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DAN BURGESS
DIRECTOR OF GOVERNOR'S
ENERGY OFFICE

January 26, 2023

U.S. Department of Energy, Office of State and Community Energy Programs
1000 Independence Ave. SW
Washington DC 20585

Re: Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) Request for Information – Preparing Workers and Businesses to Deliver Energy Efficiency and Building Electrification Measures, DE-FOA-0002885

To Whom it May Concern,

The Maine Governor's Energy Office (GEO) welcomes the opportunity to provide input on topics of energy efficiency workforce needs and opportunities in Maine. The responses below are intended to highlight the characteristics and needs of energy efficiency and weatherization stakeholders in Maine and encourage the Office of State and Community Energy Programs to consider Maine's context and need for flexible program design and implementation when designing the Energy Auditor Training Grant Program, Career Skills Training Program, and Energy Auditor Training Program.

Should you have any questions about these responses, please do not hesitate to contact Tagwongo Obomsawin, Clean Energy Partnership Program Manager, at tagwongo.obomsawin@maine.gov, or Ross Anthony, Buildings and Energy Efficiency Analyst, at ross.anthony@maine.gov.

We thank you for the opportunity to provide comments and look forward to continued coordination with the SCEP and DOE on critical clean energy and workforce issues.

Sincerely,

A handwritten signature in black ink, appearing to read "D Burgess".

Dan Burgess
Director
Maine Governor's Energy Office

Notes

- All responses from the Maine Governor’s Energy Office are noted in bulleted lists below the RFI question. Responses for a specific program are indicated by the program acronyms preceding the response. Responses that are not preceded by the specific program acronyms can be interpreted as general comments that may apply to each funding opportunity.
- The primary source informing the responses from the Maine Governor’s Energy Office is the Maine Clean Energy Workforce Analysis Report, also referred to as BW Research 2022, which can be accessed here:
<https://www.maine.gov/energy/sites/maine.gov.energy/files/inline-files/2022%20Maine%20Clean%20Energy%20Workforce%20Report.pdf>.

Category A: Respondent type

A1: What type of entity is the organization (e.g., non-profit, state government, company, local government, etc.)?

- State Energy Office

A2: In what city(ies) and state(s) do you live or operate?

- Maine

Category B: Workforce and business characteristics

B1: What job categories in the energy efficiency and residential buildings-focused electrification industries/technologies are the most in demand (e.g., the types of jobs hired most frequently or employers’ highest-priority vacancies)? What is driving this demand?

- In-demand job categories include building science professionals (e.g., weatherization contractors, energy code officials, energy auditors), HVAC and plumbing (e.g., heat pump installers, heat pump water heater installers), electricians. For additional details, see the Maine Clean Energy Workforce Analysis Report.
 - Demand is driven by technology adoption and supportive policies and programs. Maine has long been a national outlier for reliance on oil and is currently the most heating oil dependent state for home heating in the nation with 60.1% of households using fuel oil for their primary home heating source (U.S. EIA). Heat pumps provide energy efficient heating and cooling to Maine’s homes and businesses in addition to decreasing the state’s high reliance on fossil fuels for heating. Pursuant to 35-A MRSA § 10119 signed in 2019, the Climate Action Plan seeks to achieve the required goal for the installation of 100,000 new heat pumps by 2025 with 15,000 new heat pumps being provided to income-eligible households. Additionally, pursuant to 35-A MRSA § 10104 as amended in 2021, the Climate Action Plan seeks to double the pace of home weatherization so that by 2025, 17,500 additional homes and businesses will be weatherized, with an end goal of 35,000 homes and businesses weatherized by 2030. These goals include at least 1,000 low-income residential units per year.
- i. What job categories are the hardest to find qualified candidates for (i.e., the types of jobs most difficult to fill)?
- The top four are (1) managers/supervisors, (2) HVAC/field/repair technician, (4) installation workers, and (4) engineers. See Clean Energy Workforce Analysis Report for additional details.

- ii. What are the key characteristics of these hard-to-fill jobs? For example, is it difficult to retain workers in these jobs (i.e., is there high turnover)?
 - A small applicant pool was the top hiring challenge for Maine’s clean energy employers. Six in ten clean energy employers agreed, either strongly or somewhat, that there were not enough applicants to fill open positions. The top four reasons for hiring difficulty were (1) small applicant pool, (2) lack of experience, (3) insufficient non-technical skills, and (4) insufficient certifications. (BW Research 2022)
- iii. What hourly wages and/or annual salaries (or ranges) are associated with these occupations?
 - Roughly \$50-75K/year. See Clean Energy Workforce Analysis Report for additional details.
- iv. What are the entry qualifications—educational background, related experience, training, skills, and/or certifications—necessary to fill these positions?
 - Current clean energy works typically have a degree of any kind (47%; Associate's = 13%, Bachelor's = 15%, Master's = 19%), a high school diploma or less (36%), and/or vocational technical training or certification (17%). (BW Research 2022)
- v. Are there promotion opportunities within these jobs? Are these jobs part of broader career pathways?
 - 70% of clean energy workers noted that there are satisfied with the opportunities for promotion and higher wagers. (BW Research 2022)

B2: In what locations do you project the greatest demand for workers? What trends and factors are driving that demand? Please provide any available data and sources.

