



Director Mark Calabria  
Federal Housing Finance Agency  
Office of the Director  
400 7th Street, S.W., 10th floor  
Washington, D.C., 20219

Re: FHFA Climate and Natural Disaster Risk Management Request for Input

Director Calabria:

The Insurance Institute for Business & Home Safety (IBHS) is pleased to offer the following comments for your consideration in response to the Federal Housing Finance Agency's (FHFA) *Request for Information on Climate and Natural Disaster Risk Management at the Regulated Entities*. IBHS is a 501(c)(3) organization, enabled by the property insurance industry's investment, to fund building safety research that leads to real-world solutions for home and business owners, helping to create more resilient communities.

Severe weather disrupts lives, displaces families, and drives financial loss. IBHS delivers top-tier science and translates it into action so we can prevent avoidable suffering, strengthen our homes and businesses, inform the insurance industry, and support thriving communities. The perils we study at IBHS are part of the natural world in which we live, but social and economic disasters occur when these perils meet human populations that live or work in harm's way. In order to break the cycle of destruction, it is essential to address all aspects of the building performance chain: where you build, how you design and construct, and how well you maintain and repair. As a building science institute, IBHS focuses on the ways that weather behaves, what makes homes and businesses vulnerable, and how our buildings can be more resilient. We exist to help ensure that the places where people live, learn, work, worship, and gather are safe, stable, and as strong as the best science can equip them to be.

Resilience has traditionally been treated in the United States as an emergency management and disaster response issue. Although resilience is a critical issue in that space, it also must be understood as a housing issue, which is why this RFI is so critical. The FHFA has an opportunity to strengthen the financial stability of Fannie Mae, Freddie Mac, and the 11 Federal Home Loan Banks (the "Regulated Entities") and the housing market by encouraging policies that support residential resilience, such as financial incentives for property owners to invest in resilience-enhancing retrofits in their homes or buildings. IBHS would welcome the opportunity to engage further with FHFA to discuss how our building science research could be applied in policies that support the resilience of the U.S. housing market. Please contact Michael Newman, IBHS's Senior Director of Law and Public Policy, at [mnewman@ibhs.org](mailto:mnewman@ibhs.org) with follow-up questions.



*Questions I. Identifying and Assessing Climate and Natural Disaster Risk*

**1. How should FHFA define climate and natural disaster risk?**

Risk is classically understood as the result of hazard, exposure, and vulnerability. The [World Bank Climate and Natural Disaster Risk Screening Tools](#) defines climate risk as “a combination of hazard exposure, sensitivity to impact, and adaptive capacity” as it relates to climate change. We find this definition useful, as it considers resilience and adaptation as part of the risk calculus. FHFA can consider adapting the World Bank definition in a way that is most relevant to its equities – i.e., housing and housing finance.

While natural disasters are affected by climate change, the FHFA and the Regulated Entities should also consider the risk of natural disaster independent from climate change. Natural disaster risk can be understood as the likelihood of loss of life, injury, or destruction and damage from a natural disaster. Examples of natural hazards include wildfire, hurricanes, severe convective storms, tornadoes, hail, and floods.

**2. What are the climate and natural disaster risks to the regulated entities, including long- and short-term risks, and how might such risks change over time? To what extent, if any, could such risks now or in the future impede the ability of each regulated entity to operate in a safe and sound manner, fulfill its statutory mission, or foster liquid, efficient, competitive, and resilient national housing finance markets?**

2020 delivered the most active Atlantic hurricane season on record, with the most named storms in history, the worst wildfire season ever in terms of burn area, with a record-shattering 18 infernos of 100,000 acres or more across the West, and a Midwest derecho that was the most costly thunderstorm in national history. According to reporting from the NOAA’s National Centers for Environmental Information, 2020 set a record of 22 billion-dollar weather and climate disasters in the United States. However, we must look at 2020 in the broader context: while natural perils last year were particularly bad, they were not anomalous. 2020 was the sixth consecutive year in which ten or more billion-dollar weather and climate disaster events have occurred in the United States. Considering this trend, we must adapt by making our families, businesses, and communities more resilient to a changing climate and associated severe weather.

