

Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

*Re: In support of a comprehensive statewide energy efficiency workforce development program for diversity and measurable success*

September 27, 2021

To the Department of Energy and Environmental Protection of Connecticut,

On behalf of a coalition of organizations that support the future of energy efficiency, energy affordability, public health, equity, inclusion, Connecticut's climate commitments and diversity goals, and workforce development, we write today to express our support for the creation of a comprehensive statewide energy efficiency workforce development program.

With a number of existing statewide initiatives through utility- and federally-supported programs, as well as new American Rescue Plan Act funds and imminent Federal Infrastructure Bill funds, Connecticut must take this opportunity to implement and scale its mission to weatherize, remediate, and improve the health and safety of homes in our state. Such efforts, resources, and programs include—

- NEW The Congressional Infrastructure Bill includes funding for energy efficiency and related workforce development—the latter alone adding up to \$2,000,000 available per state.<sup>1</sup> A number of policy analysts have recognized the need to couple such investments with workforce development programs.<sup>2</sup>
- NEW An Act Establishing An Energy Efficiency Retrofit Grant Program For Affordable Housing (Substitute Senate Bill No. 356 Public Act No. 21-48 ) allocates \$7 million of American Rescue Plan Act funds in FY22 to DEEP.
- NEW The Department of Energy and Environmental Protection will receive \$7 million over three years for the Health and Safety Barrier Remediation Program, enabling households to address asbestos, mold, gas leaks, and other hazards so they can benefit from weatherization measures.
- Connecticut's Weatherization Assistance Program (WAP) received \$3,417,529 in federal funds from the U.S. Department of Energy for FY21 and had a rollover for \$5,982,628 for FY19-20, leaving a total budget of \$9,400,157, overseen by DEEP and subgrantees.
- The Low-Income Home Energy Assistance Program (LIHEAP), run through the U.S. Office of Community Services and Distributed through the CT Department of Social Services, received an additional \$1 million for remediating barriers to energy efficiency for low-income households.
- The Home Energy Solutions-Income Eligible (HES-IE) program connects homeowners and renters with the entire pipeline of energy efficiency work. These funds are supplied through a combination of a small levy on energy rates (Combined Public Benefits (CPB) Charge in mills), as well as the Regional Greenhouse Gas Initiative (RGGI).<sup>3</sup> HES-IE has an annual budget of approximately \$20 million.

With one of the highest energy burdens for low-income households in the nation, centering these programs in energy justice is important now more than ever.<sup>4</sup> While there is a wealth of resources for energy efficiency, as well as the remediation work necessary to partake in efficiency programs, it remains that full weatherization rates are limited in the

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<sup>1</sup> CNBC (2021) Senate passes \$1 trillion bipartisan infrastructure bill, sending key part of Biden's economic agenda to the House. August 10. <https://www.cnbc.com/2021/08/10/senate-to-pass-bipartisan-infrastructure-bill.html>

<sup>2</sup> Madeleine Ngo (2021) "Skilled Workers Are Scarce, Posing a Challenge for Biden's Infrastructure Plan." *The New York Times*. Accessed online September 10 at [www.nytimes.com/2021/09/09/us/politics/biden-infrastructure-plan.html](https://www.nytimes.com/2021/09/09/us/politics/biden-infrastructure-plan.html)

<sup>3</sup> The CPB rate is set by the Public Utility Regulatory Agency (PURA).

<sup>4</sup> Union of Concerned Scientists (2019) "6 Maps That Show How Bad Energy Poverty Is and Reveal 2 Ways to Make it Better." Accessed online August 10 at <https://blog.ucsusa.org/joseph-daniel/6-maps-that-show-how-bad-energy-poverty-is/>  
Connecticut By the Numbers (2021) "Connecticut Has Nation's Highest Energy Costs, Analysis Finds." Accessed online August 10 at [www.ctbythenumbers.news/ctnews/connecticut-has-nations-highest-energy-costs-analysis-finds#:~:text=Connecticut%20is%20the%20nation's%20most,%20and%20Alaska%20\(%24366\).](https://www.ctbythenumbers.news/ctnews/connecticut-has-nations-highest-energy-costs-analysis-finds#:~:text=Connecticut%20is%20the%20nation's%20most,%20and%20Alaska%20(%24366).)

