

Advancing Decarbonization in Regulated Multifamily Affordable Housing

Key Federal Levers to Achieve Meaningful Change



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Executive Summary

The Stakes

Decarbonizing affordable rental housing is critical to mitigating climate change and achieving sustainable development goals. As the global focus on carbon reduction intensifies, it is increasingly important to address the challenges and harness the benefits of decarbonizing this crucial sector.

Environmental Impact: Decarbonizing rental housing significantly reduces greenhouse gas emissions, mitigating climate change and its adverse effects. By adopting energy-efficient technologies and renewable energy sources, such as solar panels, heat pumps, and other electrification measures, carbon footprints can be substantially reduced, contributing to a greener and more sustainable built environment.

Energy Cost Savings: Energy-efficient upgrades, including insulation, LED lighting, and efficient heating and cooling systems, help lower energy consumption and utility bills for tenants and landlords. This can alleviate financial burdens on low-income households, making housing more affordable and improving overall quality of life.

Health and Well-being: Upgrading rental housing with energy-efficient features enhances indoor air quality, reducing exposure to pollutants and allergens. Proper ventilation and insulation also create more comfortable living conditions, positively impacting the health and well-being of occupants. Lowering energy consumption can reduce the reliance on fossil fuel-based energy sources, improving local air quality and reducing the health risks associated with pollution.

Resilience to Climate Change: As extreme weather events (heatwaves, storms, floods, etc.) become more frequent and intense, housing equipped with renewable energy systems and energy-efficient features is better able to withstand and recover from these events. Onsite renewables can ensure electricity to critical systems like lighting, refrigeration, and communication during grid failure. Meanwhile, improved insulation and building envelope performance will regulate indoor temperatures, reducing heating or cooling demand.

Building Regulations and Policy Support: Strong and supportive building policies drive decarbonization. Governments must establish clear and ambitious targets, provide financial incentives, streamline permitting processes, and enforce energy performance standards to encourage landlords to invest in decarbonization.

Challenges

The Biden Administration has set a goal to make the entire U.S. economy carbon-neutral by 2050.¹ The White House's Justice40 Initiative runs concurrent to this effort, ensuring that 40 percent of the overall

¹ The White House. "[FACT SHEET: President Biden to Catalyze Global Climate Action through the Major Economies Forum on Energy and Climate.](#)" 2023.

investments in affordable and sustainable housing flow to disadvantaged communities (DACs).² These goals combine to form an agenda that requires bold action at all levels, including efforts by Federal agencies that inform the financing, regulations, and standards for affordable housing.

Buildings account for 35 percent of U.S. total carbon emissions,³ making the sector a key driver of climate change. Reducing carbon emissions by developing high-performance, all-electric housing and shifting toward renewable energy (decarbonization) is crucial to reducing national carbon emissions.⁴ This vision is timely, coinciding with an infusion of funds from the Federal Inflation Reduction Act of 2022 (IRA), and the moment presents an opportunity to revisit program design and implementation of energy performance programs for low and moderate income (LMI) communities across the country.

To fully achieve bold climate goals and meet housing needs, wholesale solutions must be implemented at the Federal level – substantial changes in building codes, tax codes, and standards for financing – ultimately creating efficiencies and competition that will bring the price of decarbonization down, drive private market participation, and scale. Several components of such extensive changes are actionable at Federal agencies, rendering their programming a key entry point for achieving climate change mitigation goals.

The advancement of decarbonization in affordable housing does not only function to achieve climate change mitigation targets, but it also addresses social equity and resident health and well-being. While the two are inextricably tied, the effects on equity of decarbonization are further reaching: As a crucial component of a national strategy to mitigate climate change, which disproportionately impacts low-income communities, decarbonization directly addresses the root causes of climate change and helps to reduce its deleterious effects on vulnerable communities. Additionally, decarbonization efforts support the resilience of low-income communities. Investing in renewable energy infrastructure and implementing energy efficient measures makes communities more resilient to the impacts of climate change. Moreover, energy-efficient and decarbonized affordable housing reduces exposure to indoor pollutants, makes homes more resilient to severe heat, cold, and other weather events, and positively impacts residents' well-being. Ultimately, decarbonization addresses the root causes of climate change while alleviating some of its immediate effects on low-income communities and communities of color.

However, the push to meet climate goals places an already-strained affordable housing community under even more pressure. Affordable housing providers, energy advocates, and government agencies must unite to organize resources to build more affordable, higher-performance housing. The innovative, affordable housing community has led many green building and renewable energy efforts over the last three decades. It is prepared to help meet climate goals, but not at the expense of affordability. As such, the affordable housing community needs existing programs to include financial support to accomplish

² The White House. "[Justice40: A Whole of Government Initiative.](#)" 2022.

³ Energy Information Administration. "[U.S. CO2 emissions from energy consumption by source and sector, 2022.](#)" 2022.

⁴ This is a shorthand definition of "decarbonization" employed throughout the white paper. A comprehensive definition is provided below.

the dual goals of housing affordability and climate change mitigation.

Fortunately, over the near term, the Inflation Reduction Act will provide up to \$25 billion for new and existing affordable housing.⁵ That IRA funding should jumpstart affordable housing’s decarbonized future.

Combining the practical steps outlined below and intelligent deployment of IRA funding for affordable housing will reduce our dependence on fossil fuels and lead to better health outcomes for affordable housing residents.

Sustainable Building Practices in Federal Programming to-Date

Several federal agencies have taken significant steps to promote energy efficiency in multifamily housing, recognizing the importance of energy efficiency and sustainability in the housing sector. The table below identifies a handful of highlights in federal energy efficiency programming:

Agency	Program	Description
DOE	Better Buildings Challenge	Promotes energy efficiency (EE) in multifamily through partnerships with stakeholders, energy-saving goals, and resources for energy reductions.
HUD	Green Retrofits Program	Provides grants and funding to retrofit affordable housing with EE measures, improving performance and sustainability.
HUD	Mark-to-Market	Restructures mortgages and rental agreements, offering opportunities to introduce EE upgrades during rehabilitation events.
HUD (FHA) & FHFA (GSEs)	Risk Share Plus	A collaboration between HUD and FHF, it facilitates affordable housing financing and encourages EE practices in multifamily developments through credit enhancements and risk-sharing mechanisms.
FHA	Energy Efficient Mortgage Program	Encourages homebuyers to invest in energy-efficient (EE) improvements for new or existing properties; rolls cost of EE upgrades into the mortgage loan.
HHS	Low-Income Home Energy Assistance Program	Provides financial assistance to low-income households to help meet energy needs. Includes funds for EE upgrades in multifamily housing.
DOE	Weatherization Assistance Program	Improves energy efficiency and reduces energy costs for low-income families by providing weatherization services. Includes multifamily housing.
HUD	Multifamily Housing Energy Innovation Fund	Offers grants and loans to PHAs, nonprofits, and private developers for EE renovations and retrofits in multifamily housing projects.

⁵ National Housing Trust. “NHT Policy Brief: Key Provisions in the Inflation Reduction Act for Affordable Housing.” 2022.

Through such programs, these agencies have made commendable progress in advancing energy performance in multifamily housing while reducing operating costs and environmental impact. Further, these efforts have benefited residents by lowering energy bills and improving indoor comfort while contributing to national energy conservation and environmental stewardship goals.⁶ Although these programs advance energy efficiency, their contribution to decarbonization is indirect: they contribute to decarbonization by reducing energy consumption and promoting the use of more efficient building materials and equipment. However, these programs only sometimes encourage full electrification and integration of renewable energy.

Transforming the Regulatory and Incentivization Environment to Meet Decarbonization Goals

The urgency of the climate crisis necessitates an evolution in sustainable building practices and the affordable housing industry. Affordable housing and energy efficiency programs must now center on decarbonization to sufficiently address the building sector’s influence on climate change and meet our nation’s carbon neutrality targets.

Notably, the foundation for integrating decarbonization into the affordable housing sector already exists within Federal agency programming – existing platforms, programs, and policies can be leveraged to move beyond energy efficiency into a paradigm of decarbonized housing. The most promising actionable change can be realized by making realistic updates to the most impactful affordable housing programs across several Federal agencies. This report outlines steps to move extant energy efficiency and affordable housing programs toward a decarbonized future.

Cross-Cutting Issues in Decarbonizing Affordable Housing

The cost of decarbonizing housing is high.⁷ One of the significant challenges is the upfront investment required to retrofit existing affordable rental housing with decarbonization technologies. Many affordable housing providers, whose income is limited due to restricted rents, need additional financial resources to undertake cost intensive decarbonization. Further, the switch from natural gas to electric systems erodes returns on investment in most markets. While a decarbonized building is likely to register significant energy and carbon savings, the high cost of electricity compared to gas usually results in a net-neutral effect on utility bills or even a utility cost increase.⁸

The split incentive also poses significant challenges to return on investment.⁹ When the costs and

⁶ U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy. “[Energy Efficiency: Buildings and Industry.](#)”

⁷ New Buildings Institute. “[Cost Study of the Building Decarbonization Code.](#)” 2022; Rocky Mountain Institute. “[The Economics of Electrifying Buildings.](#)” 2018.

⁸ Ibid.

⁹ Hynek, D. Levy, M., and Smith, B. “[‘Follow the Money’: Overcoming the split incentive for effective energy efficiency program design in multi-family buildings.](#)” ACEEE Summer Study on Energy Efficient Buildings. 2012.

benefits of an investment are not aligned between two parties, a split incentive arises. There is a disincentive to act for one or both parties, leading to a suboptimal outcome. In decarbonization, split incentives occur between landlords and tenants: while housing owners are responsible for the upfront costs, tenants reap the benefits through lower energy bills. This tends to lead to a lack of action as owners cannot yet recapture investments in decarbonization.

Energy performance and decarbonization approaches among affordable housing providers and programs are highly disaggregated. This is primarily due to the autonomy state housing finance agencies and local Public Housing Authorities enjoy in administering Federal affordable housing programs. While a highly effective means of delivering federal- and state-subsidized affordable housing, this autonomy results in a wide variation in the approach to decarbonization. Wide variations in approaches to green financing, underwriting, performance standards, and utility allowance methodologies must be addressed to advance decarbonization.

Lack of knowledge and technical assistance barriers prevent the uptake of decarbonization.

Decarbonization is gaining name recognition and familiarity, but it is still a relatively new concept in the built environment. Access to skilled professionals, such as energy auditors and contractors, is crucial for decarbonization. Training programs and incentives can help build the necessary workforce and expertise to support the decarbonization of affordable rental housing.

At the Federal level, there is a general familiarity and comfort with energy efficiency concepts. While a core component of decarbonization, energy efficiency alone will not yield climate alignment in the housing sector. A lack of awareness of what is necessary to achieve decarbonization begets a disaggregated approach to energy and sustainability at the Federal level. Further, most developers and owners have yet to become accustomed to developing decarbonized buildings. Indeed, developers in some regions of the country have yet to become accustomed to building energy efficient housing. There is a deep need for technical assistance to educate owners and development teams on executing decarbonization scopes of work.

How to Decarbonize Affordable Housing

To overcome these challenges, financial incentives, grants, and low-interest loans must be made available to encourage and support property owners in undertaking decarbonization initiatives. Federal agencies must also support the development of industry knowledge and support technical assistance to accelerate the uptake of decarbonization.

The following three strategies for decarbonizing multifamily affordable housing present an appropriate approach to decarbonizing the preponderance of affordable housing across the country. In combination, these strategies comprise a framework that would facilitate decarbonization and ultimately usher in a new set of standard operations in the multifamily housing sector due to the total market share of affordable housing in the United States.

- 1. Gradually move federal affordable housing programs toward decarbonization.** Across the U.S.,

significant disparities exist in the institutionalization of energy efficiency and decarbonization in affordable housing; nonetheless, the environmental crisis demands a national transition toward decarbonization. Shifting away from the disaggregated business as usual towards decarbonization must be intentional. The first step is to move all affordable housing to a universal minimum performance standard for new and existing buildings, such as Energy Star, Enterprise Green Communities, or LEED. Once the minimum standard becomes cost-effective, it should gradually be made more rigorous. These adjustments over time will move affordable housing toward full decarbonization. To monitor compliance with this new standard, the Federal government should require energy, water, and carbon benchmarking for all affordable housing programs.

2. **The federal government should guide states and critical constituents on decarbonization best practices. In coordination, states can disseminate decarbonization best practices.** Federal agencies must serve as leaders in decarbonization. We need a national strategy to address the need for more knowledge and technical assistance in the market and the disaggregated nature of affordable housing. Additionally, state and local governments could enact several high impact changes that could jumpstart decarbonization. Such peer-to-peer exchanges might include publishing best practices on Qualified Allocation Plans, Design Guidelines, and Utility Allowances.
3. **Fill the funding gap to achieve decarbonization until private market adoption.** To address the high costs of decarbonization and the absence of traditional return on investment, the Federal government should recognize the importance of achieving decarbonization through various funding sources. As suggested, instating a minimum performance standard does not reach full decarbonization. Using Inflation Reduction Act funds, the Federal government should strongly encourage developers to achieve deeper decarbonization levels (Passive House, Enterprise Green Communities Plus, LEED Platinum/Zero, etc.). The most appropriate approach will vary by agency and even program but should include subsidy, preferential loan terms, and enhanced underwriting for mortgage insurance. Over time, as with energy efficiency in affordable housing, the private market will incorporate decarbonization.

How This White Paper is Structured

This paper is structured to provide the user with an overview of:

- How Federal agencies support affordable housing;
- The most robust Federal housing programs;
- General issues around achieving decarbonization; and
- Opportunities to advance decarbonization in affordable housing.

After the Background Section, this paper is broken out by four Federal entities – the Federal Housing Finance Agency (FHFA), Housing and Urban Development (HUD), the Treasury, and the Department of Agriculture (USDA).

Each agency’s section is structured identically, adhering to the following outline.

- Overview: A general overview of each agency’s core functions is provided.