- Likely in the most (e.g., Cumberland County) and least (e.g., Aroostook County) populated counties.

B4: What types of contracting firms should DOE target for workforce development and business owner training (e.g., general contractors, home performance contractors, HVAC or electrical contractors, etc.)? What skills and knowledge are most pressing for these contracting firms to have? How do the needs of contracting firms vary based on the size of each business?

- HVAC, building performance (e.g., weatherization), electrical. These firms would appreciate flexible supports that both allow them to grow and enable them to participate in State and federal energy efficiency programs and administer rebates (e.g., the Efficiency Maine Trust, i.e., energy efficiency implementor for Maine, and the Maine State Housing Authority, i.e., implementor of HEAP, WAP, and related for Maine).

Category C: Workforce development and business owner training strategies

C2: What education and training (i.e., workforce development) strategies are most effective, and why, for new workers in the energy efficiency and residential buildings-focused electrification industries (e.g., online learning, classroom and lab instruction, on-the-job training, hybrid models)? Are there effective training models that target new workers?

- New workers noted offering career pathways and opportunities for advancement, providing opportunities for professional growth and developing new skills, and providing opportunities to go back to school while working to get a higher degree or certification were all important factors in employers. (BW Research 2022)

C3: Is there a need for programs to train the trainer? If so, what strategies are most effective for programs that train the trainer? Who is best positioned to administer these programs?

- **CTP & EAT:** In Maine, there is interest in programs to train the trainer. Our workforce is aging, and a lack of industry-specific knowledge and experience was the second most-significant reason for hiring difficulty among clean energy employers (see BW Research Report for more details). Accordingly, positions for managers, crew leaders, etc. are difficult to fill. With a limited number of instructors nearing the end of their careers and a greater need to train entry-level employees, there is a need for programs to train the trainer – but the scale of such programs should be carefully aligned with actual industry need for workers. Maine's Community College System effectively administers train the trainer programming and typically sources from area employers, but instructors can be difficult to find and hire due to the high demand (and salaries) for experienced industry professionals. Industry associations and labor unions are also effective at administering train the trainer programs in Maine.
- In order to ease the burden of sourcing local trainers and adopting new training programs, it may be helpful to have a standardized baseline of industry accepted trainings and credentials that can be deployed in various learning environments (virtually, in-person, and in hybrid fashion). Additionally, financially incentivizing experienced workers to provide mentorship could further incentivize professional development and increase career satisfaction among workers.

C5: Which certifications or credentials should the EAT, CST, and Contractor Training Program prepare participants for? Please specify the program in your response

- **CTP:** The certifications and credentials that energy efficiency workers need has much in common with other trades. For example, OSHA 10, how to use power tools, how to drive a box truck, how to be a crew leader, how to work Lead Safe, etc. EPA Section 608 Type II or Universal Refrigerant Handling Certification is required for Efficiency Maine registered vendors providing heat pump installation in Maine. Other training and credentialing required for Maine energy efficiency contractors include online or short-duration installer technician trainings provided by registered training providers, and necessary OEM certifications and trainings. Some contractors are also required to attain Building Performance Institute certifications depending on the services they provide. Licensed electricians are also required to perform certain aspects of HVAC and energy efficiency work, and the Contractor Training Program should consider how energy efficiency contractor training & certification may be integrated with existing electrical training, education, and apprenticeship programs. Costs associated with administering and planning and developing training and apprenticeship programs should also be considered.
- **EAT:** Trainings, testing, and certifications offered by the Building Performance Institute should be eligible. Home performance and weatherization professionals including energy auditors also need sales skills to be able to motivate homeowners to commit to a project. Additionally, contractors participating in certain rebate programs will need staff to be trained in the required energy modeling. Costs associated with administering and planning and developing training and apprenticeship programs should be considered.

C6: What obstacles prevent access to training for workers and contracting firms? What type of incentives or return on investment would workers and employers need to invest in the training?

