Federal Housing Finance Agency

ADVISORY BULLETIN

AB 2024-04: Federal Home Loan Bank System Climate-Related Risk Management

Purpose

This Advisory Bulletin (AB) provides Federal Housing Finance Agency (FHFA) guidance to the Federal Home Loan Banks (FHLBanks) and the Office of Finance (OF)[1] (collectively, FHLBank System) on managing climate-related risks to support a safe and sound operating environment.

Background

Climate change poses risks to the safety and soundness of the FHLBanks and their ability to fulfill their mission. The FHLBanks' financial condition, operations, members, and counterparties may suffer adverse impacts from both physical and transition risks associated with climate change (collectively, climate-related risks). Climate change may directly and indirectly subject the FHLBanks to financial, operational, legal, reputational, or other risks.

In the context of climate change, physical risk pertains to the potential harm to individuals and assets arising from the increased frequency, severity, and unpredictability of acute weather events such as wildfires, hurricanes, and floods as well as chronic shifts in climate such as alterations in precipitation patterns, rising sea levels, and temperature fluctuations. The FHLBanks' assets are supported by collateral whose value may materially decrease due to events triggered or exacerbated by climate change. Further, physical risks have the potential to disrupt the FHLBanks' operations and hinder their ability to carry out their mission.

Transition risk encompasses uncertainties associated with shifting to a low-carbon economy driven by evolving policies and regulations, technological advancements, and changes in investor and consumer attitudes. For instance, new greenhouse gas emission laws and policies may impact the valuation of collateral and other assets, while also imposing additional operational costs on the FHLBanks.

The FHLBanks should consider the range of climate-related risks that may affect them in the near and long term. The FHLBanks should address the possibility of extreme weather events

[1] Some aspects of this Advisory Bulletin will apply to the OF, to the extent relevant to its operations and roles of issuing and servicing the FHLBanks' consolidated obligations and preparing the FHLBanks' combined financial reports. Therefore, references to the FHLBanks should be read to also apply to the OF, where relevant.

affecting their business and operational resiliency, as well as rising sea levels and changing temperatures degrading or destroying properties and communities that are instrumental to their business and operations. Although it is difficult to predict exactly how and when climate-related risks will manifest themselves, the FHLBanks should be prepared to respond to these risks to operate in a safe and sound manner that supports their mission.

FHFA's Prudential Management and Operations Standards (PMOS) 1 and 8 highlight the need for the FHLBanks to establish risk management practices that identify, assess, control, monitor, and report risk exposures, and the need to have sound risk management policies, standards, procedures, controls, and reporting systems in place.[2] These specific standards, along with the General Responsibilities of the Board of Directors and Senior Management (unnumbered PMOS standard) also apply to managing climate-related risks.[3]

Guidance

Each FHLBank should integrate climate-related risk management into its existing enterprise risk management (ERM) framework.[4] An effective framework should address the following components for climate-related risk management:

I. Governance
II. Metrics and Data
III. Scenario Analysis
IV. Climate-Related Risk Reporting and Communication Processes
V. Natural Disaster Response and Support for Climate Resiliency

I. Governance

Each FHLBank should integrate climate-related risk management into its existing governance framework. When incorporating climate-related risk management, an FHLBank should take a risk-based approach, commensurate with its risk appetite and level of exposure. The framework should be flexible to accommodate new and evolving climate risks and should evolve over time with the FHLBank's understanding of climate-related risks to its business and mission. The framework should include the following:

A. Risk Appetite, Strategy, and Objectives

The FHLBank should integrate climate-related risks into its risk appetite framework and risk appetite statements. The FHLBank should define its climate-related risk appetite in line with its existing enterprise-wide risk framework and the risk appetite should reflect clearly delineated

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[2] *See* Appendix to 12 CFR Part 1236. FHFA's PMOS, adopted as guidelines, address general responsibilities of the board and senior management, as well as specific responsibilities for management and operations. Standard 1 addresses Internal Controls and Information Systems and Standard 8 addresses Overall Risk Management Processes.
[3] *See* Appendix to 12 CFR Part 1236.
[4] *See* 12 CFR 1239.11(a).

climate-related risks to which the FHLBank is exposed. Given the evolving nature of climate-related risks, the FHLBank should also regularly assess its climate-related risk appetite by evaluating appropriate climate-related risk metrics.

