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ISSUE BRIEF

HEALTHY, CLIMATE-RESILIENT HOMES FOR ALL:

CENTERING HOUSING JUSTICE AND HEALTH EQUITY IN BUILDING DECARBONIZATION

NRDC

BEEP Coalition
Building Energy, Equity & Power

CRPE Center on Race, Poverty & the Environment

Leadership Counsel for Justice & Accountability

¡PODER! San Francisco

CVAQ

Local Clean Energy Alliance

PSR-LA Physicians for Social Responsibility Los Angeles

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PSR-LA: Physicians for Social Responsibility–Los Angeles

PODER: People Organizing to Demand Environmental and Economic Rights–San Francisco

LCJA: Leadership Counsel for Justice and Accountability

LCEA: Local Clean Energy Alliance

CVAQ: Central Valley Air Quality Coalition

SHE: Self Help Enterprises–San Joaquin Valley

CRPE: Center on Race, Poverty, and the Environment

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About BEEP

The Building Energy, Equity, and Power (BEEP) coalition is comprised of environmental justice organizations across California who represent and advocate on behalf of low-income and communities of color, and lead local equitable building decarbonization efforts in Los Angeles, San Joaquin Valley, and the Bay Area. BEEP formed in 2020 with the intent to coalesce and uplift lessons and successes learned from these local efforts onto a statewide platform to ensure low-income communities and communities of color benefit, and are not adversely impacted by, statewide building decarbonization efforts in California.

About NRDC

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INTRODUCTION

Living, working, learning, and playing, most of us spend most of our lives inside buildings, and the conditions of those buildings impact our quality of life and health. At the same time, nearly a third of U.S. greenhouse gas (GHG) emissions like carbon dioxide (CO_2) and methane come from building operations. As the United States looks for ways to reduce GHG emissions and stay on the path to limit global warming to 1.5 degrees Celsius, building decarbonization is a key piece of the puzzle. However, the crucial intersections and links between buildings, climate, and health are often not considered in the climate discussion, a mistake that leads to less effective and equitable climate and housing policies alike. Conversely, placing equity in the forefront of our policies is key to addressing health and housing disparities for the most impacted populations *and* to the success of policies intended to slow climate change.[2] By considering these issues together, we set the stage for durable, transformative change that will maximize positive impacts for the climate and for people's lives.

An overhead view of Taqwa Community Farm, a half-acre park operated as a community garden in the Highbridge neighborhood of the Bronx, New York City.

In the United States, 29 percent of GHG emissions come from building operations, including space heating and cooling, water heating, cooking, and electricity use (e.g., for lighting and appliances).[3] Some of these emissions are from fossil fuel combustion appliances in buildings—such as space and water heaters—which are supported by aging infrastructure, which is more likely to leak and need continued service by utility companies. When fossil gas infrastructure leaks, it releases methane into the atmosphere, contributing to climate change.[4] The average age of fossil gas pipes in service in the United States is about 40 years old, with more than a quarter over 50 years old.[5] According to recent reports from the Intergovernmental Panel on Climate Change, to reach the global goal of limiting climate warming to 1.5 degrees Celsius, we must significantly reduce GHG emissions from buildings by 2050.[6] It is estimated that around 80 percent of the buildings standing today will still be in use by 2050, so addressing emissions from existing buildings is essential.[7]

Governments at the city, state, and federal levels are advancing commercial and residential building decarbonization mandates, programs, and investments to achieve this goal. Building decarbonization at the most basic level includes efforts to:

1. make buildings more energy efficient through changes like adding more insulation
2. replace fossil fuel combustion appliances in buildings with upgraded appliances that run on electricity (building electrification); and
3. make the electricity that flows into buildings cleaner by replacing fossil fuel power plant generation with zero-emission sources like wind and solar power.[8]

Most current building decarbonization policies and programs do not consider health benefits or risks, even though these policies often impact the health of the inhabitants. We know that housing quality impacts health both positively and negatively in many ways that current building decarbonization approaches may not address. For example, positive changes like fixing a leaky roof can reduce moisture in the home; improving a neighborhood by adding a park can promote exercise and community-building in the nearby environment. In contrast, air pollutants and hazardous materials in the home like lead, mold, and asbestos harm people's health.[9] And building decarbonization policies are not happening in a vacuum—they are being layered onto a deeply inequitable housing system. As we discuss in more detail below, communities of color experience disproportionately poor housing quality, which contributes to poorer health outcomes compared with their White counterparts.[10] This is a persistent, systemic issue that was created, and is perpetuated, by embedded racist policies and practices that continue in various forms to this day.

There are many systematically marginalized groups that experience housing discrimination contributing to housing and health inequity, but this issue brief is focused primarily on disparities related to race and ethnicity. Identities are intersectional, and, where possible within the scope of this brief, we will identify and describe the intersectional aspects of health disparity and equity. For example, we discuss many of the ways in which income level and home ownership status (renter versus owner), immigration status, and residency in manufactured homes intersect with racial and ethnic groups.

Equitable building decarbonization policies would provide comprehensive investments and holistic upgrades to improve housing quality, health, and resilience and reduce climate emissions for populations facing the greatest housing and health disparities (see Glossary). These issues are central to both health equity and housing justice, a movement that works to ensure everyone has affordable housing that promotes health, well-being, safety, stability, and resiliency by working to end historical and ongoing harms and disparities caused by structural racism and other systems of oppression. In addition, this strategy is important for GHG reductions needed to end the climate crisis. And GHG reductions themselves are significant for addressing disparity, as low-income communities and communities of color are hit first and worst by the climate crisis. We do not see a tension or conflict between reducing GHG emissions and addressing health equity and housing justice, but instead view advancing all together as an effective approach for working to end the climate crisis and its consequences. Thus, integrating equity in building decarbonization provides an opportunity to address long-standing inequities in the built environment born from racist and discriminatory policies, avoid perpetuating patterns of harm, improve the lives of those most impacted, and meet the climate emergency with the urgency and intensity it demands.

This issue brief addresses how racist policies and practices create poorer housing quality for the most at-risk communities, summarizes the strong evidence showing that poorer housing quality contributes to health disparities, outlines risks and opportunities of building decarbonization, and provides recommendations for equitable building decarbonization policies and programs.

GLOSSARY

Demographic terminology: We use the terms *Black*, *Indigenous Peoples*, *Asian and Pacific Islander*, *Latine*, *White*,[a] *low-income communities*, and *communities of color* to refer to these specific populations throughout this brief, though individual studies we reference may have used different terminology for income level or race/ethnicity. We acknowledge that these are imperfect terms and that there is diversity and nuance within these communities. Please consult citations for the terminology used in the original studies.

Energy burden: The percentage of household income spent on home energy bills, with the average for U.S. households being 3.1 percent. An energy burden is considered *high* when a household spends more than 6 percent of its income on home energy bills, and *severe* when that figure exceeds 10 percent.[11]

Equitable building decarbonization: Equitable building decarbonization policies provide comprehensive investments and holistic upgrades to improve housing quality; increase resilience; reduce climate emissions; and advance health and housing justice for populations facing the greatest housing, energy, and health disparities.