Severe weather disrupts lives, displaces families, and drives financial loss. Increasingly, it also affects the value and pricing of assets in ways that may affect financial stability. As the Federal Reserve identified in its [2020 Financial Stability Report](#):



Acute hazards, such as storms, floods, droughts, or wildfires, can quickly alter, or reveal new information about, future economic conditions or the value of real or financial assets. Moreover, in the presence of rapid shifts in public perceptions of risk, chronic hazards (like a slow rise in sea levels) have the potential to produce similar abrupt repricing events. These repricing events and direct losses associated with climate hazards can result in an increased frequency and severity of financial shocks; the timing and repercussions of these shocks are difficult to predict in advance. . . . Opacity of exposures and heterogeneous beliefs of market participants about exposures to climate risks can lead to mispricing of assets and the risk of downward price shocks. Similarly, uncertainty about the timing and intensity of severe weather events and disasters, as well as the poorly understood relationships between these events and economic outcomes, could lead to abrupt repricing of assets. Climate risks thus create new vulnerabilities associated with nonfinancial and financial leverage.

However, climate change and natural disaster risks to families, communities and financial stability can be mitigated using a variety of tools. One mitigant that may support to safety of families *and* the value of homes in the Regulated Entities' portfolios is increasing the resilience of those homes. At IBHS, we study the ways that weather behaves, what makes homes and businesses vulnerable, and how our buildings can be more resilient. We have developed proven mitigating actions that can make the built environment more resilient to severe weather like wildfire, hurricanes, and tornadoes. FHFA and the Regulated Entities should consider financial support for these types of resilience-enhancing actions and a means of fulfilling their statutory missions.

**3. What methodologies, datasets, variables, assumptions, future climate scenarios, and measurement tools are used to measure and monitor climate risk to the national housing finance markets? Describe any gaps in available data that limit the ability to measure such risks. How could such data gaps be resolved?**

IBHS has no comment.

**4. What risk management strategies or approaches—including but not limited to those related to pricing, insurance, credit risk transfers (CRT), loss mitigation, and disaster response—do industry participants use to address climate and natural disaster risk?**

Resilience-enhancing retrofits to structures – sometimes called natural hazard mitigation – are a crucial way that homeowners can mitigate the risks of natural perils, including severe weather associated with climate change. Due to the research conducted at IBHS, actions to strengthen the



resilience of residential structures are not just knowable but known. For instance, the FORTIFIED Home™ program, developed by IBHS and based on decades of scientific research, is a set of voluntary, beyond-code construction upgrades that improve a building's resistance to the effects of severe weather. The most affordable level of protection, FORTIFIED Roof™, is a three-tiered system that strengthens the roof, which is a home's first line of defense against severe weather. At this foundational level of the program, more and stronger nails, locked down edges, and a sealed roof deck work in concert to keep the wind and rain out, as an estimated 70 to 90 percent of catastrophic homeowners' insurance claims include roof damage. For more comprehensive protection ideal for coastal areas, FORTIFIED Gold™ builds on the requirements of FORTIFIED Roof. A home achieving this designation must have a continuous load path, meaning the roof is anchored to the walls, which are then bolted to the foundation. At any level, verifying that each of the required upgrades is completed correctly is instrumental to validating a home's integrity and ability to perform better in severe weather. Independent certified FORTIFIED Home evaluators provide homeowners with confidence that the work on their home complies with each of the FORTIFIED requirements.

Elevating a home to the FORTIFIED standard is relatively affordable: one non-profit building new, affordable housing to the FORTIFIED standards reports that additional costs for FORTIFIED Roof™ are between \$930 and \$1400, and the additional costs for FORTIFIED Gold™ are \$4300. For existing structures, or other types of new construction, the cost of FORTIFIED Roof™ or FORTIFIED Gold™ can vary based on geography, materials, and other factors like the state of the existing house.

More generally, resilience-enhancing mitigation activities can range in cost from inexpensive (e.g., clearing vegetation and debris from properties in wildfire-prone areas) to very costly (e.g., elevating homes in floodplains). Social science suggests that effectively evaluating risk – particularly high impact, low likelihood risk like natural disasters – is challenging. When it comes to natural perils, people usually feel more protected than they are. For those with the financial means to invest in resilient retrofits, incentives can provide the additional nudge they need to act. For those without financial means, additional financial support may be necessary to spur resilience-enhancing actions. At present, participants in the mortgage industry do not incentivize or otherwise financially support homeowners to mitigate natural hazard risk through resilience-enhancing actions – this is a missed opportunity to support families, communities and the value of the assets underlying the mortgages for financial institutions like the Regulated Entities.



