



January 26, 2023

US Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585

RE: Request For Information - Preparing Workers and Businesses to Deliver Energy Efficiency and Building Electrification Measures (DE-FOA-0002885)

Organization: The Alliance to Save Energy

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Dear Secretary Granholm:

The Alliance to Save Energy (Alliance) thanks the U.S. Department of Energy (DOE or Department) and its Office of State and Community Energy Programs (SCEP) for the opportunity to provide comment and recommendations in response to the Request for Information (RFI) on preparing workers and businesses to deliver energy efficiency and building electricity measures. The Alliance is a bipartisan, nonprofit coalition of business, government, environmental, and consumer leaders advocating to advance energy efficiency adoption and is a leading voice based in Washington, DC informing federal and state energy efficiency policies and standards. In addition to comments provided herein, the Alliance also participated in joint comment with the Energy Efficiency Strategy Group (EESG), and joins those comments in whole.

Category B: Workforce and Business Characteristics

Current Energy Efficiency Workforce:

In 2021, there were 2.2 million US energy efficiency jobs, equaling 40% of all employment across the energy industry. Over 50% of energy efficiency jobs were in construction; 22% in professional services; 14% in manufacturing; and 9 percent in wholesale trade. By application, 28% worked in traditional heating, ventilation, and air conditioning (HVAC); 6% in efficient lighting; 28% in Energy Star; and 21% in advanced building materials/insulation. More than 70% of energy efficiency workers were employed by small businesses operating in essentially every



county in the U.S.; and 11% of workers are covered by a union or a project labor agreement, which is almost double the national average of 6%.¹

Hiring Difficulty

According to the U.S. Energy and Employment Report (USEER)², the energy efficiency sector reported 80% to 91% of employers having difficulties in hiring. The construction sector had the greatest difficulty, with 91% having a “very difficult” or “somewhat difficult” time securing employees. Energy efficiency and other industries reported that competition for a small number of applicants was the primary reason for the difficulty, followed by difficulty due to insufficient nontechnical skills, or insufficient qualification (certified training or education).

Workforce and Hiring Diversity

The energy efficiency workforce like most in the energy economy, lacks significant racial diversity. Improving inclusion outcomes in the energy efficiency workforce to achieve greater diversity is an important step to pursuing DOE’s equity and Justice 40 objectives.

According to the USEER, White employees equal 76% of the energy efficiency workforce as compared to Blacks or African Americans at 8%; Hispanics or Latinos at 16%; American Indians or Alaskan Natives at 1%; and Asians, at 6%. These racial demographic categories equal 74%, 8%, 17%, 2%, and 7% respectively of the energy industry workforce average.³

Category C: Workforce Development and Business Owner Training Strategies

The recent passage of the Inflation Reduction Act will increase attention and investments in energy efficiency, on both the consumer and corporate levels. The types of investments envisioned will require an increased number of workers, in addition to increased skills and training. While the current market outlook is full of workforce opportunities, the Alliance also anticipates that there will be challenges of equal or greater magnitude.

Strategies for Incumbent Workers

Providing a targeted focus on incumbent workforce development is essential for preparing and retaining existing workers in the energy efficiency industry. An incumbent workforce development focus is an important step in developing a continuous pipeline of qualified

¹ https://www.energy.gov/sites/default/files/2022-06/USEER%202022%20National%20Report_1.pdf.

² *Id.*

³ *Id.*



workers and could be useful in addressing the challenges faced by the industry, including but not limited to the challenge of identifying employees with relevant skill levels.⁴

Training for incumbent workers can occur in various forms, but training relevance and accessibility are key, in terms of the employee's ability to easily take advantage of development opportunities. Employers need to appreciate and understand what skill levels are needed in their sectors, and further have the ability to inventory the skill sets within the existing workforce, resulting in identification of relevant gaps. Funding to assist employers in this effort will be necessary.

In terms of training accessibility, employers must provide clear training pathways for existing employees that are directly connected to anticipated or existing job needs at increased skill levels. This necessarily may require employers to identify external partners, such as colleges and training organizations who can help target, design, and provide the needed training.⁵

According to Third Way, not enough is being done, including public and private investments, to support incumbent workforce development.⁶ Furthermore, training opportunities are not equally available across employer populations, with employees at larger firms having greater access to incumbent training, versus those at smaller companies. Additionally, minority workers have less access to incumbent training, which is similar for employees with lower skills and educational attainment.⁷

The Alliance recommends that DOE consider dedicating an additional percentage of available funding specifically for incumbent workforce development, starting with at least 20%. Although this may be perceived as taking funds away from initial workforce training and development, a focus on incumbent training coupled with initial workforce programming helps to address long-term challenges associated with maintaining a filled pipeline and employee retention.