Each FHLBank should incorporate climate-related risks when determining its overall strategy and business objectives.[5] An FHLBank should document within its strategic business plan how it intends to address climate-related risks across short-term and longer term time horizons while achieving its mission in a safe and sound manner. The FHLBank's strategic business plan should also include narrative or qualitative information on the possible changes to the FHLBank's business or expected strategic direction related to climate-related risks. Further, its strategic and business objectives should be resilient enough to withstand the dynamic nature of climate-related risks.

B. Roles and Responsibilities

Each FHLBank should establish clearly defined roles and responsibilities for its climate-related risk management at the board of directors (board) or board committee and senior management levels.

The FHLBank's board is responsible for oversight of an FHLBank's operations and conduct, including risk oversight to ensure its safe and sound operations.[6] This includes overseeing climate-related risks and ensuring that management incorporates climate-related risk management practices into the FHLBank's business and operations, as appropriate. Additionally, the board is responsible for approving the FHLBank's overall risk appetite, risk exposure, and risk-taking activities, including those related to climate risk.

The board should hold senior management accountable for implementing climate-related risk management in line with the FHLBank's risk appetite and providing the board with sufficient information to maintain effective oversight. The board should be aware of material climate-related risks and applicable climate-related laws and regulations to make informed decisions. The board should have sufficient knowledge and skill to assess and challenge the information provided and recommend further actions. The board also should understand how physical and transition risks affect its business and other programs, communities, members, and other stakeholders.

The FHLBank's senior management implements the board-approved strategies and policies relating to the management of climate-related risks. As part of its responsibility to implement climate-related risk management and climate-related strategies, senior management should ensure that it has integrated climate risk into the three lines of defense model for managing risk (i.e., ensuring that the business lines, risk management function, and audit each address climate risk in their respective roles). Senior management should monitor and inform the board of material climate-related risks and exposures across various time horizons to facilitate effective

[5] *See* 12 CFR 1239.14(a)(5).
[6] 12 CFR 1239.4.

board oversight. Senior management should also allocate resources to manage climate-related risks, including climate risk training appropriate for designated roles and responsibilities. Senior management should ensure that the FHLBank complies with any climate-related laws and regulations. Further, senior management should confirm that public statements regarding the FHLBank's climate-related activities align with the FHLBank's internal strategies and its risk management framework.

To effectively carry out climate-related risk governance, the board and senior management should maintain awareness of:

- The range and severity of climate-related risk exposures and potential impacts to the FHLBank across various time horizons;
- Responses to natural disasters affecting acquired member assets (AMA), advances, Affordable Housing Programs (AHP), Community Investment Programs (CIP), and Community Investment Cash Advance (CICA) programs;
- Applicable climate-related laws and regulations and emerging legal and regulatory obligations regarding climate-related risks that may affect the FHLBank;
- Assumptions, limitations, and uncertainty around climate-related risks that may affect the establishment of related risk frameworks;
- Pertinent climate-related risk management activities, such as climate scenario analysis results that inform decision-making;
- Key and relevant climate-related risk metrics; and
- Climate-related disclosure and reporting requirements.

The FHLBank's business units play key roles in climate-related risk management. Accordingly, the FHLBank's policies and procedures should delineate the roles and responsibilities of staff assigned to identify, assess, mitigate, monitor, and report climate-related risk exposures.

C. Policies, Standards, and Procedures

An FHLBank's climate-related risk management approach should be incorporated into existing policies, standards, and procedures, or where relevant, in standalone policies. Policies, standards, and procedures should clearly define the roles and responsibilities, strategies, risk appetite, controls, processes, and metrics necessary to manage climate-related risk. The owners of these policies, standards, and procedures should maintain awareness of evolving climate-related risk management practices and changes to the FHLBank's operating environment and update relevant documents in a timely manner, as needed.

D. Risk Identification and Assessment

Each FHLBank should identify how physical and transition risks could affect existing risks, including any associated interdependencies, correlations, and concentrations that may arise across its business, portfolios, and counterparties. This identification and assessment could be incorporated into existing processes. Examples of risk exposure across existing risk categories include, but are not limited to, the following:

- Credit Risk – FHLBank assets are supported by collateral whose value could materially decrease from events caused or made more severe by climate change. For example, the credit risk of advances depends on member creditworthiness, with pledged collateral serving as a secondary source of repayment. Physical and transition risks can therefore increase credit risk when climate-related risk affects member creditworthiness; a decline in pledged collateral values from climate-related risk can compound this effect.
- Liquidity Risk – Climate-related financial risk drivers could affect the FHLBank's cash inflows and outflows and ability to manage a liquidity position within safety and soundness limits.
- Market Risk – Physical and transition risks may lead to sudden shifts in market expectations, supply and demand, and losses for the FHLBank if the market value of FHLBank assets fall due to climate-related pricing shocks.
- Operational Risk – Severe weather events or chronic climate changes may cause business disruptions to the FHLBank, its members, third-party providers, and counterparties.
- Legal and Compliance Risk – Climate-related laws and regulations at the federal and state level present legal and compliance risk for the FHLBank. In addition to climate-related disclosure requirements, other areas of potential increased risk include fair lending and fair housing concerns.