**5. How, if at all, should FHFA incorporate into its assessment of the regulated entities' climate and natural disaster risk the potential for abrupt repricing of real estate properties exposed to acute natural hazards?**

All stakeholders in the housing market deserve to have an improved understanding of both the risk of natural perils and the resilience of the property at issue to those perils. Developing a mechanism for such sharing information regarding risk and resilience will result in better-informed consumers and financial institutions, including the Regulated Entities. Initial steps have already been taken for the flood peril—First Street Foundation has developed a Flood Factor tool that provides a forward-looking analysis of flood risk at the parcel level. Potential homebuyers can use this tool, either on the First Street Foundation's website or through realtors.com, to compare flood risks of different houses for sale. Similar information for other natural perils would be a useful tool for both consumers and financial institutions.

**6. With respect to the foregoing questions, FHFA invites interested parties to submit any studies, research, data, or other qualitative or quantitative information that supports a commenter's response or is otherwise relevant to the regulated entities' climate and natural disaster risk.**

The following reports and studies, some of which are referenced elsewhere in this response, may be useful for FHFA:

- CoreLogic: [The Impact of Natural Catastrophe on Mortgage Delinquency](#)
- National Institute of Building Sciences: [Natural Hazard Mitigation Saves](#)
- Alabama Center for Insurance Information and Research: [Estimating the Effect of FORTIFIED Home Construction on Home Resale Value](#)
- IBHS: [Suburban Wildfire Adaptation Roadmaps](#)
- IBHS: [Building Vulnerability to Wind-Driven Rain Entry](#)

*II. Enhancing FHFA's Supervisory and Regulatory Framework*

**7. How should FHFA evaluate the adequacy of a regulated entity's ability to assess and manage the impacts of climate and natural disaster risk, particularly in light of the significant uncertainties and data limitations?**

IBHS has no comment.

**8. What specific processes and systems of a regulated entity should FHFA examine in its**



**supervision of the regulated entities' climate and natural disaster risk management?**

IBHS has no comment.

**9. How should FHFA prioritize the various climate and natural disaster risks to the regulated entities?**

IBHS has no comment.

**10. Some government programs and interventions that mitigate disaster-related credit losses at the regulated entities are not available to all mortgage market participants and may not be available to the regulated entities in the future. How, if at all, should FHFA consider current risk mitigants and their uncertain future availability in its supervision and regulation of each regulated entity's management of climate and natural disaster risk?**

When it comes to climate and natural disaster risk management for the Regulated Entities, the physical resilience of the built environment (relevant here, single and multi-family housing) is inextricably linked to the financial resilience of the Regulated Entities. As the Federal Reserve identified in its [2020 Financial Stability Report](#), financial stability risks from climate change may arise from sudden or gradual changes in asset valuation.

One way to mitigate this risk is to improve the resilience of the assets underlying the Regulated Entities portfolio by investing in the physical resilience of the structures themselves. FHFA and the Regulated Entities should consider ways to incentivize or financially support resilience-enhancing investments by homeowners to increase the financial resilience of the Regulated Entities.

**11. What risks to the regulated entities' critical service providers and other third parties—including but not limited to mortgage servicers and insurers—should FHFA consider when assessing each regulated entity's management of climate and natural disaster risk?**

IBHS has no comment.

**12. What differences between the Enterprises and the FHL Banks should FHFA consider in tailoring its supervision and regulation of each regulated entity's management of climate and natural disaster risk?**

IBHS has no comment.



**13. Should FHFA implement a stress testing, scenario analysis, or similar program to assess the regulated entities' climate and natural disaster risk? If so, what factors should FHFA consider in defining the purposes, design, and scenarios of any such programs?**

IBHS has no comment.

**14. Are there alternative risk mitigation strategies, including but not limited to insurance or insurance-based financial instruments, that could transfer risk from the regulated entities' portfolios or products or assist with the market pricing of climate and natural disaster risks?**

IBHS has no comment.

**15. How might the regulated entities support their housing finance missions while minimizing the impact of climate and natural disaster risk?**

Investing in homeowner resilience is a way for the Regulated Entities to support their housing finance mission while minimizing the impact of climate and natural disaster risk. In its 2018 report, [The Impact of Natural Catastrophe on Mortgage Delinquency](#), CoreLogic concluded that natural disasters have a significant impact on homeowners' ability to pay their mortgage. Following Hurricane Harvey, CoreLogic noted that “[w]ithin FEMA designated counties, properties estimated to have damage saw a 205% increase in 90+ day delinquency, while properties estimated to have no damage saw a 167% increase in 90+ day delinquency.”

