

Regulations Division, Office of General Counsel
U.S. Department of Housing and Urban Development
451 7th St. SW, Room 10276
Washington, DC 20410-0500

October 27, 2022

RE: Request for Information on Docket No. HUD-2022-0072: Green & Resilient Retrofit Program

Dear Lauren Ross,

Thank you for the opportunity to comment on Docket No. HUD-2022-0072 for the Green & Resilient Retrofit Program. These comments were developed by experts in affordable housing, environmental justice, and building efficiency and electrification. These recommendations are intended to maximize support to owners and residents of affordable housing to ensure these properties are retrofitted to be energy efficient, zero-emission, and resilient to the increasingly severe impacts of climate change. These recommendations are also intended to ensure that residents of affordable housing are able to benefit from improved living conditions, reduced energy burdens, and protection against extreme weather.

The following pages include our responses to the specific information requested in the RFI. If you have any questions or want to discuss anything in this document further, please contact Dr. Sabrina Johnson at sjohnson@nrdc.org and Jamal Lewis at jamal@rewiringamerica.org.

With gratitude,

AjO
BlocPower
Building Electrification Institute
EarthJustice
Energy Outreach Colorado
Elevate
Enterprise Community Partners
Dandelion Energy
Green & Healthy Homes Initiative, Inc
Green For All
League of Conservation Voters
New York State Geothermal Energy Organization, NY-GEO

Docket # HUD-2022-0072

Natural Resources Defense Council
Planning Office For Urban Affairs
Public Health Law Center
Raza Development Fund
RMI
Rewiring America
Sierra Club
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WinnCompanies

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Introduction

The Department of Housing and Urban Development (HUD) assists about 5 million low-income households through tenant-based, project-based, and public housing. About 16 million households need federal rental assistance, yet only about 25% of eligible renter households receive assistance.¹ Forty-six percent of program recipients are Black, nineteen percent are Latino, and twenty-five percent have some type of disability.² Most notably, households live in HUD-supported housing for 9.8 years on average. The need for housing assistance is driven by intentional and discriminatory economic and housing policy that has resulted in millions of households unable to afford basic necessities like housing, particularly among low-income and Black households. Still, studies have shown that, beyond income, race has a significant impact on the location and quality of Black Americans' homes as well as the resources needed to maintain these properties to be healthy and energy efficient.^{3,4}

With the recent passage of the Inflation Reduction Act (IRA) and HUD's approach to support energy and water efficiency retrofits and climate resilience of HUD-assisted multifamily properties, there are direct opportunities to impact environmental and racial justice through the Green and Resilient Retrofit Program (GRRP). The information below outlines how HUD can be instrumental in program design, comprehensive planning, benchmarking, and enabling deep retrofits, all at the intersection of equity and justice to achieve equitable metrics and support marginalized communities receiving HUD funding.

Responses to Specific Information Requested

1. Program design features

Program design is a critical part of the implementation of the GRRP, and several key features will help HUD advance its priorities and maximize benefits for residents.

a. Prioritize building-level energy efficiency and water efficiency measures

The first program design feature refers to the types of installation measures that are prioritized and supported through the GRRP. . With this GRRP program, HUD should prioritize building-level energy and water efficiency measures such as weatherization, insulation, air sealing, window

¹<https://www.cbpp.org/research/housing/funding-limitations-create-widespread-unmet-need-for-rental-assistance>

²<https://www.cbpp.org/research/housing/funding-limitations-create-widespread-unmet-need-for-rental-assistance>

³ <https://phys.org/news/2021-06-cities-income-household-energy-efficiency.html>;

⁴<https://www.theguardian.com/us-news/2021/apr/28/us-air-pollution-fine-particle-study-people-of-color-exposed-more>

and door replacement, and cooling tower optimization (as well as any health and safety measures that are necessary to perform these efficiency measures). HUD should also make sure that water efficiency is fully integrated with energy efficiency measures. That is, for any property that is proposed for energy efficiency upgrades, water efficiency measures should also be included in the upgrade package. These include high-efficiency showerheads, faucets, toilets, and clothes dryers (where present), unless a pre-project assessment indicates that high-efficiency measures are already in place. PG&E in California reported that about one-third of income-qualified households still rely on old and highly inefficient toilets.

Energy and water efficiency provide multiple benefits and support other goals beyond reducing energy use and emissions, such as increasing resiliency (e.g. ensuring passive survivability during power outages), lowering property operating and tenant energy costs, creating healthier living environments (e.g. reducing indoor air pollutants), improving resident comfort, and supporting building electrification and renewable energy (e.g. reducing size and cost of needed equipment and reducing energy loads to mitigate costly electric infrastructure upgrades). Efficiency measures typically provide the greatest return on investment in the form of lower energy, water, and sewer bills.

Also, when prioritizing building level energy efficiency, it is vital for contractors, property managers, and developers to remember that indoor toxins such as lead, mold, and asbestos must be remediated before any energy efficiency retrofits or upgrades can occur in the home.

b. Prioritizing electrification at the time of appliance replacement

Further, when considering appliance replacement as part of the upgrade package, particularly at the end of the incumbent machine's useful life, HUD should require the switch to the most efficient electric technology available on the market, especially when switching from fossil-fuel appliances and electric resistance.⁵ Efficient electric appliances like heat pumps, heat pump water heaters, and induction stoves are vastly more efficient than their fossil-fuel counterparts and should be treated that way especially as HUD is taking steps to improve the overall efficiency of the building.⁶ Electrification, which is the conversion of fossil-fuel-burning equipment to high-efficiency electric versions, is also a key decarbonization strategy given its focus on switching from polluting machines to non-polluting machines. Supporting electrification within the GRRP will help ensure that residents of HUD-assisted housing do not bear the burden of escalating gas costs. Beyond costs, residents also benefit from improved indoor air quality when fossil-fuel-burning equipment, especially gas-burning stoves, are removed. In addition, electrification with heat pumps also allows for the inclusion of highly efficient air conditioning that supports resiliency in the face of extreme heat, particularly in

⁵ <https://www.energy.gov/energysaver/electric-resistance-heating>

⁶ <https://www.energy.gov/energysaver/heat-pump-systems>

homes that did not have air conditioning previously. The GRRP should support electrification as long as the tenant's utility bills do not increase. Support for electrification should include:

- The requirement for all project designs to contemplate the installation of both high-efficiency heat pumps. This includes a comparison of ground- and water-source heat pumps and air-source heat pumps. Building owners that do not plan to incorporate high-efficiency heat pumps should provide a justification for why doing so is infeasible and what would be required to address the barriers to installing heat pumps for both space and water heating.
- Incentives to cover the cost of electrical system upgrades that will be necessary to accommodate added electrical load (e.g., wiring, circuit panel upgrades, service lines, transformers, etc.).
- Incentives to offset the cost of replacing gas-burning stoves with electric or induction stoves.
- Incentives to conduct electrification-specific audits from a pre-qualified list of contractors.
- Increased or scaled incentives for solar + electrification projects aimed at offsetting potential utility allowance concerns.
- Higher incentives for existing building rehabs vs. new construction electrification.
- Subsidized loan products backed by the GRRP loan guarantee that defray any incremental cost of the installation of high-efficiency heat pumps or induction stoves.