With the above in mind, DOE should also consider allowing a flexible use of funds, including forms of assistance for training incumbent participants, such as but not limited to childcare, transportation, and other barriers that might impact an employee's participation in an incumbent program. Such assistance could be of particular importance for underrepresented workers in the energy efficiency industry, such as women, who indicate that childcare costs are

⁴ See, <https://nationalfund.org/best-practices/create-an-incumbent-worker-pipeline/>.

⁵ *Id.*

⁶ <https://www.thirdway.org/memo/policy-ideas-for-a-workforce-development-and-wioa-reauthorization>.

⁷ *Id.* Also see, <https://nationalskillscoalition.org/blog/industry-engagement/the-u-s-needs-to-invest-in-training-incumbent-workers-for-an-inclusive-economic-recovery/>.



a primary reason or hurdle to career development.⁸ In the energy efficiency industry, women equal 26% of the workforce compared to men, at 74%.

Identifying the Training Platform—In Person versus Online

As a general rule, workforce development training should be flexible to best meet the needs and opportunities for success of the program participant. Whether a particular program is online or in-person should be determined by a number of factors, including but not limited to the location of the participant relevant to the training site; training costs; outcome trends; and other factors. For example, in-person training targeting rural residents may create an undue burden when traveling to the training location. A similar concern may exist for participants living in urban areas. That said, rural and urban participants may also experience barriers to participation in online training as well, due to internet access and costs.

There are numerous studies comparing various training platforms, i.e., asynchronous versus synchronous versus in-person. There are advantages and disadvantages to each, and the Alliance recommends that DOE not favor a one-size fits all approach but allow fund recipients or training programs to demonstrate the rationale for any chosen platform relative to the training subject matter and the needs of prospective trainees.⁹

Relevant Certifications

The following certifications are eligible to be included in state EAT program plans, per IIJA 40503(a)(1):

- BPI HEP Energy Auditor;
 - ASHRAE Building Energy Assessment Professional (BEAP) certification;
 - Association of Energy Engineers (AEE) Certified Energy Auditor; and
 - RESNET Home Energy Rating Specialist.
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- Per IIJA Sec. 40503(a)(1)(E), DOE may recognize other certifications. We recommend the following:
 - BPI Building Analyst Technician/Professional;
 - BPI Home Energy Technician and Crew Leader;
 - RESNET Rating Field Inspector;
 - ASHRAE Operations and Performance Management Professional;
 - Additional classes and credentials as determined by State Energy Offices.

⁸ <https://www.thirdway.org/memo/policy-ideas-for-a-workforce-development-and-wioa-reauthorization>.

⁹ See, <https://www.betterup.com/blog/asynchronous-learning>.



CST does not list specific certifications or credentials. We recommend DOE designate the following credentials as eligible, beyond the on-the-job training specified in statute per IIJA Sec. 40513(b):

- BPI Building Science Principles Certificate; or other similarly-approved program administered by BPI, RESNET, or ASHRAE for the purpose of inclusion in new or existing Pre-Apprenticeship training programs.
- Association of Energy Engineers (AEE) Certified Energy Manager (CEM)
- Building Operator Certification (BOC)
- Green Professional Building Skills (GPRO)
- ASHRAE Building Commissioning Professional Certification
- Additional classes and credentials as determined at the State level to respond to state- and locally-specific workforce needs.

The CTP does not list any certifications or credentials. States should have flexibility to ensure that credentials that meet their workforce needs are included in the training, and that training and testing fees can be covered by their programs. States should also have flexibility to support credentials and on-the-job training for their residential retrofit programs, which may include training in whole-building energy consumption, carbon footprint, and/or occupant health. The course criteria that was included in the HOPE for HOMES Act of 2021, H.R. 3456¹⁰ offered several considerations that DOE should offer for state programs:

- 30 hours in total course time;
- Training provided by a provider accredited by the Interstate Renewable Energy Council (IREC);
- Alignment with relevant NREL Job Task Analysis;
- Established learning objectives; and
- Assessment of learning objectives (including a final exam), either on-site, remote, or in-field.

That said, DOE should also allow State Energy Offices to set other additional criteria, as needed.

Training Obstacles and Solutions

Participants in workforce development training can face multiple challenges that prevent access to training, beginning with awareness. Additional obstacles that could impede successful program participation include access to transportation, childcare, income, placement, and others.

To help ensure that those who are targeted beneficiaries of available programs are aware of the workforce opportunities, funding recipients and program administrators will need to

¹⁰ HOPE for HOMES Act of 2021, H.R. 3456. <https://www.congress.gov/bill/117th-congress/house-bill/3456/text/>.



implement viable outreach and marketing strategies. These strategies include developing relevant partnerships with community centers, municipalities, places of worship, and others.

