Energy Poverty Recognition and Responses:
Pathways towards a Just Transition for Workers and Communities
Prepared for "Go Green Fast: Global Lessons for the Clean Energy Transition"

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Abstract

This memo highlights energy poverty recognition and responses in the United States. While policies supporting energy protections have been in place for years, the COVID-19 pandemic of 2020 unveiled the entrenched environmental and energy injustices that threaten public health at the household level and inspired energy protection responses to address pandemic-caused economic hardship. I uplift and share knowledge and experiences from a community-based organization that is committed to eliminating energy poverty through home weatherization and solar installation workforce development in Detroit, MI. I illuminate opportunities and challenges for communities to engage in the clean energy transition and envision their energy futures.

Energy Poverty in the United States

In 2020, more than 30 percent of U.S. households were challenged in meeting their energy needs (U.S. EIA, 2022). Energy poverty disproportionately afflicts lower-income, Black, LatinX, Indigenous, and elderly adults (Drehobol et al., 2020). Previous research has illuminated the spatial, racial, and socioeconomic disparities in energy consumption, efficiency, and affordability (Reames, 2016; Bednar et al, 2017). A recent study revealed that energy poor households often limit their energy use behavior based on outdoor temperatures (Cong et al., 2022). Increasing energy efficiency could lower energy burdens for low-income households (Drehobol et al., 2020), however, weatherization alone is insufficient to address all issues facing low-income households (Hernandez and Philips, 2015). Residents vulnerable to energy poverty often also lack access to hot water, lighting, other domestic needs.

Another important equity dimension is the fact that houseowners are more likely to have energy efficient appliances compared to renters. Davis (2011) shows that renters are less likely to report having energy efficient appliances such as refrigerators, washers, and dishwashers. The author finds that differences remain even after controlling for important variables such as income, demographic characteristics, and energy prices. This suggests that house ownership is an important factor contributing to inequities in energy efficiency adoption and its potential consequences, like higher utility bills.

In order to effectively scale low-income energy efficiency initiatives, economic, social, health and safety, and incomplete data barriers must be removed (APPRISE, 2018). Targeted energy efficiency measures would support the reduction of low-income energy burdens. Additionally, investments in holistic energy efficiency for low-income families benefit all Americans by lowering energy bills for customers most at need, saving energy, and creating more resilient communities (APPRISE, 2018).

Unemployment, Energy Poverty, and towards a Just Transition

According to the U.S. Energy Information Administration's (EIA) 2020 Residential Energy Consumption Survey, out of 123.53 million households, nearly 13 percent of households identified as unemployed (16.03 million) (U.S. EIA, 2022). However, across eight annual income groups surveyed, more than 50 percent of households that experience any form of energy insecurity are unemployed (See Figure 1.)

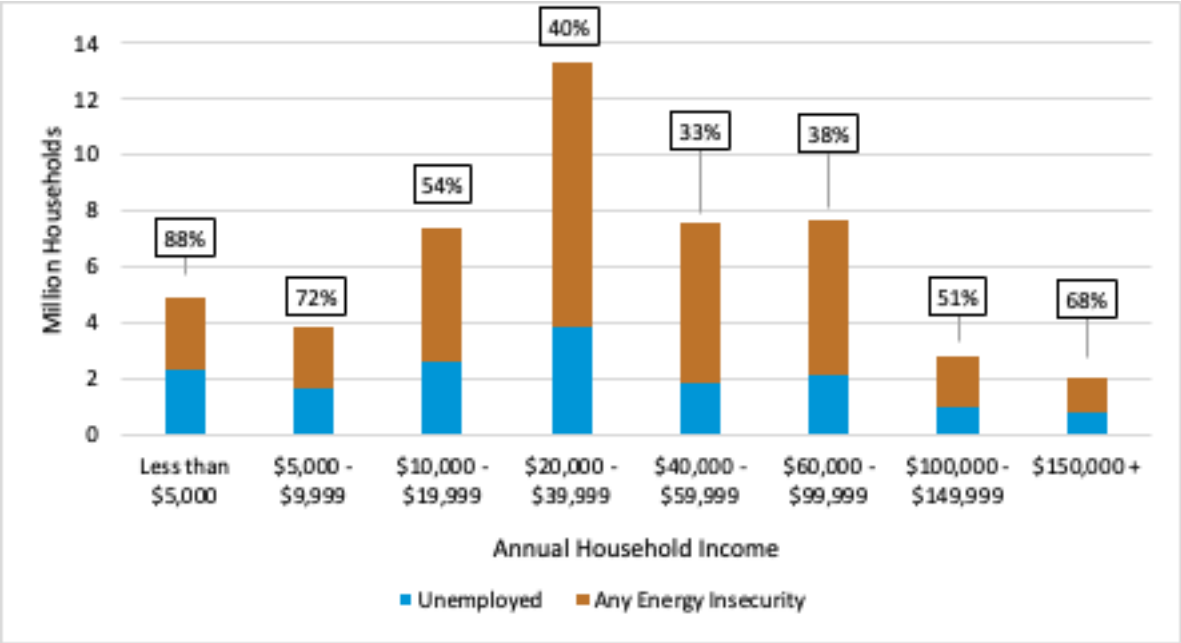

Figure 1: Percent of Unemployed Households that Experience Energy Insecurity
Source: U.S. EIA 2020 Residential Energy Consumption Survey

Research has well documented the adverse effects of unemployment on a person's wellbeing (Cole et al., 2009). Conversely, in addition to increased household income, employment has demonstrated benefits such as social inclusion and mental well-being (Dunstan et al., 2017).