- Current Approach to Energy and Decarbonization: The paper details an agency’s current and historical approach to energy performance and decarbonization.
- Critical Obstacles to Decarbonization: The paper identifies obstacles to decarbonization that may be inherent to the agency’s core functions or result from its current programming.
- General Solutions: The section presents general solutions. These are not actionable but identify what must be achieved to advance decarbonization in the context of an agency’s current approach to decarbonization and critical obstacles to the adoption of decarbonization. This subsection contains a bulleted list of recommendations later expounded upon with further context and action steps.
- Recommendations: Each recommendation is presented within a more specific context, broken into subsections.
 - *Core issues*: The paper identifies core issues or obstacles to decarbonization that this recommendation addresses.
 - *Action steps*: The paper articulates the tangible actions the agency may take to advance the broader goal of that recommendation. Usually, a recommendation is supported by several action steps.

Ideas are presented in this format to enable the reader to quickly identify the material most relevant to their interests.

Background

Method

This paper focuses on four Federal agencies, which, due to their relationship to affordable multifamily housing, could significantly impact reaching ambitious climate goals for affordable housing. Our team mapped out the policy landscape of Federal housing and sustainability programs, identifying close to 150 unique programs across all Federal agencies. We then prioritized programs with the most significant potential impact on carbon emissions reduction and climate risk. We identified programs that could be altered to accelerate decarbonization most significantly in affordable housing. Next, the team prepared and hosted six “Design Labs” (virtual Federal policy roundtables with agency leadership and key stakeholders). To prepare and debrief from Design Labs, we held several one-on-one conversations with industry experts to fine-tune recommendations and generate solutions grounded in context.

Key Concepts

To reduce ambiguity in the text, consider the following distinctions for industry terms employed throughout the paper.

Multifamily Affordable Housing: In broader parlance, “affordable housing” comes with various definitions and may be influenced by factors such as resident and area income levels, local market conditions, and government subsidies. The U.S. Department of Housing and Urban Development (HUD)

classifies housing as affordable when the occupant pays 30 percent or less of their gross income on total housing costs, including utilities.¹⁰ This paper also centers on “multifamily housing,” which refers to a building with more than four housing units.

Decarbonization: The critical goals of decarbonization are to reduce greenhouse gas emissions while simultaneously addressing housing cost burdens and improving housing quality. The fundamental characteristics of decarbonization include:

- Reducing energy load with high performance envelopes and improving indoor air quality through indoor air movement;
- Installing highly efficient, all electric equipment and appliances such as heating and cooling equipment, domestic hot water heaters, stoves, and clothes dryers; and
- Utilizing demand controls, on-site renewables, and energy storage to manage electric energy consumption.

Decarbonization stemmed from more traditional concepts such as energy efficiency and resiliency.

Decarbonization’s Connection to Energy Efficiency: Energy efficiency is the core of decarbonization. Like energy efficiency, decarbonization prioritizes replacing less efficient building equipment with more efficient equipment. Other fundamental tenets of energy efficiency, like weatherization, air sealing, and insulation, are critical for reducing building energy load to eliminate carbon emissions. The most important differences between decarbonization and traditional energy efficiency boil down to fuel type and the nature of savings achieved. Decarbonization prioritizes all-electric building systems, which can be directly offset by renewable energy production, and prioritizes carbon savings over energy or dollar savings. Energy efficiency is agnostic to fuel type, prioritizing energy and cost savings over carbon savings. Decarbonization retrofits only sometimes result in the same cost savings as energy efficiency because electricity is generally more expensive than natural gas. However, when decarbonization upgrades are paired with onsite renewable energy, a building’s net consumption of grid electricity can be significantly reduced, resulting in lower utility bills.

Decarbonization’s Connection to Resiliency: Resiliency in the built environment focuses on coping with the adverse impacts of climate change, including but not limited to extreme heat, flooding, and severe storms. The core tenets of decarbonization inherently make buildings more resilient. For example, a tight building envelope keeps indoor air temperatures much more comfortable in the event of a power outage, increasing the passive survivability of the building and better enabling tenants to shelter in place during extreme weather. Another critical example is renewable energy and battery storage. A building’s ability to produce power independently from the grid during an outage is another boon to resiliency. Last, all-electric high efficiency equipment like heat pumps provide tenants with sustainable cooling access, which is vital to protecting vulnerable communities from extreme heat.

A Primer on Utility Allowances

¹⁰ Department of Housing and Urban Development. “[Defining Housing Affordability.](#)” 2017.

A housing utility allowance is a program that provides financial assistance to individuals or families to help cover the costs of utilities in their housing units. A utility allowance ensures that low-income households can afford basic utilities such as electricity, gas, and water.

The utility allowance is typically calculated based on various factors, including the household size, the type of housing unit (e.g., apartment, single-family home), and the average utility costs in the area. The goal is to provide a fair and reasonable amount of financial assistance that reflects the actual utility expenses of the eligible households. However, below, we explain how current utility calculations should be more fair and reasonable.

Several Federal agencies administering low-income housing programs, including USDA, State Housing Finance Agencies, and HUD use utility allowances to assist low-income families in paying the costs of utilities.

These agencies determine the eligibility criteria and the specific calculation method for the utility allowance. HUD allows several methods for calculating utility allowances, including utility allowance schedules, historical cost data, and engineering consumption models. Other affordable housing programs, including the Treasury's Low-Income Housing Tax Credit and USDA programs, reference HUD's acceptable methods and guidance when calculating utility allowances for their programs.

How are utility allowances related to the decarbonization of affordable housing? Put simply, if the method calculating the utility allowance yields a flawed, exaggerated amount higher than the actual utility cost, the owner loses net operating income. This, in turn, affects an owner's ability to decarbonize a building. Thus:

- **Utility schedules developed by PHAs based on historic data significantly exaggerate the actual cost of utilities.** This is primarily because these allowances are set using outdated utility cost data from 2009. Newer electric technology uses far less energy than its 2009 counterparts. As a result, the utility allowance for electric heating and cooling is much higher than is required for deeply efficient buildings.
- **Utility allowances reduce the subsidized payment paid to the landlord dollar for dollar.** If the utility allowance is higher than the actual cost of utilities, the owner does not receive the rent to which they are entitled.
- **For affordable housing property owners, an exaggerated, flawed utility allowance means the owner collects less rent from the resident.** Collecting less rent reduces the owner's Net Operating Income (NOI). An incorrect, exaggerated utility allowance often has an enormous adverse effect on NOI. An owner with insufficient NOI cannot invest in the upfront cost of decarbonization.
- Conversely, suppose a property owner seeks to install high-performance equipment (e.g., heat pumps, heat pump water heaters, induction cooktops, etc.) that significantly reduces tenants' electricity demand. In that case, the utility allowance must be correspondingly reduced **so the owner can collect more rent.** This increases NOI and **enables them to pay for the upfront cost of decarbonization.**

Below we recommend replacing the calculation of a utility allowance using 2009 data with the much more accurate energy consumption model for utility allowances.

Decarbonization of Regulated Multifamily Affordable Housing in the United States

This page summarizes the cost of decarbonization for affordable housing. It provides an overview of affordable housing programs covered later in the paper and outlines how decarbonization is supported through Federal programs and loans.

Decarbonization in Affordable Housing: Reducing carbon emissions necessitates deep energy retrofits, often requiring the replacement of entire heating, cooling, and domestic hot water systems – a set of upgrades that tends to be too expensive and burdensome for owners to afford without subsidy.

At its most basic level, affordable housing is rental housing, where the owner commits to reducing rent for a specified amount of time designated for moderate or low-income residents. Rents are the primary source of income for any rental property. Because affordable housing owners commit to reducing rent below market rate, the primary income of a property is limited. For this reason, paying for and performing major improvements to a building is challenging; a building owner cannot increase rents to pay back the investment. Compounding this, an affordable housing owner generally operates on limited reserves of capital set aside for expenses such as property maintenance, repairs, and building improvements.

The Capital Stack – How Affordable Housing is Financed: The capital stack refers to the different financing sources used to fund housing development. These sources may include public grants, tax credits, private equity, and debt financing from banks, government agencies, or other lenders. The financing process can be complex and typically involves various stakeholders, including developers, investors, lenders, government agencies, and nonprofit organizations. Overall, the capital stack for a multifamily affordable housing project depends on various factors, including the specific requirements of the funding programs and the project's financial feasibility.

Major financing events are ideal for incorporating decarbonization into the project because of the availability of debt and equity throughout the capital stack to cover such costs.

Critical Federal Housing Providers and Subsidy Products: While Federal debt and equity sources play a crucial role in financing the preponderance of all regulated affordable housing projects in the nation, financing structure varies based on the specific project and the array of financing sources it integrates. Throughout the following agency-focused sections, we detail many of the most widely utilized Federal loan programs, which can be accessed at different periods in a building's life cycle. Combined with increasingly rigorous building performance requirements, these incentive programs are foundational to advancing decarbonization in affordable housing nationally.

Priority Opportunities by Federal Agency

Federal Housing Finance Agency (FHFA)

The Federal Housing Finance Agency is responsible for the regulation and oversight of the Federal Home Loan Banks (FHLBs) and two government-sponsored enterprises (GSEs): the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac). Some of the FHFA's key responsibilities include:

- Overseeing the safety and soundness of the FHLBs, Fannie Mae, and Freddie Mac, including their capital requirements, risk management, and compliance with laws and regulations;
- Regulating the mortgage market, including setting national loan limits, establishing underwriting standards, and enforcing compliance with consumer protection laws;
- Developing and implementing programs to support affordable housing and promote access to credit for underserved communities; and
- Providing oversight and guidance for the Federal Home Loan Banks.

FHFA and its Regulated Entities' Current Approach to Energy and Decarbonization

Beyond its principal charge to ensure the safety and soundness of the GSEs, FHFA is focused on promoting access to mortgage credit for underserved markets through the Duty to Serve (DTS). The DTS rule requires Fannie Mae and Freddie Mac to develop and implement strategies that promote access to mortgage credit for three underserved markets: manufactured, rural, and affordable housing preservation. The GSEs focus on preserving affordable housing through initiatives that help maintain the affordability of multifamily rental units and provide financing for affordable rental housing preservation.

FHFA is acutely aware of the need to transition to decarbonized affordable housing. According to FHFA's 2022 annual report:

*"In FY 2023, FHFA intends to further develop the Enterprises' and Agency's climate research agendas. Additionally, FHFA plans to issue climate risk examination guidance for evaluating the incorporation of climate risk into decision-making of the Enterprises and FHL Banks and to provide training to examination staff. FHFA will also continue to seek opportunities to provide greater incentives for investments in climate resiliency and energy efficiency through its regulated entities."*¹¹

The DTS principally encourages Fannie Mae, Freddie Mac, and the Federal Home Loan Banks (FHLBs) to engage in work that helps meet the housing needs of these underserved communities. Additionally, the rule includes "green" components. To date, DTS has been employed to encourage the GSEs to incorporate sustainability and energy-efficiency practices into their lending activities. This has included more favorable financing opportunities for properties with recognized green building certifications and promoting energy efficiency and water conservation improvements within multifamily properties. By leveraging their programmatic infrastructure and orienting their focus toward decarbonization, FHFA,

¹¹ Federal Housing Finance Agency. "Annual Report to Congress - 2022." 2023.

and its regulated entities already have a platform to significantly advance decarbonization through housing finance.

Critical green housing finance programs among FHFA's regulated entities follow:

Fannie Mae: Since 2012, the enterprise has issued over \$110 billion in Green MBS, accounting for roughly 11.8 billion kBtu of energy savings, 9.1 billion gallons of water savings, and approximately 759,000 metric tons of CO2 emissions avoided annually.¹² In 2022, Fannie Mae issued approximately \$9.1 billion in Multifamily Green Mortgage Backed Securities and \$781 million in Green MBS-backed Guaranteed Multifamily Structures tranches.¹³ Properties qualifying for one of Fannie Mae's Green business programs can receive more favorable loan terms and additional loan proceeds; the enterprise's green programs include:

- **Green Rewards:** This program provides financing incentives for multifamily properties that meet specific energy and water efficiency standards and other sustainability criteria.
- **Green Preservation Plus:** This program provides financing and incentives for active, affordable housing owners who want to make energy-efficient upgrades.
- **Healthy Housing Rewards:** This program provides financing incentives for multifamily properties incorporating healthy living features, such as non-toxic building materials, air filtration systems, and green cleaning practices.
- **Multifamily Green Bond:** This program allows investors to purchase Fannie Mae bonds exclusively backed by loans for energy-efficient and environmentally sustainable properties. This enables investors to support sustainable housing while earning a return on their investment.

Freddie Mac: In 2020, Freddie Mac financed \$6.7 billion in green and affordable housing loans, representing 27 percent of its total multifamily volume. Since launching its Green Advantage programming in 2016 (through Q3 of 2021), Freddie Mac's GreenUp program was utilized on loans totaling over \$64 billion, impacting nearly 630,000 units. Green Up and Green Up Plus are the primary offerings of Freddie's Green Advantage program and have contributed to improvements in over 2,300 properties since 2016. The GSE reports annual cost savings of roughly \$48,900 per loan and \$191 per unit annually; tenants are saving, on average, \$129 per year.¹⁴

- **Green Up and Green Up Plus for Affordable Housing:** These programs provide financing and incentives for owners of existing affordable housing properties who want to make energy-efficient upgrades. Green Up for Affordable Housing offers flexible loan terms, reduced interest rates, and additional loan proceeds to help cover the costs of energy-efficient upgrades.
- **Green Bonds:** This program allows investors to purchase bonds exclusively backed by loans for energy- and water-efficient multifamily properties in the workforce housing market.

Federal Home Loan Banks: The Federal Home Loan Banks (FHLBanks) are 11 regionally based, wholesale suppliers of lendable funds to financial institutions of all sizes and many types, including community

¹² Federal National Mortgage Association (Fannie Mae). "[Form 10-K Annual Report Pursuant To Section 13 Or 15\(D\) Of The Securities Exchange Act Of 1934 for the fiscal year ended December 31, 2022](#)" 2022.

¹³ Federal National Mortgage Association (Fannie Mae). "[Fannie Mae Green MBS At-A-Glance](#)." 2023.