Greenhouse gases: Gases that trap heat in the atmosphere. Common GHGs are carbon dioxide and methane, which is the primary component of fossil (natural) gas. The effect of methane is 34 times that of carbon dioxide in trapping heat over a 100-year period and 86 times greater over 20 years. Fossil gas is used in space heating and water heating, clothes dryers, stoves, ovens, and fireplaces.[12]

Health equity: The opportunity for all people to achieve their highest potential level of health.[13]

Holistic building upgrades: Upgrades that improve housing quality, resilience, and resident health and safety and reduce climate emissions. Upgrades include but are not limited to removing mold, lead, and asbestos; upgrading electrical panels; providing weatherization; improving energy efficiency; and conducting repairs necessary for electrification.

Housing justice: Ensuring everyone has affordable housing that promotes health, well-being, safety, stability, and resiliency by working to end historical and ongoing harms and disparities caused by structural racism and other systems of oppression.

Housing quality: "The physical conditions of a person's home as well as the quality of the social and physical environment in which the home is located."[14]

Manufactured housing: Homes (some of which are also called mobile homes) "that are built in the controlled environment of a manufacturing plant and are transported in one or more sections on a permanent chassis."[15] Manufactured homes are often located on leased land. There is an increasing socioeconomic range of those living in manufactured homes. This brief focuses on low-income manufactured mobile homes and mobile home parks.

Structural deficiency: To ensure its occupants are healthy, a building must have positive conditions for the following foundational attributes: ventilation; air quality; thermal health; moisture; dust and pests; safety and security; water quality; noise; and lighting and views.[16] Structural deficiencies are any physical building defect that negatively impacts these attributes. Examples include a leaky roof, rodent infestation, lack of access to cooling, lack of insulation, or inadequate lighting.

a We intentionally capitalize *White* to explicitly name White as a race and acknowledge the reality of how racism functions in our social, economic, and political institutions systematically. For background on this decision, see "I'm a Black Scholar Who Studies Race. Here's Why I Capitalize 'White.'" by Eve L. Ewing. By *White* we are referring to White European-heritage peoples of the diaspora who live in the United States. https://zora.medium.com/im-a-black-scholar-who-studies-race-here-s-why-i-capitalize-white-f94883aa2dd3

RACIST POLICIES AND PRACTICES CONTRIBUTE TO HOUSING DISPARITIES

Decades of systemic racist policies such as redlining, residential segregation, racial housing covenants, and exclusionary zoning practices have led to racial and ethnic disparities in home ownership, environmental exposures, and health outcomes in the United States.[17] Years of intentional disinvestment have also contributed to differences in housing quality, safety, comfort, and aesthetics, resulting in a cycle that creates further disinvestment in neighborhoods that have fewer financial resources for healthy and resilient homes. Financial barriers for lower-income households to upgrade their homes—and retrofit programs designed to benefit middle- and high-income families rather than intentional programs to reach lower-income households—contribute to these homes remaining in dilapidated condition.[18] This pattern perpetuates inequality in homes and businesses and keeps neighborhoods stuck in a cycle of neglect and disinvestment.[19]

Beginning in the 1930s, redlining was the practice of mortgage lenders drawing red lines around certain areas or neighborhoods, frequently along racial and ethnic lines, to indicate places in which they would not make loans for home ownership. This yielded government-sanctioned maps to separate the so-called "hazardous" areas from the "best" areas throughout the United States and lenders would deny a creditworthy applicant for a housing loan in these "hazardous" neighborhoods despite this applicant being otherwise eligible for the loan.[20] Home ownership through low-interest and less risky loans backed by the federal government was overwhelmingly granted to White people in the United States, thus excluding many non-White Americans from this federally supported process to become homeowners.[21]

Though redlining was deemed unlawful by the Fair Housing Act of 1968, it created disparities in home ownership between White people and mostly Black and Latine people that persist to this day. Home ownership can contribute to healthy and sustainable lives, security, stability, and a sense of belonging that can be passed down through generations.[b] Moreover, homeowners accumulate generational wealth, resulting in financial gaps between descendants of homeowners who have greater wealth and are more likely to have inherited homes rather than rent, and descendants of those who have been systematically blocked from home ownership.[22]

Redlining also supported the concentration of unhealthy aspects of the built environment, like highways and industrial facilities, in the "hazardous" neighborhoods.[23] Unfortunately, biased housing practices continue today in different forms of loan discrimination and predatory targeting based on race, ethnicity, and even immigration status, once again contributing to economic disparities between communities of color and White communities.[24] The impact of these historical and current discriminatory practices and policies is evident in the greater percentage of White households that are owners instead of renters, and the smaller percentage of White households that are extremely low-income renters.

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This is me at American Legion Park in Eagle Hill on a day of strong heat and humidity, as can be seen on the personal monitor that I was given for the C-HEAT study. In the park there are no children, only heat, and planes flying over the place. -Noemy, C-HEAT Photovoice/Photovoz

b Throughout this brief, we discuss home ownership as it has historically and currently operated: as a means for wealth accumulation across family generations. While this is the current reality, we see decommodification of housing as an important part of the systemic solutions we seek.

DISPARITIES IN HOME OWNERSHIP AND HOUSING TYPE BY RACE AND INCOME

Renters are disproportionately people of color. According to 2019 U.S. Census data, 58 percent of Black American households, 53 percent of Latine households, 49 percent of Asian or Native Hawaiian/Pacific Islander households, and 45 percent of Indigenous households rent their homes, while less than 31 percent of White non-Latine households are renters.[25] Furthermore, 20 percent of Black households, 18 percent of American Indian/Alaska Native households, 14 percent of Latine households, and 10 percent of Asian households are extremely low-income renters, while this figure is less than 6 percent for White non-Latine households.[26] Manufactured home residents are disproportionately low income.[27]

Whether they are owners or renters, low-income communities and communities of color have endured significantly worse housing quality compared with wealthier and White populations. These inequities are especially apparent in energy access and affordability and in access to government-funded home upgrade programs.

ENERGY INEQUITIES

Discriminatory housing policies have had downstream impacts on energy burdens (i.e., the percentage of household income spent on energy bills) and efficiency within homes, resulting in disproportionate energy burdens by race, ethnicity and income. For example, the median energy burden of low-income households is 3 times higher than non-low-income households, and the median energy burden of Black households is 43 percent higher than White households.[28] Many factors have contributed to these population-level differences, including inaccessible or insufficient energy efficiency programs, inefficient buildings and appliances, and undemocratic systems that continue to govern our energy infrastructure.

