



November 20, 2023

The Honorable Sandra Thompson
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20024

Dear Director Thompson,

We write to strongly encourage the Federal Housing Finance Agency (FHFA) to require modern building and energy codes for all mortgages for new homes backed by the Government Sponsored Enterprises (Enterprises) to ensure resiliency, energy and climate goals are achieved.

In recent years, the Federal Government has increasingly moved towards ensuring that federally assisted infrastructure adheres to modern construction standards. Such an approach was advanced during the prior Administration within the federal government's [National Mitigation Investment Strategy](#)—developed by the Mitigation Federal Leadership Group—and continued by the current Administration through the [National Initiative to Advance Building Codes](#) (NIABC). The NIABC's goal is "to ensure that building activities receiving federal funding or financing will meet or exceed the latest building codes." The White House, in support of the NIABC, just released the National Climate Resilience Framework, which further highlights the role of model building codes and standards in advancing hazard risk reduction and calls for the expanded adoption of the latest consensus-based building and energy codes.¹

Building codes and standards provide a common language and requirements for the design, construction, and operation of buildings. The International Code Council – a nonprofit organization of roughly 700 employees driven by the engagement of its more than 60,000 members – facilitates the development of model building codes for adoption at the national, state, or local level. The I-Codes are updated every three years and developed through a consensus-based process, bringing together expertise from the public and private sector to capture the latest science and technology. Most U.S. states and communities, federal agencies and many global markets choose the International Codes (I-Codes) to set the standards for regulating construction and major renovations, plumbing and sanitation, fire prevention and energy conservation in the built environment.

The I-Codes are national "voluntary consensus standards" under Office of Management and Budget (OMB) Circular A-119 and the National Technology Transfer Advancement Act (NTTAA), meaning they are developed in an open forum—with a balance of interests represented and due process—that, ultimately, ensures a consensus outcome. The NTTAA, supplemented by OMB Circular A-119, directs independent federal agencies—who are not subject to separate statutory requirements regarding the use of voluntary consensus standards—to use voluntary consensus standards wherever possible in their procurement and regulatory activities in lieu of expending public resources developing government unique standards. The OMB Circular "directs agencies to use standards developed or adopted by

¹ The White House, [National Climate Resilience Framework](#) (September 2023).

voluntary consensus standards bodies rather than government-unique standards, except where inconsistent with applicable law or otherwise impractical.”

Building codes and standards have long served as the main tool of governments in setting agreed-upon norms and introducing new technologies and innovation across the building stock, often driven by the latest in building sciences or unfortunate lessons learned from tragic events. **The International Code Council strongly encourages FHFA to require the use of modern building and energy codes to realize the social, economic and environmental benefits highlighted by the Congressional Budget Office,² the Federal Emergency Management Agency (FEMA),³ Department of Housing and Urban Development (HUD),⁴ Department of Agriculture (USDA),⁵ the Department of Energy (DOE),^{6,7} and in numerous peer reviewed publications to enhance greater uniformity across federally financed and supported housing programs and projects.⁸**

Below please find justification to support our recommendation for FHFA to adopt modern hazard-resistant building and energy codes for Enterprise-backed mortgages, which are consistent with our comments to HUD and USDA on their recent proposed rule.⁹

1. FHFA has an obligation to mitigate its exposure to growing default risk stemming from growing hazards and energy burdens

As outlined in 12 CFR 1200.1(a), “FHFA is charged with ensuring that the regulated entities: Operate in a safe and sound manner, including maintaining adequate capital and internal controls; foster liquid, efficient, competitive, and resilient national housing finance markets; comply with the Safety and Soundness Act and their respective authorizing statutes, and rules, regulations and orders issued under the Safety and Soundness Act and the authorizing statutes; and carry out their respective statutory missions through activities and operations that are authorized and consistent with the Safety and Soundness Act, their respective authorizing statutes, and the public interest.”

At the core of the Agency’s strategic goals, FHFA is tasked with promoting “equitable access to affordable and sustainable housing.” At the same time, FHFA and the Enterprises are required to maintain a comprehensive Enterprise Risk Management Program, in coordination with the Agency’s ten enumerated standards that are adopted as guidelines, with the sole mission of “[...] establish[ing] risk management practices that identify, assess, control, monitor, and report enterprise-wide risk exposures

² Congressional Research Service, [Building Codes, Standards, and Regulations: Frequently Asked Questions](#) (August 2023).

