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*SUBCOMMITTEE ON ENERGY OF THE U.S. HOUSE COMMITTEE ON ENERGY AND COMMERCE
HEARING ON GENERATING EQUITY: IMPROVING CLEAN ENERGY ACCESS AND AFFORDABILITY*

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Summary

While access to clean, affordable energy is vital to maintaining health and well-being, many U.S. households experience energy insecurity, meaning they are unable to adequately meet basic household energy needs. ACEEE's recent research on energy burdens – the percentage of household income spent on energy bills – has found that one-fourth of U.S. households face a high energy burden (meaning they spend more than 6% of their income on energy bills). Two-thirds of low-income households experience a high energy burden; Black, Hispanic, Native American, and older adult households, as well as families residing in low-income multifamily housing, manufactured housing, and buildings built before 1980, also experience disproportionately high energy burdens. High energy burdens are associated with inadequate housing conditions and have been found to affect physical and mental health, nutrition, and local economic development. Energy efficiency and weatherization provide a long-term solution to reducing high energy burdens, while also complementing bill payment assistance and programs aimed at energy-saving education and behavior change.

Congress can take action to improve equity in the clean energy sector in a number of ways. We recommend the following six actions: 1) expanding the low-income Weatherization Assistance Program and including funds for health-related home improvements, 2) doubling the incentives for moderate-income households under the proposed HOMES program, 3) targeting energy efficiency improvements in affordable multifamily housing, 4) leveraging Medicaid funding to improve health and efficiency in homes, 5) increasing funding for the Low-Income Home Energy Assistance Program, and 6) developing national guidance around utility-shutoffs, energy efficiency and COVID-19 recovery.

Introduction

Thank you for the opportunity to testify on the topic of generating equity by improving clean energy access and affordability. The American Council for an Energy-Efficient Economy (ACEEE), a nonprofit 501(c)(3) organization, acts as a catalyst to advance energy efficiency policies, programs, technologies, investments, and behaviors so that all households experience equitable benefits from energy savings. We produce more than 30 reports and other resources each year on energy-saving technologies, programs, and policies, including research focus areas on health, energy insecurity, and equitable program access and policy development.

Inequity in the Clean Energy Sector

Household access to affordable energy is central to maintaining health and well-being, yet many households are energy insecure. Energy insecurity is the inability to adequately meet basic household heating, cooling and energy needs over time, and this is a long-standing national issue. In 2015,

according to data from the U.S. Energy Information Administration's Residential Energy Consumption Survey (RECS), 31% of households reported facing a challenge in paying energy bills or sustaining adequate heating or cooling in their homes; 20% reported reducing or forgoing basic necessities like food or medicine to pay an energy bill; and 14% reported receiving a disconnection notice.¹ Five years later, the COVID-19 pandemic and recession have led to high unemployment, reduced income, and more time spent and energy used at home. These factors are leading to growing numbers of insecure households, especially in low-income communities.

Communities of color are more likely to experience negative health impacts from energy sector pollution. In particular, Black communities are 68% more likely to live near coal-fired power plants and are disproportionately exposed to dangerous particulate pollution, a trigger for asthma and other respiratory diseases.² Black children suffer from asthma at more than twice the rate of white children (14.2% vs 6.8%, respectively)³ and are three times more likely to be admitted to the hospital for asthma attacks than white children.^{4,5} The COVID-19 pandemic is exacerbating this injustice, as researchers at Harvard Chan School of Public Health found that long-term exposure to air pollution increases the risk of dying from COVID-19.⁶

Low-income communities and communities of color also experience disparate access to residential energy-saving appliances, upgrades, and clean energy investments. While low-income households and communities of color on average consume less energy than wealthier households, they are more likely to live in less-efficient housing with older heating and cooling equipment and appliances.⁷ Low-income communities face economic, social, and information barriers that impact their ability to access available programs and resources, and many programs fail to address these barriers. In addition, inadequate health and safety conditions, which occur at higher rates for low-income households, can lead to deferrals that prevent families from participating in Research has found that 11 of the largest investor-owned utilities do not spend energy efficiency dollars proportionally on programs designed to reach

¹ U.S. Energy Information Administration, "One in Three U.S. Households Faced Challenges in Paying Energy Bills in 2015." www.eia.gov/consumption/residential/reports/2015/energybills/.

