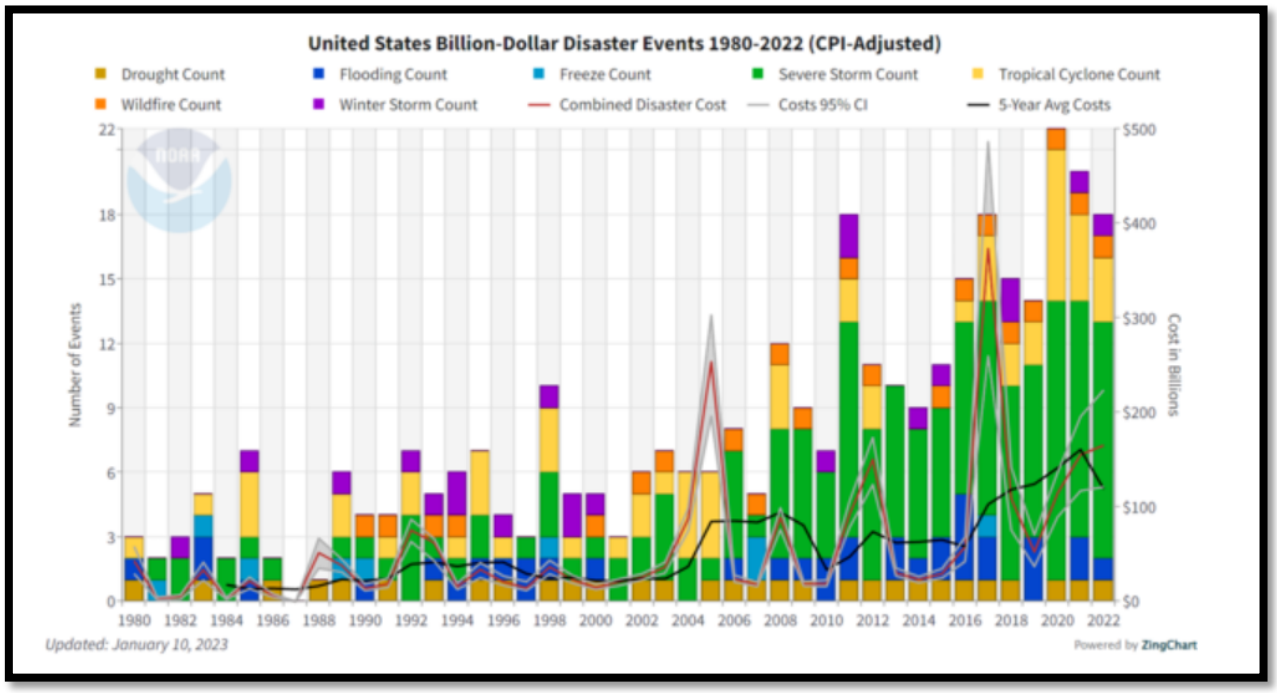
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Climate Initiative

Overview

The increasing frequency, intensity, and duration of natural disasters and severe weather events due to climate change present a growing risk to the health and safety of HUD-assisted households, as well as the physical assets financed or subsidized by HUD through a wide range of formula and competitive grants, rental assistance, and mortgage insurance programs.[1] Calendar Year 2022 was another active year for disasters; the U.S. saw 18 weather and climate disasters with losses exceeding $1 billion. These events, indicated in the table below, caused at least 474 direct or indirect fatalities as well as serious economic losses.[2]



Communities served by HUD programs, which often have a significant share of low- to moderate-income households and people of color, are often more vulnerable to climate change due to their locations, aging infrastructure, and historic disinvestment. HUD's 2024 President's Budget addresses climate change on two fronts: both in lowering the carbon footprint of the 4.5 million units of public and assisted housing, and at the same time helping the communities served by HUD programs to better withstand and increase their resilience to future disasters. This work is aligned with HUD's comprehensive Climate Action Plan.[3]