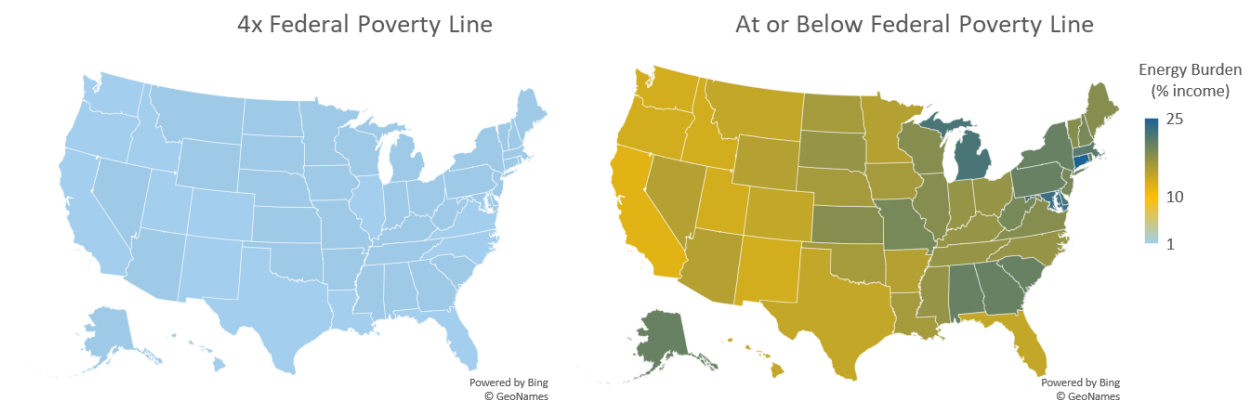
state. Efficiency contractors are desperately struggling to hire qualified workers.<sup>5</sup> Households must wait for months to be seen by a contractor, and once they are many do not make it through the full potential of the program—assessment, remediation, sealing, insulation, windows, HVAC upgrades, and solarization.<sup>6</sup> *The lack of human capital to distribute these programs is visible and cripples the state's efforts.*

Below we outline the critical **Need for Energy Efficiency in Connecticut**, the **Need for Workforce Development in Energy Efficiency** to decrease bottlenecks in services and increase the diversity of our workforce, support for a **Client-Based Comprehensive Building Approach to Energy Efficiency Work**, methods to ensure **Workforce Diversity and Served Neighborhood Diversity**, and **Best Practice Considerations** necessary to ensure that such a program succeeds.

It is important that Connecticut responds to the needs of its constituents at an appropriate scale—by investing in the training necessary to improve building stock and make energy costs more affordable.

### The Need for Energy Efficiency in Connecticut

Connecticut households have the highest energy costs in the nation.<sup>7</sup> While our utility rates are particularly high in comparison to the rest of the country, they are not the highest nor is our climate the most extreme. A significant contributing factor to these high costs is lower building efficiency. The building stock in our state is older—nearly 70% of Connecticut's housing was built before 1980 and nearly 22% was built before 1939.<sup>8</sup> Energy burdens are compounded for those living below the poverty rate, who spend up to 25% of their income on energy.<sup>9</sup> It is important to retrofit these buildings in order to keep up with energy affordability in surrounding states.



Union of Concerned Scientists (2019) 6 Maps That Show How Bad Energy Poverty Is and Reveal 2 Ways to Make it Better.

<https://blog.ucsusa.org/joseph-daniel/6-maps-that-show-how-bad-energy-poverty-is/>

<sup>5</sup> Contractor Technical Advisory Committee (CTAC) Public Meetings.