² Kikati, I., A. Benson, T. Luben, J. Sacks, and J. Richmond-Bryant. 2018. "Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status." *American Public Health Association*. ajph.aphapublications.org/doi/abs/10.2105/AJPH.2017.304297.

³ Centers for Disease Control and Prevention. 2020. "Most Recent National Asthma Data." March 24. www.cdc.gov/asthma/most_recent_national_asthma_data.htm.

⁴ National Research Council. 2010. *Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use*. Washington, DC: National Academies Press. www.ourenergypolicy.org/wp-content/uploads/2012/06/hidden.pdf.

⁵ Patterson, J., K. Fink, C. Grant, S. Terry, R. Rosenberg, and C. Walker. 2014. *Just Energy Policies: Reducing Pollution and Creating Jobs: A State by State Guide to Energy Efficiency and Renewable Energy Policies*. Baltimore: NAACP (National Association for the Advancement of Colored People). www.naacp.org/wp-content/uploads/2014/03/Just-Energy-Policies-Compendium-EXECUTIVE-SUMMARY_NAACP.pdf.

⁶ Wu, X., R. Nethery, M. Sabath, D. Braun, and F. Dominici., 2020. "Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis." *Science Advances*. doi.org/10.1101/2020.04.05.20054502. Summary of research found at: projects.iq.harvard.edu/covid-pm/home.

⁷ Bednar, D., T. Reames, and G. Keoleian. 2017. "The Intersection of Energy Justice: Modeling the Spatial, Racial/Ethnic and Socioeconomic Patterns of Urban Residential Heating Consumption and Efficiency in Detroit, Michigan." *Energy and Buildings* 143: 25-34. doi.org/10.1016/j.enbuild.2017.03.028.

low-income populations.⁸ This lack of equitable investment limits low-income households' and communities' of color access to the benefits of energy efficiency.

Impact of COVID-19 on Energy Affordability

More than 40 million Americans have filed for unemployment since the start of the pandemic, and many of them are low income. More than one-fourth of those who lost jobs have reported skipping or needing to skip a utility bill payment.⁹ A study released September 24 from Indiana University's O'Neill School of Public and Environmental Affairs surveyed American households and found that 17% of those surveyed reported not being able to pay an energy bill between June and August. In addition, 20% of Black households and 33% of Hispanic households could not afford their energy bills during one of the hottest summers on record, compared to only 12% of white households.¹⁰ This is at a time when household energy use is even more important as children move to virtual, at-home learning and many adults are working from home.

Black, Hispanic, and Native American households are disproportionately burdened by COVID-19; they face greater long-term exposure to air pollution and are, simultaneously, more likely to face energy insecurity, economic instability and chronic diseases. By expanding energy efficiency programs, we can reduce overall energy consumption and therefore reduce our reliance on fossil fuels. This, in turn, can help clean our air and reduce the health disparities that result from air pollution.

Black families are 60% more likely than white families to be living in inadequate housing conditions, and Black and Puerto Rican children suffer from asthma at significantly higher rates than white children.^{11,12} Now more than ever, weatherization and energy efficiency can help to not only reduce energy use and bills but also improve indoor air quality, comfort, and safety during a time when people are required to spend more time in their homes.

New Energy Burden Research

Over the past five years, ACEEE has published three reports that analyze energy burdens across national, metro, and rural populations. Energy burden is the percentage of annual income a household spends on its annual energy bills, and the energy burden metric is used by many states, cities, utilities, and researchers to measure energy insecurity.

ACEEE published a report on September 10 of this year, *How High Are Housing Energy Burdens? An Assessment of National and Metropolitan Energy Burdens across the United States*, which calculates energy

⁸ Reames, T., B. Stacey, and M. Zimmerman. 2019. *A Multi-State Analysis of Equity in Utility-Sponsored Energy Efficiency Investments for Residential Electric Customers*. Ann Arbor: University of Michigan. poverty.umich.edu/files/2019/05/Energy_efficiency.pdf.

⁹ Electric Power Research Institute (EPRI). 2020. "Impact of COVID-19 on Consumer Energy Use & Outlook: Results of EPRI National Survey." April 29. mydocs.epri.com/Docs/public/covid19/COVID-19_survey_report.pdf.

