When asked which types of organizations they would prioritize for providing staff training, most identified industry or trade-specific organizations and product manufacturers as the most effective. Trade Allies said that manufacturer-led demos and mock installs provided critical confidence for staff, particularly when new technologies and equipment are introduced.

However, they cited this type of training as often lacking alignment with Focus on Energy's program requirements. Others described challenges with finding quality third-party training that was both accessible and directly applicable to their day-to-day operations. In the residential new construction space, product manufacturers were prioritized slightly more highly than trade-specific organizations. In home energy assessment and insulation, local industry partners came as a close second. Educational institutions, national associations, and local industry partners received fewer mentions overall, but were still recognized by some for their potential to offer credible and standardized instruction.

Figure 2. Priority Training Delivery Method

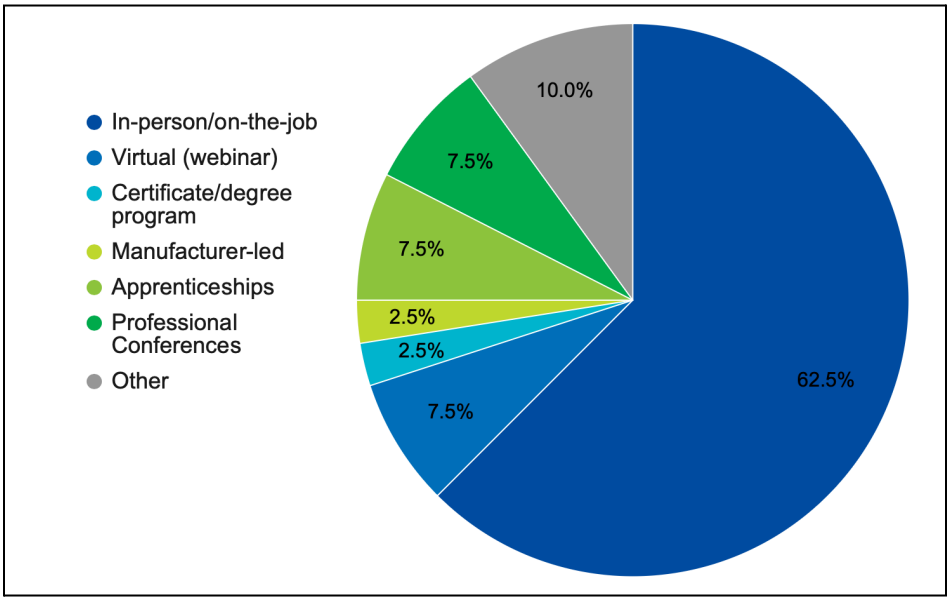
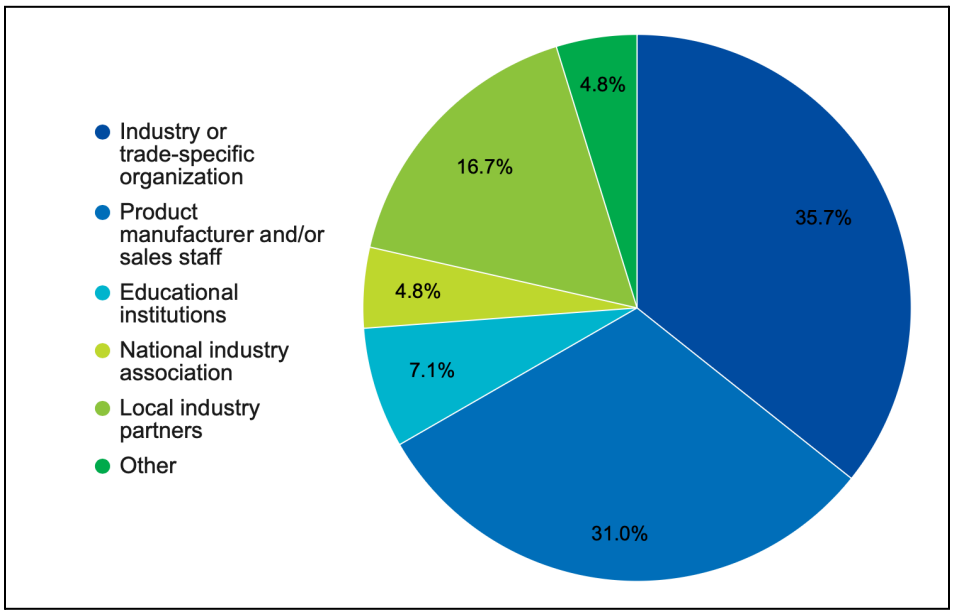


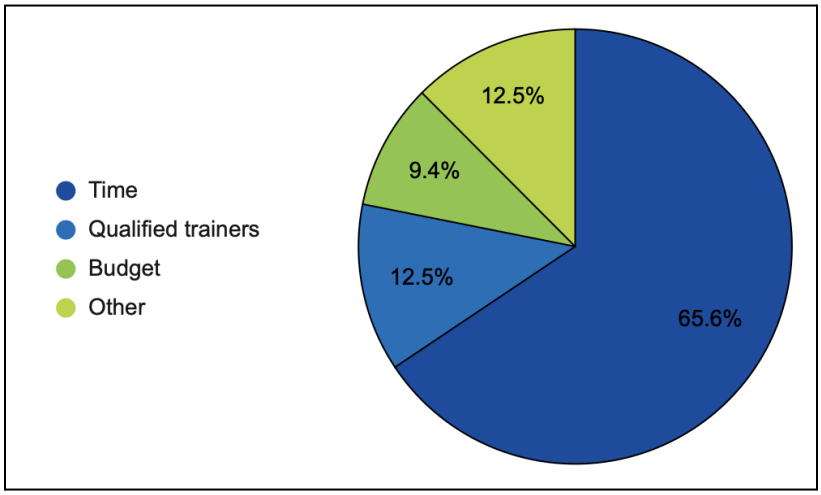
Figure 3. Priority Organizations for Delivering Training



Topic #3. Barriers and Gaps

Trade Allies face a range of barriers that hinder participation in formal job training and upskilling opportunities. The most commonly cited challenges were time constraints, especially for small businesses and sole proprietors were taking time away from billable work to attend training is not always feasible. Trade Allies also pointed to a lack of qualified trainers, a lack of accessibility and flexibility in the training that is currently offered, and budget constraints.

Figure 4. Barriers to Pursuing Training and Certifications



"The challenge is: as much as I love training, it's still a massive expense for me, and in return I have to charge my customers more in order to pay for the time I'm putting into the training, otherwise I'm losing out of money." - Insulation and Home Energy Assessment Contractor

"I would personally do more projects in Wisconsin, but there's the hurdle of technical expertise [in training offerings], and getting in touch with people who are interested in energy. Those are the barriers to us completing more projects." - Home Energy Management Contractor

Contractors across sectors identified persistent gaps in available training, such as the lack of hands-on, field-based learning opportunities that reflect real-world installation challenges. While classroom and online training can build foundational knowledge, practical experience is essential for building confidence and competence. HVAC contractors identified a need for targeted training on duct design, airflow, and controls, while insulators and energy assessors expressed interest in comprehensive training on building science principles. New construction contractors noted gaps in training on evolving energy codes and emerging technologies. Although the balance between in-house and external training varies by organization, the need for training that is both timely and tailored to the specific work being performed is essential.

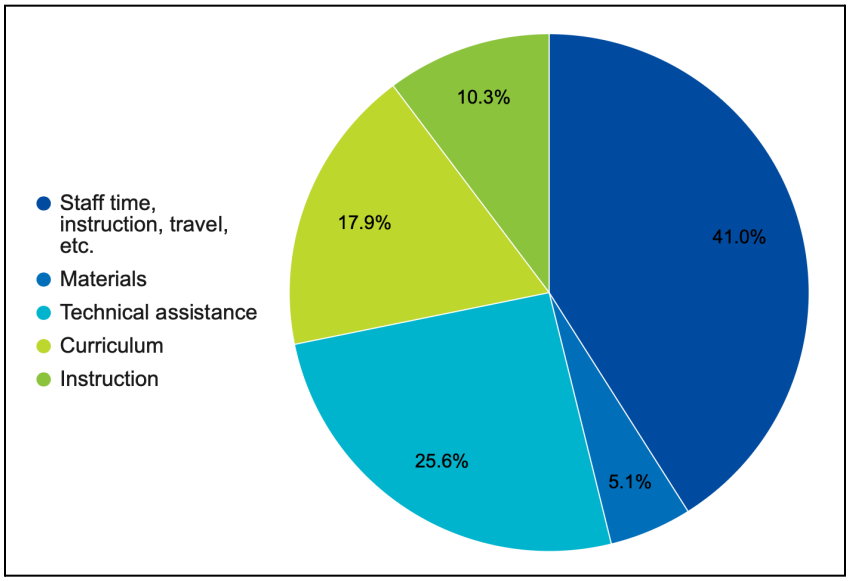
Retention of newly trained employees is also a concern, as employers are hesitant to fund expensive training or certification for entry-level workers who may not stay with the company long-term. As a result, many companies prefer to start with in-house, hand-on training and only invest in formal certification once employees have demonstrated some level of commitment. Some respondents also noted that certification requirements can feel disconnected from the practical skills they need day-to-day, creating friction in investing in those credentials.

