

Congress of the United States

Washington, DC 20515

January 16, 2025

Diana Reid
Chief Executive Officer
Freddie Mac
8200 Jones Branch Drive
McLean, VA 22102-3110

Dear Ms. Reid:

Climate change threatens the future stability of the United States mortgage market, including mortgages backed by Government-Sponsored Enterprises (GSEs), such as Freddie Mac. As a result, we write to request information on the monitoring and management of the climate risk associated with the mortgages purchased and held by Freddie Mac.

Recent extreme storms, flooding, and hurricanes have shown that no region is safe from the damage of a changing climate. In its 2023 Sustainability Report, Freddie Mac acknowledged that changes in physical hazards could bring increased flooding and stronger hurricanes, and more severe or frequent heat waves, droughts, and wildfires, “which may drive damages and affect the costs and availability of insurance.”¹ Adding to this risk, some insurance companies have ceased writing new coverage or have significantly increased premiums for certain perils. Hurricane Helene’s destructive path across the Southeast has spotlighted the lack of flood insurance coverage in lower-risk areas.² According to the Insurance Information Institute, less than 1% of the properties in the inland areas that sustained the most catastrophic damage from Hurricane Helene were protected with flood insurance.³

In addition, Freddie Mac noted that climate change is an “[important] contributor of credit risk.” The report explained that climate-driven increases in the cost of housing (e.g., new insurance standards or the costs of stricter building codes) may lower the income of homeowners and multifamily property owners, which increases the likelihood of borrower default. Property values may also be adversely impacted by climate change, leading to a higher probability of default and loss and affecting affordability for renters. Furthermore, as climate change leads to increased insurance costs or lack of availability, borrowers may have insufficient coverage and face high repair costs or leave properties unrepaired—either could impact Freddie Mac’s credit risk, according to the report.⁴

We appreciate Freddie Mac’s recognition of these emerging challenges and its efforts to identify climate-related risks affecting its portfolio, homeowners, and multifamily property owners. Additionally, we acknowledge the GSEs’ increasing focus on climate risk assessment and management practices in the face of climate change. This includes addressing the issues highlighted in the Federal Housing Finance Authority’s (FHFA) 2024 Climate Scenario Analysis, which points to data and methodological gaps, high model sensitivities, challenges

¹ Freddie Mac, *2023 Sustainability Report*, pp. 18, https://www.freddiemac.com/about/pdf/2023_Sustainability_Report.pdf.

² “Hurricane Helene brought major damage, spotlighting lack of flood insurance,” 3 Oct. 2024, <https://www.usatoday.com/story/money/2024/10/03/hurricane-helene-damage-flood-insurance-lack/75452960007/>.

³ “Homeowners hit by Hurricane Helene face the grim task of rebuilding without flood insurance,” 5 Oct. 2024, <https://apnews.com/article/hurricane-helene-flooding-insurance-water-damage-fema-disaster-recovery-07bbf25fba01e2fac5f66dd6ac56e0ee>.

⁴ Freddie Mac, *2023 Sustainability Report*, pp. 20, 24, https://www.freddiemac.com/about/pdf/2023_Sustainability_Report.pdf.

in integrating climate risks into credit models, and a reliance on historical data to predict future climate-financial dynamics.⁵ Furthermore, we recognize the potential for current risk management strategies to leave GSEs—and, by extension, taxpayers—exposed to substantial unpriced risk, potentially setting the stage for a future housing bubble.

To mitigate the risks to the housing market posed by climate change, Freddie Mac has identified insurance as a key part of the solution. According to Freddie Mac’s Sustainability report: “When properties are damaged by severe events, insurance plays an important role in mitigating financial losses.”⁶ However, an overreliance on flood insurance to manage risk could, itself, be risky due to a confluence of factors, including:

- (1) Low adoption of flood insurance in high-risk areas, despite Freddie Mac requirements.
- (2) Low adoption of flood insurance in medium-risk areas increasingly impacted by climate events.