<https://portal.ct.gov/DEEP/Energy/Conservation-and-Load-Management/Conservation-and-Load-Management>

CBIA (2017) Survey of Energy Efficiency Workforce Needs. [https://www.cbia.com/wp-content/uploads/2017/06/CT-Energy-Workforce\\_17.pdf](https://www.cbia.com/wp-content/uploads/2017/06/CT-Energy-Workforce_17.pdf)

<sup>6</sup> Annie Harper. Efficiency and Equity in New Haven. <https://slidetodoc.com/energy-efficiency-and-equity-in-new-haven-annie/>

<sup>7</sup> Connecticut by the Numbers (2021) Connecticut Has Nation's Highest Energy Costs, Analysis Finds.

<https://ctbythenumbers.news/ctnews/connecticut-has-nations-highest-energy-costs-analysis-finds>

<sup>8</sup> American Community Survey. <https://data.census.gov/cedsci/table?q=housing&g=0400000US09&tid=ACSDP1Y2019.DP04&hidePreview=true>

<sup>9</sup> Union of Concerned Scientists (2019) 6 Maps That Show How Bad Energy Poverty Is and Reveal 2 Ways to Make it Better.

<https://blog.ucsusa.org/joseph-daniel/6-maps-that-show-how-bad-energy-poverty-is/>

High energy burdens have a rippling effect. Outsized energy costs increase families' risk of transitioning into poverty.<sup>10</sup> Households that pay more for energy also have increased risk of eviction due to inability to pay multiple high bills.<sup>11</sup> Similarly, improving energy efficiency has the cascading effect of stabilizing the housing market and improving tenancy.<sup>12</sup> Stipulations to landlords that tie publicly-funded upgrades to maintaining rental affordability for a set time period help to ensure that funds do not bypass low-income renters and increase the incremental benefits of energy efficiency to the public.

Energy efficiency has a direct correlation to both climate change and public health. Buildings account for 40% of emissions across the country, making it a significant source of CO<sub>2</sub> and a significant opportunity to decrease emissions.<sup>13</sup> In addition to carbon, burning fossil fuels for heating also emits particulate matter, which is detrimental to lung and heart health. Studies have found that living in homes that are not properly heated or cooled increases cases of asthma, respiratory problems, heart disease, arthritis, and rheumatism.<sup>14</sup>

Connecticut is also behind other states in energy efficiency efforts. Massachusetts has been prioritizing energy efficiency since 2009 through their stretch code, and recently signed into law a sweeping bill to improve the sustainability of its built environment and address environmental injustices.<sup>15</sup> Connecticut needs this work to be done—we are missing out by not taking the measures to fully utilize energy efficiency resources.

By addressing energy efficiency improvements, programs can have the compound benefits of improving housing quality, increasing housing stability, improving public health, lowering energy bills, and taking action on climate change.

### **The Need for Workforce Development in Energy Efficiency**

Despite the state's resources to distribute energy efficiency services, there is a massive shortage of workers to conduct this work. Energy efficiency contractors have the capacity and the demand to increase their workforce by 50-100%.<sup>16</sup> Yet the funding simply isn't readily available to support the certifications necessary and the time it takes to become effectively trained.<sup>17</sup> The limited workforce is creating a bottleneck to genuine efficiency improvements. Households are waiting over six months in some areas to receive assessment for, let alone conduct, weatherization work. This issue prevents many households from seeing the program through, leading to higher cancellation rates.<sup>18</sup>

Other states and cities have witnessed this firsthand and are swiftly moving to address it. Philadelphia has several programs for remediating homes, conducting energy efficiency improvements, and installing solar, all tied to multiple

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<sup>10</sup> Elevate Energy (2019) Energy Burden and Poverty in the US.

<https://www.cssn.org/wp-content/uploads/2020/12/Do-Energy-Burdens-Contribute-to-Economic-Poverty-in-the-United-States-A-Panel-Analysis.pdf>

<sup>11</sup> The Energy Rights Project (2019) Correlation Analysis of Energy Burden and Eviction Rate.

<https://energyrights.info/content/correlational-analysis-energy-burden-and-eviction-rate>

<sup>12</sup> ACEEE (2016) Lifting High Energy Burdens in America's Largest Cities.