¹⁰ Indiana University. 2020. "Households of Color More Likely to Have Utilities Disconnected, Not Receive Stimulus Checks." Sept 24. Press Release. news.iu.edu/stories/2020/09/iub/releases/24-disconnected-utilities-disproportionate-impact-households-of-color.html.

¹¹ Calculated using data from the 2017 American Housing Survey – Table Creator: www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html.

¹² Centers for Disease Control and Prevention. 2019. "Most Recent Asthma Data." www.cdc.gov/asthma/most_recent_data.htm.

burdens nationally, regionally, and in 25 of the largest metro areas, across different groups based on income, race and ethnicity, age, housing tenure, and housing type.¹³ The study uses 2017 data – the most recent data available – from the U.S. Census Bureau’s American Housing Survey. We define high energy burdens as spending more than 6% of income on energy bills, and severe burdens as spending more than 10% of income on energy bills.¹⁴

The main findings from this research include the following:

- Energy affordability is a persistent national challenge. Of all U.S. households, 25% (30.6 million) face a high energy burden (meaning they pay more than 6% of income on energy bills) and 13% (15.9 million) of U.S. households face a severe energy burden (meaning they pay more than 10% of income on energy bills).
- Low-income households fare the worst. Nationally, 67% (25.8 million) of low-income households (< 200% of federal poverty level) face a high energy burden and 60% of low-income households with a high energy burden face a severe energy burden.
- Low-income households spend three times more of their income on energy costs compared to the median spending of non-low-income households (8.1% versus 2.3%).
- Black, Hispanic, Native American, and older adult (over 65) households, as well as families residing in low-income multifamily housing, manufactured housing, and buildings built before 1980 experience disproportionately high energy burdens compared to the median household nationally, regionally, and in the 25 metro areas in the study.
- The median energy burden for Black households is 43% higher than for non-Hispanic white households (4.2% versus 2.9%); the median energy burden for Hispanic households is 20% higher than for non-Hispanic white households (3.5% versus 2.9%); and the median energy burden for Native American households is 45% higher than for non-Hispanic white households (4.2% versus 2.9%).

Figure 1 highlights the disproportionate burdens experienced by low-income, Native American, Black, Hispanic, older adult households, and renters compared to the median energy burden and other similar households. The groups depicted below are not mutually exclusive.

¹³ Our Energy Burden landing page includes the new report, 26 metro and national factsheets, and a short video on the research: www.aceee.org/energy-burden.

¹⁴ Researchers and policymakers estimate that affordable housing costs should be no more than 30% of household income, and household energy costs should be no more than 20% of housing costs. This means that affordable household energy costs should be no more than 6% of total household income. For decades, researchers have used the thresholds of 6% as a high burden and 10% as a severe burden.

See APPRISE (Applied Public Policy Research Institute for Study and Evaluation). 2005. *LIHEAP Energy Burden Evaluation Study*. Washington, DC: HHS (Department of Health and Human Services). www.acf.hhs.gov/sites/default/files/ocs/comm_liheap_energyburdenstudy_apprise.pdf.