¹⁴ Federal Home Loan Mortgage Corporation (Freddie Mac). "[Green Improvements in Workforce Housing](#)." 2021.

banks, credit unions, commercial and savings banks, insurance companies, and community development financial institutions. Member financial institutions cooperatively own the FHLBanks in all 50 states and U.S. territories. In 2022, the Federal Home Loan Banks provided over \$300 million in Affordable Housing Program (AHP) grants and \$1.7 billion in low interest loans to support affordable housing development nationwide.

Like state housing finance agencies, each federal home loan bank board determines how to best meet its individual market's affordable housing needs. Unsurprisingly, independent regional banks take different approaches to encourage energy efficiency in affordable housing. By way of example:

- Atlanta, Boston, and San Francisco have independent energy efficiency requirements in their AHP grant applications.
- Other FHLBs (e.g., Cincinnati, Des Moines, and Topeka) have independently provided energy efficiency grants for affordable housing.
- The FHLB of San Francisco provides extra points in its AHP application for net zero carbon affordable housing.

Critical Obstacles to Decarbonization for FHFA and its Regulated Entities

- Balancing affordability, decarbonization, and regulated responsibility to safety and soundness: FHFA's regulated entities must strike a sustainable balance between the need for affordable housing with the need to advance decarbonization in their portfolios while ensuring the safety and soundness of the housing finance market.
- Limited funding for green upgrades: The GSEs do not provide upfront capital but rather provide liquidity to the market by purchasing existing loans from lenders. The GSEs must find means to incentivize decarbonization upgrades within the bounds of their operations.
- Absence of baseline building performance monitoring and climate risk monitoring: Building performance monitoring and portfolio risk exposure are fundamental to transitioning to a decarbonized future. While the GSEs have incorporated building performance monitoring into some of their green loan offerings, performance tracking and climate risk exposure for their portfolios are not universally required.

General Solutions for FHFA and its Regulated Entities to Advance Decarbonization

- **Recommendation 1:** Incorporate decarbonization into the Regulated Entities' existing programming.
- **Recommendation 2:** Require building- and portfolio-level building performance monitoring for all multifamily housing.
- **Recommendation 3:** Leverage IRA Funds to pilot initiatives to advance decarbonization in GSE and FHLB programming.

Recommendation 1: Integrate decarbonization into the Regulated Entities' existing programming

Incorporating some level of decarbonization into all of the regulated entities' existing programming – including all standard loan products – is an essential first step in orienting FHFA toward a climate-aligned

future. As FHFA and its regulated entities have substantially contributed to transforming green building practices to industry-wide business-as-usual, they can likewise lead the decarbonization of affordable housing nationally.

Core Issues

Today, climate change threatens the FHFA’s mission to provide safety and soundness in the housing market. Extreme weather events cost Americans \$600 billion in physical and economic damages between 2017 and 2022, while great swaths of the country occupy homes at risk of wildfires or flooding.¹⁵ Meanwhile, at least 45 million households face high or severe energy burdens (paying more than 6 percent or 10 percent of their income on energy bills, respectively) – a disproportionate share of which falls on low-income households and people of color.¹⁶

Current GSE green products need to fully address the broader range of decarbonization measures required to transition to a low-carbon economy. However, a few critical issues must be addressed to incorporate decarbonization into their programming. For one, the present moment is marked by severe capital constraints, complicating the introduction of new decarbonization-focused programming. At the same time, DTS requires the GSEs to prioritize access to mortgage credit for underserved markets. The GSEs also have a loan cap to ensure they do not restrict liquidity in the market, and green loans are not exempt from the GSEs’ multifamily loan caps. Therefore, while economic conditions make it difficult to meaningfully expand the GSEs’ green lending at this time, such a goal is precluded by overarching multifamily lending caps placed by the FHFA.

To further complicate the matter, electrification alone often doesn’t yield total payback and, in some markets, is cost-prohibitive. This hinders the recruitment of additional upfront capital required to cover these costs. Amid these challenges, determining how to unlock capital to pay for those improvements is vital. The need now is more pronounced than ever for the GSEs to focus on standards, products, and underwriting to address climate goals.

Action Steps

- 1. Establish a minimum energy performance standard for new construction or substantial rehab projects across FHFA’s regulated entities. Standardize criteria between the GSEs. Consider:**
 - Require the use of widely-known third party performance standards during renovation/construction to bring all affordable housing up to a similar level of performance across the country. 2021 International Energy Conservation Code building codes, the ENERGY STAR program, and DOE’s Zero Energy Ready Homes are all excellent examples of programs that enjoy widespread recognition and adoption in the affordable housing market. Consider different standards for new construction and gut, substantial,

¹⁵ Rocky Mountain Institute, Institute for Market Transformation, Earth Advantage, Capital Good Fund, Rewiring America, FSI Engineers, Lincoln Institute of Land Policy. “[FHFA Policy Opportunity Overview: Climate Align US Housing Finance Through the Enterprises.](#)” 2022; and, Hopkins, Greg. “[It’s Time to Climate-Align Housing.](#)” 2021.

¹⁶ American Council for an Energy Efficient Economy. “[How High are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burden across the United States.](#)” 2020.

and moderate rehabilitation. Utilize the existing ENERGY STAR program, which has widespread recognition and adoption in the housing market, as the baseline.

- Allow a waiver if state or local code exceeds the baseline requirement.
- Consider gradually implementing a required standard to account for the differences between states. Currently, many states do not require energy efficiency measures in affordable housing. Requiring one would cause a significant adjustment in business as usual for many developers. A gradual implementation and policy allowing waivers where appropriate would lessen the impact in these states.

2. Reorient existing green lending programs toward decarbonization.

- Expand project eligibility for green mortgages across the regulated entities uniformly to incorporate decarbonization by providing the same incentives for cost-effective electrification upgrades as are currently offered for energy- and water-conservation and resilience upgrades.¹⁷
 - Combustion-based equipment should be excluded from green products. This equipment does not advance decarbonization and will become obsolete as policy and the economy drive toward carbon-free power.
- Guide Fannie Mae and Freddie Mac to standardize green mortgage criteria to reduce confusion and ensure maximum market uptake.¹⁸
- Consider offering tiered, increased incentives for projects surpassing minimum decarbonization requirements in updated green lending programs.¹⁹

3. Boost green lending by restoring the exemption of green loans from the GSEs' multifamily loan caps.

- Reinstating the exemption of green loans from multifamily caps to increase activity in the green mortgage market and advance a transition toward decarbonization as a standard operating procedure.
- Provide deeper incentives for these products by ensuring that these loans follow deep decarbonization measures through more significant energy load reduction, electrification, and provision/use of clean energy so they do not crowd out the market.

4. Encourage Regional Home Loan Banks to prioritize decarbonization in scoring its AHP Grant Program.

- The San Francisco Federal Home Loan Bank already provides additional points for affordable, net zero affordable housing. FHFA should strongly encourage the remaining 10 FHLBs to follow suit.

Recommendation 2: Require baseline energy performance tracking for all GSE loan products

FHFA requires the GSEs to track and report on their green financing programs' environmental impact.

¹⁷ Rocky Mountain Institute, et al. "FHFA Policy Opportunity Overview: Climate Align US Housing Finance Through the Enterprises." 2022; and, Hopkins, Greg. "It's Time to Climate-Align Housing." 2021.

¹⁸ Ibid.

¹⁹ See HUD Section, Recommendation 1, Action Step 3.

The GSEs must track data related to energy and water usage, greenhouse gas emissions, and other environmental performance metrics for their green certified multifamily properties.

Core Issues

Monitoring and disclosing the regulated entities' portfolio-wide energy performance, emissions, and climate risk exposure is crucial to orienting FHFA toward a decarbonized future. Presently, the FHFA does not require the regulated entities' loans to document energy performance unless those loans come through specialized green programs; nor does it require the regulated entities to expose climate risk. Such monitoring will be pivotal to case-making for and tracking the performance of building decarbonization initiatives.

While decarbonization emerges as a set of standard building practices, it needs to be understood similarly to other well-known processes, like lead and asbestos removal. Although carbon is not recognized as a similar class of environmental pollutant, it poses an existential threat and must be abated. To move toward a decarbonized future, it will be necessary to develop broadly accepted metrics and certifications of decarbonization. And therefore, to prepare for that moment, it is crucial to track carbon emissions on a large scale; the regulated entities can contribute to making performance monitoring a standard operating procedure through the massive scale of their portfolio.

Action Steps

Utilize existing platforms for carbon disclosure to assess climate risk exposure in the GSEs portfolio-wide. Start to align with existing green lending platforms and other standards in the market. This process requires tracking energy, water, and carbon reduction through all loan products. Tracking, monitoring, and gathering data with a portfolio of the GSEs' size can create market-wide standards for underwriting risk assessment to make the case for decarbonization as business-as-usual.

1. Conduct baseline performance tracking across loan products for Energy, Water, and Carbon

- FHFA requires Fannie and Freddie to track and verify energy and water efficiency on properties financed with green lending but expand to all lending.
- Determine the cost of tracking and verifying water and energy efficiency on all multifamily properties.
- Establish technical capacity for GSE staff for future decarbonization efforts.
- Consider utilizing an existing standard for tracking industry standards, such as Energy Star or Enterprise Green Communities.
- Require Green Capital Needs Assessments to use the same standards.

2. Improve transparency and disclosure of climate risk in GSE portfolios:²⁰

- Align with the Administration's directives on climate risk and SEC climate risk disclosure standards.
- FHFA to require the GSEs to assess, disclose, and reduce portfolio-level emissions and

²⁰ Rocky Mountain Institute, et al. "[FHFA Policy Opportunity Overview: Climate Align US Housing Finance Through the Enterprises.](#)" 2022.

climate risk exposure. The GSEs should quantify and disclose estimates of their portfolio-wide carbon emissions and climate risk exposure.

- Leverage existing tools to assess climate stress testing to published results.

Recommendation 3: Pilot initiatives that will advance decarbonization in GSE and FHLB programming

Core Issues

There are many examples of State housing finance agencies, local mortgage lenders, and innovative CDFI programs providing additional loan proceeds and products to advance decarbonization in the affordable housing market. In contrast, the GSEs are responsible for ensuring safety, soundness, and liquidity in the market. Thus, the GSEs can only offer lower cost offerings that do not conflict with their primary goal of ensuring safety and soundness.

Action Steps

FHFA can partner and conduct pilots with Federal, State, and Local public agencies along with CDFI lenders to start looking at ways to structure and utilize the GSE platform to learn underwriting and terms that work for decarbonization assets in affordable housing, to start to prepare for climate risks. Pilots may include:

1. Pilot initiatives to advance decarbonization in GSE and FHLB Programming

- **Implement discount pricing for decarbonization.** The GSEs could implement pilots that modify the existing Green Loan Programs to decarbonization targets. For example, FHFA could allow the entities to provide a discount for decarbonization, not unlike the current discounted pricing for water and energy efficiency. Indeed, Freddie Mac’s Equitable Housing Finance Plan anticipates a loan product emphasizing decarbonization. The Plan’s Action Step 5 to “Rehabilitate Affordable Rental Housing” provides:
 - “Promote Efficiency and Environmental Property Improvements – Freddie Mac will evaluate **potential enhancements to green loan products and other financing tools to better meet market needs for decarbonization and to increase energy/ water efficiency in housing.** The goal is for these loan products to have a greater impact on tenants by lowering utility costs and supporting affordability over time. These efforts can benefit households facing energy insecurity and historically underserved communities that face aging and inferior housing conditions.”²¹
- **Collaborate with Federal Agencies to prepare for increasing climate events and losses:** Partner with HUD and other Federal agencies to formally account for climate risk exposure, prepare for growing losses, and align with others in the housing industry.
 - What others have termed the “transition risk” is the risk of owning loans on “stranded assets” that have not been decarbonized. The issue for HUD and the GSEs is the risk borne by those holding loans on buildings that are not decarbonized. Thus, the imposition of new, additional decarbonized building

²¹ Federal Home Loan Mortgage Corporation (Freddie Mac). “Equitable Housing Finance Plan.” 2023. Emphasis added.

standards poses a real risk to existing properties in the GSE's portfolio. Formally accounting for loss performance now will help make the case for investing in decarbonization.²²

Housing and Urban Development (HUD)

HUD is responsible for developing and implementing housing, community development, and urban affairs policies. The Agency's primary mission is to create strong, sustainable, inclusive communities and affordable housing opportunities for Americans. HUD administers various housing programs providing safe, decent, and affordable housing.

The Housing Programs HUD oversees most relevant to this white paper are outlined below:

- **Project-Based Rental Assistance (PBRA):** The PBRA program, in all its variations, provides rental assistance for about 1.2 million people in low-income, very low-income, and extremely low-income households.²³ Rental assistance, often given directly to the landlord on behalf of the tenant, allows them to afford modest housing. Half of all assisted households are headed by elderly persons, 19 percent by persons with disabilities, and 24 percent are families with children. The average annual housing income of a household in a PBRA property is just over \$13,500.²⁴
- **Project-Based Vouchers:** Public housing agencies (PHAs) may utilize up to 20 percent of their authorized HCVs, plus an additional 10 percent for a total of 30 percent, for project-based vouchers.²⁵ Project-based refers to assistance linked to a particular property instead of tenant-based vouchers, which move with a household.
- **Rental Assistance Demonstration (RAD):** RAD helps preserve and improve HUD-assisted low-income housing by enabling PHAs and owners of private, HUD-assisted housing to leverage Section 8 rental assistance contracts to raise private debt and Low-Income Housing Tax Credit equity for capital improvements. Between the program's inception in 2011 and June 2022, RAD facilitated more than \$14.5 billion in capital investment to assist close to 175,000 deeply rent-assisted homes.²⁶
- **HUD Utility Allowances:** The Federal government assists low-income tenants through rent assistance and subsidy to pay for utilities (gas, electric, water). In the Section 8 program, tenants

²² "Transition risk is a topic of strategic relevance for real estate investors. Energy efficiency regulations and carbon pricing schemes are gaining prominence around the world. As the low-carbon transition accelerates, there is a growing risk of stranded assets and write-downs from properties that fail to meet market expectations and regulatory requirements." United Nations Environment Programme. "[Managing Transition Risk in Real Estate: Aligning to the Paris Climate Accord.](#)" 2022.