Increasing overall well-being in the energy space (Rao and Wilson, 2022) amongst many other reasons warrants a "Just Energy Transition" for workers and communities. A Just Transition is, "a principle, a process and a practice. Just Transition is a vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy[1]". The energy transition is ripe with opportunities to combat social exclusion, the negative effects of unemployment, and experiences of energy insecurity.

[1] Just Transition Alliance https://climatejusticealliance.org/just-transition/

Clean Energy Employment Opportunities

Energy efficiency or household weatherization improvements save energy, lower fuel bills, and improve the health and safety of low-income occupied dwellings (Brown et al., 1994). Energy efficiency accelerates and plays a critical role in the clean energy transition, providing a number of diverse jobs and supporting diverse energy communities. For example, a 2021 report modeled an investment in U.S. homes and found that if all 111 million residential units constructed before 2000 were retrofitted, there would be over a million full-time jobs for a decade, $66 billion annual savings on energy bills, and 242 million tons of CO_2 reductions annually (Energy 4 the Future, 2021). However, "at the current rate of investment, it would take 500 years to make America's existing residential buildings efficient and resilient" (Nadel and Hinge, 2020). There is an opportunity to center equity and justice through deep decarbonization in energy efficiency.

One of the most promising benefits of energy efficiency is job creation. In 2021, the United States Department of Energy estimated that energy efficiency employed about 2.2 million people in the design, installation, and manufacturing of energy efficiency products and services. (US DOE, 2022). Energy efficiency workers are omnipresent across the United States, covering nearly all (99.8%) counties in the country (Energy 4 the Future, 2021). In the United States alone, the International Energy Agency (IEA) estimates 2.4 million energy-efficiency related jobs pre COVID-19 (IEA, 2020), representing the largest part of the entire energy sector (Energy 4 the Future, 2021). Measures taken to improve efficiency in cities require intensive labor. Accordingly, $1 million USD spent on energy efficiency would generate on average six to 15 jobs based on the sector (IEA, 2020). Building retrofits in existing homes, schools, hospitals and other municipal facilities could generate a sizeable number of jobs, "activating local value chains and boosting the economy" (IEA, 2020). Globally, employment in building and industry energy efficiency accounts for 10.9 million people, with 2 million of them in North America and half of the global total are in the construction sector (IEA, 2022).

Although workforce needs vary by state, energy efficiency jobs take multiple forms within the manufacturing, construction, and professional sectors. Energy efficiency workers enable heating and cooling system upgrades, secure building enclosures, manufacture Energy Star equipment/appliances, and install advanced lighting systems. Jobs also range from the development of insulation material and heat pumps, to engineers, designers and architects, and various construction workers. Moreover, the energy efficiency workforce offers multiple pathways for career advancement and development (U.S. Department of Energy, 2021).

Workforce Development and Challenges

Employment opportunities and workforce development in general offers trainings and skill development that prepares people to command more in the labor market despite disparities in access to higher educational levels.

Despite the rapid growth the clean energy sector is experiencing and projected to have over the next decade, organizations and companies may face a lack of skilled laborers that are congruent with required skillsets for where a project is located (IEA, 2022b). To develop the skilled

workforce required for the new energy economy and a just transition, education, training, and certifications must be expanded. To address this gap, several Weatherization Training Providers exist in the U.S. to support the energy efficiency workforce. The U.S. Department of Energy provides a Weatherization Standardized Curricula that organizations can use to guide their training programs. Nonetheless, despite the presence of weatherization training centers, the National Association for State Community Services Programs' (NASCSP) Weatherization Assistance Program Funding Report for Program Year 2021 estimates that WAP funding from DOE and other leveraged sources weatherized only 64,024 units in 2021. About 30% of U.S. households, or 38.6 million households, are eligible for weatherization. This demonstrates that only 0.16% of low-income households in the United States are receiving essential weatherization services each year.

My engagement with the Energy Insecurity Working Group, a partnership between the Maricopa County Department of Public Health, Unlimited Potential, Arizona State University and Columbia University has revealed that there is a shortage of skilled-laborers that are qualified to deploy much needed energy efficiency and weatherization upgrades to homes. This challenge demonstrates the importance and urgency to increase the weatherization workforce.