2024 Budget

The Budget requests $752 million for targeted investments to improve the quality of housing through climate resilience and energy and water efficiency. As part of the Administration's whole-of-government approach to the climate crisis, the Department is committed to expanding efficient and

[1] See HUD's recently published *Climate Resilience Toolkit,* https://www.hudexchange.info/news/resource-available-hud-community-resilience-toolkit/

[2] NOAA National Centers for Environmental Information (NCEI) (2022). *U.S. Billion-Dollar Weather and Climate Disasters.* https://www.ncdc.noaa.gov/billions/time-series

[3] HUD's Climate Action Plan, https://www.hud.gov/climate.

resilient housing options in public and other HUD-assisted housing. Proposed funding will support existing programs and initiatives, such as the Rental Assistance Demonstration, Public Housing, Native American Housing, and Choice Neighborhoods. HUD will continue with a robust set of measures to strengthen minimum building codes and standards, incentivize investments in energy-efficient, high-performance buildings, and provide technical assistance to HUD partners to implement proven measures such as utility benchmarking to measure energy use and resulting carbon emissions in their properties.

Of the $752 million in climate related requests, $20 million is requested for furthering utility benchmarking at public housing properties. HUD is working across the Department to increase the number of properties successfully engaged in utility benchmarking and to implement cohesive agency-wide systems designed to effectively manage and monitor utility usage, including seeing year-over-year trends, verifying utility expenditures, managing utility cost reduction incentives, understanding building performance, and tracking progress toward utility consumption and climate goals.

Climate investments are proposed in the following program areas:

Program Office	Budget Activity	2024 President's Budget Request for Climate Initiatives
Public and Indian Housing	Public Housing Fund	$300 million
Public and Indian Housing	Native American Programs	$150 million
Public and Indian Housing	Choice Neighborhoods	$185 million
Housing (Multifamily)	Rental Assistance Demonstration	$112 million
PD&R	Climate-related research	$5 million
Total		**$752 million**

Public and Indian Housing:

- **Public Housing Fund:** The Budget requests $300 million for a Site-Based Public Housing Enhancement, Resilience, and Efficiency (SPHERE) Grants program to promote the preservation of public housing through targeted capital investments in properties with critical, extensive, and pervasive modernization needs that are not met through annual formula grants awarded through the Public Housing Fund. Of this, up to $20 million will be used to advance public housing benchmarking in 2024. The targeted capital investments under SPHERE will further the Administration's priorities by preserving the critical housing supply, improving living conditions, and promoting climate resilience since this proposed program would require capital investment in state-of-the-art utility conservation measures.
- **Native American Programs:** The Budget requests $150 million for the Indian Housing Block Grant (IHBG) competitive program, which focuses on projects that spur construction and rehabilitation of housing units. The funds would permit HUD to prioritize projects that further climate resilience, increase energy efficiency, improve water conservation, and sustain these improvements over a long period. This will modernize existing housing, reduce harmful emissions and consumption of energy, and reduce utility costs in tribal housing.
- **Choice Neighborhoods:** The Budget requests $185 million for the Choice Neighborhoods program, which helps communities develop and implement locally driven comprehensive neighborhood plans to transform underserved neighborhoods. The program advances climate resilience and environmental justice by redeveloping and replacing distressed public and

multifamily housing and neighborhood amenities with resilient and energy-efficient structures.

Multifamily Housing:

- **Rental Assistance Demonstration (RAD) Program:** $112 million to transition approximately 30,000 public housing units and 3,000 202 Project Rental Assistance Contract units to a more sustainable platform – $62 million under the Project Based Rental Assistance Program (PBRA) and $50 million under the Tenant Based Rental Assistance Program (TBRA). As part of the conversion to either PBRA or TBRA, properties undergo an extensive environmental review and mitigation/improvement process. Also, all properties are evaluated for their energy and water efficiency and implement cost-effective improvements to decrease their carbon footprint. This conversion process preserves and improves the properties and will enable public housing authorities and multifamily owners to holistically address critical property needs, environmental hazards, and energy inefficiencies, and increase housing choice for residents.