- **CTP & EAT:** Among a sample of Maine energy efficiency employers, few indicated that they faced barriers to offering or working with advanced technologies (high efficiency and ENERGY STAR-rated HVAC technologies, such as hybrid heat split systems and heat pumps, duct-free or ductless air conditioning and heating systems as well as weatherization, building insulation, and efficient lighting), but a few firms indicated that they faced the following barriers to offering or working with advanced energy efficiency technologies. Their reasons were: they are too expensive, employees do not have the proper training or certifications, rebates and incentives take too long to process, there is no demand, and the cost savings are not sufficient. Among these firms that did not offer or work with advanced technologies, 81% of them were interested in participating in programs that would reimburse the costs of training and certifications for employees to work with advanced energy efficiency technologies. (BW Research 2022)
- Clean energy firms in Maine have also indicated the value of workforce subsidies to support the cost of onboarding, recruitment, and training. Energy efficiency contractors indicated a strong interest in funds to reimburse the costs of additional training or certification for employees to work with advanced technologies (high efficiency and ENERGY STAR-rated HVAC technologies, such as hybrid heat split systems and heat pumps, duct-free or ductless air conditioning and heating systems as well as weatherization, building insulation, and efficient lighting). Current workers noted that receiving a technical certification improved their ability to land their current job. (BW Research 2022)
- The largest barrier to career advancement for workers in Maine that may enter the clean energy and energy efficiency fields (surveyed as potential clean energy workers) is finding the time to pursue additional training or education (50%), followed by the cost of training and education needed to support career advancement (42.4%). Training and education access is a challenge for 19.4 percent of respondents, followed by distance to training providers (16.8 percent), and language barriers (1.5 percent). (BW Research 2022)

C7: How could DOE funding be used to support continued education, job placement, and supportive services (e.g., transportation, child and elder care) for the energy efficiency and residential buildings-focused electrification workforce? How can DOE ensure that workers have pathways for growth and well-paying careers within these industries?

- **CTP & EAT:** The Maine GEO and BW Research hosted a Human-Centered-Design Session with representatives from state government (State Energy Office and Dept. of Labor), industry, community college system, and organized labor. Suggestions for provision of wraparound services included stipends, support services such as ridesharing (transportation), childcare, financial support for materials and Personal Protective Equipment, and even housing. To ensure that workers have pathways for career growth, suggestions included removing barriers within existing programs (such as registered apprenticeship), expanding access to points of entry for training programs, and providing program funds for staffing to work with groups that are underserved. (BW Research 2022)

C8: How can DOE-funded workforce programs support career ladders for individuals to ensure they continue to acquire skills and advance their career and wages over time?

- **CTP & EAT:** In Maine, there is an acute need to engage state agencies, training and education providers, organizations, and individuals that provide career navigation services to raise awareness of clean energy careers, credentials and licensure requirements, and corresponding training and education pathways. Development of marketing materials, and marketing activities to raise awareness around clean-energy specific professional development services and opportunities is needed to persuade workers to acquire relevant skills and advance their careers. Additionally, it is important to consider how DOE-funded workforce programs may resolve administrative hurdles preventing participation in professional development or credentialing opportunities, or at least how they may avoid adding additional administrative hurdles on top of programming already underway.
- Energy efficiency contractors indicated interest in funding to reimburse the costs of additional training or certification for employees to work with advanced technologies (high efficiency and ENERGY STAR-rated HVAC technologies, such as hybrid heat split systems and heat pumps, duct-free or ductless air conditioning and heating systems as well as weatherization, building insulation, and efficient lighting). Current workers noted that receiving a technical certification improved their ability to land their current job. (BW Research 2022)

C9: How can DOE-funded workforce programs best help connect trainees with employment opportunities?

- **CTP & EAT:** To help connect trainees with employment opportunities, DOE-funded workforce programs may consider providing direct funding to SEOs to implement clearinghouses for localized clean energy workforce development efforts, resources, and funding opportunities.

C10: How could the EAT, CST, and Contractor Training Program most effectively work together?

- **CTP & EAT:** By providing flexible and foundational training in addition to specialized credentialing, fostering collaboration between program administrators at the State and Federal levels, through intentional program development and alignment, and by supporting foundational career skills training before specialized credentialing.

C12: What are examples of effective existing workforce development programs that meet the purposes set forth for the EAT, CST, and Contractor Training Program?

- **CTP & EAT:** Training services could be provided to States that don't have energy auditing already to set them up for success.

Category D: Accessing federal funding

D1: What information can DOE provide in the FOA that would be helpful to applicants?

- Provide relevant information for relevant entities in layperson language that can be used to get multiple workforce sectors (e.g., public, private, organized, higher education, etc.) easily onboard as a partner.