High and severe energy burdens (see Glossary) contribute to energy insecurity, which is defined as the inability to meet basic household heating, cooling, and energy needs.[29] Despite using less energy on average per household, lower-income communities and communities of color spend disproportionately more on their monthly energy bills than do wealthier households. Major contributing factors are structural deficiencies and energy-inefficient appliances that are common in systematically marginalized communities due to decades of disinvestment, both of which increase home energy use and burden.[30] For example, communities of color and lower-income residents are more likely to live in less energy-efficient and non-weatherized homes.[31] Manufactured home residents, who are disproportionately low-income, frequently experience especially high energy burdens due to aging housing stock and poor insulation. Finally, lower-income households tend to have less energy-efficient appliances compared with higher-income households.[32]

Further contributing to energy inequities, fires and major weather events like hurricanes, winter storms, and heat waves can lead to utility outages, with studies finding that census tracts with lower-income populations or a higher percentage of Latine and Black residents have longer median wait times for power restoration.[33]

INEQUITY IN HOME-UPGRADE PROGRAMS

Weatherization, the process of protecting a home's interior from the outdoor elements, is one of the most effective strategies to make homes more energy efficient and reduce energy burden. Examples of weatherization include adding insulation to units that lack it, upgrading windows to reduce air infiltration, and sealing ducts. This process can reduce energy burden by about 25 percent for low-income households.[34] Weatherization upgrades are administered primarily through programs funded by utility ratepayers or state and federal governments. However, the benefits from such weatherization programs have not been distributed equitably, failing to address the needs and the physical and socioeconomic realities of communities of color and low-income communities.[35] For example, the federal Weatherization Assistance Program (WAP), which provides upgrades to low-income homeowners without any up-front cost, serves about 35,000 households each year.[36] However, there are about 35 million WAP-eligible households, so the need far outstrips the availability of upgrades. WAP has also had a limited reach in the multifamily housing sector, and especially for renters residing in multifamily housing, who are disproportionately low income and people of color.[37]

When it comes to utilities, overburdened households, especially in multifamily buildings or in Black, Indigenous, Latine, and other communities of color, often are either marginalized or overlooked by utilities' energy efficiency program marketing.[38] These households also face additional barriers to utility and government program participation, such as high up-front costs, the lack of access to affordable financing options, or even ineligibility due to the need for pre-weatherization health and safety upgrades.[39] Those living in manufactured-home parks face all of these plus additional, unique barriers to participation, such as lack of land security and the need for unit replacements that prohibit participation.[40]

The benefits from home upgrade programs, such as window replacements, have failed to reach low income communities and communities of color.

In general, decarbonization programs fail to meaningfully engage communities in program design processes, decision-making, and implementation.[41] In many cases, programs are not designed with and for communities of color and low-income communities, accessible information is not provided in the language(s) of the community, and members are not compensated for their engagement.[42] Households with undocumented residents also face unique barriers to participation in public programs, often because of concerns related to immigration status.[43] Overall, these program inequities have resulted in low-income, multifamily residents and communities of color disproportionately missing opportunities for upgrades that would improve housing quality.

Finally, tax incentives and rebates are common market-based approaches for building electrification programs, which can reduce energy burdens and improve indoor environmental health. These approaches rely on early adopters and are generally accessible only to wealthier communities and homeowners with sufficient capital to pay the up-front costs. Such programs do not reach those most in need, most notably renters, which leaves them with continued poor housing quality and contributes to distrust among communities waiting for benefits.[44] This type of program design has not resulted in equitable deployment of building upgrades in the past. For example, White-majority census tracts have significantly greater rooftop solar panel deployment than do Black- and Latine-majority census tracts, even after controlling for home ownership and household income; this is largely attributable to state and federal tax credits for rooftop solar being inaccessible to low-income communities.[45]

HOUSING QUALITY INEQUITIES RESULT IN HEALTH DISPARITIES

Housing quality "refers to the physical conditions of a person's home as well as the quality of the social and physical environment in which the home is located," and good housing quality is a critical part of advancing health equity.[46] Unfortunately, communities of color often experience poor housing quality, which comes cumulatively from many sources, including disproportionate environmental hazards such as air pollution, unhealthy noise levels, water contamination, flood and wildfire risks, toxic waste, and soil contamination (including from lead and other toxic metals).[47] These sources can compound one another—for example, outdoor air pollution that infiltrates homes, fossil-gas appliances, and poor ventilation can all add up to create unhealthy indoor air quality.[48] As such, poorer housing quality contributes to racial health disparities and adverse health outcomes (as shown in Figure 1 and Table 1).

Recent data from the American Housing Survey (AHS) show that 2.8 million homeowner households and 3.9 million renter households live in moderately or severely inadequate housing,[c] with the number of renters living in inadequate housing increasing over the past two decades.[49] These numbers disproportionately include low-income communities and communities of color. Among renters in the lowest income group (earning less than $24,000 per year), 10.6 percent live in inadequate housing; in the highest income group (more than $129,000), the rate is just 5.6 percent.[50] Racial disparities are found even after income is accounted for: In the bottom third of incomes, 10.4 percent of Latine households and 10 percent of Black households live in inadequate housing, compared with 6.3 percent of White households.[51] Furthermore, AHS data suggest that 10.6 percent of manufactured homes built between 1970 and 1975 are inadequate. Even with a Department of Housing and Urban Development (HUD) code introduced in 1984 to address this issue, the proportion of manufactured homes built between 1985 and 1990 classified as being in inadequate condition increased to 10.8 percent, highlighting a continued housing issue for this disproportionately low-income population.[52]

Flooding, leaks, and other sources of excess moisture can promote harmful mold growth indoors.

c HUD classifies housing units as moderately inadequate if they have three or four structural problems (e.g., water leaks, large or open cracks, holes in the floor) and severely inadequate if they have at least five significant structural problems (e.g., exposed electrical wiring, lack of hot/cold running water, or lack of electricity).

Structural deficiencies in homes—including gaps and holes in walls, leaky roofs, and exposed electrical wiring—are more likely to occur in older homes and in homes occupied by people of color, lower-income residents, and undocumented people.[53] The presence of hazardous materials like lead and asbestos are more common in low-income communities and communities of color and are correlated with housing age.[54] There is also a clear connection between health and hazardous qualities of the built environment created by redlining, discussed above. One research study found that women living in historically redlined areas had significantly higher odds of having a preterm birth than did those in non-redlined areas.[55] Further, a systematic review and meta-analysis of previous research concluded that adverse health outcomes including asthma, heat-related disease, shorter life expectancy, diabetes, and cancer, as well as acute injury such as gunshot-related injuries, were worse for people in redlined areas than for those in non-redlined areas.[56]