Policy Development and Research:

Climate-Related Research: $5 million to fund research in housing, climate adaptation, and resilience, to be administered by the Office of Policy Development and Research. This research includes studying opportunities to mitigate the climate-related risk to HUD properties and HUD-assisted households, evaluating existing programs supporting recovery from and resilience to environmental threats, and researching energy efficiency and environmental justice issues in the Nation's housing stock.

Lowering Carbon Emissions and Energy Costs

As noted above, HUD has released a comprehensive Climate Action Plan. That plan can be accessed at https://hud.gov/climate.

HUD has a portfolio of approximately 4.5 million existing public and assisted housing units and plays a key role in the development and preservation of affordable housing through a wide range of programs. HUD's annual outlays on utilities (energy and water) in this housing stock consume as much as 14 percent of the Agency's total budget and, according to an internal HUD analysis, produce an estimated 13.6 million metric tons of carbon emissions.[4] Improving the energy performance of HUD assets will play a significant role in reducing these outlays – allowing for more funds to be spent on housing rather than utilities – and simultaneously lowering carbon emissions across HUD's public and assisted housing portfolio. Due to their experience delivering effective carbon mitigation programs, the HUD Offices of Public and Indian Housing (PIH) and Housing are positioned to scale decarbonization and resilience efforts with additional funds proposed in this Budget. In addition, the Department will continue to support strong partnerships with DOE, such as the Better Buildings Challenge and Better Climate Challenge, as well as better integration of HUD healthy housing and rehabilitation funds with DOE weatherization funding.

Key Initiatives: Current and previous energy and water conservation initiatives demonstrate the potential for achieving energy savings and carbon reduction with the right mix of incentives, direct financial support, and/or technical assistance. The Multifamily Green Retrofit Program funded by the American Recovery and Reinvestment Act of 2009, for example, invested $250 million to retrofit 227 HUD-assisted multifamily properties, resulting in cost-effective interventions that produced

[4] Preliminary internal HUD estimate of carbon emissions, March 2021. Assisted multifamily and Housing Choice Voucher unit counts from *Characteristics of HUD-Assisted Renters and Their Units in 2017* (2020) and public housing unit counts from PIC database were used to estimate total BTU consumption for each subsidy type by Census Region, using per-household annual BTU consumption rates from the Residential Energy Consumption Survey (RECS).

average energy and water savings of 18 percent and 26 percent respectively.[5] Current activities include:

- Funded by the 2022 Inflation Reduction Act, the Green and Resilient Retrofit program provides funding to the owners of multifamily-assisted properties to rehabilitate these properties to be more energy and water efficient, healthier, and more resilient to natural hazard events. It is critical for HUD to strengthen the HUD-assisted multifamily portfolio so that it is better prepared to protect tenants, reduce property damage, and mitigate the impact of our uncertain climate future on the low- and extremely low-income residents living in HUD-assisted housing. In addition, the program will yield additional savings and reduce carbon emissions by reducing energy and water consumption within HUD's assisted portfolio through both grant and loan program assistance, as well as through utility benchmarking of assisted properties.

- Energy Performance Contracts (EPCs) in public housing have benefitted about 250,000 units (about a quarter of the current public housing stock) through approximately 315 EPCs approved since the 1980s. In2022, 5 new EPCs or contract modifications with additional construction were approved covering almost 23,000 units of public housing.

- The Green Mortgage Insurance Premium (Green MIP) provides a strong incentive for FHA multifamily borrowers to adopt one of several approved green building standards. A total of $57.1 billion in multifamily mortgage insurance for green projects has been endorsed for 2,117 developments with approximately 404,636 units of multifamily housing since the Green MIP was introduced in 2016 (Table 3).[6] Green MIP borrowers must also commit to benchmarking utilities and achieve a minimum 75 Energy Star score in the Environmental Protection Agency's (EPA) Portfolio Manager for the life of the loan.