²³ Department of Housing and Urban Development. "[Project Based Rental Assistance – Summary of Resources.](#)" 2022.

²⁴ National Council of State Housing Authorities. "[Project-Based Section 8 Rental Assistance – 2022 FAQs.](#)" 2022.

²⁵ Department of Housing and Urban Development. "[Project Based Vouchers.](#)"

²⁶ Department of Housing and Urban Development. "[HUD Closes \\$33.3 Million Rental Assistance Demonstration Conversion with Housing Authority of The City Of Atlanta, Georgia, Preserving 114 Affordable Rental Homes at The Village at Castleberry Hill Site.](#)" 2022.

pay 30 percent of their income to their landlord,²⁷ and the rest of the rent owed is paid from HUD directly to the landlord. HUD also pays a subsidy to tenants to cover their monthly utilities; this is the utility allowance. HUD publishes several approved methodologies for Public Housing Authorities (PHAs) to utilize when setting utility allowances.

In addition to housing programs, HUD also oversees the following lending programs:

- **Federal Housing Administration (FHA) Loans:** The FHA insures mortgages issued by approved lenders, making them more accessible to borrowers with lower credit scores or smaller down payments. FHA loans include options for home purchase, refinancing, and rehabilitation loans. These loans help low income individuals and families become homeowners or improve their existing homes. In 2020 FHA insured 1.3 million home mortgage loans.²⁸
- **CDBG Grants:** While not a direct lending program, the CDBG program provides grants to state and local governments to support a wide range of community development activities, including rehabilitation of existing housing. Funding for the CDBG program varies and is determined by the Federal budgeting process, but historically it receives about \$3 billion annually.²⁹
- **Section 221(d) (4) Insured Loan Program:** This program provides financing for constructing, acquiring, or rehabilitating multifamily rental properties in urban renewal areas. HUD insures loans and offers long-term, low-cost financing with flexible terms.
- **Section 223(f) Insured Loan Program:** This program provides financing for acquiring or refinancing existing multifamily rental properties. HUD insures loans and offers long-term, low-cost financing with flexible terms.

HUD's Current Approach to Energy and Decarbonization

HUD has made significant progress in incorporating energy efficiency into its programming. In addition, the Agency recently announced the availability of new funding through the Green and Resilient Retrofit Program, provided by the Inflation Reduction Act. HUD has a history of implementing green programs before the IRA, a few examples of these programs are below:

- **HUD Energy Efficient Mortgage (EEM):** A financing option provided by HUD to encourage energy efficiency improvements in single and multifamily housing. Borrowers can finance energy efficiency improvements as a part of their mortgage. Borrowers are subject to traditional FHA underwriting but can borrow more than the property's appraised value to finance the energy efficiency improvements.³⁰
- **Green Mortgage Insurance Premium (MIP):** FHA provides mortgage insurance on financing for the development or preservation of multifamily housing. The FHA Green MIP lowers upfront and annual mortgage insurance premiums by 25 basis points for projects that achieve a minimum

²⁷ U.S. Code, Title 42 § 1437a

²⁸ National Council of State Housing Authorities. "FHA 2020 Annual Report Shows FHA's Impact on First-Time and Minority Homeownership." 2020.

²⁹ Department of Housing and Urban Development. "CDBG Activity Expenditure Reports."

³⁰ Department of Housing and Urban Development. "Energy Efficient Mortgage Program."

ENERGY STAR score of 75 and offers to underwrite 75 percent of the projected energy savings.³¹

- **Green and Resilient Retrofit Program (GRRP):** GRRP appropriates \$837.5 million for grants and \$4 billion for loans to improve energy efficiency and climate resiliency.³² Eligible recipients include owners and sponsors of HUD-assisted Section 202, Section 811, and Project-based Section 8 and Section 236 properties. The program can be used to improve water or energy efficiency, implement decarbonization technology, address climate resiliency, or perform benchmarking.

Critical Obstacles to Decarbonization for HUD

- HUD lacks a unified approach to decarbonization across housing programs: HUD has rolled out programs that promote energy efficiency and third-party certification for some of its portfolios. However, the approach does not apply to all HUD units, nor does it specifically address decarbonization.
- FHA Green MIP is voluntary, and essential energy efficiency is not uniformly applied to all FHA-insured mortgages. FHA offers energy efficiency mortgage insurance, but it is currently voluntary and lacks a focus on decarbonization.
- HUD Utility Allowance schedules do not reflect decarbonization needs. Utilizing Utility Allowance Schedules that do not reflect decarbonization technology inhibits affordable housing owners' ability to pay for critical decarbonization scopes of work.

General Solutions for HUD to Advance Decarbonization

- **Recommendation 1:** Incorporate decarbonization and accompanying best practices into all HUD housing programs
- **Recommendation 2:** Establish standard underwriting procedures to advance decarbonization at the FHA
- **Recommendation 3:** Modernize Utility Allowance Guidance to support decarbonization

Recommendation 1: Incorporate decarbonization and accompanying best practices into all HUD Housing Programs

HUD has been successful in incorporating energy efficiency into its housing programs. However, these efforts vary program-by-program and do not prioritize decarbonization specifically. HUD requires universal decarbonization standards and tools, focusing on a universal goal for all housing programs and incremental progress toward achieving it.

Core Issues

HUD encourages energy efficiency but needs to implement standardized performance requirements across its housing programs. Energy efficiency and decarbonization targets are disaggregated and left to

³¹ Department of Housing and Urban Development. "[Federal Housing Administration Announces New "Green Mortgage Insurance Premium" Reductions For Residential Care Facilities Meeting Industry-Recognized Green Building Certifications.](#)" 2022.

³² Department of Housing and Urban Development. "[Introducing Green and Resilient Retrofit Program.](#)" 2023.

the discretion of local PHAs and developers. Achieving ambitious national climate targets in a disaggregated environment is difficult.

Action Steps

Some progress is being made. HUD will adopt the International Energy Conservation Code (IECC) and ANSI/ASHRAE/IES Standard 90.1. The IECC standard applies to single-family homes and low-rise multifamily buildings (up to three stories). The ASHRAE 90.1 standard applies to multifamily residential buildings with four or more stories. Applicability is limited to newly constructed housing and does not include purchasing or repairing existing housing. This applies to:

- (a) new construction of public and assisted housing and single-family and multifamily residential housing (other than manufactured homes) subject to mortgages insured under the National Housing Act;
- (b) Rehabilitation and new construction of public and assisted housing funded by HOPE VI revitalization grants; and
- (c) new construction funded by the HOME Investment Partnerships Program (HOME) and the National Housing Trust Fund.³³

Nevertheless, these standards do not promote decarbonization. HUD should take its adoption of the IECC and ASHRAE standards further by employing more rigorous minimum energy performance standards and tools to support decarbonization for all HUD Housing Programs. These standards could be achieved by allocating a portion of the Green and Resilient Retrofit Program (GRRP) referenced above.

1. Create a minimum energy performance standard for HUD projects.

New Construction:

Adopting the new energy codes (listed above) will set a minimum performance standard across HUD's new construction projects. It will take time for developers to adapt to the changes, particularly in states/regions where no additional sustainability requirements are imposed. In addition to adopting these new codes, HUD should consider phasing in additional requirements for new construction that prioritize decarbonization and sustainability more globally than strictly energy code. HUD should specifically consider the following:

- Consider encouraging and eventually requiring that new construction be all-electric where feasible
- The newly adopted building codes could serve as short-term minimum performance standards. Given differences in the advancement of energy efficiency and decarbonization practices across the states, requiring adherence to a high-performance certification may threaten new housing production in lower cost, higher vacancy markets. Utilizing the latest building codes to incrementally improve building performance before requiring a more advanced certification would lessen the potential negative impact on these markets.

³³ Department of Housing and Urban Development. "[Minimum Energy Standards: Adoption of Energy Efficiency Standards for New Construction of HUD- and USDA-Financed Housing – Preliminary Determination and Solicitation of Comment.](#)" 2023.

- Encourage the utilization of a widely recognized third-party standard alongside energy code to focus more globally on resident health, climate resilience, sustainability, and energy performance.

Existing Buildings:

Since the new codes will not apply to existing buildings, HUD should consider implementing a minimum performance standard for its renovation projects. Like new construction, a gradual phase in will be critical. Incrementally improving building performance over time will also be necessary to reach decarbonization goals. HUD should consider the following:

- Establish different standards for new construction and gut, substantial, and moderate rehabilitation.
- Utilize a widely-recognized third-party standard where applicable as the minimum standard for HUD projects, for example, ENERGY STAR, Enterprise Green Communities, and LEED, all of which enjoy widespread name recognition in the affordable housing development community.
 - If a local or state building code exceeds the minimum requirement, allow a waiver.

2. Develop and employ tools and best practices to support decarbonization across HUD Housing Programs.

- HUD has preliminarily provided a notice of funding opportunity for the use of GRRP funds. The agency should hold a portion of GRRP funds to develop and then require the employment of a new tool to prioritize decarbonization opportunities during renovation events.
- Affordable housing projects typically utilize a capital needs assessment during the renovation to help identify which major building systems and components are at or near the end of their useful life. The results of this document directly inform the renovation scope of work and budget. More recently, states and localities have begun to require an *Integrated Physical Needs Assessment (IPNA)*, which also makes recommendations based on energy savings.

HUD should go further and develop a standard IPNA template that includes the assessment of carbon savings opportunities and require its use across programs. Training will be needed for PHAs, Housing Agencies, owners, and developers in the implementation of this new tool. The most impactful and cost-effective carbon savings measures should be incorporated into a project’s scope of work.

- Require energy, water, and carbon emissions benchmarking for all HUD Multifamily Assisted Housing Programs. One of the most effective tools for improving building performance is data. Utilizing utility data to determine a building’s current performance before and after renovation is necessary to achieve carbon reduction goals and track if a building is performing as expected. Owners can also use this data to troubleshoot issues that arise through operation. HUD has required that participants receiving GRRP funds engage in utility benchmarking using EPA’s Portfolio Manager Benchmarking System;

the agency has also funded additional support for this expense. Incorporating carbon emissions benchmarking into this monitoring framework will facilitate its abatement from the built environment.

- Publish guidance to educate the development community on decarbonizing affordable housing. This guidance could include agency priorities on electrification and decarbonization, sample scopes of work, and third-party certifications to consider.

3. Provide additional technical and financial incentives for deeper decarbonization. Set goals for deep decarbonization and offer tiered financial incentives for projects surpassing baseline decarbonization requirements.

- HUD should use a portion of GRRP funds to establish and fund a clearinghouse to assist affordable housing developers in financing decarbonization. These clearinghouses should help developers navigate the complex network of local, state, and federal incentives and financing sources designed to support decarbonization. These clearinghouses can also support utility allowance calculations and underwriting best practices to support decarbonization.
- HUD should use a portion of GRRP funds to create loan and subsidy programs designed to fund the incremental costs of decarbonization. Decarbonization does not have the same financial return as energy efficiency, making it hard to justify the total costs of decarbonization. As a result, the private capital is hesitant to fund these projects. HUD and EPA should use IRA funds as a bridge for decarbonization until the market or regulations support decarbonization.
- Encourage owners to achieve decarbonization through financial incentives. A fundamental way to implement this is to increase the PHA's portion of the total rent paid to owners. In doing so, owners can collect additional income and pay for a larger decarbonization scope during renovation or recoup investments during the building's operating period. The added rent revenue could incrementally increase with carbon savings, reaching market-rate rent levels in the highest performing buildings.

Recommendation 2: Establish standard underwriting procedures for decarbonization at the FHA

The Federal Housing Administration (FHA) has several green mortgage insurance programs that provide financing for constructing, acquiring, and rehabilitating green multifamily properties. The Energy Efficient Mortgage Program (EEM) outlined above is key among these. This program allows borrowers to take on additional debt to improve the efficiency of a multifamily or single-family property. Like HUD's housing programs, the EEM program focuses on efficiency rather than decarbonization.

Core Issue

FHA-insured loans have no universal performance requirement, and the current EEM program focuses on efficiency rather than decarbonization.

Action Steps

Use GRRP funds to integrate decarbonization into a select number of FHA-insured projects and enhance

existing FHA Green Multifamily Mortgage Insurance standards. Consider the following action steps:

1. Add decarbonization criteria into all FHA-insured projects

- Use IRA funds to offer funding to conduct decarbonization studies for multifamily projects.
- Require a minimum standard of energy performance for all loans insured by FHA.
 - i. New Construction: Using the new energy code effectively sets a minimum performance standard equivalent to or better than achieving a standard like ENERGY STAR.
 - ii. Existing Buildings: Use the existing ENERGY STAR, which enjoys widespread recognition and adoption in the housing market, as the baseline.
 - iii. Allow equivalent substitutions for private certification programs that meet the same level of performance or directly reference the Energy Star program (Enterprise Green Communities or LEED, for example). Allow a waiver if the state or local code exceeds the baseline requirement
 - iv. Consider the difference between new construction and renovation as well as moderate versus substantial renovation
- Underwrite 75 percent of energy savings for all projects

2. Enhance existing standards in the FHA Green Multifamily Mortgage Insurance

- Shift the focus of the existing EEM program to decarbonization
- Consider requiring deep decarbonization third party certifications like ENERGY STAR NextGen, EGC+, LEED Zero, or Passive House
- The standards should also specify the timeframe for achieving these reductions and the reporting requirements for property owners.

3. Pilot the new standards

- The FHA can pilot the decarbonization standards on a small scale to test their effectiveness and gather data on their impact. The results of the pilot can be used to refine the standards and make any necessary adjustments before rolling them out on a larger scale.

4. Monitor compliance

- The FHA can monitor compliance with the decarbonization standards by requiring regular reporting from property owners on their carbon emissions and energy consumption.
- The FHA can also conduct audits and inspections to verify compliance and identify areas for improvement.