When appliance replacements are not part of the scope, HUD should still support electrical panel upgrades that enable HUD-assisted homes to become all-electric-ready. This should also include incentives and subsidized loans for smart panels that enable greater management of electricity consumption. Still, HUD should incentivize the pairing of building electrification with building-level energy and water efficiency measures to maximize the benefits to the resident.

c. Prioritize access to cooling

Within the GRRP, HUD should also prioritize access to cooling, an increasing need due to the rising average temperatures due to climate change. Even communities that historically have not experienced heat waves are now experiencing periods of extreme heat. Extreme heat is the most widely experienced climate hazard in the HUD portfolio. It is also the leading cause of weather-related deaths in the U.S. Low-income communities and communities of color typically have greater heat exposure and lower prevalence of air conditioning - both of which exacerbate relevant health conditions. The GRRP is an opportunity to add efficient cooling at properties where cooling equipment is not currently provided. HUD can achieve this simply by prioritizing

the installation of efficient, electric heat pumps that provide heating and cooling. In fact, the ENERGY STAR program recently indicated their intent to remove one-way air conditioners from its Most Efficient category in favor of efficient electric heat pumps.⁷

In addition, program design features can also incentivize the addition of efficient cooling by including the value of the health and comfort benefits of cooling within the project scoping process as well as excluding any projected increases in energy use for cooling from energy efficiency or GHG emissions targets (or adjusting the baseline calculation to include cooling using the market-prevailing technology regardless of whether cooling is currently provided or not) adopted by the program. Appropriately valuing cooling within the project scoping process has the added benefit of promoting building electrification, since electric heat pumps are an efficient and zero-emission means of providing both heating and cooling.

d. Establish energy and greenhouse emissions reductions goals

HUD can advance projects that prioritize building electrification and energy efficiency with building-level energy and water efficiency measures by requiring 25% energy savings for all projects. In unusual cases where high-priority resiliency and health and safety scopes of work can't be accomplished alongside threshold energy savings, an exception may be granted, but a burden of proof is required. Buildings that participated in the 2009 Green Retrofit Program to achieve a median energy consumption reduction of 18%; therefore, a minimum requirement of 25% is practical given the advances in technology since 2009. In addition, HUD should go further to provide additional funding to projects that reach 50% energy use reduction or 40% greenhouse gas emissions savings as well as other achievements, including electrification, zero energy, or the use of low embodied carbon materials.

These savings tiers should use the property's historical energy consumption or emissions baseline. If historic energy consumption or emissions are unavailable for that property, then reductions from an industry benchmark established by DOE for a building of that typology in the applicable climate should be used to calculate savings. For Greenhouse Gas (GHG) emission savings, DOE should provide annual fuel combustion emissions factors for program compliance. For Scope 2 electricity grid emissions, it is recommended that the DOE develop a protocol using long-range marginal emission rates (LMRER) for building retrofit GHG savings projections. Performance savings metrics should also be calculated from energy efficiency and electrification alone before adding renewable energy.

⁷https://www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Most%20Efficient%202023%20Stakeholder%20Comment%20Matrix_1.pdf

Require a comprehensive approach so that all projects must evaluate efficiency, electrification, resilience, clean energy, health, and resident impact - ensuring that strategies will address multiple aspects of building upgrades. Comprehensive retrofits would not only yield higher energy savings for owners and residents but would ensure increased preparedness for climate events as well as day-to-day health and safety of residents.

HUD should recognize the need for optional yet robust technical assistance that will help affordable housing communities achieve these savings in tandem with other health and resiliency measures. HUD can provide grants that will enable such technical assistance and also provide planning grants that will help with project scope and development to meet such saving tiers. HUD's provision of TA would ideally be structured around a one-stop-shop approach, to ensure that housing providers do not individually have to navigate a multitude of agencies or programs to secure funding approvals. Instead, if HUD were to designate a network of approved one-stop-shop TA providers, housing owners could coordinate with one of these vendors for assistance with the planning grant stage, implementation stage, and/or evaluation stage. This one-stop-shop approach will be particularly valuable for expanding access to the program, and for organizations with minimal staff capacity to effectively participate and achieve similar savings targets. The signatories have also provided input under the Section 5 of our comments on benchmarking equity.

e. Program flexibility

The fifth key program design feature of the GRRP is flexibility. Flexibility is important for many reasons, including in the types of measures allowed as well as how program funds are spent on these measures. This is particularly relevant when considering resilience measures. The resilience measures most needed by HUD-assisted housing will vary by region and by the specific location of the building. Therefore, the list of eligible program measures should be broad and flexible to accommodate local circumstances. For example, in areas prone to flooding, an entire home may need to be elevated or see some of its critical systems (e.g. heat pump, furnace, water heater, etc.) elevated or floodproofed. In areas susceptible to wildfire, homes may need to be retrofitted to meet fire-safe building codes (e.g. less flammable roofing materials). In addition, some buildings may vary by their need for hazard adaptation measures based on local conditions. Battery storage can be extremely helpful to resiliency efforts, especially if generating plants are unable to function or transmission lines are damaged. Even further, some households are more vulnerable than others considering economic realities as well as the preparedness of their homes and community infrastructure. It is critical that owners and operators of HUD-assisted housing units understand their unique regional exposure so they

can determine their highest-risk properties and protect the households living in their buildings from the range of risks.

Using tools such as Enterprise Community Partners Portfolio Protect tool⁸, or the FEMA National Risk Index⁹, can help owners, operators and developers of HUD-assisted housing understand which cities and communities run the highest risk from flooding, fire, earthquakes and other natural hazards. These tools offer the ability to identify the highest risk properties. One of the key elements of the program is to ensure the long-term safety and survivability of affordable housing. Improvements to any building are most effective when the building itself is made safer and more resilient to natural hazards, like flooding, storm surge, or wildfire. A home can have the latest, greatest, and most efficient appliances and systems, but still be substantially damaged or destroyed in a disaster that renders the benefits of those past investments null and void. Therefore, it's critically important that when retrofitting a property, it is also brought up to modern code and any other state or federal requirements that ensure a lower risk of damage or destruction from natural hazards, particularly those that are known to increase in frequency or severity due to the influence of climate change. For example, it is important to ensure that homes in the floodplain are built with an additional margin of safety for flooding or future sea level rise, informed by the latest FEMA flood maps and sea level rise projections. The National Institute of Building Sciences has repeatedly demonstrated the benefits of such improvements. For flooding, mitigation measures have been shown to save up to \$11 in avoided future costs for \$1 invested.

To maintain program flexibility, HUD should avoid overly restrictive criteria such as maximum costs per unit or caps on costs for “health and safety” or “resiliency” measures that are needed to ensure a minimum health and safety standard and to future climate-proof the homes of the residents that are the most vulnerable to the impacts of climate change and extreme weather events. As such, the Department should consider alternative means of evaluating resilience measure proposals. These recommendations are based, in part, on lessons learned from Stewards of Affordable Housing for the Future’s (SAHF) “Big Reach” project that pursued ambitious environmental goals within its member’s portfolios in the multifamily affordable housing sector, resulting in on average 29% energy savings and 24% water savings across member properties. SAHF emphasizes,

“There is no short answer to how SAHF members achieved these hard-earned savings, no ‘silver bullet’ to greening affordable housing. Portfolio-wide savings in diverse geographies and building configurations require a ‘silver buckshot’ approach, a myriad of

⁸ <https://www.enterprisecommunity.org/impact-areas/resilience/building-resilient-futures/portfolio-protect>

⁹ <https://hazards.fema.gov/nri/>

upgrades and operational approaches that align with a property's physical, locational, and population characteristics, as well as where the property is in its financing lifecycle.”