Table 3: Multifamily Green MIP Initial Endorsements, by Year

GREEN MIP BY YEAR	Endorsements	Volume ($)	Units
Year			
2016	33	$1,161,773,800	7,690
2017	150	$4,554,443,900	32,750
2018	242	$6,927,075,500	49,263
2019	222	$5,992,005,700	43,422
2020	429	$10,950,515,400	82,549
2021	657	$16,903,852,440	124,703
2022	384	$10,566,596,755	64,259
Grand Total	**2117**	**$57,056,263,495**	**404,636**

- The Multifamily Better Buildings Challenge is a partnership with the Department of Energy (DOE) that supports multifamily housing organizations who voluntarily commit to reducing their energy consumption by 20 percent over 10 years, includes approximately 517,000 units of public and assisted housing (accounting for one-fifth of those programs' units) thus far,

[5] BrightPower and SAHF, *Energy and Water Savings in Multifamily Retrofits: Results from the U.S. Department of Housing and Urban Development's Green Retrofit Program and the Energy Savers Program in Illinois,* June 2014. https://www.brightpower.com/wp-content/uploads/2016/09/Energy-and-Water-Savings-in-Multifamily-Retrofits.pdf

[6] HUD Office of Multifamily Housing, *Multifamily and Healthcare Fiscal Year Production*, Through 2022. https://www.hud.gov/program_offices/housing/mfh/mfdata/mfproduction

and has facilitated about $40 of energy savings for every $1 in Community Compass cross-cutting technical assistance contributed by HUD.

- The Better Climate Challenge is another partnership with DOE that builds upon the Multifamily Better Buildings Challenge to include voluntary, ambitious commitments to reduce carbon pollution. Participating partners must commit to portfolio-wide reductions in carbon emissions of 50 percent over the next 10 years. This initiative was launched on February 28, 2022, and will likely be supported by HUD's Community Compass Technical Assistance (TA) going forward.

- Some HUD programs, including Choice Neighborhoods and Community Development Block Grant-Disaster Recovery (CDBG-DR) have set minimum above-code Energy Star New Home or green building standards for new construction. HUD will take steps to strengthen these green building standards and also update minimum International Energy Conservation Code (IECC) and ASHRAE 90.1 standards as required by statute.[7]

In addition to HUD's 2024 Budget request for $752 million for energy efficient and climate resilient investments, HUD has initiated a robust set of measures as described in the Climate Action Plan to strengthen minimum codes and standards, incentivize investments in energy-efficient, high-performance building, pilot or demonstrate advanced building electrification or decarbonization, and provide technical assistance to HUD partners to implement proven measures such as utility benchmarking to lower energy use and carbon emissions in their properties.

Increasing Community Resilience to Climate Change

Low- and moderate-income communities served by HUD's formula grant and rental assistance programs are especially and increasingly vulnerable to climate-related threats, including but not limited to extreme weather events, extreme heat, coastal flooding, wildfires, and diminished air quality. Several HUD programs play a critical role in helping communities rebuild and implement long-term recovery plans after Presidentially-declared natural disasters. Investments in these areas will bolster the resilience of HUD's inventory of public and assisted housing against these increasingly likely severe natural disasters.

HUD Disaster Programs

- HUD works with communities to respond to or prepare for natural disasters through the CDBG-DR program. Since 1993, the Congress has appropriated over $100 billion in emergency supplemental funding for CDBG-DR. Funding has been made available, for example, to support rebuilding after: Hurricane Sandy in New York, New Jersey, and Connecticut; Hurricane Katrina on the Gulf Coast; more recently, Hurricane Harvey in Texas, and Hurricanes Irma and Maria in Florida, Puerto Rico, and the U.S. Virgin Islands; and many smaller but significant additional disasters. [8] Funds can be used for a wide variety of purposes. In 2018, the Congress appropriated over $12 billion specifically for mitigation activities in States and local communities that experienced qualifying disasters in 2015, 2016, and 2017, primarily in the south and southeastern U.S. (these funds were supplemented for a total of $15.9 billion awarded for mitigation).[9] This funding is a significant opportunity for grant recipients to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses in areas impacted by recent disasters.