Recommendation 3: Modernize Utility Allowance Guidance to support decarbonization work

HUD allows several methods for calculating utility allowances; key among them are utility allowance schedules, historical cost data, and engineering consumption models

Core Issues

Currently, not all of HUD’s methods for calculating the utility allowance support decarbonization. The method that most accurately calculates the actual cost of utilities is an engineering consumption model. As explained above, the most flawed are the utility allowance schedules developed by the local PHAs.

Some high capacity PHAs have begun to develop utility allowance schedules that include heat pumps, as allowable by HUD. Still, most PHAs need more technical and financial resources to implement this change.

The LIHTC program’s reliance on flawed utility allowance schedules during financing events negatively impacts project finance. It is common for state/local housing agencies administering the LIHTC program to require the use of the local PHA’s utility allowance table during development. As mentioned, these tables do not account for decarbonization, resulting in an allowance too high for deeply decarbonized buildings. The utility allowance must be deducted from the rent an owner can collect.³⁴ Since rents are the primary source of income for LIHTC properties, setting the utility allowance higher than necessary to cover actual tenant utility expenses arbitrarily limits the owner’s net annual income or NOI.

Action Steps

Modernize Utility Allowance Guidance to reflect energy savings associated with energy efficiency and decarbonization upgrades, and allow owners to share in the savings from such improvements.

1. Modernize Utility Allowance Guidance to reflect savings associated with energy efficiency and decarbonization upgrades

- Use GRRP funds to provide financial and technical support to local PHAs to update utility allowance schedules. Creating a reliable heat pump utility allowance schedule requires deep knowledge of decarbonization, building science, and engineering. PHAs do not have this type of expertise in-house. For PHAs to adopt and maintain heat pump utility allowance schedules, they require support. HUD should dedicate GREP funding to PHAs to update their schedules. HUD should also provide guidance on contractor selection, a network of qualified contractors to assist PHAs, and a detailed methodology for contractors to follow. Once this assistance is readily available, HUD should consider creating a mandatory heat pump utility allowance schedule for PHAs.
- Publish a set of best practices for PHAs, Housing Agencies, and affordable housing developers. These best practices should include the following:
 - i. PHAs and Housing Agencies: HUD should encourage PHAs and Housing Agencies to allow all methods of calculating utility allowances and highlight the need for utility allowance schedules that include heat pumps.
 - ii. Affordable Housing Developers: Assuming all methods are allowable by PHAs, HUD should publish guidance highlighting the advantages of choosing the energy consumption model over other approaches when setting the utility allowance. The additional net operating income generated by right-sizing utility

³⁴ See Appendix 1 for a full primer on utility allowances.

allowances can cause a significant amount of additional debt proceeds over the length of a loan. These proceeds can be used to support a decarbonization scope of work.

2. Allow owners to share in the savings resulting from improvements

- Unlike LIHTC properties, HUD owners do not receive additional rent when a utility allowance is lowered. When a utility allowance is lowered for a HUD property, the PHA reduces the allowance and pockets the savings. To encourage owners to invest in decarbonization, once an owner can demonstrate the need for a reduced utility allowance, the PHA should share those savings with the owner. In return, the PHA should require that a portion of the savings provided to the owner be used to install decarbonized measures.

Department of Treasury

The Department of the Treasury is responsible for managing the finances and economic matters of the United States. It plays a critical role in the country's economy and financial systems. Essential functions include setting fiscal policy, developing budget proposals, revenue collection in the form of taxes, and economic policy recommendations to the executive branch. Critical to affordable housing in the United States, the Treasury administers the Low-Income Housing Tax Credit Program.

The Low-Income Housing Tax Credit (LIHTC) program provides tax incentives to encourage private investment in housing for low-income households. The Treasury allocates a set number of tax credits to state and local housing finance agencies (HFAs) serving as program administrators. These state HFA administrators then allocate tax credits to developers of affordable housing projects, who can, in turn, sell these credits to investors to raise capital for their projects. In exchange, developers must rent their units to tenants with low incomes for a set period – typically 30 years. These tax credits represent an essential source of equity for affordable housing development projects. The LIHTC program is the largest Federal program encouraging the creation and preservation of affordable rental housing, with over 3 million units built or preserved since its inception in 1986.³⁵

The U.S. Treasury administers both the 4 percent and 9 percent LIHTC programs. The 9 percent LIHTC program provides a higher tax credit percentage to developers than 4 percent LIHTC; 9 percent credits typically equate to 70 percent of the project's total development costs, whereas 4 percent LIHTC equate usually to 30 percent. The 9 percent program is highly competitive and typically reserved for the most deeply affordable housing projects. The 4 percent program is considered "as of right" and is often automatically allocated to qualifying projects needing funding.

Critical Obstacles to Decarbonization for the Treasury

- **The high cost of decarbonization competes with unit production goals.** The additional costs of

³⁵ Department of Housing and Urban Development. "Low-Income Housing Tax Credit (LIHTC): Property Level Data." 2023.

decarbonization, in conjunction with the issues with the 50 percent test and states meeting or exceeding their bond cap, create an inherent tension between decarbonization and affordable housing unit production. The 50% Test is required for every project that receives 4% credits by financing acquisition and construction costs with volume cap tax-exempt bonds. The test is to verify that 50% or more of the tax-exempt bond proceeds are used to finance the aggregate basis of any building and the land on which the building is located.³⁶

- **Guidelines for each State create too much variability for decarbonization.** The nature of the LIHTC program and the ability of states to set their guidelines for administering the LIHTC program creates a high degree of variability in approaches to decarbonization or energy efficiency.
- **Housing Agencies and affordable housing owners are not utilizing best practices for setting utility allowances to support decarbonization.** HUD offers several methods to set and maintain utility allowances. However, housing agencies do not always allow the methodologies HUD identifies as best practices to be used for properties they oversee. In addition, housing agencies and owners are not universally selecting methods that support decarbonization.

General Solutions for the Treasury to Advance Decarbonization

- **Recommendation 1:** Provide additional LIHTC resources via new legislation³⁷ to enable states to implement decarbonization.
- **Recommendation 2:** Advance Decarbonization through Best Practices for Design Guidelines and QAPs.
- **Recommendation 3:** Provide funding to industry partners to provide technical assistance to housing agencies and affordable housing owners in adopting utility allowance best practices. Support industry partners in the effort to disseminate best practices on utility allowances.
- **Recommendation 4:** State Housing Finance Agencies should apply for the Greenhouse Gas Reduction Fund to leverage decarbonization with LIHTC.

Recommendation 1: Provide additional LIHTC resources to allow states to implement decarbonization

A key opportunity to influence a subsidized building's energy performance is through the LIHTC funding cycle. Because decarbonization significantly increases construction costs, the ability to finance improvements using LIHTC resources is crucial to decarbonization in affordable housing. Incentive programs designed to achieve decarbonization in LIHTC projects provide an additional \$5,000 - \$10,000 per dwelling unit for new construction and up to \$25,000 per dwelling unit for existing buildings.³⁸ Providing additional LIHTC resources that can be leveraged to make decarbonization improvements

³⁶ Novogradac. "Competitive Bond Landscape Leads to New Challenges with 50% Test for Private Activity Bond and 4% LIHTC Transactions." 2021.

³⁷ Provisions in the Decent, Affordable, Safe Housing for All (DASH) Act would lower the financing threshold for private activity bond financing from 50 percent to 25 percent, effectively providing doubling the 4 percent LIHTC bonds available to states. Advocating for legislation with such provisions would provide significant additional resources to LIHTC annually.

³⁸ New York State Homes and Community Renewal. "Clean Energy Initiative."

would mark a significant win in the advancement of climate-aligned affordable housing.

Core Issues

Further compounding the increased construction and renovation costs attendant to decarbonization, many states are already meeting or exceeding their bond cap limits set by the Treasury.³⁹ Due to the high demand for affordable housing nationally, many states allocate all their 4 percent LIHTC bonds to projects. In 18 states, demand exceeds the 4 percent LIHTC bonds available annually. Decarbonization projects demand a larger allocation of 4 percent bonds because the project's total construction costs determine the amount of bonds allocated.

To be eligible for 4 percent credits, a project must meet the so-called “50 percent test.” This test verifies that 50 percent or more of the project’s total development costs are paid using 4 percent LIHTC bond proceeds. Projects failing to meet the 50 percent test are not funded yet most projects do not require 50 percent tax-exempt bonds to successfully finance a 4 percent LIHTC project. In many cases, developers can incorporate additional mortgage debt and other subsidies to fill in the gaps created by taking on less equity in 4 percent LIHTC bonds. As a result, requiring projects to take on 50 percent of the total development costs in LIHTC bonds when those bonds may not be necessary exhausts states’ bond caps much faster than necessary. This is a critical issue when over half of all states meet or exceed their bond cap limit annually.

The added costs of decarbonization, in conjunction with the issues with the 50 percent test and states meeting or exceeding the bond cap, introduce unnecessary tension between decarbonization and affordable housing unit production. State Housing Finance Agencies are less likely to support deep decarbonization, which adds to construction costs when it jeopardizes the state’s ability to produce enough affordable housing to meet the needs of low-income households.

Action Steps

- 1. Provide additional LIHTC resources via new legislation to enable states to implement decarbonization.** The Decent, Affordable, Safe Housing for All (DASH) Act is currently under consideration by the Senate Finance Committee. It was created to address the lack of affordable housing and proliferating homelessness in the United States. The Act contains several key provisions that would increase resources for the LIHTC program, including:
 - Expanding the 9 percent Low-Income Housing Tax Credit by 50 percent: doubling the amount of 9 percent credits available for the lowest income Americans
 - Providing a 50 percent basis boost to projects addressing priority populations: allowing projects to receive more tax credits.
 - Reducing the 50 percent test to 25 percent: projects would only be required to take out 25 percent of total construction costs in short-term bonds rather than the current 50 percent.⁴⁰

³⁹Novogradac. [“Population Figures, Increase in Multiplier Mean Record PAB Cap for 2023; Small-State Recipients Largely Unchanged from 2022.”](#) 2023.

⁴⁰ Affordable Housing Tax Credit Coalition. [“Decent Affordable, Safe Housing for All \(DASH\) Act Includes Key AHCA Provisions.”](#) 2021.

Passing the DASH Act would alleviate the tension between decarbonization and affordable housing provision. In combination, these provisions would significantly increase the amount of LIHTC resources available. The most significant of these is the reduction of the 50 percent test to 25 percent. This change would effectively double the 4 percent LIHTC bonds available to states.

2. Advance decarbonization through the DASH Act. The adoption of the DASH Act can drive decarbonization in addition to making LIHTC resources more widely available. Alleviating the urgent need for more resources would allow states to incorporate decarbonization as a priority. Specifically by:

- Doubling the availability of the 4 percent LIHTC – meaning states could elect to fund higher cost decarbonization scopes of work without exceeding the bond cap.
- Providing an additional 9 percent LIHTC – allowing states to widen the pool of selected projects annually and fund higher cost projects.

Recommendation 2: Advance Decarbonization through best practices for Design Guidelines and QAPs

As mentioned above, states enjoy a high degree of autonomy in how they administer the LIHTC programs. While LIHTC is a Federal program, states determine specific and unique guidelines for allocating tax credits within their jurisdiction based on their priorities. Key variations to how LIHTC is administered state-to-state include the QAP, tax credit amounts, application and allocation processes, and program monitoring and compliance.

The variation in LIHTC programs extends to how states choose to address decarbonization. Below is a snapshot of how some emerging leaders have opted to address decarbonization:

- **New York:** Published Sustainability Guidelines outlining baseline (required) and stretch (goals) performance standards for all state LIHTC projects. New York has also rolled out a subsidy program with the State Energy Agency that funds the state’s stretch performance goals.
- **Colorado:** Besides publishing an Electrification report in 2021, Colorado provides minimum and stretch green standards in its QAP, allocating additional points for green criteria. Colorado also provides developers with a resource hub to support its efforts.
- **District of Columbia:** Similar to Colorado, D.C. outlines points for resiliency and innovation in the QAP. The QAP specifically prioritizes third-party certifications that drive deep decarbonization. In addition, the D.C. Green Bank serves as a resource to help developers finance projects.

However, many states need to directly address decarbonization in their LIHTC programs.

Core Issue

The nature of the LIHTC program and the ability of states to set their guidelines for administering the LIHTC program creates a high degree of variability in approaches to decarbonization. Certain states emerge as leaders in the space, while others need to catch up.

Action Steps

- 1. Leaders in the decarbonization space should educate peers on the best practices surrounding building decarbonization and how to advance that goal in design guidelines/QAPs.**

Peer-to-peer sharing between states is necessary to unify the decarbonization approach. In their development of best practices, leaders should consider including the following:

- Selecting a baseline third-party certification(s) for projects to meet (such as EnergyStar or Enterprise Green Communities)
- Defining stretch third-party certification(s) which achieve a greater level of building decarbonization (Passive House, Net-Zero Energy, LEED Platinum, for example)
- Potentially offering meaningful points on the QAP for achieving stretch goals (10 percent or more of total points)
- Encouraging state housing finance agencies to adopt all-electric or decarbonization guidelines for future deployment of low-income housing tax credits.
- Coordination with state energy offices to flow clean energy incentives to affordable housing projects in a way that works best for affordable housing (optimally as a soft subsidy that can be layered into the project's capital stack)

2. The Treasury should set up a dedicated fund to support a peer-to-peer sharing exercise.

Affordable housing-specific associations like the National Council of State Housing Agencies (NCSHA) are prime candidates to lead this peer-sharing exercise. NCSHA currently participates in the following vital activities: policy advocacy, education and training, research and analysis, networking and collaboration, and technical assistance. NCSHA's overall role is to support state HFAs and propose affordable housing as a critical component of community development and economic stability. Piggybacking off NCSHA's platform of state HFA members will allow leaders in decarbonization to share the successful best practices with their peers.