SAHF also identified the top three strategies for impactful building upgrades in this project:

- **Prioritizing performance and utilizing green building standards, such as Enterprise Green Communities¹⁰, in new construction and major rehabs.** Enterprise Green Communities is the only national green building framework developed explicitly with and for the affordable housing sector; the criteria are suitable for substantial and moderate rehabs in single and multifamily buildings. The criteria layout best practices for affordable housing in the multiple priority issue areas HUD wishes to address in its new program: energy, water, climate resilience, healthier building materials, and healthy living environments (including indoor air quality). There is also an Enterprise Communities Plus standard, which recognizes even deeper, significant investments in energy efficiency and decarbonization in affordable housing.
- **Undertaking discretionary retrofits to upgrade equipment outside of a capital event using state- and utility-funded efficiency programs, government and foundation grants, and financing programs such as pay-from-savings programs.**
- **Incorporating renewable energy such as solar panels or geothermal, particularly in states with supportive local policies.**

While flexibility in the measures allowed and how funds are spent is key as we note above, it is important to require best practices for the installation of any particular measure that is included in an upgrade. For example, building envelope improvements that insulate, seal, and tighten the envelope must always be paired with ensuring adequate ventilation to maintain good indoor air quality.³ Further, water efficiency should always be considered as part of a project, both to lower resident utility costs and increase a community's overall resilience to drought.

f. Qualified Energy Auditors

The sixth key program feature is qualified energy auditors. Highly qualified auditors are crucial to achieving long-term emissions savings and safe, healthy, and resilient homes. For buildings in GRRP that require an audit, auditors should be trained and certified. Without proper training and certifications, auditors could develop scopes of work that do not achieve emissions savings and could be dangerous to residents' health and the long-term durability of the home. We recommend that HUD adopt the same, or similar, auditor certification requirements that are being used by New York State Energy and Research Development Authority's (NYSERDA)

¹⁰ <https://www.enterprisecommunity.org/impact-areas/resilience/green-communities>

well-established Comfort Home Program. NYSERDA-qualified auditors must hold one or more of the following certifications:

- Professional Engineer (PE)
- BPI Building Analyst
- BPI Energy Auditor
- BPI Multifamily Building Analyst
- AEE Certified Energy Auditor
- ASHRAE Building Energy Assessment Professional
- HERS Rater
- LEED Rater
- PHIUS Certified Rater
- Investor Confidence Project (ICP) Quality Assurance (QA) Assessor

g. Comprehensive audit tool

The seventh key program feature that HUD should consider is the creation and implementation of a comprehensive audit tool for GRRP-eligible projects. While energy audits are familiar to the marketplace (although retrofit decision-making in response to emissions outcomes and energy burden impacts are not), audits for resilience upgrades are a relatively new concept - one that is being tested and proven through Enterprise's Keep Safe program.

Therefore, we recommend that HUD develop and require the use of a comprehensive assessment tool during the retrofit or development of any HUD-assisted housing to ensure the greatest impact and the least administrative burden of the GRRP. A comprehensive audit tool that evaluates energy/water use, carbon emissions, climate resilience, healthy housing measures, clean energy use, and resident energy burden (in addition to evaluating capital needs and/or solving for pre-retrofit safety/structural upgrades) will inform both HUD and the project teams as well as produce synergized recommendations for appropriate building and site improvements in all areas that the GRRP seeks to address.

Requiring the use of a tool to identify building-specific opportunities for successful risk mitigation would fill a gap by providing actionable information to HUD-assisted multifamily owners, including Public Housing Authorities (PHAs) converting through the Rental Assistance Demonstration (RAD), about the mitigation strategies appropriate for their buildings' specific climate hazard vulnerabilities for use when planning for future capital needs. This would improve the financial and physical outlook of HUD-assisted housing and protect tenants from future risks.

Such an assessment tool will produce recommendations for appropriate building and site improvements to enhance a property's climate resilience and protect its residents before, during, and after a hazard strikes. By drawing upon best available data on site-specific climate risks (current and future) and compiling expert evidence of effective strategies to reduce vulnerability to climate hazards, HUD-assisted multifamily property owners will be able to include data of on-the-ground inspection of the building's current state and analysis of resident needs. The assessment results will provide a roadmap for properties participating in the GRRP on how to best implement resilient retrofits.

h. One-stop shop for larger, complex projects

The eighth key program design feature is the utilization of a one-stop shop for larger, more complex projects. One of the most common complaints from affordable multifamily housing providers is the time necessary to navigate the many steps necessary to get an application funded. Due to limited staff capacity, housing providers often need access to a single person who can walk them through the retrofit process from beginning to end. Leading low-income programs generally provide either a single lead agency or a partner network approach. The single lead agency approach involves staff from the program's primary implementing agency serving as a single point of contact (SPOC) or one-stop shop. The partner network approach allows program participants to select a SPOC from a network of providers pre-qualified by the program administrator.

Common services provided by the SPOC include completing the application, managing the energy assessment/audit process, working with the owner to determine the final scope of work, assessing energy conservation measures (ECM) or project cost-effectiveness, assisting the owner with the development of measure specifications and bid-ready documentation for contractors, identifying potential contractors and coordinating the bidding process, helping the owner to identify and leverage other funding sources, ensuring proper installation of ECMs, and providing post-construction building performance monitoring and/or ECM operational guidance. In addition to these services, some of the programs also provide construction management/oversight and direct access to financing.

While we recommend providing funding for this service, along with SPOC-enabling technologies, it is important to be flexible to meet the diverse needs of building owners. Since not all owners and design teams will need a SPOC, HUD should offer it as an optional service. Instead, HUD should allow the owner to work with their existing consultant if they have one, rather than requiring them to choose from a predetermined list.

i. Prioritize and incorporate residents in program design

The Jemez Principles of Democratic Organizing lists a guide of principles to help organizers center environmental justice to forge a common understanding between participants from different politics, organizations, and cultures.¹¹ Two of the six guiding principles instruct readers to ensure that the relevant voices of people who are directly affected are being heard and integrated, while working together in solidarity and mutuality. Therefore, a key program design element is to include resident outreach and participation.

Many public housing residents feel unsafe in their homes and often repeatedly complain about their housing conditions to no avail. Residents have often described their living experience as feeling invisible or being ignored. To restore trust, the program design must incorporate accessible outreach in the residences and throughout the community:

1. Outreach should include public education.
2. Inform residents about the health and safety benefits of the energy retrofits and measures that will be installed in the home.
3. Establish a consistent relationship with residents so that they are familiar with the people who are implementing these new renovations and trust can be created.

Rather than telling residents what they need, allow residents to explain their living conditions to assess what is needed. Allowing residents to fully engage in the program design process provides a full understanding of why these new program features are necessary for not only public health but also better quality of living.

2. Comprehensive Planning

The GRRP allows HUD to plan comprehensively around the interrelated goals of energy efficiency, climate resilience, and decarbonization. In many cases, retrofits can advance multiple goals simultaneously. Energy efficiency, for example, should be viewed as an important strategy for enhancing climate resilience. Well-insulated buildings will retain hot or cold air longer, which can help maintain safe and comfortable thermal conditions during power outages that impact heat or air conditioning systems. As HUD notes, certain energy efficiency improvements can also enhance building durability. For example, replacing old, leaky windows with high-quality, American Architectural Manufacturers Association (AAMA)-certified windows may reduce air leakage while simultaneously improving durability against extreme wind, rain, or flooding. Similarly, energy efficiency can advance decarbonization goals, both directly by reducing energy use, and indirectly by enabling the conversion of homes from fossil fuel-based heating and cooling systems to electric ones such as efficient, all-electric heat pumps.

¹¹<https://www.ejnet.org/ei/jemez.pdf>

Building electrification can also advance energy efficiency goals since efficient electric appliances like heat pumps, heat pump water heaters, and induction stoves are vastly more efficient than their fossil fuel counterparts and electric resistance.