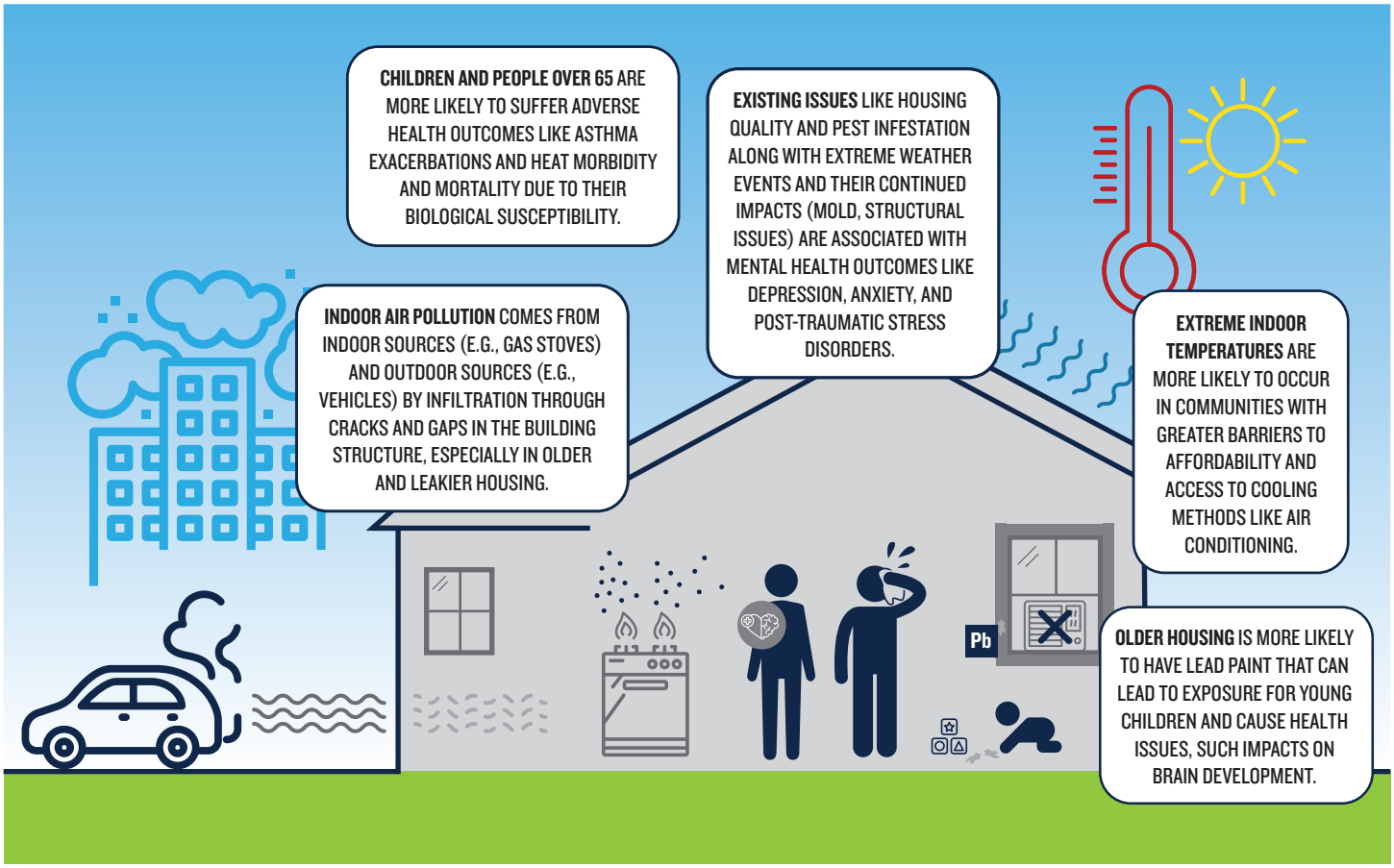
Additionally, it is important to situate housing quality in its real-world context for low-income communities and communities of color. Outside the home, residents of these communities are more likely to experience unhealthy conditions in the places they learn and work than are their White counterparts. For example, workers of color are more likely to encounter toxic chemicals, pesticides, heat, and other poor conditions associated with locations like industrial and construction sites, manual labor, and agriculture, as well as unhealthy conditions in their indoor work sites.[57] Outdoor farmworkers often experience extreme heat in the workplace; these are disproportionately low-income, people of color, and undocumented populations that lack access to cooling and simultaneously experience extreme heat at home.[58] The stressors of poorer housing quality are compounded by the stressors these communities face outside the home, resulting in disproportionately negative health outcomes (Figure 1, Table 1).

Below we discuss in detail four examples of how poorer housing quality contributes to racial disparities in health, examining asthma, heat impacts, mental health, and the effects of lead.

My husband works in construction. During heat waves, construction workers are vulnerable to dehydration and heat shock, and the effects of intense heat can increase the risk of occupational accidents. Once I heard a construction worker say that on a very hot day, he felt like his shoe soles were melting when walking on a roof. What protections do labor regulations offer to protect these workers from the intense heat and their health risks? -Roxana, C-HEAT Photovoice/Photovoz

FIGURE I: ENVIRONMENTAL QUALITY AND TEMPERATURES INDOORS AFFECT HEALTH

Indoor air pollution comes from indoor sources (e.g., gas stoves) and outdoor sources (e.g., vehicles) by infiltration through windows, walls, and doors. Extreme indoor temperatures are more likely in lower-income and non-White communities due to the built environment and access to or ability to utilize heating and cooling. Children and people over 65 are more likely to suffer adverse health outcomes like asthma and heat fatalities due to their biological susceptibility. Hazardous materials in the home, like lead paint, affect children's development and are more present in the homes of communities of color.



ASTHMA

Asthma is complex. Factors like genes, stress, and exposure to natural and human-made pollutants in the environment, and the interactions between all these factors, all play a role in causing and worsening asthma. Housing quality and home ownership—which can impact several of these factors—are important contributing factors to asthma. For example, studies find that conditions in the indoor environment such as dampness, mold, pests, indoor air quality, and extreme temperatures all significantly increase asthma risk (Table 1).[59] Exposure to poor outdoor air quality can compound the issue: Communities in areas with high rates of outdoor air pollution are disproportionately low-income communities and communities of color and have disproportionately high rates of asthma.[60] As discussed, these physical and biological hazards are much more common in lower-income communities and communities of color.[61]

© iStock

Conditions indoors including dampness, mold, pests, poor air quality, and extreme temperatures can increase asthma risks for children.

© Photovoice/Photovoz

My son found the way to keep himself cool during these hot days. He sits in front of the air conditioner unit. The strategy my son is using is an example of adaptation to the extreme heat, but it is only a patch to the problem, not a solution. -Nohemi, C-HEAT Photovoice/Photovoz

Because of these factors, asthma is not evenly distributed in the population, with disparities by home ownership status, home appliance type, and race/ethnicity. Home ownership has been associated with lower odds of asthma-related emergency department visits.[62] Children are more likely to have experienced current asthma (i.e., symptoms of asthma or wheezing within the past 12 months) if they live in a home with a gas-burning stove.[63] Newly published research attributes 12.7 percent of current childhood asthma in the United States to gas stoves.[64] While the percentage of households with gas stoves is similar for White and Black people at 32 percent and 35 percent, respectively, Latine households have a higher percentage of gas stoves in their homes at 46 percent, contributing to potential disparities in exposure to toxic gases.[65] Furthermore, homes in lower-income communities and communities of color tend to be smaller and without adequate ventilation, both of which are associated with higher concentrations of indoor pollutants.[66]

These systemic and structural factors contribute to larger U.S. population-level disparities in asthma sufferers. CDC data from 2019–2021 show that the prevalence of asthma in the population under the age of 18 is higher for Black (11.6 percent), Latine (5.9 percent), and Indigenous (9.2 percent) children than for White non-Latine (5.5 percent) and Asian (3.3 percent) children.[67] Additionally, there is heterogeneity within these groups. For example, the Latine population breakdown shows that Mexican children have a lower asthma prevalence (5.2 percent) than the average for the Latine grouping (5.9 percent), while "other Latine" (not Mexican) is higher than the group average, at 7.1 percent, and the multi-racial group has a prevalence of 7.4 percent.