For single and multifamily loans and all properties collateralizing multifamily loans, Freddie Mac requires flood insurance in a Federal Emergency Management Agency (FEMA)-designated Special Flood Hazard Area (SFHA).⁷ However, a Harvard University study estimated that only 48.3 percent of households in high-risk floodplains purchased flood insurance in 2019.⁸ A 2024 Federal Reserve Bank of Kansas City study found that properties in areas with the highest flood risk, as calculated by First Street Foundation’s Flood Factor scores, have a 21 to 30 percent higher default rate.⁹ In addition, Freddie Mac has no stated requirement for medium-risk areas outside SFHAs. As a result, adoption rates for this group are low, even as impacts from climate change increase in quantity and scale of damage. For example, the estimated take-up rate of flood insurance in lower-risk floodplains was only 2.2 percent.¹⁰ Yet, several climate-related flooding events have impacted homeowners and property owners outside of SFHAs, and a 2023 Congressional Budget Office (CBO) study determined that flooding events in medium-risk areas are not one-offs and will be commonplace in the future. The study noted: “Almost half of expected damage to homes with federally backed mortgages is located in areas where homeowners and property owners are not required to carry flood insurance.”¹¹

In many cases, homeowners and property owners in these areas are not carrying flood insurance due to inaccurate or incomplete FEMA maps, which rely on historical data instead of future climate risks and tend to be infrequently updated. Flood risk from climate-related events is increasingly prevalent, but many homeowners and property owners are placed into a lower flood risk category than they would have been if all forms of flooding had been considered. In 2022, FEMA Director Deanne Criswell emphasized that: “FEMA’s maps right now are really focused on riverine flooding and coastal flooding. When we’re seeing these record rainfalls that are happening...that’s what our flood maps don’t necessarily take into consideration.”¹² Furthermore, maps are often incomplete or outdated and are unable to accurately identify properties at higher risk of flooding that

⁵ FHFA, *Lessons Learned from Assessing Exposure to Climate-Related Risks*, 2024, <https://www.fhfa.gov/blog/insights/lessons-learned-from-assessing-exposure-to-climate-related-risks>.

⁶ Freddie Mac, *2023 Sustainability Report*, pp. 20, 24, https://www.freddie.com/about/pdf/2023_Sustainability_Report.pdf.

⁷ *Id.*

⁸ Journal of Environmental Economics and Management, *Voluntary purchases and adverse selection in the market for flood insurance*, 2021, <https://www.sciencedirect.com/science/article/abs/pii/S0095069621000826>.

⁹ Federal Reserve Bank of Kansas City, *Flood Risk Exposures and Mortgage-Backed Security Asset Performance and Risk Sharing*, 2023, <https://www.kansascityfed.org/Research%20Working%20Papers/documents/10184/rwp24-05dicehossainrodziewicz.pdf>.

¹⁰ Journal of Environmental Economics, <https://www.sciencedirect.com/science/article/abs/pii/S0095069621000826>.

¹¹ Congressional Budget Office, *Flood Damage and Federally Backed Mortgages in a Changing Climate*, 2023, <https://www.cbo.gov/publication/59753>.

¹² CNN, *State of the Union*, as reported by Smithsonian Magazine, 9 Sep. 2022, <https://www.smithsonianmag.com/smart-news/federal-flood-maps-are-outdated-because-of-climate-change-fema-director-says-180980725/>.

should be mandated to get insurance. A 2020 report by the Association of State Floodplain Managers found that FEMA has only produced flood maps for one-third of the nation's streams and less than half of its shoreline, leaving homeowners unaware of potential risks to their property.¹³ A 2023 Federal Reserve Bank of New York analysis found that a quarter of all maps were 15 years old, and over half were more than five years old.¹⁴ This puts the onus on states and outside organizations to provide a more accurate depiction of flooding or leave vulnerable homeowners unaware of their true risk.

It is not reasonable for Freddie Mac to over-rely on insurance as a risk mitigation measure when adoption by homeowners and property owners is so low due in part to inaccurate flood maps. This presents a significant risk to lenders and could subsequently impact Freddie Mac and the mortgage market if flooding causes those homeowners and property owners to default on their loans.