[7] Section 109, Cranston-Gonzalez National Affordable Housing Act of 1990 (42 U.S.C. 12709) as amended by Section 481 of the Energy Independence and Security Act of 2007.
[8] HUD Exchange, Congressional Appropriations By Year, https://www.hudexchange.info/programs/cdbg-dr/cdbg-dr-grantee-contact-information/#congressional-appropriations-by-year
[9] Further Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2018 (Division B, Subdivision 1 of the Bipartisan Budget Act of 2018, Pub. L. 115–123, February 9, 2018. See Federal Register Notice FR–6109–N–02. https://www.govinfo.gov/content/pkg/FR-2019-08-30/pdf/2019-18607.pdf

- In the past, HUD has also supported capital-intensive infrastructure investments through competition, notably the Rebuild By Design and National Disaster Resilience Competitions. Launched in June 2013 in response to the devastation caused by Hurricane Sandy, Rebuild by Design established a new participatory model for designing for resilience that yielded seven groundbreaking designs to enhance resilience throughout the Northeast region. The subsequent National Disaster Resilience Competition (NDRC), a collaboration with the Rockefeller Foundation, awarded nearly $1 billion to eligible communities in a two-phase process to aid communities recovering from prior disasters and improve their ability to withstand and recover more quickly from future natural disasters.[10]

Continuing Risks and Vulnerabilities: As a result of these programs, HUD has been able to work with local communities to make significant strides toward addressing these threats. The escalating nature of climate risk means that essential but reactive measures are insufficient to address the scale of the problem. Many households and communities HUD supports throughout its programs continue to be vulnerable to impacts from the full range of climate threats.

- Recent analysis and mapping by Climate Central projects that the number of affordable housing units at risk from flooding in coastal areas will triple by 2050.[11] By 2050, virtually every coastal State is expected to have at least some affordable housing exposed to more than one coastal flood risk event per year—up from about half of coastal States in the year 2000. Projections for New York City, Atlantic City, and Boston show that each city could have thousands of units exposed to chronic coastal flooding by 2050.[12]

- The Denali Commission found that 144 Native Alaskan Villages (43 percent of all Alaskan communities) experienced infrastructure damage from erosion, flooding, and permafrost thaw.[13] The Alaska Native Tribal Health Consortium cites "limited progress" has been made in supporting protection-in-place, managed retreat, or community relocation efforts in these places.[14]

- Year-long power outages in Puerto Rico following Hurricane Maria show the need for both hardening the electric grid and developing resilient, clean power options at the building and community scales to enable local residents to better weather power outages.

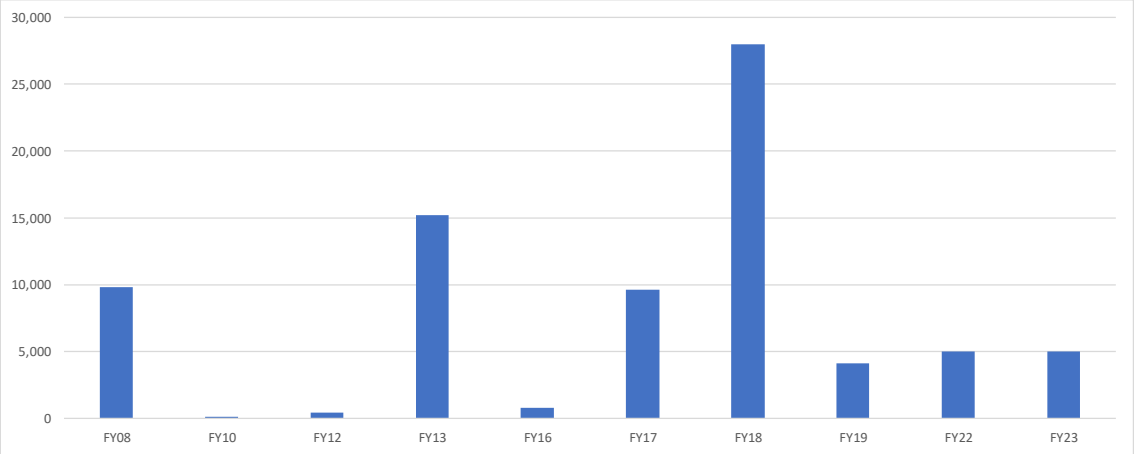
Focus on Resilience: Since 2008, the Congress has appropriated almost $16 billion to HUD specifically for mitigation efforts that help reduce the risk from future climate events.[15] These types of anticipatory investments pay for themselves many times over: the National Institute of Building Sciences (NIBS) estimates $6 in savings for every $1 spent through Federal mitigation grants funded and a benefit-cost ratio (BCR) of 4:1 for investments in model building codes.[16] In addition, effective adaptation can also enhance social and economic well-being, including improving economic