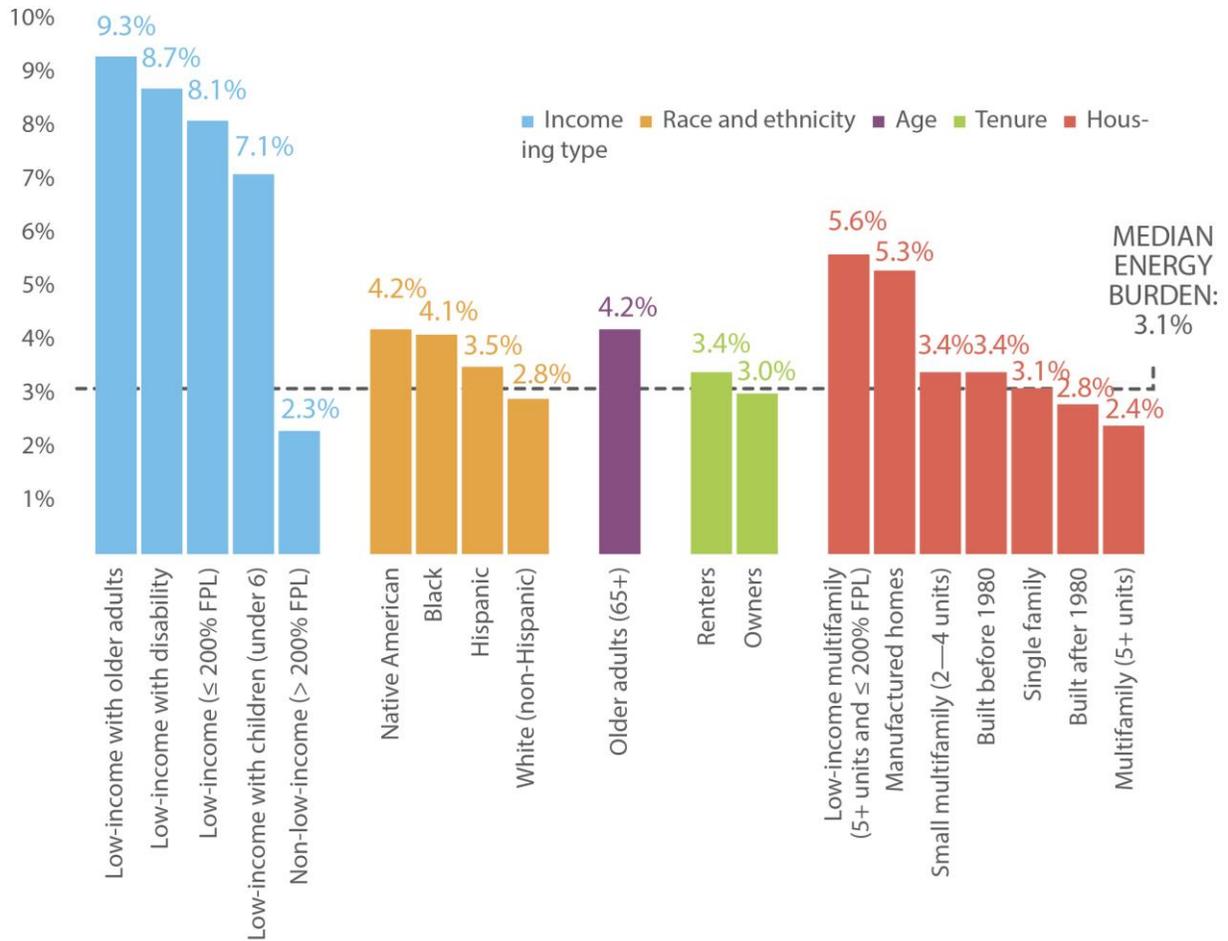


Figure 1. National energy burdens (i.e., % annual income spent on electric and heating bills) across subgroups compared to the national median energy burden.

Figure from ACEEE's 2020 report: *How High Are Housing Energy Burdens*

We found similar trends regionally. Across all nine regions, low-income household energy burdens are 2.1 to 3 times higher than the median energy burden. We found similar trends at the metro level, with the same groups experiencing disproportionately high burdens.