The GSEs are also likely increasing their risk exposure from mortgage lenders, which could transfer the high costs of climate damages to taxpayers if the federal government needs to bail out Freddie Mac again. For example, a 2019 Johns Hopkins study found that, between 2004 and 2012, lenders increased nearly 10 percent of the share of mortgages in hurricane-affected areas that they sold to Fannie Mae and Freddie Mac. This could cause “a potential threat to the stability of financial institutions” as climate change leads to more frequent and more severe disasters, forcing more loans into default as homeowners cannot or will not make mortgage payments following a disaster.¹⁵

Furthermore, there is reason to believe that the GSEs are increasing their risk exposure due to lax oversight of insurer quality. A 2023 paper from Columbia Business School, Harvard Business School, and the Federal Reserve Board confirmed that “mortgage lenders actively manage insurer counterparty risk by offloading mortgages with high insurer counterparty risk to the GSEs.” The study cites insurance as a key component: “Lenders respond to the decline in insurance quality by selling a large portion of exposed loans to the GSEs.”¹⁶ These high-risk loans can be expensive to GSEs.

The transfer of risk to GSEs is likely contributing to the overvaluation of housing in areas with the highest climate risk profiles, potentially creating a systemic risk to the economy. A 2022 study by actuarial firm Milliman estimated the value of the flood-risk housing bubble at \$520 billion, and found that nearly 3.5 million homeowners could face a decrease in property value greater than 10 percent if flood risk was accurately priced.¹⁷ This is supported by a 2023 study co-authored by the Federal Reserve, which found that residential properties exposed to flood risk are overvalued by \$121 to \$237 billion, depending on the discount rate. Generally, the overvalued properties are concentrated in coastal counties with no flood risk disclosure laws and less concern about climate change. The economic losses and social disruption from rising seas and expanding floodplains “are likely to be greater in total than those experienced in the housing crisis and Great Recession,”

¹³ Association of State Floodplain Managers, *Flood Mapping for the Nation*, 2020,

https://asfpm-library.s3-us-west-2.amazonaws.com/FSC/MapNation/ASFPM_MaptheNation_Report_2020.pdf.

¹⁴ Liberty Street Economics, Federal Reserve Bank of New York, *Potential Flood Map Inaccuracies in the Fed's Second District*, 10 Nov. 2023,

<https://libertystreeteconomics.newyorkfed.org/2023/11/potential-flood-map-inaccuracies-in-the-feds-second-district/>.

¹⁵ “Climate Risk in the Housing Market Has Echoes of Subprime Crisis, Study Finds,” 27 Sep. 2019,

<https://www.nytimes.com/2019/09/27/climate/mortgage-climate-risk.html>.

¹⁶ Harvard Business School, *When Insurers Exit: Climate Losses, Fragile Insurers, and Mortgage Markets*, 2023,

https://www.hbs.edu/ris/Publication%20Files/24-051_f1329bc3-d296-4ffa-aff3-a9e4b8e98e9d.pdf.

¹⁷ Milliman, *Unpriced costs of flooding: An emerging risk for homeowners and lenders*, 2022, <https://www.milliman.com/en/insight/unpriced-costs-of-flooding-an-emerging-risk-for-homeowners-and-lenders>.

according to Freddie Mac’s former Chief Economist.¹⁸ Low-income households are at greater risk of losing home equity from price deflation, and municipalities heavily reliant on property taxes for revenue are vulnerable to budgetary shortfalls.¹⁹

The U.S. mortgage market faces severe challenges due to climate-related factors, including underinsurance, increasingly unaffordable or unavailable insurance, the over-representation of under-capitalized insurers in high-risk areas such as Florida, the transfer of high climate-risk mortgages to Freddie Mac, and a high percentage of GSE-backed loans without flood insurance. These issues are a result of the destabilizing effects of climate change. We believe that how Freddie Mac assesses and manages these risks will be crucial in maintaining stability.

To better understand the full scope of Freddie Mac’s efforts to maintain the stability of the U.S. mortgage market in the face of these unprecedented challenges, we respectfully ask you to respond to the following questions:

1. The 2023 paper from Columbia Business School, Harvard Business School, and the Federal Reserve Board²⁰ finds that Freddie Mac accepts mortgages backed by lower quality insurance policies than it requires for mortgages it originates. In a recent meeting with Senate staff, GSE staff disputed that lenders offload their riskier loans onto the GSEs, stating there is “no material risk.” Does Freddie Mac stand by this statement?
2. Will Freddie Mac take any steps to increase oversight of the financial strength ratings attributed to insurers?
3. Does Freddie Mac believe that climate change poses any material risk to the mortgages they underwrite or loans they guarantee?
4. How does Freddie Mac plan to comply with recent FHFA guidance on Climate-Related Risk Management?²¹ What steps have been taken thus far, and what work is underway?
5. How does Freddie Mac assess physical (acute and chronic) climate risk, especially pertaining to the risk that climate change-related impacts pose to properties whose mortgages are purchased and held by Freddie Mac?
6. In 2022, Fannie Mae’s Climate Risk Officer wrote to FEMA Administrator Criswell: “Presently, the market is hampered by the lack of a standard metric or set of metrics to understand the risks associated with natural disasters.”²² What, if any, actions has Freddie Mac taken to establish such metrics?
7. Does Freddie Mac have the capability to assess the likelihood of mortgage repayment? If yes, how does climate change factor into this assessment? If not, what is needed to enable this capability?
8. How will Freddie Mac address gaps in its climate risk assessment capabilities, including data and methodological gaps, high model sensitivities, challenges in integrating climate risks into credit models,

¹⁸ Dr. Sean Beckett, “Life’s a Beach,” 2016, <https://www.freddie.mac.com/fmac-resources/research/pdf/April%20Insight%2004%2026%2016.pdf>.

¹⁹ Nature Climate Change, *Unpriced climate risk and the potential consequences of overvaluation in US housing markets*, 2023, <https://www.nature.com/articles/s41558-023-01594-8>.

²⁰ Harvard Business School, *When Insurers Exit*, https://www.hbs.edu/ris/Publication%20Files/24-051_f1329bc3-d296-4ffa-aff3-a9e4b8e98e9d.pdf.

²¹ FHFA, *Advisory Bulletin AB 2024-01: Climate-Related Risk Management*, 2024, https://www.fhfa.gov/sites/default/files/2024-05/AB-2024-01_Climate-Related-Risk-Management.pdf.

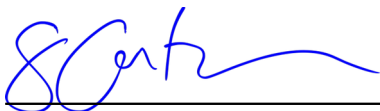
²² Fannie Mae Letter to FEMA Administrator Criswell, 11 Jan. 2022, https://downloads.regulations.gov/FEMA-2021-0024-0191/attachment_1.pdf.

and a reliance on historical data to predict future climate-financial dynamics? Are there tools that will be used to enhance these capabilities (e.g., the FHFA's Mortgage Loan and Natural Disaster Dashboard)?²³

9. In assessing such risk, how reliant is Freddie Mac on the use of established flood maps, such as those produced by the FEMA²⁴ versus those from private sources, such as the First Street Foundation?²⁵
10. Is Freddie Mac pricing climate risk into loans obtained from private lenders? Does Freddie Mac use the FEMA's or other entities' flood risk assessments to decide whether a loan is conforming?
11. Are flood risk assessments and maps used by Freddie Mac to determine flood risk a spot-in-time analysis, or do they incorporate a long-term, predictive view of potential changes in flood risk over time due to climate change?
12. How is Freddie Mac ensuring that homeowners and property owners in SFHAs have active flood insurance policies and are maintaining those flood insurance policies over time?
13. Does Freddie Mac inform investors of its mortgage-backed securities of the climate-related risks inherent in the mortgages?
14. How is Freddie Mac accounting for impacts on marginalized communities—who are disproportionately more exposed to climate risks—of its risk management strategies to ensure fair lending, fair housing, and equitable housing compliance, in line with FHFA guidance?²⁶
15. What additional risk management and mitigation strategies are being considered or implemented by Freddie Mac, especially considering the high share of uninsured properties?

We ask that you provide written responses to these questions by no later than January 30th, 2025.

Sincerely,



Sean Casten
Member of Congress



Sheldon Whitehouse
United States Senator

²³ FHFA, *Mortgage Loan and Natural Disaster Dashboard*, <https://www.fhfa.gov/faqs/mortgage-loan-and-natural-disaster>.

²⁴ FEMA Flood Maps, <https://www.fema.gov/flood-maps>.

²⁵ First Street Foundation Flood Factors, <https://firststreet.org/methodology/flood>.

²⁶ Federal Housing Finance Agency, *Advisory Bulletin AB 2023-05: Enterprise Fair Lending and Fair Housing Rating System*, 2023, https://www.fhfa.gov/sites/default/files/2024-02/AB-2023-05_Enterprise-Fair-Lending-and-Fair-Housing-Rating-System.pdf.