E. Risk Mitigation

Each FHLBank should establish and implement plans to mitigate its exposure to material climate-related risks. Climate-related risk mitigation plans should be integrated into the FHLBank's existing internal controls, aligned with its risk appetite. The FHLBank should review and assess the effectiveness of its mitigation plans regularly, incorporating any changes in the legal and regulatory landscape as well as advancements in climate-related analytics, data, and metrics.

F. Risk Monitoring

An FHLBank should develop processes to monitor climate-related risks to identify changes or trends in risk exposures over time that will allow it to plan and respond accordingly to mitigate such risks. The FHLBanks should take an iterative approach to monitor climate-related risks arising from third parties, supply chains, sectors, and geographic locations. As climate-related risks may evolve quickly, an FHLBank should implement mechanisms to identify, aggregate, assess, and report material climate-related information to the board and senior management for timely decision-making.

II. Metrics and Data

An FHLBank should establish metrics that track exposure to climate-related risks. Metrics are essential for an FHLBank to effectively gauge the progress and impact of its climate-related strategy and risk management activities. An FHLBank should assess and leverage climate-related risk metrics to refine its climate risk appetite.

Climate-related risk metrics reveal the impact of climate risks on an FHLBank's business objectives in the short term and longer term (e.g., percentage of advances collateral or the AMA portfolio in 100-year flood zones or property values impacted by natural disasters). Climate-related risk metrics should be clear, reliable, objective, verifiable, and reported across historical, current, and forward-looking time periods. FHFA recognizes that evolving climate data, analytics, and modeling techniques may impact the reliability and verifiability of forward-looking climate-related risk metrics across future time horizons. The FHLBank should regularly review and evaluate its climate-related risk metrics for relevancy and efficacy and document any identified limitations.

To assess their exposure to climate-related risks, FHLBanks should work to enhance their collection and maintenance of data to quantify loan and collateral exposures. Physical property addresses for AMA and pledged collateral are key inputs for both climate and catastrophe models, which can be used to estimate exposure to different physical perils, including hurricanes, floods, and wildfires. Other property data elements, including build year, build quality, property type, and number of stories, may improve the precision of any resulting loss estimates. Data on insurance coverage and availability are important inputs when developing appropriate risk mitigation plans and modeling assumptions for scenario analysis. An FHLBank's data strategy should identify gaps in key climate-related data used as inputs for risk management, scenario analysis, and reporting. An FHLBank should establish processes and identify methods and modeling techniques that can assist in closing gaps in key climate-related data. When addressing climate-related data gaps, an FHLBank should be aware of how those data gaps impact existing data metrics and analysis and should use the best measurements available to them at the time. As climate-related data evolves, an FHLBank should monitor for the availability of new and relevant datasets.

III. Scenario Analysis

Climate-related scenario analysis is emerging as an important approach for identifying, measuring, and managing climate-related financial risks. In this guidance, climate-related scenario analysis refers to exercises used to conduct a forward-looking assessment of the potential impact that changes in the economy, financial system, or the distribution of physical hazards resulting from climate-related financial risks could have on FHLBanks. These exercises differ from traditional analysis that typically assesses the potential impacts of transitory shocks to near term economic and financial conditions.

The FHLBanks should continue to develop their capacity to conduct climate-related scenario analyses and should consider coordinating efforts across the FHLBank System. An effective climate-related scenario analysis framework provides a comprehensive and forward-looking perspective that an FHLBank applies alongside or within existing risk management practices to evaluate the resiliency of its strategy and risk management to the structural changes arising from climate-related financial risks. For example, an FHLBank might use scenario analysis to quantify the impacts of climate-related physical risk and transition risk on credit losses of an FHLBank's AMA portfolio or on the value of collateral pledged for advances. With scenario analysis, an FHLBank can assess the continued sufficiency of its climate-related risk management by identifying how certain climate risks may affect, and potentially increase, traditional risks over established time horizons.