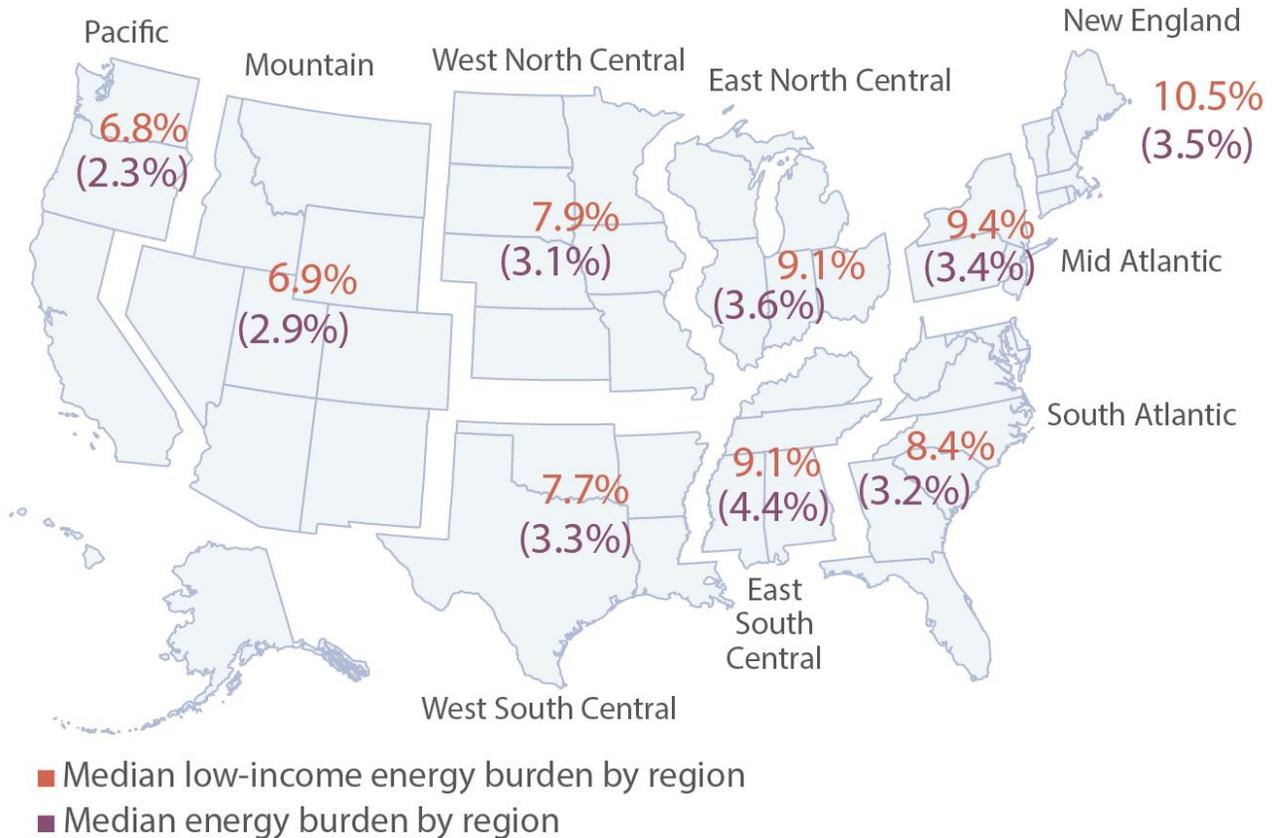


Figure 2. Median low-income (<200% FPL) energy burdens by region (red) compared to median energy burdens by region (purple)

Figure from ACEEE's 2020 report: *How High Are Housing Energy Burdens?*

This research shows that the energy burdens placed on low-income, Black, Hispanic, Native American, older adult, and renting households are not equitable, and that policy action is needed to improve energy affordability. We recognize by using 2017 Census data (the most recent data available), this data does not depict how COVID-19 has impacted energy affordability. Low-Income households and Black, Hispanic, and Native American communities, who have the highest burdens, are also disproportionately impacted by job losses during the pandemic. This means that current energy burdens are likely higher for many households.

Causes and Impacts of High Energy Burdens

High energy burdens are the result of physical, socioeconomic, behavioral, and policy-related factors. Poor and inefficient housing conditions, chronic or sudden economic hardship, information barriers to obtaining government and other assistance, and insufficient and inaccessible programs and policies can lead to a household experiencing higher burdens. It is also important to recognize that historic national, state, and local policies have led to economic and/or social exclusion in Black, Indigenous, and People of Color communities, such as neighborhood segregation and redlining, lack of access to mortgages and other loans, mass incarceration, employment discrimination, and a legacy of segregated and

underfunded schools.¹⁵ We must acknowledge that these types of systemic exclusions, underinvestment, discriminative lending practices, and limited housing choices have limited these communities' access to efficient and healthy housing, clean energy investments, and affordable energy.

High energy burdens are associated with inadequate housing conditions and have been found to affect physical and mental health, nutrition, and local economic development. Researchers have found that high energy burdens are correlated with older, inefficient, and unhealthy housing, which is itself associated with other health impacts, such as carbon monoxide poisoning, lead exposure, thermal discomfort, and respiratory problems such as asthma and chronic obstructive pulmonary disease (COPD).¹⁶ High energy burdens can also lead to chronic stress, anxiety, and depression, and households with high burdens are more likely to stay caught in cycles of poverty.^{17,18} Creating policies and programs to address high energy burdens is one strategy to ensure a more just and equitable energy system, one in which benefits are accessible to all.