Respondents expressed interest in more collaboration between training providers to address some of these barriers and gaps. They encouraged better alignment between third-party training and in-field needs, and emphasized the importance of tailoring content to local building practices, code requirements, and workforce availability. Contractors also recommended expanding partnerships between utilities, manufacturers, and community-based organizations to reduce the cost of training and make it more accessible geographically and financially.

Topic #4. Funding Needs

When asked about the most useful types of funding to cover related training costs, Trade Allies overwhelmingly prioritized support for staff time, instruction, and travel expenses, underscoring the need to alleviate the burden of lost productivity and logistical costs associated with attending various industry training. Technical assistance also emerged as a significant area of interest, particularly among home energy assessment and insulation contractors, suggesting that hands-on support is highly valued. Curriculum development was notably important for HVAC and home energy assessment professionals, indicating a need for high-quality educational materials to enhance training effectiveness. Funding for physical materials was less frequently cited, with the exception of a few insulation professionals who expressed some need in this area. Instructional funding, while generally less emphasized, showed moderate importance within HVAC and residential new construction contractors.

Figure 5. Most Useful Funding to Cover Training Costs



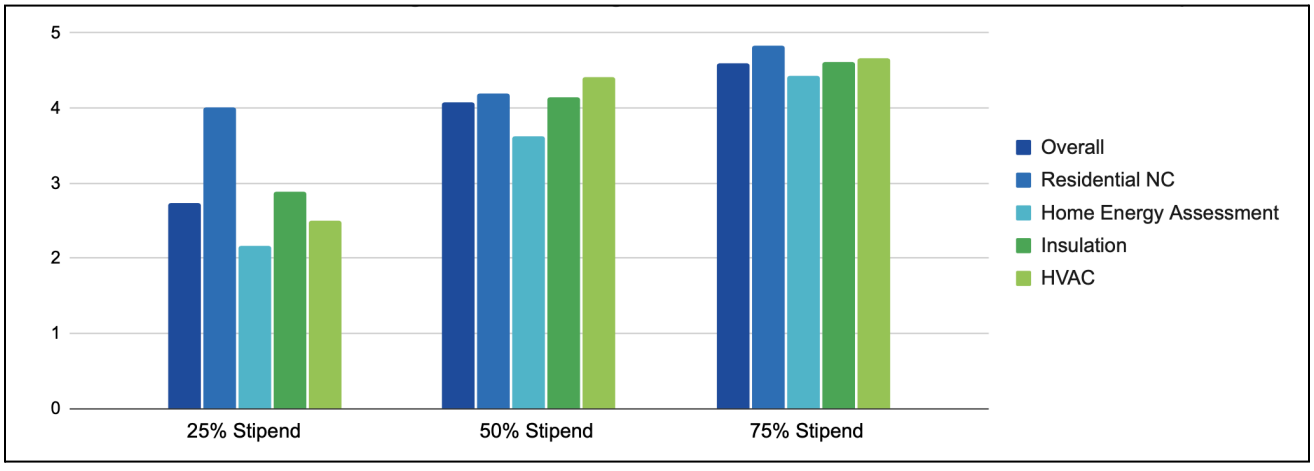
When asked about the likelihood of increasing employee training if partial stipends to cover costs were available, Trade Allies responded positively overall, showing a clear correlation between training stipend size and the likelihood of increasing training across all categories.

Likeliness was rated on a five-point scale, 1 indicating that they are not at all likely to increase training, and 5 indicating a strong likelihood. Overall, respondents rated a 50% training stipend as very likely to encourage additional training, with enthusiasm increasing further at the 75% level. Lower stipend levels (25%) were generally viewed as less motivating, with most rating likelihood closer to neutral or low. This suggests that while some financial support is helpful, more substantial subsidies are needed to overcome practical barriers like lost production time.

The impact of stipend level varied slightly by sector and firm size. Contractors in residential new construction indicated that any level of financial support would help them scale up training efforts. Multiple reported that a 50% stipend would likely result in increased project capacity, especially if tied to in-house training or onboarding of new hires. Similarly, HVAC contractors saw benefits in the form of higher-quality installations, improved customer satisfaction, and greater confidence—even if it didn't translate directly into more project volume. Some noted that full subsidies might reduce buy-in, suggesting that partial investment from the contractor helps to ensure serious participation. Among home energy assessors, responses were more varied. Some said cost is not a primary barrier and that financial incentives alone wouldn't change training behavior. Others saw significant benefit at higher funding levels, particularly for in-house training. Others emphasized that while financial support is helpful, lost productivity from pulling staff off jobs remains the more significant barrier. Insulation contractors echoed many of these same themes. Several rated the 50% stipend highly, but others said it would not be enough to drive new training investment unless it reached 75% or higher. Water heater installers, though a smaller sample size, expressed enthusiasm about funding opportunities and indicated that access to a 50% stipend could enable a 10-20% increase in project volume.

"If there's additional money for training, whether it's a 25%, 50%, or 75% stipend, it would definitely help us to increase what we do." - Residential New Construction Contractor

Figure 6. Likeliness to Increase Training at Training Stipend Levels

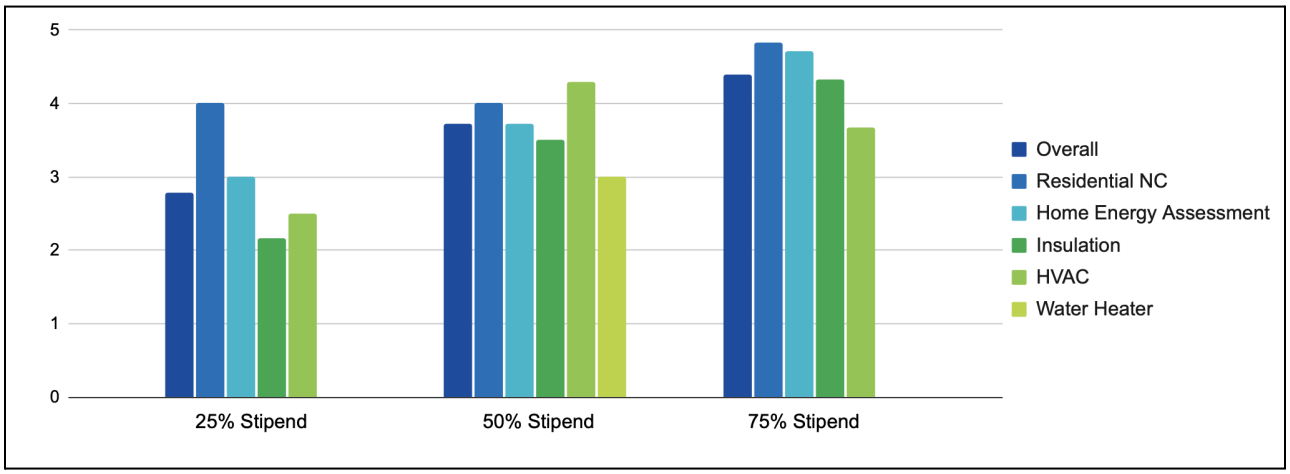


When asked about equipment stipends, stakeholders highlighted the need to balance funding between equipment and training, given the risk of encouraging underqualified contractors if equipment is made too accessible without concurrent emphasis on skills development. Across Trade Allies, there was an overall moderate to high interest in equipment stipends. Insulation contractors showed enthusiasm for stipends that would help acquire tools like spray foam rigs, insulation blowers, and blower door testing equipment. However, some cautioned that these subsidies are more costly and less efficient than training stipends in driving workforce development. HVAC contractors rated equipment stipends as important, particularly for hands-on training with real-world equipment, controls, and advanced systems like heat pumps and hybrid setups. Water heater professionals also valued equipment stipends, specifically for diagnostic tools, indicating such support could enable them to increase project volume.

