



It's Time for Congress To Protect Americans From Deadly Extreme Heat

By Elise Gout and Cathleen Kelly August 12, 2021

Once again, the summer has been a barrage of broken records. Cities and counties across the United States are hitting their highest temperatures to date—104 degrees Fahrenheit in Reno,¹ 108 degrees in Seattle,² 118 degrees in Palm Springs³—as reservoirs in the West fall to their lowest water levels yet.⁴ Meanwhile, the 2021 fire season rages on, with more than 3.6 million acres burned and counting.⁵

What truly sets this year of extreme heat apart, however, is the clear opportunity that exists for the federal government to do something about it. As Congress continues to negotiate the policy details and funding levels of President Joe Biden's Build Back Better package, lawmakers must include sufficient investment in lifesaving heat mitigation and carbon and local pollution reduction measures. Without this congressional intervention, extreme heat will only continue to result in devastating public health and economic impacts—the brunt of which are experienced by Black, Latino, Indigenous, and other people of color, as well as those living in low-income and disadvantaged communities.

The public health impacts of extreme heat

On average, heat waves are responsible for more deaths every year than any other extreme weather event—both globally and domestically.⁶ In June, there were some 800 deaths⁷ attributed to the record-shattering heat wave in the Pacific Northwest and British Columbia, with more than 3,500 people in the United States admitted to the emergency room for heat-related illnesses.⁸ Most at risk to the health impacts of extreme heat are low-income people; Black, brown, Indigenous, and other people of color; and those without access to air conditioning or safe and adequate shelter.⁹

The disproportionate vulnerability of these populations is in part because of a lack of access to green spaces and tree cover. Low-income urban neighborhoods can have up to 40 percent less tree cover than communities where only 10 percent

of residents live below the poverty level.¹⁰ Neighborhoods in which a majority of residents are people of color have one-third less tree cover, on average, than white communities—regardless of their income.¹¹ Without the natural cooling provided by tree cover and green spaces, low-income communities and communities of color become urban heat islands,¹² experiencing temperatures up to 7 degrees higher during the day and 22 degrees higher at night than their wealthier, whiter counterparts.¹³ These disparities are the product of a long legacy of environmental racism and segregationist housing policy, including redlining, in the United States, which unfairly denied communities of color access to home mortgages and directed investment away from Black, Hispanic, and immigrant neighborhoods.¹⁴

People of color and low-income people are also less likely to live in energy-efficient buildings or to have functioning heating, ventilation, and cooling (HVAC) systems.¹⁵ During a heat wave, these individuals quickly become unsafe in their own homes, and while local officials often advise people without air conditioning to take shelter in public cooling centers, cooling centers aren't always accessible for those who have disabilities or who lack affordable access to transportation.¹⁶ During the COVID-19 pandemic, these centers are also a less viable option for people with preexisting health conditions or other illnesses.¹⁷

Even the individuals who do have air conditioning may not have the financial means to use it. In 2018, 1 in 3 households faced challenges meeting their energy bills.¹⁸ African American households are the most affected, accounting for nearly half of the energy-poor households in the United States, followed by Latino households.¹⁹ In this way, underlying economic inequities exacerbate public health risks, with some households forced to forgo air conditioning to cover the cost of other basic life necessities, such as food and rent.

In states such as Florida, this trade-off will prove particularly deadly. Cities in Florida, on average, experience up to 40 dangerous heat days, or days exceeding 90 degrees Fahrenheit, each year; by 2050, that number is projected to jump to more than 170 dangerous heat days each year—more than any other state.²⁰ To ensure that all residents are prepared to manage this extreme heat, The CLEO Institute, a Miami-based climate justice organization, is working with Duke Energy²¹ and advocating that other power companies serving Florida limit the number of power disconnections due to nonpayment during hurricanes and extreme heat, support energy efficiency improvements, and provide energy bill assistance.²²

“Far too many families face astronomical energy bills, in part due to the lack of robust energy efficiency programs offered by major utility companies such as TECO Energy, Florida Power and Light, and Orlando Utilities Commission,” Yoca Ardití-Rocha, executive director at The CLEO Institute, shared with the authors of this issue brief. “It’s past time that the Florida public service commission and our energy providers worked alongside residents to address energy burdens.”²³

The economic impacts of extreme heat

The public health impacts of extreme heat, then, have resounding economic consequences, particularly when it comes to the workforce.²⁴ In one study from July, researchers found that hotter temperatures significantly increased the likelihood of both indoor and outdoor worker injury in California.²⁵ It was estimated that from 2001 to 2018, hotter temperatures in the state caused about 20,000 additional injuries per year.²⁶ Given their long and direct exposure to sunlight, migrant farmworkers—many of whom are low-income people of color—are disproportionately at risk,²⁷ dying of heat-related illnesses at roughly 20 times the rate of other civilian workers.²⁸ When the health and safety of workers are compromised, so too are the productivity and revenue streams of the companies for which they work.