Funding programs that would elevate the resilience in areas at risk for natural perils would help reduce the damage and disruption that result in homeowners failing to pay or walking away from their mortgages. This is particularly acute for marginalized populations. According to sociological research, disabled, elderly, low income, and other marginalized people are less likely to prepare for disasters, evacuate safely, avoid physical or psychological trauma, or recover quickly and fully. Low-income residents account for a meaningful percentage of the population in many coastal communities and other areas that face climate risk, often in the most vulnerable housing.

As articulated elsewhere in this response, the Regulated Entities should consider programs that financially incent or otherwise support the ability of homeowners to invest in the resilience of their homes.

**16. Market discipline could potentially supplement FHFA's supervision and regulation of the regulated entities' climate and natural disaster risk appetite and management. Market**





**discipline depends in part on the information that is available to shareholders, creditors, and other counterparties. Is the existing publicly available information sufficient for shareholders, creditors, CRT and other investors, and other counterparties to understand and exercise market discipline over a regulated entity's appetite for and management of climate and natural disaster risk? If not, what changes are needed? Should each regulated entity be required to disclose additional information, including but not limited to the extent to which its underwriting practices take into account climate and natural disaster risk?**

IBHS has no comment.

**17. What, if any, additional periodic or episodic reporting requirements for the regulated entities should FHFA consider to improve the publicly available information on the regulated entities' management of climate and natural disaster risk?**

IBHS has no comment.

**18. Policies to manage climate and natural disaster risk could increase the cost of housing, making it more difficult for lower income households in some areas to obtain affordable housing. Are there policies the regulated entities could pursue to mitigate such adverse effects for lower income households in vulnerable areas without undermining efforts to manage climate and natural disaster risk?**

Resilience and affordability need not be cast as opposing forces in policies targeting the reduction of climate and natural disaster risk for both homeowners and the Regulated Entities. In fact, housing for lower income households is most sustainably affordable when based on the three-prong foundation of affordability, resilience, and energy-efficiency. By doing so, it is possible to create sustainable and affordable homes that reduce monthly costs through reduced water, energy and insurance bills, and long-term costs associated with loss, disruption, and displacement following a natural disaster. This creates an environment of *enduring* affordability, rather than just considering affordability on the day the home sale closes.

The convergence of affordability, resilience and energy-efficiency is already occurring in Louisiana, where an affordable housing project from the New Orleans Redevelopment Authority mandated that affordable housing be built to IBHS's FORTIFIED standard and the Energy Star Homes Version 3.0 standard. The Louisiana Housing Corporation has also issued projects for affordable multifamily housing that require developers to meet IBHS's FORTIFIED standard.

It is true that lower income populations may need more financial assistance to make resilience investments than those with greater financial means. Providing this needed financial support is



not just a matter of equity and public health – although it is both – it is a responsible investment of tax dollars. Improving resilience reduces the costs of future natural disasters and the economic disruption associated with related dislocations.

The Regulated Entities, in creating programs and policies that provide financial incentives or assistance to homeowners to make resilience investments in their homes, could consider means-based parameters that could increase the level of financial support for those with greater needs.

**19. Minority borrowers exhibit higher rates of delinquencies for longer durations following natural disasters. Are there policies the regulated entities could pursue to mitigate such adverse effects for minority borrowers exposed to climate and natural disaster risk?**

The drivers of mortgage delinquencies following natural disasters are varied. As noted in the aforementioned [CoreLogic report](#), delinquencies may be tied to the level of damage to a home and the related cost to reconstruct, as well as broader, community level issues like availability of childcare, blocked routes to work, and damage to places of employment. While some of these issues are outside the scope of authority of the FHFA and Regulated Entities – the house, the place where the homeowner lives, is not. Community resilience to climate and natural disaster risk requires an “all of the above” approach that involves a variety of federal, state, local, Tribal and territorial governmental authorities, funding, and programs. This includes the FHFA and Regulated Entities. By focusing on programs that increase the resilience of housing, and – as suggested in the response to Question 15, providing higher levels of support for certain disadvantaged populations – the Regulated Entities could help lessen the adverse effects of natural disasters on minority borrowers.