Low-Income Energy Efficiency and Weatherization as a Long-Term Solution

Energy efficiency and weatherization provide a long-term solution to reducing high energy burdens; these strategies should complement bill payment assistance and programs aimed at energy-saving education and behavior change. In our new report, we estimate that weatherization can reduce the median low-income household energy burden by 25%, making investment in energy efficiency and weatherization an effective strategy to reduce high energy burdens for households with high energy use while also benefiting the environment. These investments are especially important in the wake of the COVID-19 pandemic as they can also help stimulate the economy through local job creation and workforce development while helping households afford their energy bills in the long term.

Policy Considerations

Congress can take action to improve equity in the clean energy sector by ramping up investment in low-income weatherization, bill payment assistance and other energy efficiency programs; target energy efficiency improvements to affordable multifamily housing; leverage Medicaid funding for low-income energy efficiency; and ensure national guidance around utility shut-offs, energy efficiency, and COVID-19 recovery.

1. Expand the low-income Weatherization Assistance Program (WAP), including funds for health-related home improvements.

WAP currently serves about 100,000 homes per year through DOE funding and leveraged funds from LIHEAP and other sources. This number is far below the 15.7 million severely energy burdened households in the United States. At the current rate, it would take 360 years to

¹⁵ Rothstein, R. 2017. *The Color of Law: A Forgotten History of How Our Government Segregated America*. New York: Liveright Publishing.

¹⁶ Brown, M., A. Soni, M. Lapsa, and K. Southworth. 2020. *Low-Income Energy Affordability: Conclusions from a Literature Review*. Prepared by Oak Ridge National Laboratory. Washington, DC: DOE. info.ornl.gov/sites/publications/Files/Pub124723.pdf.

¹⁷ Hernández, D., D. Phillips, and E. Siegel. 2016. "Exploring the Housing and Household Energy Pathways to Stress: A Mixed Methods Study." *International Journal of Environment Research and Public Health* 13 (9): 916–28. pubmed.ncbi.nlm.nih.gov/27649222/.

¹⁸ Bohr, J., and A. McCreery. 2019. "Do Energy Burdens Contribute to Economic Poverty in the United States? A Panel Analysis." *Social Forces* November 16. doi.org/10.1093/sf/soz131.

weatherize all eligible households through WAP. Weatherization can also stimulate economic recovery by creating green jobs, maintain employment for thousands of small businesses (i.e., insulation contractors and HVAC, plumbing, and electrical businesses), and provide upgrades to furnaces and air ventilation that are critical to those who are most vulnerable to the impacts of COVID-19.

We recommend ramping up sustainable funding for the WAP program to greatly increase the capacity of the program over time. We also recommend allowing for additional funds (i.e., up to \$2,000 per home) that crews can use to implement measures to improve health (e.g., removing mold and reducing trip hazards for older adult residents) as well as including an increase budget for home repairs (e.g., roof repairs so attics can be insulated).

- 2. Double incentives for moderate-income households under the proposed HOMES program.**
The Home Owner Managing Energy Savings (HOMES) Act, introduced by Representatives Welch (D-VT) and McKinley (R-WV) and included in recent House-passed bills, provides incentives for home energy-efficiency improvements which can help improve energy affordability. These incentives range from \$800–4000 depending on the depth of work done, with the incentive capped at 30–50% of project cost. The proposal would now double these incentives for households with incomes below 80% of the area median income, and increase the caps to 60–80% of project cost. We estimate such an approach could serve 2.4 million homes over five years with a federal appropriation of \$6 billion, reducing carbon emissions by 60 million tons (or 13 million cars and light trucks per year).¹⁹ This would help reach moderate-income households who do not qualify for WAP but cannot afford the up-front costs for weatherization.
- 3. Target energy efficiency improvements in affordable multifamily housing.**
Lower-income households disproportionately live in apartments. There are about 35 million rental units in the U.S. that are affordable to moderate-income households (those making less than 80% of area median income). Some of these are public housing, some use other housing assistance programs, and many are market-rate apartments. There are about 1.1 million units of occupied public housing; deep retrofits to one million of these units would cost about \$4.5 billion.²⁰ These funds can be provided as an infusion to Public Housing Authority capital accounts. For the other affordable rental units, we suggest that grants of \$2,500 per unit served be provided to state Housing Finance Agencies, as these agencies work extensively with rental housing in their states. These funds can be used to leverage additional financing. Successful programs are already in place in states like Minnesota and Maryland. If 10% of affordable rental units are served, this means 3.4 million units over five years, at a total cost of \$8.5 billion.
- 4. Leverage Medicaid funding to improve health and efficiency in homes.**
The Affordable Care Act enabled Medicaid funding to be used to make investments that will prevent illness and disease. One of the biggest opportunities to preventively address health