³ FEMA, [Protecting Communities and Saving Money: The Case for Adopting Building Codes – Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes](#) (Nov. 2020).

⁴ HUD, [Resilient Building Codes Toolkit](#) (June 2022).

⁵ HUD and USDA, [Adoption of Energy Efficiency Standards for New Construction of HUD- and USDA-Financed Housing: Preliminary Determination and Solicitation of Comment](#) (May 2023).

⁶ DOE, [National and State Analysis](#), Building Energy Codes Program (2021).

⁷ DOE, [Enhancing Resilience in Buildings Through Energy Efficiency](#) (July 2023).

⁸ Federal Register, [Docket No. FR-6271-N-01](#) (May 18, 2023).

⁹ See [ICC’s Comments](#) in Response to FR-6271-N-01, Adoption of Energy Efficiency Standards for New Construction of HUD- and USDA-Financed Housing: Preliminary Determination and Solicitation of Comment (Document (HUD-2023-0034-0001).

and the need to have appropriate risk management policies, standards, procedures, controls, and reporting systems.”¹⁰

The International Code Council, therefore, strongly encourages FHFA to fulfil their obligations of delivering sustainable housing and reducing overall risk by requiring modern building energy and hazard-resistant codes for mortgages for new homes backed by the Enterprises. Modern building codes support safe, sustainable, and resilience households and communities, delivering a highly cost-effective strategy to help protect communities from the risks posed by natural and man-made events.

A new report published by the Congressional Budget Office estimates that homes with federally backed mortgages face expected annual damage of \$9.4 billion, which would rise by about one-third to \$12.8 billion (in 2020 dollars) in the 2050 projection period if all factors other than the climate remained unchanged.¹¹ It is no secret that households, their occupants, and the financial systems that support them are at greater risk due to the impacts associated with climate change. And despite the known risk, 65 percent of counties, cities, and towns across the U.S. have not adopted modern building codes and in recent years as much as 30 percent of new construction has occurred in communities with no codes at all or codes that are more than 20 years outdated. This leaves a majority of new homes subject to increasing vulnerability to weather-related risk, presenting a major gap in the housing market that provides an opportunity for FHFA to act.

At the same time, energy insecurity or high energy burdens impact the social resilience of low- and moderate-income populations.¹² Energy insecurity intersects with other hardships, compounding the severity of the others and contributing to detrimental health consequences. In the U.S., low-income households face energy burdens two to three times that of median households. Of all U.S. households, 25 percent (30.6 million) face a high energy burden (i.e., pay more than 6 percent of income on energy bills) and 13 percent (15.9 million) of U.S. households face a severe energy burden (i.e., pay more than 10 percent of income on energy).¹³ Modern building energy codes are a mechanism to deliver energy bill savings for consumers and enhance community resilience in the face of growing natural hazards like extreme heat and cold events. Modern energy codes have been identified as tool to curb soaring energy costs and reduce energy burdens for residents across the nation. Importantly, such efforts can improve quality of life and health outcomes while providing economic stimulus and job creation.¹⁴

FHFA should implement minimum standards for housing based on modern building codes in order to advance sustainability and protect its borrowers from high energy costs and extreme weather, while also reducing the associated risk to the GSEs’ loan portfolios. As outlined below, modern hazard-resistant building codes and energy codes further the public interest and protect the housing finance markets from undue risks, which aligns with FHFA’s core goals and governing policies.

¹⁰ FHFA, [Advisory Bulletin 2020-06: Enterprise Risk Management Program](#).

¹¹ Congressional Budget Office, [Flood Damage and Federally Backed Mortgages in a Changing Climate](#) (Nov. 2023).

¹² Energy insecurity, fuel poverty or high energy burdens refer to inability to access energy sources or the cost of using such sources is significant compared to monthly income.

¹³ Dreihobl, A., Ross, L., and Ayala, R. [How High are Household Energy Burdens?](#) Washington, DC: American Council for an Energy-Efficient Economy (September 2020).