Residential new construction contractors generally rated equipment stipends highly, with some suggesting the funding would be most impactful if focused on supporting energy raters through tools such as blower doors, infrared cameras, and air leakage detection equipment. Several respondents emphasized the importance of equipment that supports inspections and quality assurance. Home energy assessors expressed mixed views, with some indicating equipment costs are not a major barrier, and others valuing stipends for testing and diagnostic tools, and training facilities. When asked whether such funding would lead to an increase in projects, many respondents affirmed that it could—particularly if it helped them onboard and upskill new hires more quickly. While not every contractor tied training incentives to direct project increases, most acknowledged the connection between better-trained teams, less financial burden, and improved efficiency, consistency, and service quality.

> *"I believe the increase would be in the quality of the installation and satisfaction of the homeowner. This increase in satisfaction might be the real driver behind an increase in Wisconsin Focus on Energy projects." - HVAC Contractor*

Figure 7. Likeliness to Offer Hands-On Training In-House at Various Equipment Stipend Levels



Topic #5. Business Growth

Most respondents reported that their business activity over the past year has remained stable or experienced slight growth. Several contractors noted modest increases in project volume—around 10% on average—with some expecting continued growth in the coming year. Of those aiming to grow, most cited opportunities in expanding into new regional markets and increasing participation in Focus on Energy programs. Some contractors projected growth in the range of 10-30%, with one noting a potential doubling of staff to meet demand. However, growth expectations were often tempered by concerns about market uncertainties and program-related setbacks. Others noted broader economic factors like a slowing economy or rising costs that have impacted demand. Staffing challenges, including difficulty hiring qualified personnel or filling leadership roles also contributed to a more cautious outlook. Additionally, a few contractors indicated they simply expect their workload and staffing levels to remain steady, focused on maintaining current operations rather than pursuing growth. Overall, most businesses expect activity to either remain consistent or increase slightly over the next year.

On average, about 71% of respondents' work comes through Focus on Energy programs, though this varies by company and by trade. Of those interviewed, residential new construction contractors reported the highest share at 95%, followed by insulation, home energy assessment, HVAC, and water heater. Several respondents said that they would like to take on more Focus on Energy projects, but would need more support from Focus to do so. A majority of contractors indicated there is no specific training or certification that would directly increase the number of projects that they complete; instead, increasing staff capacity is the larger need, with several contractors reporting that they could ramp up work if they had additional staff.

"Everyone's clamoring for people. I really have to watch the workload because we can only do so much with what staffing we have." - Insulation Contractor

"I'm suffering from a lack of staff to do the jobs. Right now I have my foot on the breaks. If I had more staff, I could sell bigger jobs." - Insulation and Home Energy Assessment Contractor

"We have leads, so if I had additional staff that were trained properly, I would ramp up. I would be able to sell more products at a cheaper rate without losing any of the quality because I'd be recovering that through additional work." - Home Energy Assessor

Others noted that certain skills—like energy auditing, building performance air sealing, radon testing, or specialized service training—could help improve efficiency or expand services, with several contractors specifically indicating that they would ramp up their workload if this was provided. Some felt that the right training doesn't fully exist for what the market actually needs, pointing out that more installers, not auditors, are the real gap in the market. Builders also stressed that consumer affordability is a larger constraint to business than workforce training.

“We’ve built an army of auditors with nobody to do the installation. If we can develop an army of installers, the work will come.” - Insulation and Home Energy Assessment Contractor

“The more training I get, the better and more confident I am in the field, which helps my business to grow.” - Insulation and Home Energy Assessment Contractor

When asked if they are turning down projects due to staffing, training, or certification limitations, most said no, though a few acknowledged slowing growth or delaying work to avoid overextending. However there are several Trade Allies that reported turning down projects often due to staffing shortages and difficulty finding qualified applicants. Of those interviewed, they collectively reported 43 projects turned down per year due to a lack of staff, and 5 projects per year due to a lack of equipment. Another contractor stated they could complete 50-75 more projects each year if they had more staff. Additionally, one contractor noted that they would have completed 60-75 more projects if not for the complexity of some rebate programs, which has limited their growth, and another contractor stating they would increase the number of projects they work on if this red tape was removed and programs were simplified. Overcoming these barriers could lead to 158-198 new projects being completed each year.

Several Trade Allies expressed a commitment to increasing their workload if provided with additional support. One contractor estimated they could ramp up work by 25-30% (roughly 100 projects), and another reported they could ramp up by 10 projects per year with more niche training. Other contractors reported they could expand their project portfolios by 10-20% if training stipends were offered. Beyond these specific commitments, additional Trade Allies identified that factors like increased equipment stipends, consumer education, and a guaranteed pipeline of projects would justify them hiring additional staff and ramping up work.

“The more knowledge and understanding our guys have, the better they are able to articulate that to customers.” - Residential New Construction Contractor

“If this training goes into our team to help them understand better, it’s another thing that sets us apart as a builder of choice.” - Residential New Construction Contractor

If Focus on Energy is able to help Trade Allies overcome these barriers through targeted support—whether by providing training and equipment stipends, addressing staffing challenges, or simplifying program requirements—it is estimated that the surveyed Trade Allies alone could complete an additional 300+ projects per year. Given that this sample represents only a fraction of the broader Trade Ally network (30 interviewed out of more than 1,000), the potential increase in project capacity across the entire network could be substantially larger.

“A challenge Focus on Energy always comes back to is ‘How do we get more savings out of offering training?’ And the answer is that I can do more work now, I have more qualified staff.” - Insulation and Home Energy Assessment Contractor

Responses suggest that training accessibility and quality improvements could decrease gaps in certification and skills, potentially increasing projects by 10-30% depending on Trade Ally size and sector. Better marketing and demand generation can directly increase consumer interest and project volume by 20-50%, especially in sectors like water heaters and insulation where demand is currently limited by awareness. Equipment and training stipends reduce financial barriers, enabling firms to scale capacity, boosting project completion by 15-35% by allowing more in-house training and quicker staff skill development. This is an area where additional research is needed, as these numbers are simply estimates drawn from the available quantitative feedback.

Topic #6. Designing Solutions

Designing support with attention to trade specialization, business size, location, and other factors can ensure accessibility and relevance, making workforce investments more likely to be long lasting and effective, and lead to a higher number and quality of projects completed. Patterns show that Focus on Energy's role goes beyond simply offering incentives, contractors see Focus on Energy as a key partner in capacity-building. That being said, Trade Allies are interested in more opportunities to collaborate with, and provide feedback to Focus on Energy. Training should be developed and designed with input from frontline workers to meet real job needs, and there should be industry-wide collaboration to expand training options.

> *"Workforce training programs are typically developed from the top down, and not from the bottom up. The bottom is where the workers are. Wouldn't we be more likely to be successful in identifying, recruiting, and training workers if we looked at the issue through their eyes?" - Insulation and Home Energy Assessment Contractor*

Collectively, Trade Allies emphasized that training and program support must be flexible and locally available. Many contractors, especially small-to-mid-sized businesses, face challenges in sending staff to distant training locations due to lost billable hours, travel costs, and seasonal workloads. When asked about the greatest barrier to pursuing needed training and/or certifications, ⅔ of contractors said time. When asked what would be most useful if additional funding was offered to cover related training costs, nearly 50% of respondents selected staff time. This shows that the most effective training support strategies will prioritize reducing time burdens on staff. Trade Allies need flexible scheduling aligned with off-peak seasons, winter and early spring emerging as the most viable training windows for most contractors. Additionally, local or on-site training delivery is crucial to reduce travel burden and costs associated with training. By removing these logistical barriers, Focus on Energy can ensure that support is realistically usable by contractors of all sizes and geographies.

Trade Allies specified a need for reduced bureaucracy and red tape in Focus programs. They recommended simplifying administrative processes by offering direct stipends instead of complex grant applications, reducing paperwork requirements where possible, and creating an online reimbursement system with clear and transparent timelines, reporting, and cost-share requirements. While traditional reimbursement models can be helpful, several respondents preferred stipends that could be used towards in-house training costs, travel, manufacturer-led instruction, or bundled training-and-equipment packages for streamlined access. Others noted the importance of funding that accommodates part-time or seasonal training schedules, which better reflect the constraints of the construction and energy services industry.