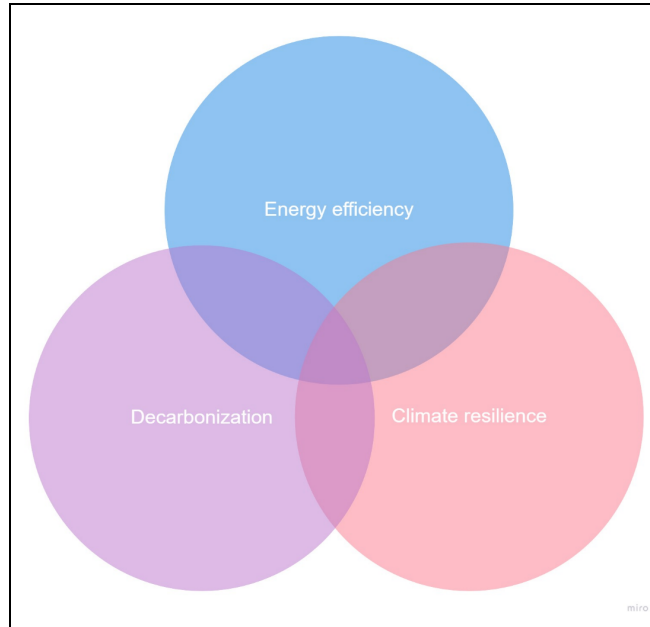
Similarly, building electrification can lead to advance climate resilience by enabling HUD-assisted properties to access strategies such as solar, storage and demand flexibility that help reduce peak loads and can involve triage of energy service needs during times of extreme weather. HUD could look to the New York State department of Homes and Community Renewal's (HCR) Resilient Retrofit program¹², incentivizing strategies such as closing off living space below the base flood elevation (BFE), adding better insulation to the envelope, installing high-efficient fixtures and appliances, and replacing aged, fossil fuel combustion heating and cooling (HVAC) systems with efficient electric heat pumps and raising all mechanicals above the BFE. Onsite generation, such as solar panels or battery back-up, paired with these measures also addresses both decarbonization and resilience. As noted above, there are pathways to advance multiple goals through the GRRP. Still, there may be scenarios where it is more difficult to align goals.

Enact a points system

One way to effectively balance these interests when assessing grant applications is to develop a point system that most heavily weight projects that accomplish multiple objectives, such as building-level energy and water efficiency paired with building electrification. The City of Norfolk has a similar point system that awards points to developments that meet certain resilience requirements.¹³ While simplified, the universe of projects HUD should consider can be represented in a diagram:

¹² <https://hcr.ny.gov/resilient-retrofit-rfp-0>

¹³ <https://www.adaptationclearinghouse.org/resources/building-a-better-norfolk-a-zoning-ordinance-of-the-21st-century-norfolk-virginia.html>



Under such a points-based scoring system, projects could be scored based on criteria such as:

- Total energy saved;
- Energy saved per resident;
- Total water saved;
- Water saved per resident;
- Change/decrease in energy and water bills paid by residents
- Carbon emissions reductions;
- Electrification readiness, including electrical panel and breaker box upgrades
- Health and safety upgrades and hazard remediation including for lead, mold, and asbestos;
- The addition of heating cooling for properties that didn't have those resources previously;
- Reduced vulnerability to extreme weather events, flooding, sea level rise, and wildfire; and
- Reduction in inequity of energy and water availability and cost burdens.

Fortunately, many initiatives and publications have explored and refined the science of developing such criteria for scoring the worthiness of projects and practices, including Enterprise Green Communities as mentioned above. We urge HUD staff to make use of these resources to develop an effective scoring methodology expeditiously and without duplication of effort.

Prioritize measures that achieve resilience goals without increasing pollution

In addition, HUD should establish mechanisms to prioritize, wherever possible, measures that achieve resilience goals without increasing GHG emissions. For example, HUD should prioritize the installation of paired solar and storage systems rather than fossil-powered backup generators. Alongside the listed goals of energy efficiency, decarbonization, and climate resilience, HUD should ensure that measures will not negatively impact affordability for residents. For example, installing indoor cooling systems may increase monthly utility costs. HUD should take steps to ensure that any increased utility costs are not borne by residents, particularly residents in subsidized units.

3. Cost Effectiveness

There is no cost-effectiveness requirement in the authorizing language for the GRRP, and HUD should not impose such a requirement on its own accord.¹⁴ The goal of the program is to “improve energy or water efficiency, enhance indoor air quality or sustainability, implement the use of zero-emission electricity generation, low-emission building materials or processes, energy storage, or building electrification strategies, [and] address climate resilience” of eligible properties.¹⁵ Measures to achieve these goals will vary in their cost-effectiveness, and some may not be cost-effective at all.

Applying a cost-effectiveness test to projects is further complicated by the lack of certainty about the value of benefits from the range of measures that are likely to be installed, including resilience measures that do not provide an immediate financial return. Many of the benefits of these projects will also include health benefits that are not easily quantifiable. Developing a cost-effectiveness methodology that captures the full value of the expected benefits will be overly complicated and burdensome to apply and will likely unfairly shortchange the full extent of benefits provided and discourage applicants.

Consequently, a retrofit project’s eligibility for funding should not be contingent on meeting any internal project- or measure-level cost-effectiveness metric. Instead, the value of a project should be compared against the relative value of other projects in the applicant pool, to elect a portfolio of project recipients that best advance the multiple goals of the program including centering equity. In so doing, HUD should consider a broad range of benefits, including but not limited to energy savings; resident comfort, health, and safety; community economic development effects; environmental benefits and GHG emissions reductions; long-term reduction in the potential for damage from natural hazards, including extreme weather events,

¹⁴ See generally IRA section 30002.

¹⁵ IRA section 30002(a)(1).

flooding, sea level rise, and wildfires; and the preservation of critical affordable housing stock considering local housing needs. HUD should also prioritize innovative projects that simultaneously advance efficiency, decarbonization, resilience, and affordability objectives, as discussed above, and can serve as effective demonstration projects. Moreover, the relative value of a project should be only one factor in funding allocations, alongside other goals such as ensuring geographic diversity and prioritizing residents living in the most disadvantaged communities even when those investments have a relatively higher cost.

HUD should avoid a narrow definition of benefits based on energy savings at the measure or project level. Instead, HUD should track a range of qualitative benefits beyond energy savings, including resident comfort, health and safety benefits, and other non-energy benefits. Several electrification programs across the country are considering such non-energy benefits metrics and HUD could draw examples from these programs. For example, the Building Initiative for Low Emissions Development (BUILD) program in California is a pilot program focused on electrifying new multifamily affordable housing.¹⁶ BUILD launched in 2022 and has developed alternative metrics to track program success that could inform GRRP's metrics.

4. Enabling Deep Retrofits

We agree with HUD that this program should support fewer, deeper retrofits and not shallow, more numerous ones. We recognize that the size of the program makes this a challenge since there is not enough funding to deliver deep retrofits in all states or metropolitan areas. However, we urge HUD to leverage this funding to greater effect in at least three ways:

Target support where it's needed urgently and deeply

First, by targeting support where it is needed most urgently and deeply. For example, if multifamily buildings are 1) particularly wasteful in their energy and water use, 2) prone to damage from natural hazards (e.g. have a history of damage due to flooding, wind, wildfires, etc.) or located in a community where the potential for such damage is high or is increasing due to the impacts of climate change over the design life of the project, 3) drawing power from a carbon-heavy electric grid, 4) housing especially low-income as well as Black, Brown or Native Americans, and 5) located in disadvantaged communities as defined by the Council on Environmental Quality's Climate and Economic Screening Tool¹⁷, or an equivalent tool as determined by HUD, then they should be prioritized for retrofits. This will ensure that federal

¹⁶<https://www.energy.ca.gov/programs-and-topics/programs/building-initiative-low-emissions-development-program>

¹⁷ <https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>

dollars lift those residents who are in the deepest holes vis-a-vis the quality, affordability, and vulnerability of their homes.