Inflation Reduction Act

The Inflation Reduction Act, which was passed in 2022, is a significant law that provides support for various clean energy investments. It includes several programs that build upon the investments made in the Bipartisan Infrastructure Law. These programs consist of expanding the Weatherization Assistance Program to enhance home energy efficiency for low-income families with $3.5 billion, providing $250 million for the Energy Efficiency Revolving Loan Fund Capitalization Grant Program, which enables states to offer loans and grants for energy efficiency audits, upgrades, and retrofits to buildings, and allocating $550 million for the Energy Efficiency and Conservation Block Grant Program, which aims to help states, local governments, and Tribes in implementing strategies to lessen energy consumption and enhance energy efficiency.[2]

On February 14th, 2023, EPA Administrator, Michael Regan announced that, "$27 billion Greenhouse Gas Reduction Fund, a measure within the Inflation Reduction Act designed to spur clean energy investment and deployment in low-income and marginalized communities. The grant-making process announced by the EPA today allows this important work to begin moving forward toward delivering jobs, lowering burdensome utility costs, and cleaning the air in these communities." These types of investments are important for overall community personal and economic development in the energy transition.

Justice 40

The Justice40 Initiative was established in Section 223 of Executive Order 14008, Tackling the Climate Crisis at Home and Abroad to confront and address decades of underinvestment in disadvantaged communities. It is a federal government-wide initiative that directs 40 percent of

[2] https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf

the overall benefits of certain Federal investments, including clean energy and energy efficiency to disadvantaged communities. Disadvantaged communities are defined by The Office of Management and Budget's Interim Guidance as: (1) A group of individuals living in geographic proximity (such as a census tract); or (2) A geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions.

Pathways Forward: Local Community Solutions

We Want Green, Too is a non-profit organization that aims, "to assist, veterans, particularly those with PTSD to reimage themselves and their communities through energy efficiency work" says Executive Director, Gloria Lowe in their recently released documentary, *The Power to Rebuild*. For 14 years, We Want Green Too has partnered with the East Side Community of Detroit. During this time, they have partnered with the Village Community Development Corporation to redevelop the diverse community and re-establish the safety and security of the area through education and training for green job readiness for unemployed folks in the area. They find that crime diminishes in areas that employ its own residents.

They are constructing a pipeline of nationally certified energy, solar, weatherization, and building construction professionals required for the clean energy transition. They envision their energy and environmental justice projects as pathways to enter the clean energy workforce, eliminating barriers that their community members often face. They train their community in National and State OSHA (Occupational Safety and Health Administration) Construction Safety compliance, including: OSHA 30 Construction, OSHA Scaffolding, and NABCEP (North American Board of Certified Energy Practitioners) certifications. Moreover, they develop and assess construction field literacy ensure best placement in the growing green and technological workforce.

In partnership with the Michigan Environmental Justice Coalition, Soulardarity, and the University of Michigan, We Want Green Too conducted an Energy Burden Study to understand the impact of energy costs on their residents towards increased energy democracy. Their study revealed that the average energy burden for Wayne County (Detroit), Michigan residents was 15 percent, where greater than six percent is often referenced as unaffordable. Moreover, they found that more than 20 percent of respondents were always or usually worried about having enough money to pay for their energy bills. Nearly half of respondents with energy burdens greater than six percent were always or usually worried about having enough funds to support their energy bills.

Building off of data, research, and engagement with their community, We Want Green Too is leading the charge to reimage the physicality and workforce of their communities. We Want Green Too centers perspectives of BIPOC Veterans by supporting their personal and professional transformation journey to environmental literacy and green job readiness. They encourage and take a holistic developmental approach through the transformation of residential buildings within their own community.

They center community in each of their projects, listening to the concerns and interests of their neighbors and trainees to influence the decisions made regarding their lives and the development of neighborhoods and job creation infrastructure from the inside out. They are accountable to their community and trainees' personal and professional growth and development. Collectively, their community represents over 80 residents and 20 administrative employees.

Their iCAN program continues to affirm within returning Veterans that they can accomplish anything with their new lives. They believe that their efforts will educate and empower community with the information and tools required to support local Detroiters and beyond in addressing energy related injustices, including the reduction of residential energy burdens.

Residents in the community have come to trust We Want Green Too because of their integrated engagement, availability to support Seniors with housing concerns, and by witnessing their work in renovating and upgrading housing stock in the area. They acknowledge the positive presence and credibility through their continued engagement in the growth and redevelopment of the community.

The work that We Want Green Too is engaging in is a shining example of how centering a community needs approach can simultaneously work to reduce experiences of energy insecurity and high energy burdens whilst also creating and bolstering the next generation of energy efficiency workforce from within.

Policies and programs that support communities with low-no-cost training would reduce the barriers to entry in the new clean energy economy whilst working towards parity of skilled laborers and households that are energy insecure.

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