D3: How can the EAT, CST, and Contractor Training Program dollars enhance funds from other federal, state, local, utility, and private sources? How can DOE encourage applications that draw on non-federal resources to leverage federal funds for maximum impact?

- The intended application of Federal dollars between programs can be highlighted in guidance by specifying the types of allowable expenditures. These programs can further enhance funds from other sources by requiring/encouraging partnerships and allowing partners to provide in-kind match.

D5: Should DOE deliver the Contractor Training Program funds to states using a formulaic or competitive approach? Why?

- Some states already have existing and strong sets of programs, initiatives, or otherwise in place. Others will need help to stand-up or support new programs, initiatives, or otherwise. One avenue could be determining a portion of the funds through a formulaic methodology and the remainder through a narrative provided by states (e.g., 60% formulaic, 40% based upon a narrative demonstrating needs).

Category E: Equity and partnerships

E1: How can DOE design the EAT, CST, and Contractor Training Program to include and best serve individuals from disadvantaged communities and underserved populations in workforce development and economic inclusion programs? How can DOE design these programs to reach rural community members and businesses?

- Consider two or more tools/metrics/etc. for defining equitable implementation areas (e.g., SVI, EJZ, Tribal Nations, income based, etc.).

E2: What are examples of successful existing nonprofit partnerships between nonprofits, industry, and labor organizations? What is needed to develop more partnerships, particularly to reach disadvantaged communities and underserved populations and provide access to career-track training?

- In Maine, research has identified that a centralized organizing body articulating a clear vision is needed to create and sustain key partnerships, holding convenings and hosting roundtables amongst education and industry stakeholders to ensure the proper programming and courses are created (BW Research 2022). The Clean Energy Partnership Program has been established to convene such partnerships to advance the clean energy and energy efficiency industries.
- In order to reach disadvantaged communities and underserved populations, you must develop meaningful relationships that advance the goals and priorities of these communities (both mutually and independently), messaging and value proposition must be clear and fit the priorities of these populations, and other needs must be met to enable underserved populations to access trainings and focus on their career development (e.g., case management, transportation, childcare, financial literacy, social-emotional wellbeing and leadership skills).

E3: What degree of industry representation is needed to ensure that the partnership is developing a strategy that is broadly responsive to industry need within a given region or locality?

- Significant industry engagement and representation is needed, but contractors that have competing priorities and busy schedules need to be incentivized to participate.

Additionally, administrative and program design processes can be confusing and may not provide clear proof that industry benefits from engaging in such processes. Offering stipends or other incentives for participation and ensuring that engagement opportunities are accessible is important and should be considered in program design.

E4: What key equity-aligned review criteria should DOE use to evaluate and select projects funded by the EAT, CST, and Contractor Training Program?

- Consider two or more tools/metrics/etc. for defining equitable implementation areas (e.g., SVI, EJZ, Tribal Nations, income based, etc.).

E5: What level of interest is there in DOE support to forge partnerships with other prospective applicants? If there is interest, how can DOE help?

- The DOE could help by continuing to encourage local and regional partnerships, and by enabling State Energy Offices to partner with and share funds with other State Agencies and Quasi-State Entities. Additionally, the DOE could help publicize and market success stories from states large and small to provide relevant examples for states that have not already developed significant clean energy industry and economic development and workforce policies.

E6: How can DOE use funds to expand business ownership in energy efficiency and electrification fields for people of color, women, individuals with disabilities, veterans, and other disadvantaged communities and underserved populations?

- **CTP:** Some strategies may include providing specific, dedicated funding for training costs for individuals to receive industry certifications, stipends to purchase tools and other equipment, business coaching, and other forms of entrepreneurial support to ensure more sustainable career outcomes for aspiring entrepreneurs. To engage and support underserved populations, marketing, communication, direct outreach, and engagement with schools and wrap-around service providers are all important.

Category F: Access to high quality jobs

F1: How can DOE best design these programs to support the direct and indirect creation of high quality, good-paying union jobs, especially in disadvantaged communities and for dislocated workers?

- Provide flexible funding to support training needed for new/current workers, provide career pathways for a wide variety of clean energy and energy efficiency positions, support on-the-job training and apprenticeships, and marketing services to encourage growth in this sector.

F4: How can DOE encourage diverse and inclusive entrepreneurship in the energy efficiency and residential buildings-focused electrification industries?

- DOE may encourage diverse and inclusive entrepreneurship by (1) funding small and new business support initiatives and (2) consider marketing and engaging service providers to adopt a clean energy focus. Additionally, the DOE can encourage entities to engage with relevant State-level committees or organizations (e.g., Maine's Equity Sub Committee under the Maine Climate Council).