The impact of extreme heat on productivity extends to tomorrow's workforce as well, as heat exposure has been found to inhibit student learning and performance in the classroom.²⁹ One study found that high school students in New York City were 12.3 percent more likely to fail an exam on a 90-degree day than on a 72-degree day.³⁰ Yet more than 40 percent of school districts in the United States—the majority of which are primarily attended by low-income students and students of color—do not have adequate air conditioning in at least half their buildings.³¹ The number of hot school days thereby contributes to the racial achievement gap, further obstructing the access that students of color have to learning and professional opportunities.³²

Extreme heat also destabilizes the economic output of entire industries, perhaps most notably in the agricultural sector. During the 2011 heat wave, for example, farmers had no choice but to leave swaths of land barren during the growing season due to sweltering temperatures and incredibly poor soil conditions. The heat wave is estimated to have cost more than \$14 billion in damages,³³ including more than \$1 billion in livestock losses.³⁴ This year, crop yields in the western United States are already expected to suffer a similar fate,³⁵ as are fish populations.³⁶

Putting today's extreme heat in context

These impacts of extreme heat—in all their severity—are the consequence of about 1 degree Celsius of global warming since the preindustrial era.³⁷ Because the effects of warming are felt long after greenhouse gases enter the atmosphere, the extreme heat that is blanketing the United States today is going to get worse before it gets better—and getting better is far from a guarantee.

Scientists estimate that, without aggressive and immediate emissions reductions, the world is on track to reach 3 degrees Celsius of warming by 2100.³⁸ This trajectory of warming is likely to drastically accelerate and intensify heat waves in almost every region across the globe, including in the Northern Hemisphere, according to the Sixth Climate Assessment, which the U.N. Intergovernmental Panel on Climate Change issued this month.³⁹

Along the way, the climate will also begin to pass invisible “tipping points”—points of no return—in which melting permafrost, receding forests, or collapsing ice sheets trigger positive feedback loops of runaway emissions.⁴⁰ For example, extreme heat increases the risk of wildfires and drought, both of which decimate forests; when forests shrink, they are no longer able to store carbon dioxide. This additional concentration of carbon dioxide in the atmosphere then warms the planet further and causes more frequent and intense heat waves. The heat wave in the Pacific Northwest shattered records to such an extent—a once-in-1,000 year event, according to climate models⁴¹—that some scientists are wondering if the Earth’s climate system has already reached one of these tipping points.⁴² If that’s the case, then extreme heat events will continue to increase in frequency and severity at a rate beyond what climate models are currently projecting. Even if a tipping point hasn’t been reached yet, heat waves of similar proportions are expected to occur every 5 to 10 years by 2050, should the Earth continue on its current trajectory of global warming.⁴³

Recommendations

Altogether, this means that: 1) the United States cannot afford to miss another opportunity to invest in climate action; 2) climate mitigation measures alone are not enough; and 3) climate solutions must center equity and justice to reduce the disproportionate levels of pollution and climate change risks in communities of color and low-income areas.⁴⁴ In addition to incentivizing the significant reduction of greenhouse gas emissions,⁴⁵ Congress must dedicate funding toward helping the country—particularly people in low-income communities and communities of color—adapt to extreme heat. Congress must also ensure that the Build Back Better investment package supports President Biden’s historic commitment to deliver 40 percent of all benefits from climate, clean energy, and infrastructure investments to disadvantaged communities.⁴⁶

Specifically, Congress should invest in the following priorities:

Heat stress mitigation

- **Green spaces:** Increasing the concentration of and access to green spaces in communities is a straightforward, nature-based solution for mitigating extreme heat and other climate change effects. Consistent with the recommendations put

forward by the White House Environmental Justice Council, Congress should direct additional investments to the Department of Housing and Urban Development (HUD) and Department of Energy (DOE) to increase tree planting in communities, install green roofs, and support other related green infrastructure initiatives.⁴⁷