Encourage the leveraging of other federal programs

Second, by favoring applications that propose to make use of other federal programs to increase impact. For example, prospective grantees can complement activities funded by this program with:

- Other HUD funding, particularly within HUD's Office of Lead Hazard Control and Healthy Homes, the Community Development Block Grant, and Section 108 program.
- Funds from the American Rescue Plan, since billions of dollars of funding for an array of eligible uses remains unspent;
- Funds from the PROTECT formula and competitive programs included in the infrastructure law, which can be used to improve streetscapes and other transportation facilities neighboring the homes benefiting from this program;
- Weatherization Assistance Program funding as boosted in the infrastructure law;
- Other possible funding sources in the infrastructure law and Inflation Reduction Act.
- HUD CDBG-DR funding

Leverage mortgage and other financing

Third, by leveraging mortgage and financing processes as well. Both Fannie Mae and Freddie Mac have green mortgage offerings that can be explored and leveraged more widely across the market. Most notably, Fannie Mae's Green Rewards and Green Building Certification provides borrowers with favorable financing options and incentives such as lower interest rates, free energy and water reporting, and additional loan proceeds. Although loan offerings differ, HUD can work with FHA to offer similar free energy and water audits to identify which properties could benefit most from such upgrades. This will not only help federal mortgage actors alike to start benchmarking the performance of assets they back, but it also provides an opportunity for leading mortgage market actors, including FHA, to build out a more robust Green MBS and Green Bond issuance framework.

Other funding sources at the state and local levels could also be braided with grants from this program, but should not be taken into account when determining funding decisions. Leveraging in this way should increase the number of deep retrofits achieved.

HUD can enable deep retrofits by using Infrastructure Investment and Jobs Act (IIJA) funding for grid resilience.¹⁸ This sets a cap on the maximum award to a grantee for those funds at a certain

¹⁸ <https://www.energy.gov/oced/program-upgrading-our-electric-grid-and-ensuring-reliability-and-resiliency>

percentage of the prior three years' investment in resilience. (IIJA 40101(c)). Additionally, HUD should value: 1) leveraging other public and private funding, such as ARPA funds; 2) producing and sharing energy and water utility data; and 3) any other policy-related issues to maximize impact/reduce the cost of future projects. And through encouraging both grantees and applicants to use Council on Environmental Quality's Climate and Environmental Justice Screening Tool (CEJST) to identify community needs.

Conduct a retrofit needs assessment for HUD-assisted housing

We also urge HUD to assess “what it would take” to deeply retrofit all HUD-assisted housing and to publish the analysis in a user-friendly format online. Because while valuable, due to its relatively modest size this program will at best effectively deliver a limited set of demonstration projects. These shining examples will help make the case for additional investments by Congress. And this will ensure a more even distribution of resources over time, with an eye to upgrading all HUD-assisted properties for the benefit of tenants and communities.

5. Benchmarking

HUD should establish a phased-in benchmarking requirement for HUD-assisted multifamily housing properties. Utility benchmarking is critical for building owners to make informed investments in energy upgrades, and for policymakers or lenders to plan future budget needs, offer targeted technical assistance, or verify return on investments. EPA has found that buildings that benchmark energy consumption achieve average annual energy savings of 2.4%.¹⁹ Yet most multifamily building owners do not benchmark their buildings, facing steep barriers. Benchmarking funds in the IRA present a rare opportunity for HUD to provide the resources and technical assistance necessary to launch a long overdue benchmarking requirement for its HUD assisted housing portfolio.

Report energy consumption annually

HUD should update and reissue HUD's Federal Register Notice FR-5913-N-27²⁰ which will enact a utility benchmarking requirement for HUD's assisted housing providers. However, rather than reporting every third year as laid out in HUD's FR-5913-N-27 Notice,²¹ **HUD should require all HUD-assisted housing providers to report data annually.** Since 2016 when the Notice was issued, an increasing number of state and local laws now require utility benchmarking on an

¹⁹ https://www.energystar.gov/sites/default/files/buildings/tools/DataTrends_Savings_20121002.pdf

²⁰ <https://www.federalregister.gov/documents/2016/10/04/2016-23979/60-day-notice-of-proposed-information-collection-energy-benchmarking>

²¹ <https://www.federalregister.gov/documents/2016/10/04/2016-23979/60-day-notice-of-proposed-information-collection-energy-benchmarking>

annual basis, removing some barriers faced by housing providers. Moreover, reporting every 3 years does not enable housing providers to build up the benchmarking protocols and staff expertise required to collect, analyze and report the data and fully incorporate the process into standard business practice. Nor does a 3-year requirement provide the right market signal to utilities, third-party benchmarking providers and industry consultants to build out services. If there are concerns with an immediate requirement for all recipients to participate in benchmarking, HUD could consider a requirement for larger buildings, with a requirement for all others in the near future.

HUD, DOE and EPA should convert energy usage data into carbon emissions reductions

The greatest barrier multifamily housing providers face in collecting energy and water consumption data is the reluctance of utility companies to provide the data due to concerns about tenant privacy, IT system limitations and limited staff and resource capacity. Not only does this stymie the ability to prioritize higher energy and water usage properties for retrofits, but it also prevents HUD and multifamily owners from understanding the carbon emissions impact of the HUD-assisted portfolio. As more states and local jurisdictions adopt building performance standards inclusive of carbon emissions limits, it will be vital for the HUD and HUD-assisted portfolio to have tools and resources to measure energy and water consumption as well as carbon emissions. **HUD should work with EPA, DOE to seamlessly and consistently translate the energy and water information received into carbon emissions.** Below are strategies that HUD can incorporate into the GRRP to advance data sharing to facilitate benchmarking.

Encourage regulators and utilities to promote energy and water usage data sharing

HUD should work with awardees to engage with local utilities and relevant officials, such as Consumer Advocates, State Energy Offices, and public utilities commissions, to encourage energy and water usage data sharing. While HUD cannot require utilities to act on this question, HUD should require awardees to obtain utility data as well as assist awardees in working with relevant local officials in collecting, tracking, and using utility data. It should be noted that, unlike electricity data, multifamily buildings usually have one meter for the whole building and so measuring water use at a given occupancy level will pose fewer concerns; however, similar assistance should be available for water data when needed.

Draft model data sharing policy language for utility regulators

HUD should convene a working group to write model policy language for Public Utility Commissions (PUCs) directing utilities to create energy and water benchmarking data request programs, for use by consumers, building owners, governments, and lenders. The working group should also lead a robust outreach and education campaign to utilities and relevant stakeholders including state public utility commissions²², consumer advocates²³, and State Energy Offices²⁴ to persuade PUCs to require their utilities to provide the data upon request, as per above.

- At a minimum, utilities should make aggregated whole-building data available to owners and unit-level data available to tenants, including both consumption and cost data. The working group can include entities such as CEQ, USDA, DOE, EPA, FERC; selected state PUCs; ACEEE, IMT, Mission:Data, and similar organizations. (Reference 2012 EO and 2016 MOU between HUD, USDA, DOE, and EPA).