<https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf>

<sup>13</sup> EESI (2021) "Buildings & Built Infrastructure". Accessed August 10, 2021 at [www.eesi.org/topics/built-infrastructure/description](http://www.eesi.org/topics/built-infrastructure/description).

<sup>14</sup> Yale Center on Climate Change and Health (2021) Air Quality Health Benefits of Climate Action in Connecticut.

[https://yph.yale.edu/climate/policy\\_practice/YCCH%20air%20quality%20issue%20brief\\_412616\\_48542\\_v1.pdf](https://yph.yale.edu/climate/policy_practice/YCCH%20air%20quality%20issue%20brief_412616_48542_v1.pdf)

<sup>15</sup> Mass Press Release (2021) Governor Baker Signs Climate Legislation to Reduce Greenhouse Gas Emissions, Protect Environmental Justice Communities.

<https://www.mass.gov/news/governor-baker-signs-climate-legislation-to-reduce-greenhouse-gas-emissions-protect-environmental-justice-communities>

<sup>16</sup> Based on consultant contractor interviews from 2021.

<sup>17</sup> Contractor Technical Advisory Committee (CTAC) Public Meetings.

<https://portal.ct.gov/DEEP/Energy/Conservation-and-Load-Management/Conservation-and-Load-Management>

CBIA (2017) Survey of Energy Efficiency Workforce Needs. [https://www.cbia.com/wp-content/uploads/2017/06/CT-Energy-Workforce\\_17.pdf](https://www.cbia.com/wp-content/uploads/2017/06/CT-Energy-Workforce_17.pdf)

<sup>18</sup> Annie Harper. Efficiency and Equity in New Haven. <https://slidetodoc.com/energy-efficiency-and-equity-in-new-haven-annie/>

training programs for both young adults and existing contractors.<sup>19</sup> New York State, through NYSERDA, is investing \$100 million in Clean Energy Workforce Development, establishing clear career pathways for energy efficiency workers.<sup>20</sup>



*Preliminary estimates of potential workforce demands.*

Connecticut's contractors recognize this issue and are working to address it. Efficiency for All created a Capital Region workforce training program designed explicitly with local employers.<sup>21</sup> All ten of the program participants in the pilot completed training and have already begun working in our state. This type of program is scalable and can be replicated across Connecticut to ensure a sufficient worker and contractor ecosystem to tackle the state's efficiency challenges.

### **Support and Connect Client-Based Comprehensive Building Approaches to Energy Efficiency Work**

We urge the state to take comprehensive building and customer-centered approaches into consideration in tandem with building out a workforce development program. Incorporating comprehensive building programs, customer-centered workflows, and formalized metrics into the energy efficiency deployment processes can improve the reach and impact of new talent.

Two major elements related to comprehensive building approaches include integration of remediation at the front end and electrification and renewable energy generation at the back end of weatherization work. The state has made it clear that overcoming weatherization barriers is an important factor in energy efficiency.<sup>22</sup> The state's older housing stock suffers from a number of weatherization barriers, including the presence of asbestos, lead, vermiculite, knob and tube wiring, and poor structural integrity. These homes must go through remediation before other energy efficiency measures like insulation, window replacement, HVAC, and renewable installation can be conducted. Post weatherization improvements, like building electrification and renewable energy, are also beneficial to incorporate into energy efficiency programs. Not only are these measures necessary to meet the state's goal of 45% greenhouse gas reductions by 2030, but they are also important for improving public health.<sup>23</sup> In fact, a recent Rocky Mountain Institute study found that fossil fuel heating is responsible for 318 premature deaths and \$3.6 billion in healthcare costs in Connecticut alone.<sup>24</sup> Weatherization workforce programs have the potential to support integration of these elements by incorporating a rigorous whole building system approach in designing client services.