- **Financial assistance program:** Relatedly, Congress should enact the Preventing Health Emergencies and Temperature-related (HEAT) Illness and Deaths Act.⁴⁸ Reintroduced in July 2021 by Sens. Ed Markey (D-MA) and Alex Padilla (D-CA), the bill would, among other provisions, establish a \$100 million financial assistance program to fund community projects that reduce the health impacts of extreme heat. The program is designed to prioritize projects in historically disadvantaged communities and communities with heat disparities that are associated with race and income.
- **Reconnecting communities:** During a heat wave, the stagnant air over a community will trap whatever fine particulate matter and other pollutants are being emitted, creating a thick layer of smog.⁴⁹ Investing in the expansion of public transit would reduce highway dependency and help minimize the air pollution from fossil fuel-powered cars, thereby mitigating respiratory health impacts.
- **Energy assistance:** Congress must also support the Low Income Home Energy Assistance Program to subsidize the weatherization and energy costs of households, including those that rely on air conditioning to ensure healthy and safe living conditions during heat waves. The program itself should be updated so that it supports the purchase of home cooling systems, such as air conditioning units and heat pumps. In a March 2021 letter to congressional leadership, the Equitable and Just National Climate Platform called for Congress to direct an additional \$7 billion to this program.⁵⁰
- **Heat stress mapping:** To best address extreme heat, policymakers will need to understand where its impacts are—and will be—most prevalent. To that end, Congress should invest in the development of improved heat stress data collection and mapping to ensure the populations most at risk are both identified and prioritized for federal support. Specifically, Congress should invest in expanding and strengthening the National Integrated Heat Health Information System (NIHHIS); require the NIHHIS to study extreme heat threats and recommend strategies that will improve preparedness and address environmental justice and data gaps; and enhance interagency coordination to mitigate heat risks, as recommended in the HEAT Act.⁵¹

Building electrification

- **Green school infrastructure:** Public schools will need to retrofit their buildings with energy-efficient HVAC systems, rooftop solar installations, all-electric appliances, and other decarbonization technologies necessary for electrification. Congress should dedicate long-term federal funding to advancing this kind of green school infrastructure so that schools are able to provide cool, healthy, and productive learning environments for all students.⁵²
- **Heat pump incentives:** Heat pumps are a critical tool for building electrification and offer an energy-efficient alternative to traditional air conditioning units. To prevent air conditioning units from causing additional atmospheric warming through their emission of refrigerants and other greenhouse gases, Congress should incentivize the purchase and installation of heat pumps, such as through a new consumer rebate program.⁵³ A heat pump consumer rebate program would accelerate the adoption of affordable, energy-efficient cooling systems, particularly among low-income homeowners and renters, while also producing net gains for climate mitigation.

Energy efficiency

- **Demand response:** As an increasing number of households are equipped with air conditioning units, Congress should also fund educational outreach programs to increase the use of demand response among energy consumers. When temperatures skyrocket, people rely on being able to crank up their air conditioning. That surge in electricity demand can prompt a surge in electricity prices, exacerbating energy poverty and potentially overloading the power grid.⁵⁴ Through demand response, energy consumers can shift their electricity use to off-peak hours and avoid blackouts and price hikes.
- **Energy Efficiency and Conservation Block Grant Program (EECBG):** The EECBG provides grant funding to states, tribes, and communities to develop and implement energy efficiency projects and help households realize energy cost savings. The Equitable and Just National Climate Platform has called for Congress to reinstate and direct an additional \$3.9 billion to this program.⁵⁵
- **Weatherization Assistance Program (WAP):** Similarly, the WAP supports low- and middle-income homeowners with energy efficiency improvements to minimize their energy use and utility bills. However, the program does not cover the cost of making outstanding home repairs, which can make energy improvements too expensive to meet the program's cost-benefit tests. This creates a barrier for low-income homeowners and renters, who don't have the means or authority to keep up with essential home repairs. The WAP should therefore be expanded to cover home repairs that are a prerequisite for efficiency and weatherization upgrades, such as roof and siding replacement.⁵⁶ To meet current household needs, the Equitable and Just National Climate Platform has called for Congress to provide at least \$7 billion in funding for the program.⁵⁷

- **Energy-efficient and climate-ready affordable housing and community development:** Alongside funds for energy efficiency upgrades, Congress should invest in building additional energy-efficient, climate-resilient, and transit-oriented affordable housing and infrastructure. Programs through which this funding could be directed include the Community Development Block Grant Program, Community Development Financial Institutions, the Housing Trust Fund, and the Low-Income Housing Tax Credit program.

Conclusion

Year after year, the United States will continue to surpass record-breaking temperatures. For too many low-income people and people of color, the availability of federal investments in heat-stress mitigation, building electrification, energy efficiency improvements, and other actions to reduce carbon and local pollution will be the difference between life and death.

While extreme heat is here to stay, its debilitating public health and economic impacts don't have to be. As Congress mobilizes around President Biden's Build Back Better agenda, it has the tremendous opportunity—and equally, the tremendous responsibility—to invest in federal programs that will equip all Americans not only to survive this new normal but also to prosper in safe and healthy communities.

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