Related to this, the North American Energy Standards Board (NAESB) has established a [national standard](#) for utilities to provide access to energy use data in a consumer-friendly and computer-friendly format. This NAESB standard forms the core of the [Green Button Initiative](#), led by a coalition of large energy and water utilities, which allows energy and water utilities to securely transfer their data to customers and approved third-party solution providers. In addition to engagement with local officials, HUD could work with Green Button, or a similar group, to develop a dedicated multifamily data collection and access protocol.

Be flexible on type of energy and water consumption data required

HUD should provide flexibility on the type of energy consumption data required and methods for collecting it. This will balance the need to manage its housing portfolio with the burden presented to building owners of adopting a benchmarking reporting requirement. More specifically, HUD should accept energy and water metrics calculated using either whole building data or a combination of whole owner-paid utility data and sampled tenant-paid utility data, when whole building data is not available. Sampled tenant data should meet or exceed the sampling protocol adopted by the Better Buildings Challenge.

²² <https://www.naruc.org/about-naruc/regulatory-commissions/>

²³ <https://www.consumeradvocates.org/>

²⁴ <https://www.naseo.org/members-states>

Increase awareness of benchmarking platforms among HUD field staff

HUD should work with EPA to ensure that HUD field office staff are aware of the Energy Star Portfolio Manager, a free and easy-to-use service that building owners can use to track energy and water use over time, and can direct building owners to relevant training resources. In addition, HUD should consider a “train the trainers” model for providing education on accessing, tracking, and using utility data. HUD has already produced some excellent resources for this task,⁴ and can empower other regional stakeholders on how best to achieve benchmarking requirements.

Unfortunately, exchanging data with residents or other stakeholders using Energy Star Portfolio Manager presents some usability challenges. For example, Energy Star Portfolio Manager does not provide for anonymized public access to support analysis by interested stakeholders. That said, Energy Star Portfolio Manager is an excellent free tool for building owners to track energy and water use on a building-by-building basis.

Develop internal system for benchmarking and building performance

HUD and USDA should also build a Utility Benchmarking and Building Performance Data System for internal use, as previously scoped with support from DOE, GSA and EPA. Portfolio Manager is not a customer relationship management database that could be used by HUD and USDA to analyze macro level utility data of its assisted housing portfolio. HUD and USDA should build an integrated utility funding and benchmarking platform with wide capabilities to automate energy and water reporting, analysis, funding calculations, accounting oversight, retrofit planning, and goal tracking. Technical specifications and wireframe designs were prepared for this system in 2015 with the assistance of DOE’s NREL team, EPA’s Portfolio Manager team, and GSA’s 18F team. This work should now be completed.

- Because HUD-assisted multifamily housing providers have tight operating budgets with little capacity to absorb the extra staff time and effort required to meet benchmarking requirements, **HUD should provide a management add-on fee or other financial support to pay for internal staff or third-party benchmarking service providers:**
 - Create a management add-on fee²⁵ similar to that available to Better Buildings Challenge multifamily housing participants:
 - \$1/unit/month for utility data collection, entry, technical support

²⁵ <https://www.hudexchange.info/programs/better-buildings-challenge/management-add-on-fee-incentive/>

- \$1/unit/month for installation/use of benchmarking software
- Create comparable support for properties not eligible for a management add-on fee.

Provide technical assistance to multifamily housing providers

Multifamily housing providers will need substantial training and technical assistance (T&TA) and guidance resources to build staff capacity, address numerous barriers, and create best practice processes for data collection, entry, analysis and reporting. **HUD should provide wrap-around services, specific to the multifamily sector, to publicize the new benchmarking requirements, provide online training, identify technical assistance and capacity-building needs, and provide more intensive targeted technical assistance and quality control measures.** This training & technical assistance (T&TA) program should include:

- On the front end:
 - Communications and outreach to publicize the new requirements and companion T&TA opportunities.
 - A series of online self-paced training modules on the value, unique challenges and solutions to benchmarking multifamily properties. Provide training in ENERGY STAR Portfolio Manager specific to multifamily properties' issues.
 - A comprehensive platform on the HUD Exchange containing the training resources above, up-to-date policy guidance on benchmarking requirements and compliance, links to industry support and resources, and news and announcements (similar to the design of the Housing Counseling platform²⁶ on the HUD Exchange).
 - A redesign of HUD's Multifamily Utility Benchmarking Toolkit on the HUD Exchange to present in smaller, easier-to-absorb chunks. In addition to short text, also consider presenting the information in short videos using Moovly or similar graphics software to tell training stories.
- During the project:
 - A utility benchmarking Help Desk as an intake point, to triage immediate help for basic questions and identify more complex needs.
 - Direct TA funds for criteria-specific HUD customers (TBD) with complex challenges.
- On the back-end:

²⁶ <https://www.hudexchange.info/programs/housing-counseling/>

- Provide “spot-check” quality control oversight of benchmarking reporting to ensure compliance and accuracy of utility data and return reports with anomalous or erroneous data for resubmission.

Ensure benchmarking data is publicly available

Benchmarking the energy and water use of HUD-assisted housing will be more valuable for stakeholders if benchmarking data is maintained in a publicly available database. **HUD should commit to public access to benchmarked data as it builds out the structure of its benchmarking proposals.** Public access will enable housing providers, contractors, and researchers to identify effective resilience and cost reduction strategies and the greatest opportunities for improvement. Recipients should be required to participate in the Energy Information Administration’s (EIA) Residential Energy Consumption Survey (RECS)²⁷, and HUD should work with EIA to ensure that multifamily housing data is readily available as a subset of RCBECS data.

Finally, HUD’s benchmarking tools and reporting system should be made available for voluntary use by public affordable housing authorities. Many of these agencies will find value in the process, and the compiled data will have comparable benefits for highlighting effective strategies and savings opportunities.

6. Equity considerations

This GRRP created by the IRA is a critical opportunity for HUD to advance housing, health, and energy equity. HUD-assisted properties, such as Section 8 and voucher properties, house some of the most marginalized and disproportionately burdened residents who are often Black or Brown residents, people with disabilities, and other disadvantaged communities. It is, thus, imperative that HUD uses this opportunity to reduce health and economic burden for residents receiving HUD assistance. Therefore, HUD should advance a holistic approach that will improve the overall living conditions in HUD-assisted properties. This includes addressing mold, lead, asbestos, and other health and safety issues, while upgrading homes to be efficient, resilient, and fossil-free. Below are some considerations that can help HUD advance equity within the implementation and delivery of the GRRP.

Center equity in selection criteria

HUD should adopt selection criteria as well as develop software tools, mapping, and other resources that center equity and ensure that a diversity of projects receive funding. HUD

²⁷ <https://www.eia.gov/consumption/commercial/building-type-definitions.php>

should use Justice40 principles to ensure equitable prioritization of applications. This can include a robust set of project selection criteria such as:

- An applicant's commitment to diversity and inclusion
- Socioeconomic and racial demographics of residents
- Location in environmental justice communities
- Location in areas with greater climate risks
- Diversity in rural and urban locations
- Diversity in populations served, e.g., single parents, low-income parents, the elderly, people with disabilities, etc.
- Housing Projects that demonstrate a commitment to engaging residents in project design and implementation

Consider multiple rounds of funding

HUD should consider multiple rounds of funding with robust technical assistance. This could allow more equitable deployment as those ready to start can apply in the first round. HUD can then work with those less familiar or prioritize underrepresented geographies in following rounds. We recognize that it is important for HUD to quickly establish the GRRP and to start providing opportunities for owners to participate in the program. There will likely be a significant number of HUD-assisted owners who have the sophistication (due to participation in voluntary programs, like utility rebate programs, the DOE Better Buildings Challenge, or others) to hit the ground running and apply for the program. This could also be due to the timing of the upgrades, where some buildings might have planned upgrades that aligns with the timing of the new funding. However, there will also be a number of smaller HUD-assisted multifamily owners that have not yet pursued energy efficiency due to a variety of reasons (lack of internal capacity, utility or other program incentives, etc.) or have upgrades planned for the property. It will be important from an equity perspective for HUD to consider setting up rounds of funding and not let this program run as a "first come, first serve" program.