¹⁴ *Id.*

2. FHFA should require current hazard-resistant building codes

FHFA has the ability to implement additional code-based requirements that enhance resilience to the growing impacts of natural hazards. The Code Council encourages FHFA to leverage its authorities to similarly require current editions of the other International Codes (e.g., the International Residential Code (IRC), International Building Code (IBC), International Wildland-Urban Interface Code, etc.) that the Federal Emergency Management Agency (FEMA) and others have determined as necessary to advance hazard resistance in the built environment. As outlined below, analysis by both FEMA and the National Institute of Building Sciences (NIBS) have found that the adoption of code requirements is highly cost-effective. Such requirements further protect federal investments while also reducing the impacts on communities in a disaster event—particularly for low- and moderate-income households.

The 2019 FEMA-funded study by the congressionally-established NIBS found that building to modern building codes saves \$11 for every \$1 invested through earthquake, flood, and wind mitigation benefits, while retrofitting 2.5 million homes in the wildland urban interface to wildfire codes could provide a nationwide benefit-cost ratio as high as \$8:1.¹⁵ These benefits represent avoided casualties, property damage, business interruptions, first responder and annual homeownership costs, and are enjoyed by all building stakeholders—from governments, developers, titleholders, and lenders, to tenants and communities. Better built buildings minimize repair and displacement costs and economic impacts following disasters¹⁶ and reduce the risk of loss.¹⁷

Modern model building codes are among the most effective and systemic measures to reduce the risk to buildings and their occupants from natural and manmade hazards. There are years of disaster recovery and billions of dollars in taxpayer resources that could have been avoided with more consistent and frequent consideration of the I-Codes. The IRC and IBC, per FEMA, provided more than \$27 billion in cumulative mitigation benefits against flood, hurricane wind, and earthquake hazards from 2000 to 2016.¹⁸ These benefits could have been doubled if all post-2000 construction adhered to the I-Codes. FEMA projects that if all future construction adhered to current codes, the nation would avoid more than \$600 billion in cumulative losses from natural hazards by 2060.¹⁹

Requiring current hazard-resistant codes could prevent roughly \$14,000 in losses per building in areas where codes have not been updated in the past two decades. Ensuring that future construction within these jurisdictions is resilient and energy efficient provides corresponding loss avoidance benefits equivalent to preserving 15,000 new homes, and avoiding 1.5 million metric tons of CO₂ emissions, per year.²⁰ The loss avoidance benefit of constructing buildings to wildfire resistant codes has the equivalent

¹⁵ NIBS, *Natural Hazard Mitigation Saves: 2018 Interim Report* (2019).

¹⁶ NIBS, *Natural Hazard Mitigation Saves: 2018 Interim Report* (2019).

¹⁷ *Id.* See also [ASFPM's Comments](#) in Response to FR-6187-N-01, White House Council on Eliminating Barriers to Affordable Housing Request for Information (Docket HUD-2019-0092).

¹⁸ FEMA, [Protecting Communities and Saving Money: The Case for Adopting Building Codes](#) (Nov. 2020).

¹⁹ FEMA, [Building Codes Save: A Nationwide Study](#) (Nov. 2020).

²⁰ Porter, K. [Do Disaster-Resistant Buildings Deliver Climate Benefits?](#) SPA Risk LLC (2021).

value of preserving about 4,800 new homes, and avoiding 500,000 metric tons of CO₂ emissions, per year.²¹

According to a recent study by CoreLogic and the Insurance Institute for Business and Home Safety, modern building codes can reduce the likelihood of mortgage default following a disaster.²² The study explored the impact of landfalling hurricanes on mortgage delinquency rates and how more resilient modern building codes and their adoption impact local housing markets. According to the study, modern building codes decreased the expected spike in post-hurricane mortgage delinquency rates in Florida by about 50 percent.

Mortgage defaults do not simply affect homeowners, as we saw during the Great Recession. The Journal of Housing Research reported increases in mortgage delinquency rates following extreme weather, illustrating that disasters contribute to financial risk in the mortgage market at large.²³ Researchers have confirmed the link between property damage and mortgage delinquency after Hurricane Harvey (2017) and Hurricane Ida (2021).²⁴ CoreLogic has also shown a pattern of sharp increases in mortgage delinquencies following climate disasters such as hurricanes, flooding and wildfire.²⁵

3. FHFA should require modern building energy codes to reduce household energy costs and enhance resilience

Current codes have not only been shown to lower household utility bills, which help reduce housing cost burdens and default risk, but also make housing more energy efficient and resilient in the wake of climate change and more frequent natural hazard events.²⁶

Modern building energy codes have made significant progress in advancing efficiency over the last 40 years. Each new edition of the energy code has provided for the cost-effective reduction of energy use. The 2021 IECC represents a roughly 40 percent improvement in energy efficiency for buildings compared to the 2006 edition, along with corresponding improvements in building, mechanical and material science and technology. The Pacific Northwest National Laboratory (PNNL) found that energy code updates could save consumers \$138 billion and provide 900 million metric tons of CO₂ savings from 2010 through 2040.²⁷ These savings equate to the annual emissions of 108 million homes.