"I try to avoid certain projects where the paperwork is way too complex because I don't want to set ourselves up for failure." - Insulation and Home Energy Assessment Contractor

Contractors specified a need for increased technical assistance. They called for a centralized, interactive online portal that would allow them to manage training schedules, register for opportunities, track certifications, and access both Focus on Energy and external training resources in one place. Improved communication was another top priority—contractors want proactive, consistent updates on upcoming training, early notice of program changes, clear communication on program requirements, and guidance to help with workforce planning. They called for enhanced communication channels to help them navigate those requirements, integrate Focus on Energy projects into their business pipelines, and encourage program participation. To further strengthen support, contractors recommended restoring on-site technical assistance visits. These visits would provide opportunities for individualized training, equipment troubleshooting, testing and calibration, learning and troubleshooting software, and offering in-person assistance where contractors can ask questions directly. Contractors also emphasized the value of holding regular in-person meetings to facilitate collaboration, identify challenges early, and refine programs before full rollout. Outreach to Trade Allies to better define the type of on-site technical assistance that would be most beneficial.

Findings suggest that training support efforts should be concentrated on expanding access to in-person, role-specific learning opportunities—particularly those offered by Focus on Energy and by trade organizations and manufacturers. Where virtual or external training is considered, ensure that content is directly applicable to Trade Allies' work and is aligned with program requirements. Contractors emphasized the value of specialized, niche training that fills existing gaps in industry offerings, particularly in technical areas not currently covered by Focus on Energy. Examples include retro-commissioning, advanced controls integration, damper12- 1 controls, compressor sequencing, and programmable logic controllers (PLC) programming—skills that are critical for executing high-impact projects but remain underdeveloped in the workforce. Other priorities included energy rater training for anticipated demand spikes, offering design training for energy-efficient upgrades, and expanding advanced HVAC system training. Contractors need more in-depth courses that go beyond installation basics and that focus on troubleshooting, service speed, and real-world problem-solving. Providing marketing

and sales training for builders and sales teams was also viewed as important in helping contractors to effectively communicate the value of energy efficiency to customers.

"In areas where we've struggled, I feel like we didn't have as much technical depth as we needed to successfully execute projects. Those topics could use more training, which would drive a lot of savings into Focus on Energy programs." - Home Energy Assessment Contractor

"If Focus were going to invest more dollars in training, what would be most helpful is the in-depth and curated training offerings that are specific to the type of projects that Focus wants to see completed." - Home Energy Management and Auditor

Trade Allies called for a stronger regional training network to reduce travel barriers. Suggestions included hosting large, regional training events to maximize participation, as well as partnering with training providers, manufacturers, distributors, and technical colleges to bring sessions closer to rural contractors. They strongly favored hands-on formats, such as traveling learning labs, physical demo equipment, and in-person installer training with robust curricula and experienced customers. Specific recommendations included Focus and manufacturer-led sessions for SnugPro troubleshooting, targeted courses for energy- efficient technologies, and short on-site refresher training for air sealing, blower door testing, and combustion safety. Coordination with local partners to schedule training during off-seasons was seen as essential. Flexibility in choosing trainers was also important, and contractors preferred having options to use trusted trainers such as their manufacturers, rather than being limited to only Focus on Energy-led sessions. Respondents supported the development of a pool of high-quality trainers through a rigorous vetting process to ensure consistent quality. Leveraging retired, experienced industry professionals and contractors with deep field experience was seen as a way to add practical, real-world perspectives that go beyond theory. To further improve access, respondents recommended funding more local training sessions, enabling cost-sharing for staff training with non-competing firms, and prioritizing courses that offered recognized certifications or renewal credits over sales-focused presentations.

"If I have an outside resource that helps me do the training, I can keep my production numbers up, and charge less for customers since I don't have all these outlying expenses." - Insulation and Home Energy Assessment Contractor

Contractors also stressed the importance of developing internal training capacity to ensure that knowledge is retained and applied on the job. Implementing "train-the-trainer" models could empower experienced staff within businesses to deliver ongoing training internally, reducing dependence on external schedules and travel. Focus on Energy could support this approach by bringing training directly to contractors' facilities through on-site, hands-on sessions on new codes, products, and best practices. Providing funding or resources to purchase practice equipment and training tools would further strengthen businesses' ability to maintain a skilled workforce, improve consistency in quality, and accelerate the onboarding of new hires.

Table 1. Trade Ally Need By Business Category

Key:

● = High Importance
○ = Medium Importance
▒ = Not applicable and/or not specified of importance in this sample size.

HVAC = Heating, Ventilation, Air Conditioning Contractor
INS = Insulation Contractor
HEA = Home Energy Assessment Contractor
NC = Residential New Construction Contractor
WH = Water Heater Contractor
LRG = Larger Business
SML = Smaller Business
INT = Employee training done internally
EXT = Employee training done externally

	Business Category					Size		Training	
Needs	**HVAC**	**INS**	**HEA**	**NC**	**WH**	**LRG**	**SML**	**INT**	**EXT**
Expand Local Offerings & Coverage	●	●	●	●	●	○	●	○	●
Practical and Applied Training	●	●	●	●	●	●	●	●	●
Dive into Niches	●	●	●	●	▒	○	○	○	○
Sales and Marketing Training	○	○	●	●	▒	○	○	○	○
Upskilling	●	●	●	●	●	●	●	●	●
Meet Trade Allies Where They Are	●	●	●	●	●	○	●	○	●
Support In-House Instruction	○	●	○	○	▒	○	○	●	▒
Finding Quality Instructors	●	●	●	○	○	○	●	●	●
Instructor Professional Development	○	○	○	○	○	○	○	●	▒
Prioritize Training Accessibility	●	●	●	●	●	○	●	○	●
One Stop Training Resource	○	○	●	○	●	○	●	○	●
Focus Program Technical Assistance	●	●	●	●	●	○	●	●	●
Training Technical Assistance	●	●	●	●	●	○	●	▒	●
Enhanced Communication	●	●	●	●	●	●	●	○	●
Training Stipends	●	●	●	●	○	○	●	▒	●
Equipment Stipends	○	○	○	○	○	○	●	●	▒
Prioritize Accessibility	●	●	●	●	●	○	●	●	●

Training Provider Research Findings

Topic #1. Training Offerings and Students Served

The four training providers interviewed offered a broad range of educational programs spanning skilled trades, HVAC, construction, renewable energy, and industry-specific certifications. Several operate formal apprenticeship programs for electricians, linemen, plumbers, linefitters, and steamfitters. Technical college programs included an HVAC degree, residential construction degree, and coursework surrounding heat pumps, building automation, controls, utilities, and electrification. Common credentials included EPA 608/601, OSHA 10, CPR, fire extinguisher training, and professional HVAC competency exams. Some focus on DSPS-required Dwelling Contractor Qualifier (DCQ) credits, while others emphasize NATE certification and partner with groups like the ESCO Institute. Continuing education is integrated into multiple programs, with additional offerings such as builder credentials, code refresher courses, and industry workshops.

Training formats include in-person classes, hands-on labs, online courses, hybrid models, and on-the-job instruction. Facilities range from classrooms and single-family home labs to advanced HVAC training centers with fully functioning systems, rooftop units, ductless setups, and digital dispatch tools. Hands-on activities cover wiring, system assembly, troubleshooting, equipment rebuilds, and more. This type of training requires a wide range of equipment and consumables, including HVAC tools, meters, furnaces, A/C systems, piping, and mechanical carts. Some providers reported updating or replacing around 20% of their current equipment annually to stay current with advances in technology.

> *"Training would be a lot easier and the life of our equipment would be better if we had a little more space to work with. Right now we are always trading spaces and never have enough space when we need it." - Technical College*

Training providers reported that third-party partnerships support their training delivery and curriculum development. Some non-technical college training providers (as well as some Trade Allies) reported serving on technical college advisory boards to align training with industry needs. Other third-party partnerships included the ESCO Institute, NATE, SkillCat, the Wisconsin Technical Educators Association. Additionally several training providers coordinate with manufacturers, distributors, and industry organizations to offer specialized or product-specific training, while others direct participants to external courses through partners such as Slipstream. Several training providers offer youth apprenticeships, mentorship, job shadowing, and school outreach, visiting dozens of schools each year.

> *"It's signature events like that [Build My Future] with concentrated dates where people come for hands-on training or exploration; that stuff is hugely valuable because students just don't have a chance to explore all of those items in high school." - Technical College*

Training providers serve a diverse range of students, shaped by the nature of their programs and their role in the industry. Technical colleges typically enroll students pursuing their first career or those seeking degrees or credentials. However they also work with those transitioning into new fields and those that are currently employed and looking to advance their skills. Training providers report that technical college HVAC students tend to be pursuing their first careers, while other programs attract both recent high school graduates and older career changers. The independent training provider primarily serves its membership base, most of whom are already employed and are completing continuing education to maintain credentials, although programs are open to non-members. The HVAC manufacturers train a mix of beginners, experienced technicians, sales staff, business owners, installers, and service personnel. Many participants are currently employed and are seeking upskilling through product, installation, or efficiency training. Younger students are also reached through partnerships with high schools, where access to online learning platforms and certification pathways are offered.