Provide technical assistance to owners that need it most

HUD should prioritize technical assistance by using equity considerations. Owners have varying expertise and capacity to navigate this funding from HUD. Many owners do not understand the nuances of newer technologies as they relate to energy and water efficiency. Understanding energy and water efficiency upgrades, choosing the right technology that matches those needs, identifying contractors that could install those technologies, and navigating the funding application all require significant time and expertise. In addition, it is important that technical assistance opportunities are not allocated only to incumbent HUD technical assistance providers such as those currently receiving HUD section 4 funds, but also to

new applicants and organizations providing affordable housing services. Broadening the technical assistance opportunities to other organizations is important. As discussed above, expending the funding in “rounds” over multiple years is one strategy that can enable that.

Enact regulations that protect against increasing energy and housing costs

HUD should ensure that GRRP-funded upgrades do not create or exacerbate housing quality issues and cost burdens for residents (higher utility bills, rent increases, health and safety, displacement). Energy upgrades have the potential to provide significant benefits, including lower energy bills, healthier and more comfortable homes, and increased safety and resilience in emergency situations. When implementing these improvements, it's crucial to identify and guard against potential negative unintended consequences that can jeopardize residents' financial, physical, and mental well-being.

For instance, electrification measures have the potential to *increase* utility bills, particularly in cases when heating and cooling costs are transferred to the tenant after upgrades. A variety of other factors can also influence bill impacts, including the cost of electricity compared to fossil fuels, weatherization/insulation of the building, time-dependent pricing, and consumer behavior. Assessing potential impacts prior to installation, educating residents about their energy consumption, and ensuring that infrastructure, weatherization, and health and safety upgrades are completed prior to electrification can help avoid negative bill impacts.

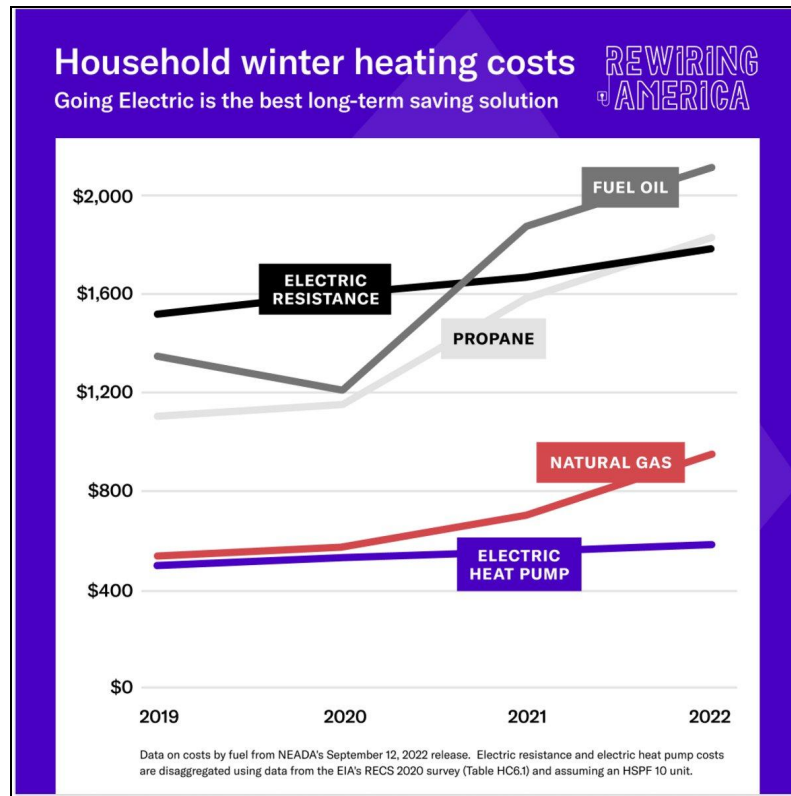


Figure 1. This chart shows the difference in costs between fuel sources between 2019 and 2022. Notably, this chart separates the costs of inefficient electric resistance and electric heat pumps.

It is also important to note that there are two primary types of electric technologies for heating: electric resistance heating and heat pumps as shown in Figure 1. Electric heat pumps are [up to/over] 3 times as efficient than electric resistance heating. We can mitigate potential increases in electric bills by installing efficient electric appliances like heat pumps. In fact, households are prime to save money by installing efficient electric heat pumps. However, since the target properties for this HUD program include Section 8 and Housing Choice Voucher properties, there is a limit to how much the renter pays for rent and utilities (30% of income). HUD should review this percent of income payment policy and utility allowances to allow renters to benefit from any decreases in electric bills that occur as a result of efficiency and electrification upgrades. In addition, in situations where the landlord must finance electrification construction centrally, but the tenant pays for the resulting electricity usage on the tenant's bill, HUD should 1) provide clear guidance on modifying utility allowance calculations and update HUSM to accurately reflect the tenant's electricity cost for electrification so that tenant does not carry an inequitable operating cost burden AND 2) account for rental income loss as a result of the UA adjustment in both the capital subsidy and in the rental subsidy to the building owner.

HUD should also ensure that residents are connected to the Low-Income Heating and Energy Assistance Program and should work with the Department of Health and Human Services to ensure that any potential changes in the households energy infrastructure results in potential increases in energy bill payment assistance.

Enforce housing affordability protections

HUD should continue to advance and enforce housing affordability protections to prevent rent increases and displacement. Housing policy varies widely across states and municipalities, and without proper renter protections and support in place for residents during major retrofits, people may face increased living expenses while retrofits are taking place, significant rent increases, and/or displacement.

Promote equity in workforce development and training

HUD should partner with organizations that deliberately recruit and train people of color and women as well as incorporate paid apprenticeship programs so that individuals can be trained without the fear of losing income during the training process. Women and Black workers are often underrepresented in the clean energy workforce. While Black households experience a disproportionate financial burden when paying energy bills, these same households experience disproportionately less success when applying for jobs within the clean energy sector. The Alliance to Save Energy noted that Black Americans make up 8 percent of the clean energy workforce and that number is significantly reduced when analyzing Black employees in the management and executive positions.²⁸

To reduce these inequities and allow residents of low-income communities of color to build generational wealth within the community, it is important for the GRRP program to hire contractors who live in the community and reside in HUD housing.

7. Resilience

For this program to be successful, it's essential that the retrofits result in housing that is much less vulnerable to the wide array of natural hazards that are increasingly driven by climate change (e.g. flooding, sea level rise, wildfires, extreme heat, etc.). If investments are made in higher-performing buildings - buildings that use less water and energy and incorporate renewable energy generation – that fail to account for present and future risks from natural

²⁸ From Paula Glover: Reflecting on “My Why” During Black History Month, ALLIANCE TO SAVE ENERGY (2022).

hazards, then this program runs the risk of seeing those investments being damaged or destroyed in the next storm, flood, or wildfire before the full benefits can be realized.

For that reason, we urge HUD to put in place two requirements for projects that receive funding under this GRRP.