Improving housing quality for Black and Latine communities would improve environmental risk factors for asthma and reduce these racial health disparities.

HEAT IMPACTS

Extreme heat can cause adverse health effects, especially for susceptible populations like children and people over the age of 65. Exposure to high ambient temperatures puts people at risk for developing health complications such as heatstroke, asthma attacks, and diminished cognition. Repeated exposure to high temperatures can have lasting effects on metabolic disorders and can lead to heat-related mortality due to prolonged stress on the body; even short-term exposure to extreme temperatures poses a risk of mortality due to heat exhaustion or heatstroke, especially for vulnerable populations.[68]

In general, there are no legal protections for renters against extreme heat in their homes. While laws in many states require landlords to keep homes warm in the winter, there is no requirement to keep homes cool in the summer.[69] In the United States, an estimated 90 percent of households have access to air conditioning (AC), with low-income communities and communities of color being less likely to have access to AC or other cooling; further, not all households that have AC can afford to use it.[70] Disparities exist across housing type, household income level, and racial and ethnic groups (see text box). Higher energy burdens and energy insecurity for communities of color and low-income communities also means they are less likely to be able to afford to run the AC if they have one and more likely to prioritize other basic needs like food and medicine over utilities.[71] Residents of manufactured home parks often especially face inequities related to extreme heat—and these parks are common in some of the fastest-warming regions of the United States.[72] While data are limited for manufactured home parks, a study in Maricopa County, Arizona, found that although manufactured homes are only 5 percent of housing units, their residents account for more than 30 percent of extreme heat–related deaths. In other words, they are six to eight times more likely to die from exposure to indoor heat than are residents of non-manufactured housing stock.[73] These issues around affordability and access to AC will become increasingly serious as we experience more days of extreme heat due to the climate crisis.[74]

© Marje/Getty Images

Manufactured home residents are at greater risk from extreme heat.

DISPARITIES IN AC PREVALENCE AND USE

Housing type (apartment vs single-family): Apartments in smaller buildings (2–4 units) have an AC use rate of 80 percent, and apartments in larger buildings (5+ units) have a usage rate of 85 percent, while single-family detached homes have a usage rate of 90 percent.[75]

Home ownership (rent vs own): Renters have a lower AC use rate than owners (84 percent versus 91 percent, respectively).[76]

Income level (low vs high income): In the lowest income groups, 77–80 percent of respondents used air conditioners, while 93 percent of respondents in the highest income groups used AC.[77]

Race/ethnicity (White versus Black): A study in four U.S. cities found that central AC was present in less than half as many Black households as White households and that heat-related deaths among Black residents were more prevalent than among White residents.[78]

The historical disinvestment in neighborhoods that are predominantly low income and communities of color means that cooling strategies and climate adaptations are less common, leaving residents more vulnerable to both indoor and outdoor extreme temperatures and associated heat-related illnesses as ambient temperatures climb.[79] Analyses in several cities have found that formerly redlined neighborhoods have less tree canopy and other vegetation—and consequently have higher ambient temperatures—than non-redlined areas. A national study found that previously redlined areas were 2.6 °C (4.7 °F) warmer than non-redlined neighborhoods.[80] Studies have also indicated that rising heat is associated with crime (especially violent crime) and civilian death with nonlethal force by police. Communities have provided first-hand knowledge of this connection when discussing police violence during warm-weather days.[81]

As climate change exacerbates extreme heat, these impacts on apartment dwellers, renters, low-income communities, and communities of color will also intensify, leading to more heat-related illness and death in these populations.

Karen Tapia cools off her daughter Jessalyn by a window with fan running on high because her home does not have A/C during a heatwave on Wednesday, Sept. 7, 2022 in Los Angeles, California.

MENTAL HEALTH

Multiple housing-related factors have been shown to impact mental health, including poor quality, unaffordability, insecurity, lack of access or assistance, and weather-related vulnerability. Driven by racist policies and practices, these factors disproportionately affect low-income communities and communities of color.

In one study, housing instability (defined in the study as moving more than twice in the past two years) and housing disarray (which considers factors such as lack of light, crowdedness, and high noise levels) were found to be associated with depression and generalized anxiety among women with children, regardless of other social stressors.[82] In other research, pest infestation (i.e., cockroaches and mice) in public housing was associated with higher odds of depressive symptoms in residents, compared with residents of housing without infestation.[83] The persistence of poor housing was associated with worse mental health in a prospective longitudinal population-based study.[84]

Flood risk and prior flooding that has led to structural damage, mold and mildew problems, and other damage to personal property from water entering the home creates mental health stressors for residents.[85] Residents in affected homes can suffer associated mental health effects (e.g., post-traumatic stress disorder and other psychological disorders) from the growth of mold and mildew for months after the initial flooding event.[86] Living in homes that have structural and electrical deficiencies and safety hazards (e.g., exposed wires), pests, and allergens (e.g., mold, dust) contributes to significant stress for residents.[87] These issues, compounded with energy insecurity, are shown to lead to worse mental health outcomes.

Furthermore, many studies have documented the disparities in mental health outcomes from severe weather events, with poorer-quality housing being less resilient to such events. For example, in a study in California from 2005 to 2013, temperature increases were associated with mental health–related emergency department visits, with the highest

risk among Latine patients compared to Asian and Pacific Islander, Black, and White populations.[88] Major hurricanes in Louisiana, Texas, New Jersey, and New York were more likely to have depression and post-traumatic stress disorder and higher rates of mental illness in Black and Latine populations than in White populations.[89] With extreme weather events occurring with higher frequency due to climate change, communities of color will continue to be the most impacted, and adverse effects to their environments and health will continue to be exacerbated.

LEAD IMPACTS

Lead is one of the many building materials known to be hazardous that have been used in housing (alongside asbestos, flame retardants, and formaldehyde, among others) and disproportionately impact low-income communities and communities of color. Lead is a toxic metal that has many different sources, and it may enter the body via eating, drinking, breathing, and absorption through the skin. Two major ways it enters the home is in lead pipes that are part of the water distribution system and in lead paint that chips as it ages. Lead-based paint and related lead-contaminated dust, found in homes built before 1978, remain the most common sources of lead poisoning.[90]

Overwhelming evidence shows there is no safe level of lead exposure. Despite this, HUD's Office of Healthy Housing estimates there are 24 million homes in the United States with lead hazards from paint, dust, and soil, with 1.1 million homes within the lowest income group (<$30,000 per year).[91] Children are especially susceptible to lead due to their developing brains and their tendency for hand-to-mouth activity by which they may ingest lead paint chips and contaminated dust.[92] While blood lead levels in children have decreased in the past few decades, the risk factors for elevated blood lead are consistently race/ethnicity (with non-Latine Black people having the highest prevalence), poverty, and aged housing.[93]

Lead exposure is also a hazard during pregnancy. In a cohort of pregnant women in New York City and Boston, urinary metal levels were found to be substantially higher in Black and Black-Latine women than in White non-Latine women, as well as in women living in areas with higher levels of factors that increase social vulnerability, such as crime and poverty.[94] For lead-exposed pregnant people, there is a greater risk of miscarriage and low birth weight in babies, because lead from their bodies can pass to the fetus.[95] The impacts of lead in the home—particularly in low-income, socially vulnerable, and Black communities, which are more exposed—can be felt throughout the course of life, with disproportionate impacts before birth and in early childhood that can have lasting health effects.