Training providers across the board reported enrollment trends as generally stable or increasing. The technical college reports most programs being full, with notable recovery in residential construction and lineworker apprenticeship enrollment following a slowdown during COVID-19. They also reported strong growth in high school-based academies. The independent training provider reports steady growth in both in-person and online training. For HVAC manufacturers, enrollment tends to fluctuate based on industry changes and company culture, though one reported consistent growth across all programs.

Student financial support ranges from financial aid, scholarships, and high school-funded credits at the technical college, and discounted member pricing with the independent training provider. HVAC manufacturers offer free or low-cost training resources, equipment manuals, and technical support, along with partnerships that help provide younger students with free training. Potential stipends for student training were generally viewed as beneficial, though impacts varied. For the technical college—which faced budget barriers—stipends for student education was rated as being highly effective at increasing participation. For other training providers, the impacts of these stipends were lower, one noting that stipends would more likely help retain students rather than increase enrollment.

> *“We can get them [students] here no problem. Once they get here, do they have enough momentum to finish? And most of that is that financial momentum.” - Technical College*

Topic #2. Instructors

Instructor requirements and training expectations vary widely among the four training providers, shaped by institutional policies, industry norms, and workforce realities. The technical college requires instructors to hold at least the same degree as the program they teach, along with additional years of field experience. Previous requirements were that the instructor had to hold one degree higher than what they taught, but this was recently changed to address challenges in recruiting qualified instructors who lacked advanced degrees but had strong industry experience. The independent training provider cited this same barrier in finding qualified trainers, particularly for code updates and other specialized topics. They do not require certifications, and instead focus on securing subject-matter experts who are pre-approved by the state Department of Safety and Professional Services (DSPS) and already have courses ready to deliver. The HVAC manufacturers reported consistent investment in instructor training through national brand and industry events, hands-on product training, and conferences. Instructors are typically salaried, with bonuses tied to class volume.

"It's really challenging to get them [qualified instructors] because you have to find the right person who wants to work in education; and there are people that do, but they have to take a pretty significant pay cut because we are public education, and we can't pay what the industry does. That's our biggest barrier to getting some of that really top talent." - Technical College

Instructor training delivery methods vary by topic and audience, but all training providers agreed that both in-person and virtual formats have value. In-person training is preferred for hands-on or equipment-focused topics, while webinars suit broader or informational content.

When asked what they would find most useful if additional funding was offered to cover any related training costs, all training providers said staff time, instruction, and travel costs. The technical college reported offering tuition cost-sharing or reimbursement for instructor degree completion, as well as the ability to sponsor other training. They reported that a training stipend of any level would be highly impactful, and that they would be very likely to take advantage of it. The independent training provider reported that formal instructor training wasn't supported financially, and found that a training stipend wouldn't be applicable. However, they cited that funding to cover training equipment costs would be extremely useful, as did the technical college. Although both HVAC manufacturers said that funding to cover staff time, instruction, and travel would be most useful, they had different responses for the stipend. One reported low impact of the stipends and said they would be not likely to take advantage of it. The other reported a high impact at any level, and said they would be likely to take advantage of it.

Topic #3. Barriers, Gaps, Changes, and Needs

Looking forward, half of training providers interviewed said they expect business to remain the same over the next year, while the other half said they are planning on growing. Respondents highlighted several future training plans including enhancing online learning platforms to expand access and interactivity, exploring new credentials and short courses focused on efficiency and electrification, and making ongoing updates to match evolving equipment and installation practices. They specified that the most high-impact training topics to date include commissioning, residential construction, high-efficiency HVAC systems (heat pumps, condensers, airflow delivery, and more), and core technical skills like combustion analysis and static pressure movement. Trade Allies indicated intent to grow training in these areas.

Across all training providers, common themes emerged around electrification knowledge gaps, instructor shortages, and the need for stronger industry- education partnerships. Respondents pointed out that knowledge gaps exist around electrification, heat pump technology, geothermal systems, and VRF systems—among both contractors and consumers. Energy efficiency benefits and technology advantages are not always communicated effectively to contractors or customers, creating missed opportunities for adoption. Persistent misconceptions about heat pumps and limited familiarity with newer systems hinder adoption, stressing the need for hands-on demonstrations, clear consumer education materials, and contractor training that equips them to explain the benefits and performance confidently to customers. Educators also found that few instructors are available to teach new code requirements, creating a bottleneck for timely training delivery.

> *“If there is some type of training that Focus feels would be beneficial to the trade – whether it’s consumer-focused or contractor-focused – around improved energy efficiency, things like that could help us all better utilize the limitations of the grid, and we would certainly be supportive and want to be part of that.” - HVAC Manufacturer*

When asked about the greatest barrier to staff pursuing needed training or certification, time was the number one answer. Time away from regular duties and limited budgets restrict instructor participation in professional development. Multiple training providers also brought up instructors, saying that recruiting and retaining qualified instructors remains a persistent challenge, especially those pre-approved by regulatory agencies or experienced in niche topics like code compliance. Additionally, outdated equipment limits the ability to deliver hands-on, relevant instruction—particularly for emerging technologies. Some training providers advocate for manufacturer-specific installation training requirements and stronger state or local licensing standards to ensure quality. This is due to their perception that smaller contractor shops often prioritize price and sales over proper setup and technical training, leading to inconsistent installation quality. Lastly, they pointed out that many high schools lack trades curriculum, limiting early exposure to the industry. Training providers that partner with high schools often rely on self-paced learning content to bridge this gap.

"We've been watching our expenses more closely now than ever, especially since the recent [market] uncertainty and how that's impacting the cost of goods. In my tenure, this is the second most cautious we've had to be about spending money." - HVAC Manufacturer

Looking forward, training providers need more opportunities for peer-to-peer collaboration among training providers to share best practices and improve program quality, support for career exploration events and employer engagement coaching to strengthen school-to-work pipelines, and funding for student tuition, instructor upskilling, and lab/equipment upgrades.

"If there were a resource to help us, it would definitely influence our willingness to take on some more training, the expenses, and burden." - HVAC Manufacturer

Topic #4 Designing Solutions

When asked how support could be structured to be most effective and accessible, educators emphasized simplicity, flexibility, and collaboration as core design principles. Support should be easy to access, as overly complex processes can outweigh the benefits of funding. Cut the red tape by streamlining grants, reimbursements, timelines, and reporting requirements, and offer quick, user-friendly online applications. Training timing and delivery can be optimized by expanding online and hybrid formats while maintaining hands-on training for technical skills, and by offering more training options for contractors in their off-season (early spring and fall).

"The biggest thing to support our instructors or students getting trained is that we need to cut the red tape. Grants are great, but sometimes it takes more internal logistics on our end and it ends up not actually being worth it." - Technical College

To target assistance where it's needed most, results support a focus on instructor capacity, student and technology access, and partnerships. This can be achieved through funding or sponsorship for instructor training, including technical updates (e.g., new codes), instructional skills development, and offering tuition support or low/no-cost training options to remove financial barriers for students. Technology access is critical, and funding support for updated equipment, tools, and lab spaces will ensure that students can train on current industry-standard systems. These efforts can be developed and sustained by building training partnerships with manufacturers/distributors to host targeted training with shared investments.

"We would be willing to collaborate with Focus on Energy to host appropriate, acceptable types of training at our two training centers, and help fund it utilizing some collaborative investments from Focus on Energy" - HVAC Manufacturer

Training design should consider improved job placement/retention as well as improving business outcomes, specifically project efficiency and quality. Results support that stipends

and grants for students and equipment will lead to increases in training relevance and increased participation in training. Employer engagement in education programs should also be encouraged to strengthen the talent pipeline and retention. If Focus on Energy were to increase this training assistance, three out of four training providers said that this would improve their business growth. Results indicate that expanded support for training providers would increase the number of students and instructors trained, boost adoption of energy-efficient technologies, and strengthen partnerships between training providers, employers, and industry groups.

> *"Once employers become more engaged, the relationship they are building with students naturally leads to more students choosing to apply and work for these engaged employers. Focus on Energy can certainly help by encouraging more employers to become involved with technical colleges." - Technical College*

Table 2. Training Provider Need By Category

KEY:

● = High Importance
○ = Medium Importance
▩ = Not applicable and/or not specified of importance in this sample size.