Successful comprehensive building approaches are inherently client-based, centering homeowners and renters to ensure that the best options for their bottom-line are pursued. A number of investigations in the state and beyond can be drawn

<sup>19</sup> Philadelphia Energy. <https://philaenergy.org/programs-initiatives/green-training-programs/>

<sup>20</sup> NYSERDA. <https://www.nyserdanv.gov/all-programs/programs/clean-energy-workforce-development>

<sup>21</sup> <https://efficiencyforall.org/wordpress/efa-ct-workforce-program/>

<sup>22</sup> DEEP Weatherization Barrier Mitigation.

<https://portal.ct.gov/DEEP/Energy/Conservation-and-Load-Management/Weatherization-Barrier-Mitigation>

<sup>23</sup> DEEP (2020) GC3 Phase 1 Report and Near Term Recommendations.

[https://portal.ct.gov/-/media/DEEP/climatechange/GC3/DRAFT-GC3-Phase-1-Report-and-Near-Term-Recommendations-12\\_23\\_2020.pdf](https://portal.ct.gov/-/media/DEEP/climatechange/GC3/DRAFT-GC3-Phase-1-Report-and-Near-Term-Recommendations-12_23_2020.pdf)

<sup>24</sup> RMI, *What Is The Health Impact Of Buildings In Your State?* Accessed September 1, 2021.

<https://rmi.org/health-air-quality-impacts-of-buildings-emissions#CT>

on to inform workforce development needs to support such approaches. DEEP itself has conducted a number of reviews, including those required for compliance conditions of the Utilities.<sup>25</sup> State-based concierge services like I Heart My Home CT, referenced by the Utilities in its Compliance efforts, bring local familiarity, technical energy modeling, and a customer advocate role to efficiency work. A 2021 DEEP investigation showed that concierge programs have a demonstrated impact on depth of savings, timeframe, and satisfaction for energy efficiency clients. Another example includes the Total Energy Pathways (TEP) approach to retrofits (outlined by the Northeast Energy Efficiency Partnerships (NEEP)), which bundles energy efficiency, electrification, and renewable energy into one package.<sup>26</sup> A version of this program, the Zero Energy Now (ZEN) Program, is currently ongoing in Vermont.<sup>27</sup> While Energy Efficiency Board meetings have indicated the importance of ensuring scalability and cost coordination for such a program in Connecticut, the popularity of the pilot is demonstrative of the importance of designing programs that place outcomes for residents first.<sup>28</sup>

## Ensuring Workforce Diversity and Served Neighborhood Diversity

Diversity is a priority for both workforce development roles and for neighborhoods serviced by energy efficiency work—so all Connecticut residents can see themselves reflected in the work being completed in their own communities.

Minorities are underrepresented in the traditional green building trades.<sup>29</sup> The diversity of Connecticut's clean energy workforce is lower than the national average for Hispanic or Latinx workers (10.1 percent compared to 16.5 percent) and Black or African American workers (5.8 percent compared to 8.4 percent).<sup>30</sup> It is important that Connecticut prioritize training residents of color, track placement with employers, and contract with small and minority owned businesses located in energy burdened communities in any workforce development effort.

While Connecticut's traditional green building trades lack diversity as a whole, there remains a critical mass of Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) in energy efficiency-related contractors. For example, Connecticut has strong MBE and WBE representation in the hidden energy efficiency step—remediation.<sup>31</sup> By taking a whole building approach to program development and integration, Connecticut's energy efficiency and workforce development efforts could immediately begin to support diverse small contractors.

In addition, low-income households—disproportionately reflected in neighborhoods of color—have historically faced a number of obstacles to utilizing available funds for energy efficiency.<sup>32</sup> For example, low-income residents have the highest rates of weatherization barriers—23% of Home Energy Solutions Income-Eligible homes have some form of barrier versus 9% of conventional-rate Home Energy Solutions homes.<sup>33</sup> As new funding is available this year for barrier remediation, the state now has the opportunity to rethink its approach. By designing comprehensive programs to grow

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<sup>25</sup> EEB Residential Committee, Concierge Service Review April 14, 2020.

<https://app.box.com/s/w441sots5x2qoxq28vzpyisaa8fo81oa/file/798962382547>

Compliance Conditions for the 2021 Plan Update –Residential Sector, Based on March 4, 2021 DEEP Determination.