Lead based paint is the most common source of lead poisoning for children.

TABLE 1: HAZARDOUS HOUSING ATTRIBUTES AND ASSOCIATED HEALTH IMPACTS.

Due to racist policies and practices, hazardous housing attributes are disproportionately experienced by non-White populations, contributing to racial disparities seen in numerous health impacts.

HAZARDOUS HOUSING ATTRIBUTE		ASSOCIATED ADVERSE HEALTH IMPACTS	
	**Biological** Allergens from mold, pets, rodents, dust mites		Allergies, asthma, respiratory conditions, cardiovascular diseases
	**Chemical** Lead, asbestos, radon, carbon monoxide, tobacco smoke carcinogens; indoor and outdoor air pollutants; products such as furniture, household cleaners, and personal care items; external pollutants entering the home		Neurological toxicity, developmental disorders, endocrine and hormonal disruption, cancer, asthma and other respiratory illnesses
	**Physical** Structural deficiencies in the home such as improper ventilation, excess moisture, lack of temperature control, hazards leading to trips and falls		Physical injury, asthma and other respiratory illnesses, health impacts from extreme heat and cold exposure such as heat stroke and hypothermia
	**Social** Overcrowding, poverty, fear of crime, trauma, threat of eviction and displacement, housing and energy insecurity, utility debt		Increased incidence of infectious diseases; mental health issues; chronic stress; anxiety disorders; depression; maternal, neonatal, and pediatric overall health
	**Neighborhood** Proximity to industrial sites and traffic, external chemicals and pollutants entering the home, police violence, overlapping systems of injustice, disinvestment, lack of or limited green space and tree canopy		Respiratory, cardiovascular, hormonal, and metabolic conditions; stress and mental health issues, weathering, health impacts from extreme heat exposure

Adapted from American Public Health Association, Creating the Healthiest Nation: Health and Housing Equity, 2020.

BUILDING DECARBONIZATION EFFORTS RISK PERPETUATING HOUSING AND HEALTH DISPARITIES

Current major investments in building decarbonization such as those initiated by the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (also known as the Infrastructure Investment and Jobs Act) could exacerbate existing disparities if programs are not designed and implemented equitably. There is a risk that communities will be left behind and not benefit from decarbonization, and a further risk that decarbonization could occur in low-income communities and communities of color without addressing residents' physical and social needs.

RISK: COMMUNITIES MAY BE LEFT BEHIND

Many decarbonization efforts are less likely to be implemented in older, poor-quality housing because it is necessary to address deferred maintenance and remediate environmental health hazards like lead, mold, or asbestos prior to decarbonization upgrades. Older homes will require electrical panel upgrades to handle the newest appliances and increased loads from electrification. Furthermore, some of the lowest-quality housing stock and highest energy costs are found among manufactured homes, so the cost of upgrades is higher for these homes than for other types of housing; frequently, replacement is prohibitively expensive but still more cost-effective than remediation. These high costs can prohibit residents of manufactured homes from participating in decarbonization programs; thus households with some of the highest energy burdens can be excluded. Current approaches to energy and building retrofit programs, including IRA funding, do not sufficiently cover these upgrade costs, and there are few other resources available to address the issue.

Additionally, many decarbonization programs offer assistance in the form of rebates, which require homeowners or landlords to cover the up-front costs. This is prohibitive for low-income homeowners and could dissuade landlords unwilling to front those costs. Therefore, many of the homes that would most benefit from decarbonization will be left behind under this approach. Those remaining on a dwindling natural gas infrastructure will end up spending more money to maintain it as others increasingly electrify. Over time, without access to upgrades, environmental and social justice communities will still be left paying higher bills.[96]

An Association for Energy Affordability (AEA) crew member working on a weatherization project at an apartment in the South Bronx, New York City.

Finally, language, cultural, or other barriers may dissuade some of the most impacted households and communities from participating in decarbonization efforts and programs. For example, undocumented people may be left behind because their immigration status excludes them from participating or dissuades them from volunteering. Members of communities that have been negatively impacted by government policies may also be distrustful of public programs.

RISK: DECARBONIZATION MAY NOT BE DONE HOLISTICALLY OR EQUITABLY

Housing upgrades that are not done holistically, or that focus only on reducing GHG emissions or improving energy efficiency, risk sacrificing residents' health. For instance, energy efficiency upgrades such as air sealing and adding insulation can make indoor air quality worse if ventilation is not addressed during the building upgrades (hence the adage "Build tight, ventilate right").[97] Electrifying households while leaving them exposed to mold or asbestos is not housing justice. It is critical that building decarbonization upgrades be required to meet best practice standards that encompass both health and energy (see more in the policy recommendations section).

Additionally, building upgrades that improve housing quality risk displacing renters. Landlords and property managers may prolong construction to intentionally displace tenants, or they may raise rents to recoup upgrade costs or reflect increased property values.[98] Many jurisdictions do not have rent stabilization or regulation policies, and even those that do may allow the costs of upgrades to be passed on to tenants. Decarbonization programs that target rental properties must include crucial tenant protections that are required for participation.

Finally, for older and leakier homes, electrification without holistic efficiency upgrades may result in increased utility bills, something that already energy-burdened households cannot afford. We need well-resourced programs that reach all low-income people and communities of color and that bring all homes up to healthy, resilient standards.

The view from an energy efficient window in a South Bronx, New York City apartment that has recently been installed as part of a weatherization project by the Association for Energy Affordability (AEA).

EQUITABLE BUILDING DECARBONIZATION COULD IMPROVE CLIMATE EMISSIONS, HOUSING QUALITY, AND HEALTH

Building decarbonization currently is focused on electrification and energy efficiency as strategies to reduce climate emissions. However, we have the opportunity to integrate equity, housing quality, and energy justice into building upgrades to address long-standing disparities in housing and advance housing justice—along with climate justice, mitigation, and adaptation (Figure 2). Further, an equitable approach to building decarbonization is necessary to achieving the scale, scope, and pace of the GHG emissions reductions we need to combat the climate emergency. Far too often, climate policies narrowly focus just on reducing GHG emissions, citing cost concerns. But expanding the scope of building decarbonization to include benefits that communities can tangibly see realized in their health would help build the strong public support and momentum needed to sustain transformative change. As observed by the U.S. National Academies of Sciences, Engineering, and Medicine: "To maintain public support through a 30-year transition, the United States will need specific policies to ensure a fair distribution of both costs and benefits. . . . [This] cannot be achieved without the development and maintenance of a strong social contract."[99]

The benefits of equitable decarbonization are myriad. Holistic building upgrades that are supported by government investment, center community leadership and engagement, and address affordability and health can both reduce climate emissions and significantly improve public health—with low-income, Latine, and Black communities, manufactured home residents, renters, and others finally getting what they should have always been guaranteed: healthy and sustainable homes. Public monies invested in these ways will see significant, diverse, and sustained benefits that dwarf the initial costs. For example, for every dollar spent in remediating lead paint hazards, there is $17–221 returned in health, educational, societal, and financial benefits.[100] Other studies have found that every dollar spent on home repairs returns $2.84 in social benefits and that having stable, healthy housing reduces depression, anxiety, and emergency room visits for children.[101]

"To maintain public support through a 30-year transition, the United States will need specific policies to ensure a fair distribution of both costs and benefits. . . . [This] cannot be achieved without the development and maintenance of a strong social contract."