TC = Technical College
IND = Independent Training Provider
HVAC = Heating, Ventilation, & Air Conditioning Manufacturer
SITE = Majority of training is in-house, on-site
ONL = Majority of training is provided online

	Category			Delivery	
Needs	**TC**	**IND**	**HVAC**	**SITE**	**ONL**
Dive Into Training Niches	●	●	●	○	○
Build Training Partnerships	●		●	○	○
Employer Engagement	●				
Finding Qualified Instructors	●	●	○	●	●
Instructor Upskilling	●	●	●	●	○
Instructor Training Stipends	●		●	○	○
Student Training Stipends	●	○	○		
Stipends for Equipment/Technology	●		●	●	
Funding Accessibility	●	○	○	○	○

CONCLUSIONS AND RECOMMENDATIONS

The following recommendations reflect the Trade Allies' and training providers' shared perspectives on areas that provide opportunities to increase Trade Ally capacity, helping them to successfully deliver energy efficiency products and services. Additionally, addressing these concerns would increase training capacity and quality for training providers, helping them to better serve needs of existing professionals and increasing enrollment of entry level positions. Overall, the following recommendations will foster a more robust and skilled workforce that can deliver quality energy efficient products to Focus on Energy customers, helping Wisconsin achieve its energy efficiency goals. Divided among three categories, 19 key recommendations were derived from Trade Ally and training provider interviews:

1. **Training**

    a. Expand Local Offerings with Statewide Coverage: Collaborate with industry and technical education partners to expand regional, in-person training offerings and resources, such as traveling learning labs, physical demonstration equipment, and trade shows. Expand hands-on installer training programs statewide and host regional training events to maximize participation.

    b. Practical and Applied: Contractors need more in-depth courses that go beyond installation basics and focus on troubleshooting, service speed, and real-world problem-solving. Training efforts should be concentrated on expanding access to role-specific learning opportunities, ensuring that content is directly applicable to contractors and is aligned with Focus on Energy program requirements. Additionally, promote training programs in collaboration with training providers that emphasize certifications and renewal credits over sales pitches.

    c. Dive Into Niches: Develop specialized, in-depth training courses that fill gaps in existing industry offerings, particularly in technical areas not currently covered.
        i. Skills that are critical for high-impact projects but remain underdeveloped in the current workforce, such as: retro-commissioning, advanced controls integration, damper controls, compressor sequencing, PLC programming, advanced HVAC systems, engineering, software (e.g., SnugPro), and Energy Rater training to prepare for anticipated demand spikes.

    d. Upskilling: Offer continuous upskilling in areas that are constantly changing such as building codes, emerging technologies, and federal/state efficiency programs. Schedule on-site "refresher trainings" by Focus on Energy representatives on topics such as air sealing, blower doors, combustion safety, and more.

    e. Sales and Marketing: Offer training and/or marketing toolkits that help sales teams effectively communicate the value of energy efficiency to customers.

f. Meet Trade Allies Where They Are: Reduce travel needs by investing in regional, on-site, and hands-on instructional sessions that are tailored by trade type and sized to minimize work disruption. Partner with training providers to bring regional, in-person sessions closer to rural contractors. Design training at a bottom-up approach with input from frontline workers to meet real job needs.

g. Support In-House Instruction: Implement “train-the-trainer” models and shared training resources to increase internal capacity of Trade Allies without excessive costs. These internal mentorship programs will help businesses continue to hire and promote leaders from within, empowering them to conduct more internal training. Additionally, support in-house training capacity by helping contractors purchase equipment and tools relating to training and demonstration.

h. Finding Quality Instructors: Develop and promote a vetted pool of high-quality instructors—leveraging retired and experienced industry professionals and contractors with deep field experience—either through in-house Focus on Energy training or a rigorous vetting process to ensure consistent quality across sessions and add practical, real-world perspectives that go beyond theory.

i. Instructor Professional Development and Upskilling: Offer flexible professional development and training opportunities tailored to instructors’ schedules.

j. Peer-to-Peer Collaboration Among Training Providers: Support coordination between technical college and manufacturer training programs to share best practices, improve quality, host targeted training with shared investments, and to ensure that training and equipment is advanced and comprehensive. This could include facilitating more frequent stakeholder meetings among technical colleges, manufacturers, and other training providers to exchange ideas, as well as providing financial support for peer learning opportunities. These peer exchanges would help training providers identify gaps, align approaches, and raise the overall quality and consistency of training across the state.
    i. Examples include organizing site visits where training providers tour each other’s facilities to see training labs, equipment setups, and curriculum design in practice. It could also mean hosting joint workshops to compare course structures, instructional methods, and industry partnerships.

k. Prioritize Convenience: Support flexible and accessible training formats that are developed around jobsite schedules, specifically offering more training options in off-peak seasons (spring and fall), and outside of standard work hours with shorter courses starting near the end of the work day. Work with training providers to tailor these offerings. Improve communication channels to clearly and proactively inform Trade Allies about upcoming training opportunities. Deliver

training directly to the workforce with minimal red tape and early access. Avoid requirements for training providers and allow contractors to use preferred trainers and manufacturers. Enable shared staff training with non-competing firms to cost-share learning opportunities.

i. Confirm accessibility by collecting contractor feedback after trainings, monitoring participation across formats (seasonal, after-hours, online, in-person), and collecting and reviewing demographic data to ensure that smaller firms and underrepresented groups are able to engage. Use these findings to adjust offerings and continuously improve accessibility.

2. Financial Support

a. Trade Ally Training Stipends: Provide financial support in the form of 50%-75% training stipends that covers staff time, instruction, and travel for in-person training. This will reduce financial burdens of training and lost labor time on Trade Allies and will allow staff to be upskilled more quickly. Stipends should be reimbursed upon training and/or credential completion to ensure participation.

i. Based on employer estimates, the overall average amount spent on training per employee each year was approximately $1,670. This means that a 25% stipend to cover training costs would be an approximate investment of $420 per employee, a 50% stipend would be $840, and a 75% stipend would be $1,250.

ii. Focus on Energy should decide what training providers/programs would be eligible. Suggestions include Focus on Energy-led training, industry or trade-specific organizations, high-quality manufacturers, and retired and/or experienced industry professionals with deep field experience.

b. Financial Support for Instructors: Provide financial support in the form of 25%-75% stipends that cover staff time, instruction, and travel for in-person training, professional development, and upskilling of instructors.

c. Financial Support for Trade Ally Training Equipment: Equipment stipends are critical to building in-house training capacity. Offer stipends to cover inspection tools and equipment, controls equipment, specialized tools, and software. Facilitate manufacturer partnerships that supply diverse and updated equipment for hands-on training, supported by equipment stipends.

i. Specifically, Trade Allies value infrared cameras, air leakage detection equipment, blower door equipment, insulation blowers, blow hoods, insulation vacuums, spray foam, foam board, furnaces, air conditioners, heat pumps, boilers, hybrid or dual fuel systems, and mock-ups that can be used for demonstration.

d. Financial Support for Training Provider Equipment: Equipment funding is essential to delivering high-quality, industry-relevant instruction that prepares students to work on current, real-world systems. Provide targeted funding to ensure access to emerging technologies and updated systems that reflect current industry standards.
    i. Specifically, training providers value HVAC tools, meters, furnaces, A/C systems, piping, mechanical carts, and more.

e. Prioritize Accessibility: Offer financial support for training and essential equipment with simple application and reimbursement processes, reducing paperwork requirements where possible. Avoid complex grant writing burdens and offer direct stipends or discounts that can be used towards in-house training costs, travel expenses, or manufacturer-led instruction. Consider simplified, bundled training and equipment stipends for smaller firms to reduce administrative burdens. Consider creating a user-friendly online reimbursement system/portal with clear timelines, straightforward reporting, and transparent cost-sharing requirements. This resource could be used for training scheduling and registration, grant and stipend management, certification management, and other resources relating to training opportunities.

3. Technical Assistance

a. One Stop Resource: Develop and expand a comprehensive schedule of training offerings for Trade Allies to ensure that they are aware of training relevant to their needs.

b. Training: Enable direct access to technical resources for emerging products and bring back on-site technical assistance visits from Focus on Energy representatives to support real-time training.

c. Enhanced Communication: Provide timely and clear communication to help contractors navigate and understand Focus on Energy programs. Increase technical assistance staffing so contractors can get same-day or near-real-time answers on program rules and requirements. Improve existing communication channels for Trade Allies to be able to raise issues and receive support. Establish regular in-person contractor meetings for Q&A and feedback.