In addition, insurance – particularly homeowners insurance and flood insurance – is a critical financial instrument that can help provide financial protection to borrowers exposed to climate and natural disaster. Following a natural disaster, an insurance policy can mean the difference between short-term disruption and total financial ruin for a family. The FHFA and the Regulated Entities can explore policies and programs that would help close the coverage gap, i.e. the number of homeowners who do not have appropriate property insurance coverage. While mortgage companies require appropriate coverage, not all homeowners have it – either because oversight of coverage lapses is lacking or because flood risk in some cases exceeds where it is required under existing flood maps.



**20. What type of organizational structures should FHFA and the regulated entities consider adopting for themselves to support the management of climate and natural disaster risk?**

IBHS has no comment.

**21. What specific issues or topics should FHFA consider for future research on climate and natural disaster risk to the regulated entities and the national housing finance markets?**

FHFA could consider conducting research on the impact of different resilience actions on the value of real estate, particularly in regions prone to climate and natural disaster risk. One such [study](#) has already been conducted by the University of Alabama, which found that homes built or retrofitted to IBHS's Fortified standard experienced a seven percent increase in resale value, holding all other variables constant. FHFA could also consider conducting research on long-term trends on the value of housing stock in different regions, taking into account climate and natural disaster risk and resilience measures at the parcel level.

**22. What data or housing market information would be beneficial for FHFA to make available, to the extent permitted by privacy considerations, to researchers and other interested parties to support the assessment of climate and natural disaster risk to the regulated entities or the national housing finance markets?**

IBHS has no comment.

**23. What factors should FHFA consider in determining whether to formally participate in or informally partner with organizations or groups focused on climate and natural disaster risk management?**

Resilience to natural disasters has traditionally been viewed within U.S. government as primarily an emergency management issue. However, resilience is also fundamentally a housing and housing finance issue, and FHFA has a fundamental role in supporting the resilience of the housing finance market to climate and natural disaster risk management. IBHS encourages FHFA to engage – formally or informally – with the insurance industry to explore pathways to resilience for homeowners. In addition, IBHS encourages FHFA to engage on the issue of climate and natural disaster risk on the Financial Stability Oversight Committee and in other interagency groups, such as the Mitigation Framework Leadership Group (Mit-FLG).



**24. Are there existing or potential government agencies or programs that FHFA could partner with to enhance the Agency’s supervision and regulation of climate and natural disaster risk to the regulated entities?**

FHFA should partner with HUD, FEMA, SBA, and USDA to identify ways to integrate efforts to mitigate climate and natural disaster risk with existing government programs that support individual and community resilience to natural perils. Relevant government programs include The Building Resilient Infrastructure and Communities (BRIC) program (FEMA); Community Development Block Grant Programs (HUD); SBA Disaster Loan programs (SBA); and the Rural Housing Service (USDA).

In addition, FHFA can explore different state level programs intended to support residential resilience. For example:

- The Strengthen Alabama Homes program provides grants to homeowners in Alabama to retrofit their homes to make them more resistant to severe wind damage.
- The North Carolina Insurance Underwriting Association (NCIUA) has a grant program called the Strengthen Your Roof Program, to install a new roof that meets IBHS standards for FORTIFIED Roofs to eligible policyholders along North Carolina’s Outer Banks and Barrier Islands.

**25. What, if any, other enhancements should FHFA consider to its supervision and regulation of each regulated entity’s management of climate and natural disaster risk? Other enhancements could include but need not be limited to: (i) regulatory capital requirements or other loss absorbing capacity requirements that ensure each regulated entity has the capacity to absorb impacts of climate and natural disaster risk; (ii) disclosure requirements to provide shareholders, creditors, CRT or other investors, and other counterparties with appropriate information about a regulated entity’s climate and natural disaster risk; and (iii) changes to FHFA’s supervisory program to enhance examination of or reporting on each regulated entity’s infrastructure and processes for identifying, assessing, mitigating, and monitoring the regulated entity’s management of climate and natural disaster risk.**

IBHS has no comment.



**26. To what extent, if any, should FHFA support efforts to develop standards of classification and data reporting on climate and natural disaster risk to the financial performance of companies, such as those by the Sustainability Accounting Standards Board, domestic and foreign government agencies, or others?**

IBHS has no comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'MN' followed by a long horizontal stroke.

Michael Newman  
Senior Director for Law and Public Policy  
Insurance Institute for Business & Home Safety