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Rhiannon Beesley, energy auditor with the Energy Resource Center (ERC), chats with Ngoc Doan, owner of a home being weatherized in Denver, Colorado on September 9, 2022.

FIGURE 2: THE MAIN PRINCIPLES AND THEMES NEEDED TO ACHIEVE EQUITABLE AND HEALTHY HOUSING FROM A JUSTICE-ORIENTED APPROACH

Climate justice, energy justice, public health, and housing justice are all integral to creating and maintaining healthy and resilient communities. The major themes in the outer circle are necessary to achieve goals in all areas.

Specific examples of how holistic upgrades can improve some of the health and energy impacts discussed in the previous sections include the following:

Weatherization of homes can improve asthma and allergy outcomes by reducing infiltration of outdoor air pollutants and providing better temperature and moisture control. One study found that combining home weatherization with visits from community health workers, compared with visits from health workers alone, led to greater reductions in the percentage of children with poorly controlled asthma, greater decreases in-home asthma triggers, and quality-of-life improvements for their caregivers.[102] Another study found that children had fewer headaches and less eczema and skin allergies after their homes were weatherized.[103]

Heat pump technologies can serve multiple end uses, including efficient space heating, cooling, water heating, and clothes drying. Efficient heat pumps in conditioned living spaces make both heating and cooling available and more affordable when done in conjunction with weatherization and have been found to improve indoor air quality by reducing the toxic gases carbon monoxide and nitrogen oxides.[104] Installing thermostats and heat pumps allows residents—especially renters—to control temperatures in individual units, unlike in older housing with building system radiators. Ductless heat pumps can provide thermal benefits without needing to add ducting systems to older buildings that do not have a central HVAC system, reducing project costs and physical disruption to the building structure.

Electrification and energy efficiency together give residents a double benefit: reduced utility bills and comfortable indoor temperatures. A study of 30 modeled single-family homes in Denver, CO found that multiple measures made it possible to electrify homes without negatively impacting utility bills, although up-front costs remained a major barrier.[105]

Replacing fossil fuel–burning appliances with electric appliances can improve indoor and outdoor air quality. A recent study estimated that removing gas stoves could entirely prevent a significant percentage of childhood asthma cases.[106] Improved outdoor air quality from building electrification can also benefit disadvantaged communities, according to modeling in California.[107] A recent pilot study in New York City public housing found that replacing gas-burning stoves with induction stoves led to significant reductions in the in-home air pollutants nitrogen dioxide and carbon monoxide.[108] This pilot study prioritized engagement with residents. It reported overwhelming resident support and preference for the new induction stoves, which provided safety benefits and ease of cooking and cleanup.

Holistic building upgrades can also provide climate resilience benefits. Backup power and on-site power generation can protect home utilities and appliances from the impacts of power outages and shutoffs resulting from severe weather. Both retrofits of existing buildings and new building construction should include climate resilience measures to reduce the number of power interruptions and shorten their duration when they do occur.[109]

Removal of mold, asbestos, and other in-home toxics that lead to chronic health problems can improve overall health outcomes, reducing individuals' health risks in climate emergencies (when underlying health conditions can exacerbate mortality) and building climate and community resilience.[110]

POLICY RECOMMENDATIONS

We have shown many ways in which building decarbonization could be both beneficial and detrimental to low-income communities and communities of color that have been systematically affected by decades of racist policies and discrimination. But we can prevent harm and maximize beneficial outcomes through strategic policies and programs. We describe here different groups of policies that can help ensure equity is centered in building decarbonization programs and can address long-standing housing quality, energy, and health issues. These recommendations are not comprehensive or exhaustive, but rather are meant to represent some high-level approaches that can be utilized in different decision-making contexts (city, state, and federal), fleshed out with examples from different sectors where applicable. The specifics of any policy or program should be determined in collaboration with impacted communities.

I. BUILDING DECARBONIZATION PROGRAM DESIGNS SHOULD ENCOMPASS HEALTH, AFFORDABILITY, AND ENERGY EFFICIENCY.

Federal, state, utility, and other building decarbonization programs should:

- Require holistic building upgrades to address structural deficiencies and hazardous materials as a prerequisite to building decarbonization, especially at no cost to low- and moderate-income residents.
- Ensure that building upgrades result in lower utility bills and improved indoor environmental quality for the most impacted residents.
- Track metrics that address the health of impacted populations and build in other mechanisms to ensure accountability for improving health.
- Integrate climate resilience measures, such as on-site renewable power generation and backup power, into upgrades.
- Require that building decarbonization upgrades be mandated to meet best practice standards or certifications that encompass energy and health, like Enterprise Green Communities or the Environmental Protection Agency's Energy Savings Plus Health Guidelines.[111]
- Hold property owners and landlords, not renters, accountable for ensuring healthy housing quality and for participating in programs that are accessible to renters.
- Target direct-install programs (programs with services and products provided directly to residents at no cost) to low-income participants that cannot afford the up-front costs of upgrades.

Heat pumps are all-electric and can provide both efficient heating and cooling.

- Ensure renter protections and enforcement mechanisms, such as prohibiting pass-through costs for building upgrades in affordable and rent-controlled units and prohibiting evictions or rent increases for a set number of years following upgrades.
- Ensure that there is adequate funding for residents of deed-restricted affordable houses and low-income homeowners to implement holistic building upgrades.
- To support the higher up-front costs required for holistic building upgrades, conduct comprehensive cost–benefit analyses that account for the long-term savings and improved health from these upgrades, such as reduced costs for individuals and health care institutions.

Example: Efficiency Vermont (EVT) is a nonprofit implementer of the state's utility-funded energy efficiency programs.[112] EVT initially targeted customers with incomes below 80 percent of the area median income (AMI) and a minimum energy use of 10,000 kWh/year and worked with the federal Weatherization Assistance Program to conduct energy assessments and install high-efficiency appliances (e.g., LEDs, heat pumps, heat pump water heaters). However, EVT found that these thresholds excluded many homes with high energy burdens, so it changed the program to target homes with both lower incomes (<80 percent AMI) and high electric energy burden (≥ 3 percent of household income) while removing the minimum energy use requirement. These changes allowed EVT to more accurately identify the households with the greatest need and to recenter the program.