Lessons Learned

Scheduling and conducting interviews with Trade Allies proved to be a notable challenge, primarily due to their busy schedules. Seasonal constraints, particularly the heightened workload of some contractors over the summer, caused scheduling difficulties. Last-minute cancellations due to unforeseen emergencies were common as well. To combat these challenges, we decided to implement more flexibility in the participation model. Stakeholders were given the option to take part in a virtual interview conducted over Zoom or phone call, fill out the interview questions on their own time in a Word document, or respond to interview questions on their own time through a Google Form. This approach allowed for much more participation and flexibility, leading to more Trade Allies providing their feedback.

The research design relied heavily on interviews to capture current conditions and perceptions within the industry. While this approach allowed for rich, qualitative insights, it also came with certain limitations. Some responses may have been perspectives that do not fully reflect broader industry trends, or may have been influenced by individual circumstances, business models, or other motives. Additionally, since we gathered data from a list of interview questions, it is possible that some relevant topics were overlooked or not explored in sufficient depth. These factors underscore the importance of viewing the findings as representatives of the sample, rather than as a definitive portrayal of the entire industry in Wisconsin. In addition, we had a relatively small data set of Trade Allies and training providers that were contacted from a list identified by Trade Advisors. Respondents represent a small portion of the list consisting of Trade Allies that responded to requests. The relatively small sample size, diverse business types, and selection process support qualitative results but limit statistical analysis.

Another challenge was that interviews were conducted with only four training providers, resulting in a smaller and less representative data set. Because of this, the training provider section of the report was structured differently. Instead of presenting quantified results for each question, we focused on summarizing general takeaways and key themes and building from the results of our previous training provider survey.

In contrast, we interviewed 26 Trade Allies, which provided a stronger sample size and a more reliable basis for identifying trends and patterns. With this diversity of perspectives, we faced a challenge in displaying responses in a way that accurately reflected the variety of business types. To address this, we developed generic profiles of Trade Allies to map out common needs and inform generalized, statewide recommendations based on the sample size. These profiles were created after identifying patterns linked to factors such as Trade Ally category, business size, geographic location within the state, internal vs. external training. (e.g., smaller businesses needed larger incentives to make training participation financially worthwhile, equipment stipends had a greater impact on training providers than Trade Allies, and installation contractors needed more technical-heavy instruction than other positions).

However, some perspectives were not well represented, such as water heater contractors. In these cases, we approached findings with caution and avoided making broad conclusions.

Despite the limitation, the enthusiastic participation of Wisconsin Trade Allies and training providers supported the development of a detailed report with specific, consensus recommendations. Additionally, support from the Focus on Energy team in analyzing data, reviewing report findings, and drawing up recommendations proved to be instrumental.

For more detailed and representative analysis, Focus on Energy could conduct additional research and/or dive deeper on several topics identified in this report—particularly those where sample sizes were small, patterns were unclear, or the potential for differing stakeholder perspectives is high. Areas where further research would be beneficial include:

- Perspectives from additional water heater contractors to grow the sample size.
- Perspectives from additional training providers to grow the sample size.
- Potential impacts of Focus on Energy-provided financial investments (such as stipends for training and/or equipment) on contractor's business and project capacity.
- Does training provider size (number of staff members, number of individuals served, etc.) factor into their needs? Do larger training providers have different needs than smaller ones?

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APPENDIX

Conclusions and Recommendations Outside the Scope of Work

The primary scope of the research was to gather additional feedback on workforce strategies to refine priority actions for workforce development, focusing on how to develop and structure workforce training programs that are responsive to market needs and accessible to a diverse range of participants. During data collection, Trade Allies and training providers also shared a wide range of feedback spanning outside of the original scope of work. While these findings were not central to the research objectives, we believe they are still valuable for Focus on Energy to be aware of as they may inform future planning and program development. These findings are as follows:

1. **Empowering Trade Allies**
    a. Support Recruitment: Offer support for recruitment by connecting contractors with job seekers through Focus-facilitated programs, and offering job-matching resources. Leverage Focus on Energy outreach to promote open job opportunities to attract qualified talent, especially in rural and low-income areas.
    b. Trade Ally Recognition: Promote recognition and public visibility of reputable, established contractors to highlight quality and longevity, and to build consumer trust, recognition, and interest in energy efficiency. Consider publicizing the Trade Ally directory more actively, revamping web listings to include business biographies, or developing a centralized platform where Trade Allies can showcase business profiles to increase visibility and connections with customers.
2. **Market Development**
    a. Consumer Education: Grow consumer education campaigns to increase awareness and demand of efficiency benefits, available rebates, electrification, and emerging technologies. Consider launching targeted campaigns to specifically promote efficient water heating, heat pumps, electrification, and more.
    b. Employer Engagement: There is an opportunity for increased employer coaching and engagement with training providers, which can be supported by Focus on Energy. When employers are more engaged with training programs, they build relationships with students and increase the job placement rates.
    c. Drive Market Demand in Rural Wisconsin: Develop a consistent pipeline of projects in rural Wisconsin by driving market demand through consumer education, contractor recognition, and hiring support to grow and stabilize contractor workloads and allow expansion into higher-efficiency offerings.

d. Trades Promotion Among Youth: Increase support, outreach and promotion of the trades as career options. Support early workforce engagement by reengaging with youth apprenticeship programs and trade education programs, especially in middle and high schools, to build local trades talent pipeline.

e. Focus on Energy Rebates: Simplify program processes, removing unnecessary supplier involvement, removing ineffective rebates, and streamlining applications and reimbursement processes. Adjust Focus on Energy incentives to include compensation for upfront design and integration labor, encouraging more complex and higher impact projects. Adjust program savings thresholds to better fit low-income market realities.

3. **IRA HOMES and HEAR Programs**

a. Expand Technical and Software Training: Offer training sessions on new software tools, including live demonstrations and hands-on practice sessions. Ensure software tools accommodate regional variations, such as mobile homes and multifamily units, to support accurate assessments and modeling.

b. Expand Technical Assistance: Develop clear, step-by-step guides or checklists for contractors navigating the programs. Offer more in-depth assistance through live walkthroughs, Q&A sessions, on-demand support, and peer-support forums or networks where contractors can share experiences and solutions related to the programs. Consider regional partnership or mentorship programs that allow experienced contractors to support smaller or new contractors entering the program, also reducing strain on Focus on Energy staff.

c. Enhanced Communication: Provide multiple points of contact within Focus on Energy for contractor support, ensuring questions can be answered promptly. Prioritize communication on anticipated program expansions, such as duplexes or larger multifamily units, so contractors can plan staffing and training needs. Monitor and adjust programs based on ongoing feedback from contractors to balance administrative needs with usability.

d. Streamline Administrative Processes: Review and simplify paperwork requirements where possible to reduce administrative burden, particularly for small businesses. Explore opportunities to accelerate approval and reimbursement processes to support contractor cash flow and ensure timely project completion. Establish a transparent timeline for each stage of project approval and payment so contractors and homeowners can plan accordingly. Consider implementing partial or milestone-based payments to reduce financial strain on smaller contractors. Explore opportunities to automate repetitive or technical submission tasks to reduce errors and save contractor time.

e. Continuous Marketing: Increase outreach and communication to ensure contractors are aware of available programs and potential project opportunities. Identify regions with limited IRA-certified contractors (such as northern WI) and develop targeted outreach or recruitment strategies to expand the pool.

f. Learn from Differences: Recognize differences between small and large contractors in program design and support, including reimbursement processes, paperwork, and training. Tailor program design by including flexible approaches for smaller businesses to participate without disproportionate administrative burden. Continue to apply lessons from HEAR program successes—such as allowing individual contractors to submit their own work for payment—to improve HOMES program efficiency and accessibility.

Trade Ally Interview Questions

1. Describe what type of work your organization does and in what ways, you perform work related to energy efficiency.
    a. What percentage of your project portfolio involves Focus on Energy programs?
    b. Are you interested in increasing the amount of Focus projects in your portfolio? If yes, what types of investments would help to support this? If no, please explain.

2. Over the last year, have you had any major changes to your business? Has business increased, decreased, or remained the same?
    a. Do you anticipate any major changes to business in the next year?

3. Do you find that you are turning down any projects due to a lack of staff, or a lack of training and/or certifications? If so, could you estimate how many projects per year?