The Department of Energy (DOE) has also observed that energy efficiency is a low-cost resource across the country that can reduce household energy costs regardless of a given state's climate, heating fuel

²¹ *Id.*

²² CoreLogic, [Can Modern Building Codes Impact Mortgage Delinquency After Hurricanes?](#) (Aug. 2023).

²³ Kousky, C., M. Palim, and Y. Pan. [Flood Damage and Mortgage Credit Risk: A Case Study of Hurricane Harvey](#), *Journal of Housing Research* v. 29 (Nov. 2020).

²⁴ CoreLogic, [What Are the Effects of Natural Hazards on Mortgage Delinquencies?](#) (Nov. 2021).

²⁵ *Id.*

²⁶ Response to RFI Questions A-1, A-3, D-2, E-1, E-2, E-3; Docket FR-6271-N-01, [Joint Comments on Adoption of Energy Efficiency Standards for New Construction of HUD- and USDA-Financed Housing: Preliminary Determination](#) (Aug. 7, 2023); See also House Financial Services Committee, [Built to Last: Examining Housing Resilience in the Face of Climate Change](#) (May 4, 2021); See also Institute for Market Transformation, [Home Energy Efficiency and Mortgage Risks](#) (Mar. 2013).

²⁷ Pacific Northwest National Laboratory (PNNL), [Impacts of Model Building Energy Codes – Interim Update](#), https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-31437.pdf.

and energy price factors. Implementation of updated energy codes is foundational to achieving energy savings and GHG emissions reductions across the national housing stock. PNNL's final determination on the 2021 IECC found a 9.4 percent site energy savings improvement and an 8.7 percent reduction in carbon emissions for residential buildings relative to the 2018 edition, saving homeowners an average of \$2,320 over the life of a typical mortgage.²⁸

DOE has also found that modern building energy codes play an important role in community resilience, both in grid resilience as well as passive survivability of structures built to the latest editions of the IECC.²⁹ A recent report by DOE and three national labs³⁰ found that the 2021 IECC can reduce deaths during a disaster-induced power outage coupled with extreme heat by 80% and extreme cold by 30%. Benefit-cost ratios for these resilience benefits ranged from 2 to 6 to 1. These benefits are additive to the energy bill savings the IECC provides. Given the trend that extreme weather events are growing in severity and frequency, the resilience benefits associated with current energy codes represent a meaningful piece of our national resilience to hazard events.

4. FHFA should update codes regularly and ensure sufficient timelines for implementation

The Code Council encourages FHFA to tie energy conservation and hazard-resistance standards to current building and energy codes, which in practice captures the most recent code edition and the next most recent edition. FHFA should adopt current I-Codes using a phased approach, scheduling a routine update to the most recent edition of the I-Codes from the next most recent edition with a sufficient timeline following its publication to ensure effective implementation. This phased approach is consistent with our recommendation to HUD and USDA on their recent proposed rule to adopt modern energy efficiency standards across the Agencies' federally assisted housing programs.³¹

The phased in publication/adoption/implementation practice allows for the development and dissemination of necessary training materials to ensure practitioners are up to date on the latest requirements. It also provides greater market certainty upon which industry can plan. Lengthier periods between updates increases the extent of catch up that's required, given the extent of changes between code editions scales significantly across multiple editions. The end result is that less frequent updates makes implementation harder. By contrast, regular updates can facilitate shorter phase-ins. Given codes continue to improve in energy efficiency, safety, and hazard resistance, more regular updates provide affordability, resilience, and sustainability benefits.

5. Building Codes Protect Life Safety Without Impacting Affordability

Contemporary research continues to find that modern model building codes have no appreciable implications for housing affordability—in fact, no peer-reviewed research has found otherwise. Any potential impact from codes would primarily affect construction costs. However, one study considering the role of government regulation on home prices found that construction costs, including labor and materials, were flat from 1980 to 2013.¹⁷ The International Code Council was formed in 1994, the I-Codes were adopted across the country in the early 2000s, and several significant advancements to

²⁸ DOE, EERE, *Determinations*, <https://www.energycodes.gov/determinations>.