To assist with relevant financial obstacles, such as transportation and childcare, programs could incentivize success by providing transportation assistance, or stipends to assist with childcare costs. Another strategy to address these issues is to pay the trainee under the conditions of successful program participation. An additional option is to develop relevant job placement strategies that better ensure trainee placement and retention following training completion. This approach necessarily requires direct partnerships with prospective employers before training begins and requires an understanding of employers' needs.

Finally, another viable strategy is to place program funds directly with an employer, who then agrees to provide the relevant entry-level training on the job. This approach works similar to a cost sharing arrangement where the trainee is an employee whose payroll is partially covered in training costs. That said, IJJA and IRA funds are finite, so leveraging relevant program resources with state, local, utility, and other federal resources will be key to ensuring that sufficient resources are available to spur effective workforce training and placements for multiple participants.

Category D: Accessing Federal Training

Impact of Matching Grants

As a general rule, federal programs have established matching grant requirements as a mechanism to ensure that fund recipients or program participants have skin in the game.¹¹ However, in a recent article entitled *Match Requirements Prevent Rural and Low-Capacity Communities from Accessing Climate Resilience Funding*, we discover that for some, matching requirements are often a substantive barrier to program participation in the first place. The analysis provided by Headwaters Economics points to two separate Government Accountability Office (GAO) reports that identify how matching requirements prevent some communities from participating in climate mitigation solutions. The GAO report recommends that matching be standardized, reduced, or even eliminated for climate hazard mitigation programs.¹²

Although focusing on climate resilience for infrastructure, Headwaters Economics' analysis indicates that matching requirements are driven by project costs, versus an analysis of the community where the project will be implemented. That said, adjustments can be made when statutory flexibility is available, including waivers and lower match percentages. However, even when the match amount is reduced, economic barriers persist.

¹¹ <https://headwaterseconomics.org/equity/match-requirements/>.

¹² *Id.*



When allowable, and particularly in low-income and disadvantaged communities, DOE should consider taking an expansive view of what qualifies as skin in the game as part of a matching requirement. Things to consider include but would not be limited to existing work within a community, investments within the community, the type of work performed, staff dedication to workforce or business development activities, and other factors.

DOE could also simply eliminate matching requirements tied to workforce training that are connected to climate objectives. This approach could be narrowed further to when a program specifically seeks to train and place workers from underrepresented communities.

Category E: Equity and Partnerships

As a general rule, employers are aware of the increased investments and potential market growth as a result of the Inflation Reduction Act (IRA) and Infrastructure Investment Jobs Act (IIJA). These employers have a vested interest in succeeding in these anticipated markets, which includes expansion of their existing workforce. However, training, hiring, retaining, and development of new entrants can be costly. IRA and IIJA training funds can help off-set some of these costs, but additional assistance to current employers should be considered as a possible strategy. As indicated above, payroll cost-sharing arrangements represent one pathway. However, DOE should consider other best strategies, such as incentivizes that ease participation in various workforce development tax initiatives for employers, such as the Work Opportunity Tax Credit.

Partnership Opportunities

After the American Recovery and Investment Act, the Departments of Labor (DOL) and Housing and Urban Development (HUD) worked to create a partnership that would increase the training and employment outcomes for low-income individuals.¹³ The partnership encouraged Public Housing Authorities (PHAs) to work collaboratively with Workforce Investment Boards (WIBs) and the American Job Center network in identifying opportunities to train and place public housing residents into jobs created by PHAs' capital improvement projects. Through American Job Centers, WIBs offered job placement assistance and training services, among other resources, to improve the employment prospects of adults, youth, low-income individuals, and dislocated workers.

As DOE considers key and necessary partnerships for successful training programs in the current context, employer partnerships must be at the top of the list. Additionally, partnerships should be sought with local, state, and regional workforce bodies, colleges/universities, public schools, places of worship, community development organizations, and others. These

¹³ https://www.hud.gov/sites/documents/14_DOL_PUBLICATION.PDF.



partnerships are key to deployment and access of trainee supportive services and can also provide support for employers and placed employees to help ensure greater retention.

Category F: Access to High Quality Jobs

Barriers and Challenges

Please see above, *Training Obstacles and Solutions*. That said, obstacles are often enhanced and magnified when working in low-income and disadvantaged communities where access to necessary resources and support can already be near non-existent. This is particularly true in the minority small business development context, where issues of access to capital are significantly magnified.¹⁴

Encourage Diverse and Inclusive Entrepreneurship

If the intent is to spur development of diverse entrepreneurship in energy efficiency, DOE should expand existing collaboration with the Small Business Administration (SBA) with the objective of prioritizing these types of businesses. That said, it's important to note that of the 27.9 million U.S. small businesses, 22.5 million are self-employed without employees.¹⁵ As a general rule, these microbusinesses often earn less than \$50,000 annually, placing them in the "LMI Entrepreneur" category.¹⁶ Programs designed to develop and strengthen this business type could have a direct impact on a community's economic development goals, and could also positively impact the creation of gainful employment opportunities within low-income and disadvantaged communities.