4. Do you participate in any of the following certification programs? Why or why not?
    a. BPI Certification
    b. NATE Certification
    c. RESNET® (Residential Energy Services Network) HERS® (Home Energy Rating System) Rater training and certification
    d. Certified Energy Manager (CEM)
    e. Other

5. On a scale of 1 to 5, how important is employee training and/or certification to your organization? (1 – Not important, 5 – extremely important).

6. What training, certifications, or credentials does your company require and/or strongly encourage for employees?
    a. Do these training/certifications differ for new and existing employees? How many of your employees have one of the mentioned certifications/credentials?
    b. Do you see this changing in the next few years?

7. What training and/or certifications, if any, do you offer “in-house”, and why?
    a. How long have you offered these training programs? How have they been modified in the past few years? Do you have plans to modify them in the future?
    b. What organizations or resources have helped you build your training programs?

8. What training and/or certifications do you partner with a third-party to provide, and why?
    a. Do you participate in a formal internship or apprenticeship program?
    b. How long have you used a third-party to provide this training? Do you plan to continue using a third-party to provide this training for the foreseeable future?
    c. What collaborations have been most successful?
    d. Are you aware of other orgs/initiatives who provide relevant training?

9. What does your sequence of training look like?
    a. What training is provided to staff? What skills or competencies are involved?
    b. How often? Is there a specific amount of training (hours) staff have per year?
    c. Is this training provided internally or through a third-party?
    d. Do you encourage or do your employees pursue additional training on their own?
    e. What financial support, if any, does your company offer for training?

10. On average, estimate how much you spend on training per employee each year.

11. How do you measure the effectiveness of your training programs?
    a. What areas of improvement have you identified?
    b. Do you know if your training programs lead to more energy efficiency projects getting completed?

12. What is the most effective thing that your company has done for training?

13. What other strategies, beyond training and certification, could help upskill employees?

14. What has been the greatest barrier for you or your staff in pursuing needed training and/or certifications?
    a. Time
    b. Qualified trainers
    c. Budget
    d. Equipment

15. Which of the following types of organizations would be your priority for providing training to your staff? And what factors influence your decision?
    a. Industry or trade-specific organizations (ASHRAE, Building Performance Institute, ACEEE, labor union, etc.)
    b. Product manufacturers and/or sales staff (Lighting mfgs, HVAC mfgs, etc)
    c. Educational institutions (State universities, technical colleges, etc)
    d. National industry associations (LEED, Association of Energy Engineers)
    e. Local industry partners (Focus on Energy, ?)

16. What training delivery method do you find most effective for you or your employees?
    a. In-person/on-the-job
    b. Virtual (webinar)
    c. Certificate/degree programs
    d. Manufacturer-led
    e. Apprenticeships
    f. Professional conferences/events
    g. Other

17. Where do you see the biggest gaps in workforce training?

18. How can training providers work together more effectively to meet industry needs?

19. On a scale of 1-5 (1 being not at all likely, and 5 being very likely), how likely would you be to increase training if you had access to a 50% training stipend to cover training costs?
    a. What about a 25% stipend? What about 75%?
    b. Would this lead to your business increasing the number of projects you work on? If so, could you quantify that increase? (# of projects, or % increase)

20. On a scale of 1-5 (1 being not at all likely, 5 being very likely), how likely would you be to offer hands-on training in house if you had access to a 50% equipment stipend?
    a. What specific equipment, materials, and other resources/support would you find most desirable/valuable?
    b. How would these investments improve training outcomes? Would this lead to your business increasing the number of projects you work on? If so, could you quantify that increase? (# of projects, or % increase)

21. If a 50% stipend were available for training and/or training equipment, how likely would you be to take advantage of it over the next year?

22. If additional funding was offered to cover any other related training costs, what would be most useful?
    a. Staff time, instruction, travel, etc.
    b. Materials
    c. Technical assistance
    d. Curriculum

23. How can the support be designed so that it is most accessible to your business?

24. If Focus on Energy increased training assistance for your business, would that improve the impact that Focus on Energy has in supporting your business growth?
    a. Stay the same
    b. Improven
    c. Worsen

25. How else do you think Focus can support your business in increasing installation of energy efficient products and other services?
    a. Would you be willing to increase the number of projects you work on if Focus were to provide this support? If so, estimate by how many projects.
    b. Would a guaranteed pipeline of energy efficiency projects help you justify hiring additional staff? Do you need help hiring/ what help would you need?

Training Provider Interview Questions

1. Describe the training your organization provides and in what ways, if any, you perform work related to energy-efficiency.

2. Since you were last interviewed, have you had any major changes to your business? Has your staff size increased, decreased, or remained the same?
    a. Do you anticipate any major changes to business over the next year?

3. What training, certifications, or credentials related to energy efficiency do you offer?
    a. How long have you offered these programs? How has training been modified in the past few years? Do you have any plans to modify these in the future?
    b. What organizations or resources have helped you build your training programs?

4. Describe how your training is delivered.
    a. In-person classroom
    b. In-person labs
    c. Online
    d. Hybrid
    e. On the worksite

5. What types of hands-on training do you provide for students?

6. What does your sequence of training look like?
    a. What skills or competencies are individuals trained on? How many hours of training is provided? When/how often is training provided?

7. Describe the type of students served by your training programs.
    a. Currently employed and receiving continuing ed
    b. Transitioning careers
    c. Seeking a degree/credential
    d. Pursuing a first career
    e. Other

8. In general, describe trends in enrollment for your program(s).
    a. Is enrollment up or down? Which programs? Why do you think this is occurring?

9. Do you track job placement or advancement of your students?

10. What training and/or certifications, if any, do you partner with a third-party to provide?
    a. Do you have relationships with other colleges or training providers?
    b. Do you offer a formal internship or apprenticeship program?
    c. What collaborations have been most successful?
    d. Do you plan on continuing those relationships for the foreseeable future?

11. What equipment and materials do you depend on for hands-on training?
12. What types of training have historically been most impactful for workforce development in the energy efficiency space? Do you foresee these continuing to be impactful?
13. Where do you see the biggest gaps in energy efficiency workforce training?
14. How can training providers work together more effectively to meet the needs of the energy efficiency industry?
15. What support is currently available to your students to reduce the costs of training?
16. On a scale of 1-5 (1 being little to none, and 5 being very high), how likely would access to a 50% stipend for student training costs be to increase participation in your program(s)? What about a 25% stipend? 75%?
17. On a scale of 1-5 (1 being little to none, and 5 being very high), what impact, if any, would access to a 50% equipment stipend have on your ability to offer or expand hands-on training opportunities for students? What about a 25% stipend? 75?
    a. What specific equipment, materials, and other resources/support would you find most desirable/valuable?
18. What other types of support, training or technical assistance, would help you increase the number of students trained and ensure job placement and student satisfaction?
19. What training, certifications, or credentials do you require and/or strongly encourage for your instructors?
    a. Do these trainings/certifications differ for new and existing employees?
    b. How many instructors have one of the mentioned certifications/credentials?
    c. What training/certifications to-date have most benefited your instructor's ability to educate students across your programs?
    d. Do you see this changing in the next few years?
20. What training do your instructors receive and when?
    a. What skills or competencies are individuals trained on?
    b. Is there a specific amount of training that instructors have per year?
    c. Do instructors pursue additional training on their own or do you encourage it?
    d. What financial support, if any, do you offer for this?
21. What training delivery method do you find most effective for you and your employees?
    a. In-person
    b. Virtual (webinar)
    c. Other

22. What has been the greatest barrier for you or your staff in pursuing needed trainings and/or certifications?
    a. Time
    b. Qualified trainers
    c. Budget
    d. Equipment

23. What other strategies, beyond training/certifications, could help upskill your instructors?

24. On a scale of 1-5 (1 being little to none, and 5 being very high), what impact, would access to a training stipend reducing professional development costs by 50% have on your pursuit or support of training for your instructors? What about a 25% stipend? 75?

25. If a 50% stipend were available for training and/or training equipment, how likely would you be to take advantage of it over the next year?

26. If additional funding was offered to cover any related costs, what would be most useful?
    a. Staff time, instruction, travel, etc.
    b. Materials
    c. Technical assistance
    d. Curriculum
    e. Instruction

27. How can the support be designed so that it is most accessible to your organization?

28. If Focus on Energy increased training assistance for your business, would that improve the impact that Focus on Energy has in supporting your business growth?
    a. Stay the same
    b. Improve
    c. Worsen

29. How else do you think Focus can support you in increasing the number of students trained and the quality of training offered?
    a. Would a guaranteed pipeline of students and/or energy efficiency projects help you justify hiring additional staff?
    b. Do you need help hiring/ what help would you need?