<https://app.box.com/s/9agmiwuygv5fjlrhu03vng6sh1z791s/file/785172262217>

NEEP, *Total Energy Pathways*.

[www.neep.org/home-energy-labeling-information-exchange-helix-and-residential-labeling/total-energy-pathways-tep](http://www.neep.org/home-energy-labeling-information-exchange-helix-and-residential-labeling/total-energy-pathways-tep)

<sup>26</sup> NEEP, *Total Energy Pathways*.

[www.neep.org/home-energy-labeling-information-exchange-helix-and-residential-labeling/total-energy-pathways-tep](http://www.neep.org/home-energy-labeling-information-exchange-helix-and-residential-labeling/total-energy-pathways-tep)

<sup>27</sup> Vermont, *Zero Energy Now*. [www.zeroenergynowvt.com](http://www.zeroenergynowvt.com).

<sup>28</sup> See comments made during EEB Chat Log July 14, 2021 for reference.

[www.app.box.com/s/3swj3ax1rv2utbk1gki1zgpfh4k43t8v/file/834286970325](https://app.box.com/s/3swj3ax1rv2utbk1gki1zgpfh4k43t8v/file/834286970325)

<sup>29</sup> <https://www.greentechmedia.com/articles/read/solar-energy-has-a-diversity-problem>

<sup>30</sup> Green Bank Board of Directors by BW Research, Sep. 2020, available online at

<https://www.ctgreenbank.com/wpcontent/uploads/2020/11/2020-Connecticut-Clean-Energy-Industry-Report.pdf>

<sup>31</sup> Based on select review of municipal SBE/MBE/WBE contractor lists.

<sup>32</sup> Commission on Human Rights and Opportunities (2021) CONNECTICUT ZONING AND DISCRIMINATION.

[portal.ct.gov/-/media/CHRO/Publications/CHROs-Zoning-and-Discrimination-2021-Report.pdf](https://portal.ct.gov/-/media/CHRO/Publications/CHROs-Zoning-and-Discrimination-2021-Report.pdf)

<sup>33</sup> <https://portal.ct.gov/-/media/DEEP/energy/ConserloadMgmt/Weatherization-Barriers-Workshop-1-Slides.pdf>

the energy efficiency workforce, increase worker diversity, and connect with existing remediation professionals, Connecticut can strategically develop effective, community-based networks to overcome underlying hurdles for low-income residents and increase uptake among clients once left out of the efficiency process.

### **Best Practice Considerations**

There are a number of best practices in establishing workforce development for energy efficiency programs—particularly programs that address the needs of low-income households. The American Council for an Energy-Efficient Economy (ACEEE) has several resources with high-level takeaways and in-depth recommendations for utilities, state agencies, and program administrators, including the following—

- Focus on supplier diversity and inclusive procurement for energy efficiency programs
- Increase the pipeline of workers by offering training for both contracting firms and students
- Use state policy to advance job training and contractor diversity programs
- Forge partnerships with skills-training providers and state agencies
- Co-deliver training for energy efficiency and renewable energy technologies
- Keep programs small so that individual needs can be met
- Provide wages to trainees
- Collect data and evaluate program performance<sup>34</sup>

Thank you for your time, and we look forward to the prospect of continuing to engage with you on this matter—to quickly and effectively grow the workforce needed in energy efficiency in the state.

Sincerely,

CMC Energy Services  
Collaborative Center for Justice  
Connecticut Citizen Action Group  
Connecticut Green Building Council  
CT Roundtable on Climate and Jobs  
Dream Corps Green For All  
Eastern CT Green Action  
Efficiency For All  
Green Eco Warriors  
KAO Visuals  
Neighborhood Housing Services of Waterbury  
Neighborhood Housing Services of New Haven  
Sierra Club Connecticut  
Windsor Climate Action

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<sup>34</sup>ACEEE (2020) Expanding Opportunity Through Energy Efficiency Jobs: Strategies To Ensure A More Resilient, Diverse Workforce. <https://www.aceee.org/sites/default/files/pdfs/u2010.pdf>