Example: HUD supported upgrades in federally assisted housing in Cincinnati, OH serving a primarily Black, low-income community and funded researchers to track air quality and health outcomes pre- and post-upgrades. The upgrades included structural repairs, removal of mold and water damage, weatherization, and energy efficiency improvements. The prevalence of asthma among 7-year-old children in the community dropped by almost 50 percent in the years after the upgrades were completed.[113]

2. PUBLIC INVESTMENTS SHOULD BE DIRECTED TO AND BENEFIT COMMUNITIES FACING THE GREATEST HOUSING AND HEALTH DISPARITIES.

Federal, state, and local governments should:

- Allocate specific and sufficient funding for equitable building decarbonization of affordable housing in order to reach communities of color, renters, and multifamily and lower-income communities and to address deferred maintenance, lead, mold, asbestos, and other quality, health, and safety issues.
- Direct funding from the Inflation Reduction Act and other government investments to benefit renters, multifamily residents, low-income communities, and communities of color.
- Prioritize the most impacted communities for equitable building decarbonization investments.
- Ensure that corporate-owned housing[d] does not receive any of the limited public funds for decarbonization.

Example: Federal WAP funds contain an average-cost-per-dwelling-unit cap as well as mandates regarding the savings-to-investment ratio for installed measures. These requirements can make it prohibitive to address health and safety issues as part of WAP programs. But states can create a separate budget cost category specifically to address health and safety issues that are not subject to these requirements.[114] Many states have already done this and are now able to leverage WAP funds to address health and safety.

Example: The San Joaquin Valley in California has some of the worst environmental, health, and poverty burdens in the state. Many residents rely on burning wood or propane for energy. Community members and activists worked to pass a bill requiring the California Public Utilities Commission (CPUC) to address energy affordability and safety for low-income residents, resulting in the state creating a pilot program targeting these communities. For two years, residents, utilities, and CPUC staff and leadership worked together to develop and implement a program that fit the unique energy needs of each community. Through workshops, community meetings, and individual calls with communities, the CPUC's final decision plan reflected the clean energy priorities of communities and created a blueprint for the remaining communities in the San Joaquin Valley that will need investments in clean and affordable energy. The pilot program illustrated the need for sufficient and increased funding for good quality holistic home upgrades in decarbonization programs and ongoing, meaningful community engagement in program design, implementation, and evaluation.[115]

3. IMPACTED COMMUNITIES SHOULD HAVE LEADERSHIP AND ENGAGEMENT IN THE DESIGN, IMPLEMENTATION, AND EVALUATION OF BUILDING DECARBONIZATION PROGRAMS AND POLICIES.

Governments, utilities, and others involved in building decarbonization programs and policies should:

- Work collaboratively with existing community-based organizations and coalitions for program and policy design, implementation, and evaluation.
- Provide sustained and adequate funding to fairly compensate community organizations and members for providing their time and expertise.
- Provide transparency by making information relevant to program and policy impacts on health, housing, and equity publicly available.
- Ensure that the makeup of advisory groups, boards, and committees is reflective of the impacted communities, and shift the decision-making power of these groups to the community representatives.

d A corporate landlord is a business entity operating as an investment vehicle, such as an LLC, that exists for the sole purpose of renting properties for profit.

- Provide culturally appropriate, language appropriate, and accessible resources for communities on how to access programs and best utilize new technologies and appliances.

Example: The City of Portland, Oregon, followed a community-led engagement model, the Zero Cities Project, which gave decision-making power to communities of color with the goal of closing the racial justice gap.[116] This led to the adoption of both climate and health standards, with the main message emerging that any decarbonization goals must include health standards as well.

Example: For its *Report on Equitable Building Decarbonization* for the city of Los Angeles, the Climate Emergency Mobilization Office implemented a climate equity innovative governance model that collected community feedback and prioritized equity and community-centric initiatives. Their process included multiple virtual public workshops, targeted focus groups, and individual and group interviews with local community experts and advocates. It prioritized gathering information and input from multiple groups within the various communities and neighborhoods of L.A.[117]

4. TO ADVANCE HOUSING JUSTICE, TARGET POLICIES TO ADDRESS ROOT CAUSES OF RACIAL, HOUSING, WEALTH, AND HEALTH DISPARITIES.

Governments and advocates should:

- Shift the narrative on housing from a vehicle for profit and wealth to a human right that should be sustainable and healthy for future generations.
- Along with reducing heat exposure through greater access to cooling, take multifaceted approaches to extreme heat that address housing stability, increased tree canopy, and other strategies to lower local temperatures.[118]
- Adopt a maximum indoor temperature for housing units, and ensure that there are resources to provide cooling to meet these standards.
- Develop and implement enforceable anti-displacement requirements to accompany building upgrades, including prohibitions on rent increases or evictions as a requirement of participation.
- Maintain and improve access to affordable housing.
- Connect holistic home upgrade policies to high-road job standards, ensuring that job creation from building decarbonization efforts leads to high-quality jobs.[119]
- Connect holistic home upgrade policies to energy democracy and democratization of the grid, to build the foundation for future decisions and programs that better serve all constituents.
- Revise or remove programs and policies that drive residential segregation, such as exclusionary zoning, and advance policies that promote fairness in housing.
- Implement multi-benefit projects that achieve decarbonization while improving the living conditions and habitability of housing units, including by reducing exposure to pollutants and toxic substances (such as mold and asbestos) and improving air quality.

Example: The Affirmatively Furthering Fair Housing Rule requires that HUD take meaningful steps to meet the Fair Housing Act's objectives, such as community desegregation.[120] The current administration introduced new rulemaking in 2023 that seeks to take actions to "overcome patterns of segregation, promote fair housing choice, eliminate disparities in opportunities, and foster inclusive communities free from discrimination."[121]

Example: In California, with the passage of Senate Bill 469, affordable housing developments financed with public funding no longer require voter approval, as was mandated under an antiquated article of the state constitution from the pre–civil rights era. This article discriminated against low-income households, especially residents of color, and sought to limit affordable housing development and prevent these residents from living in wealthier, White neighborhoods. This bill is one step in undoing much of the damage from segregationists who implemented racist policies at local, state, and federal levels as we seek housing justice for all.

Example: In 2022 California's budget package included Assembly Bill 209, through which the legislature allocated $5 million to the Housing and Community Development agency to develop policy recommendations for a maximum indoor air temperature standard by January 1, 2025. While this is an important step toward a legally binding standard, residents across California are already experiencing the effects of extreme heat.[122] Currently, advocates are working to shape implementation to ensure that all Californians are able to reside in healthy, temperature-controlled dwellings.

CONCLUSION

We have a historic opportunity to transform the built environment from one that drives climate change and disproportionately harms the health of low-income communities and communities of color to one that supports healthy, all-electric, climate-resilient homes for the most impacted people. By understanding how racist policies and practices created current patterns of disparity, and looking to impacted communities for leadership moving forward, we can advance equitable programs and policies that will address the climate crisis and improve health, allowing future generations to thrive.

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