Recommendation 3: Allow owners to re-capture investments in decarbonization by right-sizing utility allowances

The LIHTC program does not directly set utility allowances but instead relies on HUD-published allowable methods. State housing agencies often provide guidance on which HUD methods are allowable within their jurisdiction.⁴¹

In the LIHTC program, utility allowances are set during construction or renovation in conjunction with LIHTC funding cycles. After construction or renovation, the utility allowance is updated to improve accuracy. The utility allowance schedule is the most common method for setting and maintaining utility allowances in LIHTC housing. As mentioned in the HUD section, this methodology employs a table prescribing utility allowances developed by the local/state Public Housing Authority or a table developed by HUD.

Core Issue

Utilizing Utility Allowance Schedules that do not reflect decarbonization technology inhibits affordable housing owners' ability to pay for critical decarbonization scopes of work.

As explained above, most utility allowance tables are set by a PHA so that tenants in its service area will have their utility costs covered by the money their utility allowance provides. There is often one

⁴¹ Please refer to Appendix 1 for a list of the most common methods for setting the utility allowance.

calculation set for the service area, irrespective of the method of heat or cooling provided in a given building. The PHA's adopted utility allowance does not distinguish between the energy demands of a building with older, inefficient baseboard heating and window-mounted air conditioning from a decarbonized building that uses highly efficient heat pumps for heating and cooling. The decarbonized building obviously uses much less energy than the older, inefficient housing. Hence the utility allowance in the decarbonized building should be lower.

Obviously, most buildings within the service area use much older, less efficient technology like baseboard heating or window-mounted air conditioning. Because the PHA uses an allowance that covers "most buildings" in a service area, the resulting PHA utility allowance works for an older, inefficient building. In contrast, that same utility allowance is wildly inaccurate and exaggerated for a decarbonized building.

Rents are the key source of operating income for affordable housing properties. Flat rents include a deduction of the utility allowance provided by the PHA. Where higher, flawed utility allowances unjustifiably reduce the flat rent to the owner, NOI is reduced.

The most likely result of this situation is that the owner will not have the NOI to justify the more expensive decarbonization technology, which will therefore be cut from the project's scope of work. A flawed, exaggerated utility allowance has enormous consequences for project cash flow. The attached Appendix 1 includes a table with information from an actual property. We found:

- Using the utility consumption model resulted in an increased net operating income of over \$100,000 annually.
- Using conservative assumptions, this increase in net operating income resulted in over \$1 million more in loan proceeds that could be invested in energy/decarbonization measures.
- The table below illustrates the relationship between the utility allowance and net operating income. In this example, the hypothetical affordable development project was required to use a utility allowance schedule nearly double the projected actual tenant utility bills. This resulted in almost \$1 million in lost debt revenue at the time of construction.

	Required Utility Schedule	Modeling Actual Performance
Studio	\$86	\$43
1 Bedroom	\$98	\$49
2 Bedroom	\$130	\$65
3 Bedroom	\$162	\$81
Income	\$2,131,608	\$2,223,120
Net Operating Income	\$712,526	\$804,038
First Mortgage Debt Coverage	1.15	1.15
Available for Debt Service	\$619,588	\$699,163
Interest Rate	6.70%	6.70%
Amortization	35	35
Loan Proceeds Generated	\$8,291,986	\$9,356,952
Additional Loan Proceeds By Properly Sizing Utility Allowance		\$1,064,966

The Treasury currently allows for the use of the energy consumption model to calculate the utility allowance, as outlined in the Code of Federal Regulations, Title 26, Chapter 1.42-10. Utilizing the energy consumption model during construction or renovation is the most accurate way to size allowances and account for the added efficiency of decarbonization. Ideally, this method would be utilized by state housing agencies and affordable housing owners. However, many state and local housing finance agencies do not use the energy consumption model in setting utility allowances. The lack of utilization of the energy consumption model stems from several problems:

State Housing Agencies:

- Lack of technical capacity to ensure the accuracy of energy consumption modeling
- Lack of awareness of the impact utility allowances have on project finance
- Prohibitive underwriting standards that prevent the use of energy modeling

Affordable Housing Owners:

- Lack of capacity/funds to implement the energy consumption modeling, which requires hiring a qualified third-party consultant
- Lack of experience underwriting utility allowances using an energy consumption model
- Lack of awareness of the benefits of right-sizing the utility allowances

Action Steps

- 1. The Treasury should dedicate funds to provide technical assistance to housing agencies and affordable housing owners to disseminate best practices on utility allowances. Consider partnering with HUD to execute this.**

Through this fund, the Treasury could partner with industry experts already engaging with housing agencies and owners to provide support on utility allowances. This support can include:

State Housing Agencies:

- Peer-to-peer sharing on utilizing energy consumption models
- Support setting underwriting policies and procedures
- Training on energy modeling via the Greenhouse Gas Reduction Fund (see below)

Affordable Housing Owners:

- Peer-to-peer sharing on the benefits of energy consumption models
- Best practices for selecting a third-party consultant to evaluate decarbonization
- Project finance and underwriting support via the Greenhouse Gas Reduction Fund (see below)

Recommendation 4: Encourage State Housing Finance Agencies to apply for the Greenhouse Gas Reduction Fund to leverage decarbonization with LIHTC

Some state housing finance agencies emphasize decarbonization in allocating scarce LIHTC resources; others do not. The EPA’s Greenhouse Gas Reduction Fund (GGRF) presents a unique and historic opportunity for Housing Finance Agencies (HFAs) to fund decarbonization in their LIHTC programs.

Core Issue: The LIHTC program is the nation’s most widely used affordable housing program. Over 100,000 affordable apartments are newly constructed or retrofitted yearly with LIHTC equity. Each of those projects has a utility allowance calculation. How do we encourage more states to prioritize decarbonization in allocating LIHTC equity and revising their utility allowance calculations?

Solution: HFAs should be strongly encouraged to participate in the \$27B Greenhouse Gas Reduction Fund (GRRF) to catalyze commitment to decarbonization. Funds from GRRF can be used for technical assistance, modeling for a more accurate utility allowance, and gap funds for LIHTC projects to meet net zero or near net zero energy standards.

First, for purposes of both the \$14 billion National Clean Investment Fund and \$6 billion Clean Communities Investment Accelerator competitions, EPA expects “qualified projects” to meet a variety of requirements, including that they “will deliver benefits to American communities [in] two or more of the following categories . . . : climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development.” EPA identifies three priority project categories that “are particularly impactful to achieving the GGRF program objectives,” including decarbonization retrofits of existing buildings. One specific example cited in the framework within this category of priority project is “grid-interactive appliance electrification in affordable multifamily housing alongside energy efficiency, indoor air quality improvements, and solar.”⁴²

While HFAs cannot apply directly for these funds, they should be encouraged to partner with a prime applicant and demonstrate their ability to utilize funds to advance decarbonization.

⁴² Environmental Protection Agency. “EPA’s Implementation Framework for the Greenhouse Gas Reduction Fund.” 2023.

Second, for the \$6 billion Clean Communities Investment Accelerator competition, EPA identifies HFAs as public, quasi-public, and nonprofit community lenders intended to benefit from capacity building activities. EPA expects at least 95 percent of grant funds under this program component to pass through directly to “community lenders” such as HFAs in the form of capitalization *technical assistance funding* that satisfies the “indirect investment” category described above. EPA envisions successful applications will be made that may provide subawards, which the Agency expects to be eligible recipients themselves, including community lenders such as HFAs.⁴³

Similarly, the HFAs are not eligible direct applicants for this funding but can partner with a prime applicant as a sub-awardee.

Finally, the implementation framework explicitly identifies residential solar facilities “that support individual households, master-metered facilities, and/or common areas in multifamily buildings” and associated “infrastructure to store solar-generated power for maximizing residential solar deployment” as eligible activities for purposes of the \$7 billion Solar for All competition. HFAs can prioritize applications for LIHTC that support solar.

United States Department of Agriculture

USDA’s Rural Development is a mission area within the agency, investing in rural America with loan, grant, and loan guarantee programs for single- and multifamily housing. Its commitment of resources to rural communities helps foster economic security and prosperity in parts of the country often missed by other government investment.

A considerable amount of affordable housing is financed through USDA, with 14,000 properties currently in the Agency’s portfolio.⁴⁴ USDA offers several debt products to finance affordable multifamily housing construction, rehabilitation, and improvement.

USDA loan products often include uniquely competitive terms to aid in financing investment in affordable rural housing. The most common products include multifamily direct loans, guaranteed rural rental housing, and the multifamily preservation and revitalization program. Multifamily direct loans directly finance purchase, improvement, and construction, while in other cases, USDA guarantees loans made by private lenders for the same activities. The Multifamily Preservation and Revitalization Program provides debt restructuring in loans subordinate to the primary mortgage. While USDA has incorporated decarbonization measures into some of the above programs, it is not commonplace within the Agency’s programming.

Presently, USDA’s provision of affordable housing resources differs substantially from any other Federal agency. Most of its programming is aimed at existing housing, with little new construction occurring each year.

⁴³ Ibid.

⁴⁴ United States Department of Agriculture. “[Multifamily Housing Programs.](#)”

- **Section 515 Rural Rental Housing Program** provides direct loans and rental assistance to finance the construction or rehabilitation of rental housing affordable to very low-, low-, and moderate-income households in rural areas. The program currently serves 382,000 households nationally.⁴⁵
- **Section 538 Guaranteed Rural Rental Housing Program** guarantees loans made by private lenders to finance the development of affordable rental housing in rural areas. The program currently serves 45,000 households nationally.⁴⁶
- **The Rural Utilities Service’s (RUS) programs, Rural Energy Savings Program (RESP), and Energy Efficiency Conservation Loan Program (EECLP)** are not housing subsidies but rather USDA loan programs that provide eligible borrowers with zero interest and very low interest loans for energy efficiency improvements and renewable energy projects in rural communities. Though not designed exclusively for affordable housing, these programs offer a unique opportunity to decarbonize rural affordable housing. RUS provides loans, grants, and technical assistance to support the development of essential infrastructure in rural communities. Through the Rural Energy Savings Program (RESP), RUS provides generous loan terms to eligible entities implementing energy efficiency measures to decrease energy use or costs for rural families and small businesses. This includes a broad range of activities that may advance decarbonization in affordable, rural housing.^{47 48}

USDA’s Current Approach to Energy

While the preponderance of USDA’s rural housing programming does not foreground decarbonization, the Agency has a rich history of fostering decarbonized housing. Per HUD and DOE, in 2015, USDA was the first entity to build affordable multifamily housing that produced as much energy per year as it consumed, earning the development DOE’s Zero Energy Ready Home certification.⁴⁹ The building was subsidized through a Section 514 loan and low-income housing tax credits. Despite not usually centering decarbonization in its multifamily housing programming, USDA provides additional incentives for energy efficiency and decarbonization in many loan products.

The Multifamily Preservation and Revitalization Program (MPR) also has advanced decarbonization in rural housing. The program provides financing for eligible multifamily properties in rural areas that need repairs or upgrades, such as electrical, plumbing, or HVAC systems, as well as improvements to accessibility, energy efficiency, and safety. MPR offers several types of financing options, including loans, grants, and loan guarantees, to help owners and developers of eligible multifamily properties finance the costs of repairs and upgrades. The program addresses the critical need for affordable rental housing in rural communities and supports the ongoing viability of existing multifamily properties. Although MPR has not solicited new applications for funding since 2017, the program stands as an example of how

⁴⁵ National Low-Income Housing Coalition. “2023 Advocates’ Guide.” 2023.

⁴⁶ Ibid.

⁴⁷ United States Department of Agriculture. “Rural Energy Savings Program (RESP).” 2020.

⁴⁸ United States Department of Agriculture. “Energy Efficiency and Conservation Loan Program.” 2019.

⁴⁹ Department of Housing and Urban Development. “Zero Net Energy Affordable Housing: Home for Agricultural Workers in Woodland, California.” PD&R Edge.

decarbonization can be incorporated into other essential elements of Rural Development’s programming.⁵⁰ Further, USDA is seeking new funding to reinstate MPR, and the program is likely to be a line item in the agency’s 2024 budget.⁵¹

Aside from its housing programs, USDA can make significant gains toward decarbonizing multifamily housing through the RUS. Although success integrating multifamily housing into RUS activity has thus far been limited, there is a high potential for decarbonization, as evinced by the program’s uptake in single-family housing, where energy retrofits have saved residents considerably on utility bills by reducing energy demand.^{52 53}

RESP provides one avenue through which RUS borrowers can access capital to decarbonize affordable housing. Through RESP, a borrower can apply for a loan with terms of up to 20 years at a 0 percent interest rate, with up to 4 percent of the loan available for soft costs. Because nonprofit organizations are among eligible borrowers under RESP, this program’s funding is available to CDFIs and nonprofit developers. While RESP has not seen an uptake in the multifamily sector, the potential to advance decarbonization in rural multifamily housing is clear: funds may be used to provide energy efficiency upgrades and renewable energy retrofits with energy storage and conservation measures included. Because RESP offers a zero-interest loan, it comes with significant underwriting standards to keep the subsidy rate low; for successful uptake in the multifamily sector, entities applying for funds to do decarbonization work must be collateralizable.⁵⁴

The Energy Efficiency and Conservation Loan Program (EECLP) is another means by which RUS seeks to address greenhouse gas emissions. EECLP provides loans to finance energy efficiency and conservation projects for commercial, industrial, and residential consumers. Eligible borrowers can borrow money tied to Treasury interest rates and re-lend that money to develop new and diverse energy service products. As with RESP, EECLP can be used for a litany of activities, including improving energy efficiency, reducing system demand, and facilitating the use of renewable energy sources. While EECLP’s loan terms are less favorable than RESP’s zero percent interest terms (instead, interest is tied to the Treasury rate), the program has a \$6 billion annual budget.

Critical Obstacles to Decarbonization for USDA

- **General difficulty with developing and rehabilitating rural housing:** (Re)developing rural multifamily housing tends to be more difficult, generally speaking, than urban housing for a few reasons. The lower population density can make it more difficult to attract private developers and secure financing for multifamily projects. And while working with existing housing addresses the inherent difficulty of locating markets for new housing in rural areas, it does not alleviate the financing barrier rural developers can face: financing options may be more limited or less

⁵⁰ United States Department of Agriculture. “Multifamily Preservation and Revitalization (MPR).”