¹⁹ Ungar, L., J. Barrett, S. Nadel, N. Elliott, E. Rightor, J. Amann, P. Huether, and M. Specian. 2020. *Growing a Greener Economy: Job and Climate impacts from Energy Efficiency Investments*. Washington, DC: ACEEE. www.aceee.org/white-paper/2020/09/growing-greener-economy-job-and-climate-impacts-energy-efficiency-investments.

²⁰ Ibid.

threats is to mitigate dangerous conditions in housing. Under both the current and previous Administrations, the Department of Health and Human Services (HHS) has signaled support for using Medicaid dollars to address health and safety threats in the built environment but has not taken concrete action to enable use of the funds. Medicaid funds can help make people's homes healthier and safer through weatherization and/or complementary services.²¹ The federal government can provide guidance on leveraging Medicaid funds to improve health and efficiency in homes.

5. Increase funding for Department of Health and Human Services' Low-Income Home Energy Assistance Program (LIHEAP).

LIHEAP is a critical, life-saving program that targets and serves the most vulnerable Americans, including older adults, individuals with disabilities, and children. LIHEAP funds help provide bill payment assistance, and states can also allocate 15% (or 25% with a waiver) of LIHEAP funds to support WAP.²² Weatherization provides a long-term energy affordability for families that complements bill payment assistance. Ramping up funding for LIHEAP will not only lower energy burdens in the short-term through bill payment assistance, but will also lower them in the long-term through WAP.

6. Develop national guidance around utility shut-offs, energy efficiency, and COVID-19 recovery.

Federal recovery packages have offered little guidance on utility shut-off protections. As of October 1, one-third of states (17 states and DC) have in place state-ordered suspensions of gas, electric and water shut-offs. Of these, eight states will end shut-off protections at the end of October, and five will end protections at the end of December. Only 14% of states have moratoriums in place that will last until the end of the public health emergency or into 2021.

The federal government can offer guidance on how to protect the home health of Americans during this public health crisis through national guidance on utility-shutoffs and additional investment in energy efficiency to help address the affordability needs of overburdened households. Energy efficiency can be combined with other COVID-19 recovery policies and strategies to help Americans who are experiencing the greatest hardship, such as by directing resources towards those with the highest energy burdens.

Conclusion

Energy insecurity is a persistent national challenge that has been worsened by the global pandemic and economic crisis. Our research finds that low-income, Black, Hispanic, Native American, older adult, and renting households all experience disproportionately high energy burdens, while also having less access to clean energy technologies and investments. We find that increasing investment in low-income energy efficiency and weatherization can provide a long-term solution to reducing high energy burdens for low-income households. Congress can act to improve equity in the clean energy sector by ramping up investment in low-income weatherization, bill payment assistance and other energy

²¹ Hayes, S., and C. Gerbode. 2020. *Braiding Energy and Health Funding for In-Home Programs: Federal Funding Opportunities*. Washington, DC: ACEEE. www.aceee.org/research-report/h2002.

²² National Association for State Community Services Programs. N.d. "LIHEAP and WAP: A Dynamic Duo for Reducing the Low-Income Energy Burden." <https://nascsp.org/liheap-and-wap-a-dynamic-duo-for-reducing-the-low-income-energy-burden/>.

efficiency programs; target energy efficiency improvements to affordable multifamily housing; leverage Medicaid funding for low-income energy efficiency; and ensure national guidance around utility shut-offs, energy efficiency, and COVID-19 recovery.