²⁹ DOE, EERE, *Energy Resilience*, <https://www.energycodes.gov/energy-resilience>.

³⁰ DOE, *Enhancing Resilience in Buildings Through Energy Efficiency* (July 2023).

³¹ See [ICC's Comments](#) in Response to FR-6271-N-01, Adoption of Energy Efficiency Standards for New Construction of HUD- and USDA-Financed Housing: Preliminary Determination and Solicitation of Comment (Document (HUD-2023-0034-0001)).

better mitigate structures against natural hazards were integrated into these codes during the period studied. None of these code activities meaningfully impacted construction costs.

Several additional contemporary analyses reached similar conclusions. After Moore, Oklahoma experienced its third violent tornado in 14 years, the city significantly strengthened its building codes. The Moore Association of Home Builders estimated a \$1-\$2/ft² resulting increase in the cost of construction. Yet, researchers found that the change to a stronger building code had no effect on the price per square foot or home sales.¹⁸ The most detailed benefit-cost analysis of seismic code adoption to date modeled six buildings in Memphis, Tennessee and compared the costs of adhering to the seismic provisions of the 2012 edition of model building codes as opposed to late 1990s-era codes. The study found that adopting the 2012 codes, for the apartment building studied, would add less than 1-percent to the construction cost (and less to the purchase price, since construction cost typically amounts to between one-third and two-thirds of purchase price), reducing annualized loss—in terms of repair cost, collapse probability, and fatalities—by approximately 50-percent.¹⁹

The principal investigator for the NIBS report found that improvements to model building codes' resilience over the nearly 30-year period studied only increased a home's purchase price by around a half a percentage point in earthquake country or in an area affected by riverine flood.²¹

In addition to having no appreciable impact on housing cost, up-to-date codes provide considerable benefits to homeowners. According to the Association of State Floodplain Managers (ASFPM), the insurance savings from meeting current codes' flood mitigation requirements can reduce homeowners' net monthly mortgage and flood insurance costs by at least five-percent.²² Codes also reduce the risk of damage or full loss of housing in the face of hazards, helping maintain the availability of housing units.

The cost effectiveness of modern codes is due in no small part to the active participation in the code development process of stakeholders representing development and property management interests. Building owners and managers, home builders, architects, design professionals, building trades, the fire service, plumbing and sanitation professionals, manufacturers, and others representing the housing industry devote considerable time and effort towards ensuring code updates are practical and cost effective.

As FHFA prioritizes housing affordability and home ownership, allowing people to remain in their homes is essential. We encourage FHFA to work with lenders to identify mechanisms to capture the impact of reduced operating, loss avoidance and potential recovery costs (alongside Principal, Interest, Taxes and Insurance (PITI)) within the underwriting process.

6. FHFA should work closely with ICC and code officials to ensure the rollout is manageable and to ensure any changes work as seamlessly as possible

In addition to the proposed recommendations for FHFA to adopt modern building codes and standards on a continuous timeline, the Code Council encourages FHFA to work closely with ICC and code officials to ensure the rollout is manageable and effective. The Code Council boasts significant technical expertise on code requirements and implementation, as well as a strong membership of code officials with field experience, which can be leveraged to support FHFA's rollout of modern building and energy code implementation. This is an opportunity for FHFA to align their federally-supported housing with other federal programs and to lead by example, charting a path forward for jurisdictions across the nation.



Implementation of current codes for federally-backed mortgages will have additional benefits beyond the individual properties impacted. Architects, engineers, contractors, homebuilders and others will become familiar with the latest advancements (even if not required on other projects), leading to improved practices across projects and potentially smoothing the adoption of updated requirements for all projects in a jurisdiction. Locking in improved energy efficiency may also reduce the burden on other federally funded programs including the Low-Income Home Energy Assistance Program (LIHEAP).

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FHFA has a historic opportunity to maximize the affordability, sustainability, and resilience of federally-supported housing. Implementation of the above recommendations will also help assure that taxpayer funds are leveraged to support the most energy-burdened and vulnerable households. We thank you for your full consideration. If you have any questions concerning these recommendations, please do not hesitate to contact us.

Sincerely,

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