⁵¹ United States Department of Agriculture. “2024 USDA Explanatory Notes – Rural Housing Service.” 2023.

⁵² Design Lab Session Finding, USDA

⁵³ Recently, manufactured housing was made eligible for RUS loans. 85 Fed. Register, 18413-18427

⁵⁴ United States Department of Agriculture. “Rural Energy Savings Program (RESP).” 2020.

attractive to private investors and lenders. Further, regulatory challenges like zoning and land-use restrictions often create additional hurdles for multifamily developers, particularly with new construction, leading to a slower, more expensive development process.

- **Difficulty with standardization/minimum building performance requirements:** Imposing minimum performance requirements in existing rural multifamily housing may be challenging. While significant capital events like rehabs should induce developers to seek subsidies with USDA, rural multifamily housing projects are unique, so every energy retrofit is a “custom” job. Lack of uniformity in the project approach may hinder meeting the standards required to utilize USDA incentives. While new construction offers a means to circumvent such an issue, much more activity occurs in existing buildings subsidized by USDA due to a general lack of new multifamily construction in rural locales.
- **Lack of awareness of the USDA’s existing energy programs and low market uptake:** Recently, nonprofits were made eligible borrowers from the RUS. Nonprofit entities interested in funding the decarbonization of rural housing may not be aware of their eligibility for the incentives provided by RESP and EECLP. These programs currently have no uptake in the multifamily sector, presenting a missed opportunity to advance energy savings and decarbonization in rural communities.

General Solutions for USDA to Advance Decarbonization

- **Recommendation 1:** Establish a minimum performance standard for all housing receiving USDA subsidies.
- **Recommendation 2:** Reestablish the Multifamily Preservation and Revitalization Program (MPR) and prioritize decarbonization in building revitalizations.
- **Recommendation 3:** Increase multifamily uptake of existing Rural Utilities Services programs.

Recommendation 1: Establish a minimum performance standard for all housing receiving USDA subsidies

Later this year, USDA will adopt the International Energy Conservation Code (IECC) for the new construction of single family homes. Still, bolder action must be taken given the Biden administration’s goal to make all buildings carbon-neutral by 2050. Reducing carbon emissions by developing high-performance, all-electric buildings is critical to reducing national carbon emissions. USDA can build on current momentum by establishing a minimum decarbonization performance standard for all new construction and rehabilitation projects receiving USDA subsidies.

Core Issue

As the rural population of the United States continues to dwindle, USDA is no longer constructing much new affordable housing. Thus, the critical opportunity to influence the carbon footprint of USDA’s housing programs is through existing buildings – and the opportunity to improve an existing building’s performance is during a major rehabilitation event. However, standardization of existing building performance will be difficult: few third-party standards address existing housing, and, due to the unique nature of USDA’s multifamily portfolio, each multifamily building is a “custom” project, meaning no two

rehab projects will require the same set of interventions to be brought to a uniform performance standard. Furthermore, existing buildings are inherently more difficult and expensive to decarbonize. With the high variability within USDA's portfolio, achieving a uniform standard to qualify for assistance products may initially prove difficult.

Action Steps

- 1. Before rehabilitation work is conducted, require an energy audit or integrated physical needs assessment rather than a capital needs assessment to address decarbonization and energy efficiency during construction.**

Affordable housing projects typically utilize a capital needs assessment during the renovation to help identify which major building systems and components are at or near the end of their useful life. The results of this document directly inform the renovation scope of work and budget. More recently, states and localities have begun to require an *Integrated Physical Needs Assessment* (IPNA), which also makes recommendations based on energy savings.

USDA should work with HUD to go further and develop a standard IPNA template that assesses carbon savings opportunities and requires its use across programs. The most impactful and cost-effective carbon savings measures should be incorporated into a project's scope of work.

Training may be required to implement this new tool as a standard business practice.

- 2. Establish a minimum performance standard for new construction and rehabilitation projects across all loan products.**

Adopting the new energy codes⁵⁵ will establish a minimum performance standard across USDA's new construction projects. It will take time for developers to adapt to the changes, particularly in rural areas where few sustainability requirements are ordinarily imposed. In addition to adopting these new codes, USDA should consider phasing in additional requirements for new construction that prioritize decarbonization and sustainability more globally than strictly energy code. USDA should specifically consider the following:

New Construction:

- Consider encouraging and eventually requiring that new construction be all-electric where feasible
- The newly adopted building codes could serve as short-term minimum performance standards. Given differences in the advancement of energy efficiency and decarbonization practices across the states, requiring adherence to a high-performance certification may threaten new housing production in lower cost, higher vacancy markets. Utilizing the latest building codes to incrementally improve building performance before requiring a more advanced certification would lessen the potential negative impact on these markets.
- Encourage the utilization of a widely recognized third-party standard alongside energy

⁵⁵ See HUD Section, Recommendation 1 (Pages 23-24) for a fuller description of the new IECC building codes and performance standards.

code to focus more globally on resident health, climate resilience, and sustainability in addition to energy performance

Existing Buildings:

Since the new codes will not apply to existing buildings, USDA should consider implementing a minimum performance standard for its renovation projects. Similarly to new construction, gradual phase in will be critical. Incrementally improving building performance over time will also be necessary to reach decarbonization goals. USDA should consider the following:

- Establish different standards for new construction and gut, substantial, and moderate rehabilitation.
- Utilize a widely-recognized third-party standard where applicable as the minimum standard for USDA projects, for example, ENERGY STAR, Enterprise Green Communities, and LEED, all of which enjoy widespread name recognition in the affordable housing development community.
 - If a local or state building code exceeds the minimum requirement, allow a waiver.

3. Enhance existing USDA subsidies for housing that achieves deeper decarbonization

To further advance decarbonization within its portfolio, USDA should consider enhancing loan terms and prioritizing housing that achieves a deeper level of decarbonization than is established through the minimum performance standard. Furthermore, the Agency can prioritize project selection for housing achieving greater energy performance than the established baseline.

- **Set a “stretch” performance standard for all loan products.**
 - Consider deep decarbonization standards like Energy Star NextGen, Passive House, Enterprise Green Communities Plus, LEED Gold+, etc.
 - Provide additional loan proceeds to projects opting into the stretch performance standards. Consider the same options as above but at a deeper incentive level.
- **Offer projects pursuing stretch performance standards priority for funding.**
 - Expand the Multifamily Preservation and Revitalization priority for funding for “mitigation or clean energy goals” to all USDA programs to include stretch standards.
 - Expand the 2021 Farm Labor Housing Loan point priority for energy efficiency, water conservation, and green property management to all RHS multifamily loans.

Recommendation 2: Reestablish the Multifamily Preservation and Revitalization Program (MPR) and prioritize decarbonization in building revitalizations.

The MPR program restructures loans for existing Rural Rental Housing and Off-Farm Labor Housing projects to help improve and preserve the availability of safe, affordable rental housing for low income residents. Current multi-family housing project owners with Rural Rental Housing and Off-Farm Labor

Housing loans or applicants who have applied for transfer of ownership of an eligible project may apply for the MPR program. Borrowers must continue to provide affordable rental housing for 20 years or the remaining term of any USDA loan, whichever is later.

Funds may be used to preserve and improve existing Rural Rental Housing and Off-Farm Labor Housing projects to extend their affordable use without displacing tenants through increased rents. A third-party Capital Needs Assessment (CNA) will help identify project needs. The cash flow from the deferred RHS direct loan principal and interest payment will be deposited to the RHS project's reserve account, or as directed by the Agency, to meet the project's present and/or future needs, including energy needs.⁵⁶

Core Issues

The USDA budget does not currently have a line item for the MPR Program. Consequently, MPR has not solicited new applications for funding since 2017.⁵⁷

Action Steps

1. Reestablish MPR in the 2024 USDA Budget and prioritize decarbonization in the revitalization of multifamily housing.

- Before rehabilitation work is conducted, MPR requires a CNA. Additionally require an energy audit or an integrated physical needs assessment (IPNA), which makes recommendations based on energy savings. See USDA Recommendation 1, Action Step 1 for more detail related to IPNAs.
- Grants are provided to nonprofit organizations to address health and safety issues in multifamily housing. Projects qualifying for grant money include capital to finance decarbonization improvements that pay for themselves over time through energy savings. Additional capital provided to cover decarbonization improvements separate from the health and safety scopes of work could be layered in as zero-interest loans. Alternatively, consider allowing for debt deferral.

Recommendation 3: Increase multifamily uptake of existing Rural Utilities Services (RUS) programs

USDA's opportunity to decarbonize rural multifamily affordable housing extends beyond its housing-specific programming; within the RUS, multiple programs can also advance this goal. Several decarbonization activities are eligible under RUS, weatherization, heat pump installation, renewable energy development, wholesale replacement of manufactured housing, and broad-reaching energy retrofits. The Rural Energy Savings Program (RESP) and Energy Efficiency and Conservation Loan Program (EECLP) pose the most significant potential to advance decarbonization in multifamily affordable housing. Each program offers highly competitive loans to eligible borrowers of the RUS, including non-profits like CDFIs.

RESP and EECLP perform similar functions – provision of loans for energy efficiency improvements in rural businesses, housing, and industry – but differ significantly in allowable activities and eligible borrowers.

⁵⁶ United States Department of Agriculture. "Multifamily Preservation and Revitalization."

⁵⁷ Ibid.

RESP provides loans to entities that offer energy efficiency services in rural areas that agree to make affordable loans to help consumers implement cost-effective, energy efficiency measures to lower utility bills for rural families and businesses and reduce barriers to investment in such projects. Activities eligible under RESP include energy efficiency, renewable energy, energy storage or energy conservation measures, related services, improvements, financing, or relending. Borrowers under RESP are eligible for loans up to 20 years at zero interest; the borrower can charge an interest rate of up to 5 percent if re-lending.

EECLP provides for an expansive range of permissible activities. The program permits a broad range of energy efficiency and renewable energy projects, including installing energy-efficient lighting, HVAC systems, and electric appliances and developing renewable energy resources (wind, solar, biomass) and storage. The funds can also be used for indirect investments in energy savings, such as energy audits or consumer education programs. Eligible borrowers under EECLP are expanded to a broader range of entities, including the government.

EECLP allows for a more comprehensive range of rural entities and eligible activities. However, EECLP does not offer the same zero-interest terms as RESP. EECLP are loans tied to the U.S. Treasury interest rates with a maximum term of 15 years. Terms can be extended for a technology with a useful life beyond 15 years.

Core Issues

Despite providing highly favorable decarbonization loan terms, neither RESP nor EECLP has generated traction, making decarbonization improvements to multifamily housing. Barriers to entry into these programs are at least twofold.

First, especially for RESP, the zero interest loans may be difficult to attain for many potential borrowers who might otherwise be inclined to use that capital to make energy performance upgrades to rural multifamily housing. The capital comes with significant underwriting standards because the program provides a zero percent interest loan, not a grant. USDA requires collateral, and many stakeholders in multifamily housing need the requisite collateral stack to offer up. As nonprofit organizations, many CDFIs may be well situated to facilitate the decarbonization of rural multifamily housing by accessing RESP loans. The issue may instead be one of education: USDA can work to educate existing nonprofit organizations and CDFIs to deploy RESP.

EECLP's lack of uptake in the multifamily housing sector can be attributed to similar issues. First, a critical barrier may be a lack of awareness about funding available for energy performance improvements through EECLP. EECLP's eligible borrower list allows local and state governments to access the funds. Ironically, however, many state entities are barred from taking on debt and, therefore, may be unable to utilize the program, despite USDA's intention to market EECLP to HFAs and state energy offices. Finally, because EECLP does not offer the same zero-interest loan terms as RESP, eligible borrowers seeking to decarbonize rural multifamily may not prioritize the program over RESP.

To generate traction with these programs for multifamily housing, USDA must address two key issues: raising awareness of funding available to new eligible borrowers and managing the accessibility of these

funds. The latter can be solved by encouraging potential borrowers with the requisite capital stack to apply for RESP funding.

Action Steps

- 1. Work with existing nonprofit organizations/CDFIs who have significant rural borrower bases to deploy RESP to provide very low-cost loans for the advancement of decarbonization.**
 - Engage in a targeted partnership with CDFIs pursuing Greenhouse Gas Reduction Fund or Inflation Reduction Act capital.
 - Engage with CDFIs with a sizable rural borrower base and green programming.

- 2. Modify EECLP to offer terms similar to RESP to attract borrowers in multifamily space.**
 - Current EECLP loan terms offer the Treasury rate over a 15-year term.
 - Modify EECLP to have similar terms as the RESP program, which includes 0 percent interest over 20 years (Up to 4 percent of the loan total may be used for startup costs.)
 - Modified EECLP terms should be used for projects making upgrades that will bring a building to deep decarbonization standards like Passive House, Enterprise Green Communities Plus, LEED Gold+, etc.

Conclusion

Decarbonizing affordable rental housing is critical to mitigating climate change and meeting the Biden Administration’s target for a net-zero emissions national economy by 2050. It also offers numerous benefits, including energy cost savings, improved health and well-being, and economic opportunities. However, challenges related to upfront costs, tenant turnover, technical expertise, and policy support must be addressed to accelerate the market’s adoption of decarbonization. Collaboration between governments, policymakers, landlords, tenants, and industry experts is essential to overcome these challenges and achieve a sustainable and equitable future.

We are faced with a historic moment: the Inflation Reduction Act has provided \$27 billion to mobilize financing and leverage private capital for clean energy and climate projects that reduce greenhouse gas emissions, emphasizing projects that benefit low-income and disadvantaged communities.⁵⁸ This investment in climate change mitigation has given Federal agencies an unprecedented opportunity to create systems change at the Federal level. Now is the time to begin transforming the affordable housing market – and, ultimately, the built environment – to incorporate decarbonization as a standard business practice. The policy levers contained in this paper outline a series of steps that can be taken to advance decarbonization today, create sustainable systems change, and climate align housing for our future.