As an effective strategy to accelerate entrepreneurship in energy efficiency, DOE should coordinate available funding opportunities with other IRA initiatives, such as the Greenhouse Gas Reduction Fund (GGHRF), which is administered through the EPA. DOE and EPA should incentivize development and support of targeted energy efficiency-focused small businesses in low-income and disadvantaged communities, and further consider payroll cost-share arrangements when these small businesses hire and train within the community.

Energy efficiency entrepreneurship could be further enhanced if DOE were to permit training funds to be used for the purpose of training existing workers to become energy efficiency small business owners. To avoid extensive use of existing training dollars, DOE could attempt to link SBA-focused funding for this purpose. That said, DOE could also use available funds to facilitate

¹⁴ <https://www.politico.com/sponsored-content/2021/04/breaking-barriers-for-businesses>.

¹⁵ <https://prosperitynow.org/sites/default/files/PDFs/Enhancing%20Support%20for%20Lower-income%20Entrepreneurs.pdf>.

¹⁶ *Id.*



small business mentorship programming, led by existing energy efficiency businesses of all sizes.

Category G: Other (Primary and Secondary Schools; Colleges/Universities)

In addition to the items identified above, DOE should also focus on making funds available for training and preparing public school students to enter the energy efficiency workforce. The need for energy efficiency workforce training goes beyond those currently participating in—or imminently joining—the labor force. Creating equitable access to clean energy jobs, career awareness and readiness has to start in K12 education.

Career exploration is critical for primary students (3rd-8th grade), to ground the relevance of STEM studies to their personal educational and professional futures. If students don't see the connection between STEM curriculum and their own lives, windows of opportunity into STEM fields can start to close as early as middle school.

Self-assessment tools tied to a broad range of STEM careers can help them discover career fields in targeted sectors (energy auditing, utilities, engineering, HVAC installation, etc.) beyond their familiarity. It's also important that potential careers align with their individual strengths and skills, and with a variety of post-secondary educational pathways.

Secondary students (9-12th graders) benefit particularly from career readiness education, to develop career skills and plan concrete steps in their post-secondary pathways, including college, training programs or apprenticeships in high-demand energy sectors. To fulfill the workforce demands of the clean energy transition, more students have to leave high school ready to participate in the energy sector.

The Alliance to Save Energy has historically partnered with energy industry leaders to provide comprehensive energy efficiency literacy programs since 1996, with a focus on career exploration and readiness. A schools-based approach also allows programs to target particular communities—including hard-to-reach and disadvantaged communities—using publicly available demographic data. The ability to align energy literacy content to existing learning standards helps integrate workforce education into schools' STEM curriculum.

The Alliance has also worked with industry partners and participating school districts to design and provide curriculum that evolves with developments in the energy sector and is responsive to the educational needs of schools and districts. A significant benefit of K12 education programs is the ability to transfer student learning to students' homes and communities. Students are among the most effective ambassadors of efficiency as they are trusted messengers who can speak directly to their families, neighbors, and social networks.



That said, the Alliance has partnered with utilities across the country to support engagement in demand response, flex alerts, time-of-use rate plans, and assistance programs, reaching households that are challenging to engage through traditional outreach methods. As we seek to build broader, more equitable participation in the clean energy transition, K12 programs can serve an important supporting role, including the design of curriculum to prepare high school students to enter the energy efficiency workforce.

To facilitate further growth in this area, DOE should set-aside \$1.5 million of available funding specifically for the development and implementation of a 3-year regional or national K12 demonstration project, as identified above. Based on Alliance to Save Energy models from existing programs, we estimate the ability to complete a robust demonstration project that would reach 120 schools across the country, including 8,280 students in secondary schools who would participate in career path training.

That said, it will be important to focus on the college and university level as well. Historically Black colleges and universities (HBCUs) and other minority-serving institutions are uniquely positioned to build a representative workforce. Their campuses stand to benefit from energy efficiency investment themselves, and their graduates—with the aid of internships, mentoring, and programmatic support—can provide the workforce backbone for a just energy transition. The Alliance has developed an HBCU-focused campus program that trains student Fellows to identify efficiency projects, and work with their administrators, facilities staff, and faculty to implement them and track savings. Program sponsors from the energy sector serve as both project and individual mentors, developing Fellows' project implementation and professional soft skills, and providing a network of professional contacts for post-graduation employment. The DOE should set aside \$100,000 to support a 3-campus pilot.

Conclusion

We thank you for the opportunity to provide comment in response to the Workforce RFI and we look forward to working with DOE as to expand the energy efficiency workforce and related business development opportunities. If you have questions or need additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Vincent Barnes".

Vincent Barnes
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