[10] HUD Exchange, *CDBG-DR Overview*, https://files.hudexchange.info/resources/documents/CDBG-Disaster-Recovery-Overview.pdf
[11] Climate Central, *Coastal Flood Risk to Affordable Housing Projected to Triple by 2050*, https://www.climatecentral.org/
[12] Maya K Buchanan, Scott Kulp, Lara Cushing, Rachel Morello-Frosch, Todd Nedwick, and Benjamin Strauss, *Sea level rise and coastal flooding threaten affordable housing,* December 2020. https://iopscience.iop.org/article/10.1088/1748-9326/abb266
[13] Denali Commission, *Statewide Threat Assessment: Identification of Threats from Erosion, Flooding, and Thawing Permafrost in Remote Alaska Communities*, November 2019. https://www.denali.gov/wp-content/uploads/2019/11/Statewide-Threat-Assessment-Final-Report-20-November-2019.pdf
[14] Alaska Native Tribal Health Consortium, State of Alaska, Alaska Center for Climate Assessment and Policy, *Unmet Needs of Environmentally Threatened Alaska Native Villages: Assessment and Recommendations,* 2021.
[15] HUD Exchange, Congressional Appropriations By Year, https://www.hudexchange.info/programs/cdbg-dr/cdbg-dr-grantee-contact-information/#congressional-appropriations-by-year
[16] National Institute of Building Sciences, *Natural Hazard Mitigation Saves,* Interim Report, 2017. https://www.fema.gov/sites/default/files/2020-07/fema_ms2_interim_report_2017.pdf

opportunity and job creation, health, equity, security, education, social connectivity, and sense of place, as well as safeguarding cultural resources and environmental quality.

Figure 2: CDBG-DR Appropriations Since 2008

($ Millions)



Coordination and Collaboration

HUD's Climate Action Plan contains over 100 concrete actions related to climate adaptation and resilience, energy efficiency and greenhouse gas reduction, and environmental justice. The Climate Action Plan serves as a mechanism for coordinating and tracking continued progress toward administration climate priorities. HUD has a Department-wide Climate and Environmental Justice Council (Council) chaired by Secretary Fudge and supported by a Climate and Environmental Justice Working Group (Working Group) to manage the comprehensive Climate Action Plan. The Council and Working Group focus and coordinate HUD's work internally across program offices.

HUD's concurrent investments and dedicated coordination efforts across programs will allow for climate resilience, carbon reduction, and mitigation and adaptation actions to be implemented simultaneously at the project, community, and regional levels to achieve important synergies. HUD is also engaging in closer collaboration with other Agencies including the Federal Emergency Management Agency (FEMA), DOE, and EPA to promote climate resilience and carbon reduction in HUD-supported communities and properties and to help ensure that individuals, buildings, communities, and regions are both more prepared and better able to recover when disasters hit.