⁵⁸ The White House. [“Building a Clean Energy Economy: A guidebook to the Inflation Reduction Act's investments in clean energy and climate action.”](#) 2023.

Appendix

Appendix 1: An Extended Primer on Utility Allowances

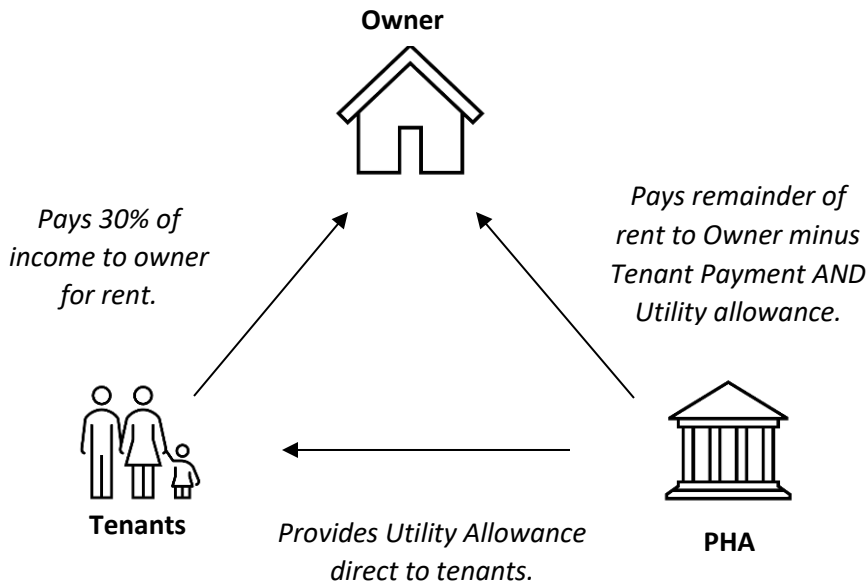
As a critical component of decarbonization, and with their associated challenges and concepts, utility allowances require significant discussion. Several Federal agencies administering low-income housing programs, including USDA, Treasury, and HUD, use utility allowances to assist low-income families in paying the costs of utilities. The methods these agencies and public housing authorities employ for setting utility allowances vary by program and geography; as a component of affordable housing, their mechanics are highly nuanced. Still, at the most basic level, a utility allowance constitutes a payment to tenants, which is then used to pay the utility bills they are responsible for.

It is critical to understand that the method by which utility allowances are assessed at a given property enormously influences its potential net operating income and, therefore, the amount of debt it can be underwritten for. During a major capital event such as a substantial rehabilitation, utility allowances should reflect energy savings that result from that rehabilitation. For example, suppose a property owner seeks to install high-performance equipment (e.g., heat pumps, heat pump water heaters, induction cooktops, etc.) that will significantly reduce tenants' electricity demand. In that case, improvements will dramatically reduce energy demand, so utility allowances should be set to reflect such changes.

Often, tenants' utility costs will decrease following such upgrades; at the same time, electrification upgrades tend to pose high up-front costs for building owners. Because utility costs are rolled into subsidized rent payments and building owners collect a flat rate per subsidized unit, when a tenant's utility allowance is reduced, the owner can collect more rent per unit, increasing net operating income. This is vital to an owner's ability to pay for the high up-front costs of decarbonization, as a higher net operating income allows the owner to generate enough capital to pay for decarbonization.

In its influence on utility allowances, HUD holds the unique position of setting overarching, national guidance on utility allowances. Treasury and USDA programs routinely reference HUD guidance when developing their allowances.

HUD Utility Allowances: Several critical HUD programs utilize a utility allowance, including Section 8 Housing Choice Vouchers, Public Housing, and Project-Based Section 8. It is important to note that HUD itself does not set and provide utility allowances; they are set and provided by the local PHAs who administer HUD programs. While several nuances impact the rent and utility allowance size, generally, tenants pay 30% of their monthly income directly to the landlord as a rent payment. The remainder of the rent is delivered from the PHA to the owner. The PHA subtracts the amount a tenant pays for utilities from its payment to the owner and provides it to the tenant as a reimbursement. This reimbursement is called the "utility allowance."



HUD provides guidance to the local PHAs on how to set and maintain utility allowances. The PHAs are then responsible for implementing this guidance and working directly with affordable housing owners to develop the appropriate utility allowance. The allowances are typically calculated during construction or significant renovation and are maintained throughout the life of a property. The method used to calculate a property's utility allowances varies depending on several factors, such as property type, local regulations, subsidy programs, and, sometimes, the energy efficiency measures in place.

Utility Allowance Schedules: PHAs set and maintain a table that provides an average of utility costs based on various housing types and locations. These schedules are set using regional average consumption data and costs and represent what that "average" household would pay for utilities. Affordable housing owners add up the total of the utilities a tenant is responsible for paying and set this as the utility allowance, see the example below.

**Michigan State Housing Development Authority
Utility Schedule - Region A**

Effective: January 1, 2022

Counties in Region A: Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, Schoolcraft

Structure Type	Standard Utility Allowance															Calculation						
	Apartment						Attached					Detached				Fill in the appropriate amount on the chart for each utility/appliance that you are responsible to pay. Add the total from each category for your total utility allowance.						
includes:	High-rise, Low-rise						Townhouse, Duplex, Triplex, Fourplex					Single Family Detached, Manufactured Home										
Utility	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR	0 BR	1 BR	2 BR	3 BR	4 BR	5 BR				
Heating	Natural Gas	\$26	\$30	\$36	\$41	\$47	\$52	\$47	\$55	\$60	\$64	\$68	\$73	\$37	\$43	\$51	\$59	\$67	\$75	Heating	\$	
	Bottle Gas	\$70	\$82	\$97	\$112	\$127	\$142	\$128	\$151	\$163	\$175	\$187	\$198	\$100	\$118	\$139	\$161	\$182	\$203			
	Electric	\$39	\$46	\$63	\$81	\$98	\$116	\$56	\$66	\$87	\$109	\$130	\$152	\$94	\$111	\$131	\$150	\$170	\$190			
	Fuel Oil	\$66	\$78	\$92	\$106	\$120	\$134	\$121	\$142	\$153	\$164	\$175	\$187	\$94	\$111	\$131	\$151	\$171	\$191			
Cooking	Natural Gas	\$2	\$3	\$4	\$5	\$6	\$7	\$2	\$3	\$4	\$5	\$6	\$7	\$2	\$3	\$4	\$5	\$6	\$7	Cooking	\$	
	Bottle Gas	\$6	\$7	\$10	\$13	\$16	\$19	\$6	\$7	\$10	\$13	\$16	\$19	\$6	\$7	\$10	\$13	\$16	\$19			
	Electric	\$7	\$8	\$12	\$15	\$19	\$22	\$7	\$8	\$12	\$15	\$19	\$22	\$7	\$8	\$12	\$15	\$19	\$22			
Hot Water	Natural Gas	\$6	\$7	\$10	\$13	\$16	\$19	\$7	\$8	\$12	\$16	\$20	\$24	\$7	\$8	\$12	\$16	\$20	\$24	Hot Water	\$	
	Bottle Gas	\$16	\$18	\$27	\$35	\$43	\$51	\$20	\$23	\$33	\$44	\$54	\$64	\$20	\$23	\$33	\$44	\$54	\$64			
	Electric	\$19	\$23	\$29	\$35	\$41	\$48	\$24	\$28	\$36	\$44	\$52	\$60	\$24	\$28	\$36	\$44	\$52	\$60			
	Fuel Oil	\$15	\$17	\$25	\$33	\$40	\$48	\$18	\$22	\$31	\$41	\$51	\$60	\$18	\$22	\$31	\$41	\$51	\$60			
Other Electric	\$26	\$30	\$42	\$54	\$66	\$77	\$31	\$37	\$51	\$66	\$80	\$95	\$38	\$44	\$62	\$79	\$97	\$114	Electric	\$		
Water	\$30	\$34	\$56	\$90	\$124	\$158	\$30	\$34	\$56	\$90	\$124	\$158	\$30	\$34	\$56	\$90	\$124	\$158	Water	\$		
Sewer	\$36	\$40	\$67	\$107	\$147	\$187	\$36	\$40	\$67	\$107	\$147	\$187	\$36	\$40	\$67	\$107	\$147	\$187	Sewer	\$		
Trash	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15	Trash	\$	
Natural Gas Service Charge*	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	\$13	Nat.Gas SC*	\$	
Electric Service Charge	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	\$10	Elec. SC	\$	
Range**	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	Range**	\$	
Refrigerator**	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6	Refrigerator**	\$	
Air Conditioning***	\$1	\$2	\$2	\$3	\$3	\$4	\$2	\$2	\$2	\$3	\$4	\$5	\$1	\$1	\$3	\$4	\$6	\$7	\$7	A/C***	\$	
																					Total	\$

* Natural Gas Service Charge: Natural Gas service charge only allowed for Natural Gas utilities.
 ** Tenant Furnished Appliance Allowance: Only allowed if the tenant is responsible for supplying the range and/or refrigerator.
 *** Air Conditioning Allowance: Only allowed if windows are not operable.

Image courtesy of Michigan State Housing Development Authority Website

This method is used both at the time of construction or renovation and for ongoing maintenance of the allowance during operation. It is the most straightforward method from an administration and use point of view. However, its biggest weakness is that it needs to consider the efficiency of individual building equipment and does not consider the efficiency of individual building equipment and needs to be building specific. If a property performs better than average, the utility allowance would be much higher than what the tenants need to pay for utilities.

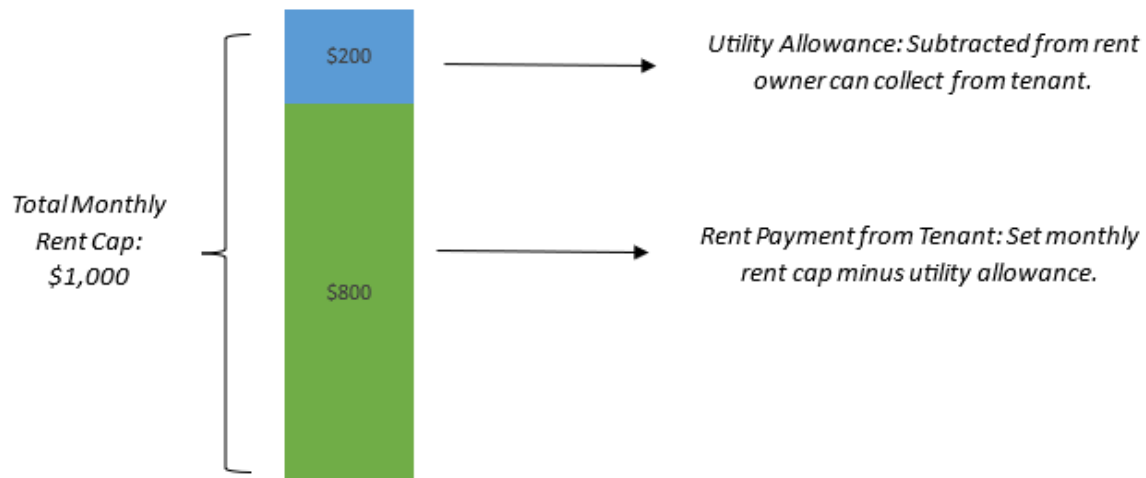
Historic Cost Data: This method involves the property owner sampling actual tenant costs for utilities and setting the allowance at an average rate covering testing actual tenant costs for utilities and setting the allowance at an average rate covering most of the tenant’s consumption. This method is particular to the individual property and is more accurate than the utility allowance schedule method above. It is most often used to maintain the utility allowance during the operation of a building. It is less helpful during a renovation where historic tenant consumption will likely change due to building improvements.

Energy Consumption Budget: In this method, an engineer analyzes the building’s energy consumption patterns and costs and projects what the utility allowance should be set as. This method mainly applies to new construction and renovation projects planned with planned energy improvements. It can be used in conjunction with the historic cost data method above to maintain the allowance over the operation of the building.

Treasury and the Low-Income Housing Tax Credit (LIHTC): Unlike HUD, which provides tenants a direct payment for their utilities, the LIHTC program subtracts the utility allowance from the total rent an

owner can collect from a tenant. The LIHTC program sets maximum rents that owners can collect from low-income tenants based on the area median income (AMI) for a particular region. The utility allowance calculated must be subtracted from the determined rent limit. For example, if the rent is estimated to be \$200 per month, the landlord may only collect \$800/month from the tenant. Now the tenant has \$200 to pay their utility bills independently.

The LIHTC program relies on HUD's acceptable methods to set utility allowances. The Treasury itself does not provide guidance on how allowances should be set. Instead, individual state Housing Agencies provide guidance to developers and owners. Because of this dynamic, some states may not allow developers to utilize energy consumption budgets and require the use of a schedule as the sole method.



USDA: Like the LIHTC program, USDA largely relies on HUD's allowable methods to set the utility allowance for its programs, namely the Section 515 Rural Rental Housing Program. Individual state USDA offices are responsible for setting the specific method used. The most used method is the HUD utility allowance schedule. The USDA sets maximum allowable rents for each unit, referred to as the gross rent. Before setting the amount of rent a tenant is responsible for, the calculated utility allowance is subtracted from the tenant's total income. After this subtraction, the tenant is responsible for rent based on 30% of the tenant's adjusted income. Unlike HUD, USDA does not provide utility allowances directly to tenants but subtracts them from the income calculation, thus reducing the monthly rental obligation.

As a critical component of decarbonization, and with their associated challenges and concepts, utility allowances require further discussion. Several Federal agencies administering low-income housing programs, including USDA, Treasury, and HUD, use utility allowances to assist low-income families in paying the costs of utilities. The method for setting utility allowances varies by program and geography. Still, at the most basic level, a utility allowance constitutes a payment to tenants, which is then used to pay the utility bills they are responsible for. In its influence on utility allowances, HUD holds the unique position of setting overarching, national guidance on utility allowances. Treasury and USDA programs routinely reference HUD guidance when developing their allowances.