Require projects to comply with Federal Flood Risk Management Standard

First, HUD needs to explicitly state that projects must comply with the Federal Flood Risk Management Standard (FFRMS), as articulated in Executive Order 13690 that President Biden reinstated in May 2020. That standard applies to any project that supports construction activities for new, substantially improved, or substantially damaged structures. Given that many GRRP “deep retrofit” projects will likely fall under the definition of substantially improved and possibly substantially damaged, the FFRMS is clearly applicable.

Under the FFRMS, HUD will need to determine how best to apply the standard. HUD can require that residential multi-unit GRRP projects will need to either be protected (i.e. “floodproofed”) 2 feet above the 100-year flood, as indicated on the most recently adopted FEMA flood maps, or protected above the height of the 500-year flood on those same maps. For projects in coastal areas, the project must fully account for projected sea level rise over the design life of the project.

Ensuring compliance with FFRMS will ensure that all the benefits of GRRP are fully realized and that the homes that receive GRRP funding are not only higher performing, but also longer lasting and less vulnerable for their residents. Any flood, wildfire, or other natural hazard has the potential to not only undo the benefits of the improvements that are done with GRRP funding, but also to displace the people who call that building their home. This is particularly true for affordable housing, which is often older housing stock that was originally built to codes and elevation requirements that we would now consider outdated and under-protective. By complying with FFRMS, HUD will help minimize the potential for future flood damages.

Require Flood Insurance

Second, we recommend that HUD require that flood insurance coverage be acquired and maintained on buildings that receive GRRP funding if they are either:

- Located in the 100-year floodplain, as defined by FEMA’s most recent flood map, or
- Outside the 100-year floodplain but have a known history of damage from flooding.

Requiring purchase of flood insurance is important to ensure that building owners have the resources to quickly repair and recover after a flood disaster. Doing so dramatically decreases

the potential for long-term displacement of renters and residents, who too often find themselves without a home when their building is heavily damaged and must find a new place to live. Purchase of insurance will also ensure that should a flood cause damage, the energy and water-efficient appliances and systems will be replaced.

We know that much of the nation's affordable housing stock is at risk of flooding. According to the HUD Inspector General, there are 11,591 buildings that provide affordable housing across the country that are located in the 100-year floodplain and an additional 3,940 affordable housing buildings are likely in the floodplain.⁶ These buildings are very likely to be among the beneficiaries of GRRP funding along with an even greater number of market-rate affordable housing. This speaks to the importance of both requiring conformance with FFRMS and ensuring that flood insurance coverage is secured.

Moreover, the legacy of racial discrimination and redlining has left many people of color - and a large proportion of affordable housing that serves those populations - in areas that are highly vulnerable to flooding.

A study by the real estate company Redfin.com found that redlining has led to higher percentages of Black families living in areas at greater risk of flooding compared to homes in more affluent, non-redlined areas (see Figure 2). According to Redfin Senior Economist Sheharyar Bohari, "Decades of segregation and economic inequality shoehorned many people of color—especially Black Americans—into living in neighborhoods that are more vulnerable to climate change." He also stated that "The cycle continues today. As climate change fuels rising sea levels and powerful storms, many of these neighborhoods lack the funding for the infrastructure upgrades necessary to combat flooding."⁷

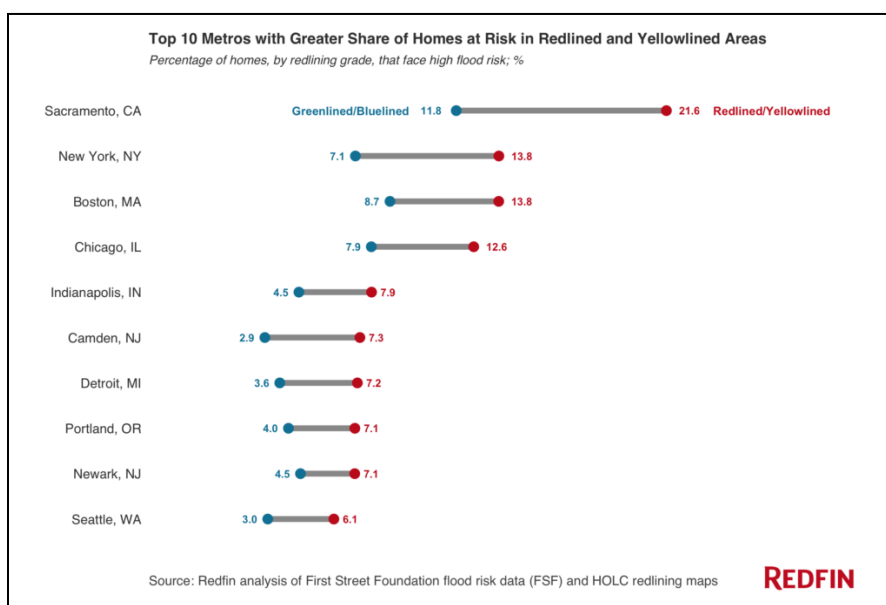


Figure 2. A recent study by Redfin found that a higher percentage of homes in formerly redlined areas are at greater risk of flooding compared to non-redlined areas.

Finally, GRRP may also benefit from guidance that FEMA issued in accordance with the Disaster Recovery Reform Act of 2018. That statute enabled FEMA to fund the rebuilding of damaged infrastructure, public buildings, and other public assets to a higher construction standard than was required by local codes and ordinances. Application of these higher standards was left to the discretion of the grantee, not imposed by FEMA. However, this option has allowed FEMA, and the communities whose recovery and rebuilding it is supporting, to build to higher construction and design standards to better protect against future occurrences of flooding and other natural hazards.

Regulations and guidance promulgated pursuant to the Stafford Act may be useful to GRRP. HUD could similarly encourage projects to go above and beyond what's prescribed in local codes and ordinances and instead build to accepted consensus codes to guide design and construction. In particular, 42 U.S.C. §5172(b) provides funding for projects that meet the latest consensus codes and standards:

[E]ncouraging the adoption and enforcement of the latest published editions of relevant consensus-based codes, specifications, and standards that incorporate the latest hazard-resistant designs and establish minimum acceptable criteria for the design, construction, and maintenance of residential structures and facilities.

FEMA has created guidelines for applicants to follow to demonstrate their reliance on relevant consensus-based codes and standards, FEMA Recovery Interim Policy FP- 104-009-11.⁸ HUD should similarly require applications to identify the latest consensus-based codes for relevant local natural hazards to complement a requirement for the latest building safety and energy codes to be followed for all projects, to the extent feasible. Relatedly, applicants should demonstrate that their proposed project addresses the hazards identified in applicable state and/or local hazard mitigation planning. FEMA makes this information publicly available,⁹ allowing applicants to complete a desktop review at a minimum.

8. Geographic Disparities

Based on the risk indices provided by FEMA¹⁰ and NOAA¹¹, low- and moderate-income households across the country face the potential for destruction and loss of life due to natural hazards exacerbated by climate change. HUD should take into consideration the needs of the constituents based on what we know about climate issues. Those living in areas that have

recently received other federal funding should not be disqualified from this opportunity because of decisions made by state or local officials about other federal funding. Rather than a geographic limitation, applications should be required to demonstrate that proposed resilience investments are relevant to mitigating their climate and natural hazard risk, and a need for this funding to make those investments.

As an alternative, HUD could prioritize funding to applicants who demonstrate serious prior efforts to improve resilience but need funding to implement projects. Ideally, these prior efforts would include involvement from state or local authorities, which could be demonstrated by letters of support in the application process. By focusing on demonstrated need, informed by prior activity, HUD can prioritize those applications that have made previous efforts to address resilience yet still have a need for this funding.