An FHLBank should continue to develop and implement a climate-related scenario analysis framework appropriate for its size, level of complexity, business, risk profile, and that reflects its overall climate-related risk management strategies. The framework and analyses should evolve over time as the FHLBank builds its understanding of climate-related risk and addresses data gaps. Several FHLBanks may work together to pool resources and expertise for scenario analysis. The scenario analysis framework should include oversight, validation, and quality control standards commensurate to its risk. An FHLBank should also determine whether its existing model risk management framework is sufficient to conduct the necessary oversight and validation of the concepts and analytical soundness for climate-related risk scenario analyses. FHLBank management should ensure that it regularly communicates the results and parameters of its scenario analyses to the board and other internal stakeholders, as appropriate.

When developing scenario analyses, FHLBank management should consider using existing scenarios and models (e.g., catastrophe and other models provided by third-party vendors) or management may develop in-house modeling capabilities. FHLBank management should also:

- Define objectives, parameters, and methodologies of scenario analyses;
- Document key associated assumptions, limitations, and analytical approaches used in the development and implementation of the scenarios;
- Implement a diverse range of plausible scenarios that are qualitative, quantitative, or both;
- Consider gradual impacts over longer-term horizons and short- to medium-term impacts of sudden and severe events; and
- Consider severe or unlikely, yet plausible, stress scenarios to evaluate resilience and identify vulnerabilities.

IV. Climate-Related Risk Reporting and Communication Processes

Each FHLBank should implement processes to adequately report and communicate relevant climate-related risks to appropriate internal stakeholders. An FHLBank should consider enhancing existing reporting and communication processes to facilitate information sharing, cross-functional collaboration, comparability across the organization and its operations, and sufficient oversight by board and senior management. Additionally, an FHLBank should implement mechanisms to effectively aggregate and report material and emerging climate-related risk exposures to the board and senior management in a timely manner. The board and other appropriate stakeholders should receive reports that include relevant results of climate scenario analyses and any limitations and uncertainties related to these assessments, such as data gaps. An FHLBank should continually adapt its internal risk reporting to meet the expectations of the evolving regulatory and legal landscape affecting climate-related risks, and, as it matures its reporting of climate-related risks, it should evaluate the frequency and scope of internal reporting protocols to optimally convey climate-related risks that affect its business and operations.

The FHLBanks should regularly evaluate and adapt their processes for reporting climate-related risks to external stakeholders individually and as a System (with OF). The FHLBanks should monitor federal and state requirements for reporting climate-related risks and risk management activities to identify which laws and rules are applicable.[7] An iterative and progressive approach may be appropriate for the FHLBanks to incorporate evolving federal and state disclosure laws into their climate-related risk management.

V. Natural Disaster Response and Support for Climate Resiliency

The FHLBanks have recognized the importance of addressing the physical damage caused by natural disasters that affect the housing, businesses, and infrastructure of communities in their districts. Historically, FHLBanks have established voluntary programs or used their AHP, CIP, and CICA programs to assist renters, homeowners, and businesses with temporary financial relief after natural disasters. This relief has included establishing emergency disaster relief funds, creating disaster repair programs, or supporting member efforts to rebuild communities. In addition, some FHLBanks are using their AHP General Fund competitive application scoring priorities and other programs to address climate resiliency, sustainability, or energy efficiency. FHLBanks should continue efforts to support climate resilient practices and provide assistance after natural disasters, particularly for low-income households, as appropriate and needed in their districts.

FHFA also encourages each FHLBank to have a plan for responding to natural disasters that identifies how the FHLBank will coordinate and communicate with internal and external stakeholders, including members and AMA servicers, about preparing for and responding to a natural disaster. The FHLBanks should also consider establishing System-wide coordination when responding to natural disasters. This coordination could provide education and training resources, share research and data, and facilitate alignment of relief efforts where appropriate.

<u>Related References</u>

Guidance

Supplemental Guidance to Advisory Bulletin 2013-07 – Model Risk Management Guidance, Federal Housing Finance Agency Advisory Bulletin 2022-03, December 21, 2022.

Business Resiliency Management, Federal Housing Finance Agency Advisory Bulletin 2019-01, May 7, 2019.

[7] *See, e.g.*, 17 CFR parts 210, 229, 230, 232, 239, and 249.

Oversight of Third-Party Provider Relationships, Federal Housing Finance Agency Advisory Bulletin 2018-08, September 28, 2018.

Internal Audit Governance and Function, Federal Housing Finance Agency Advisory Bulletin 2016-05, October 7, 2016.

Model Risk Management Guidance, Federal Housing Finance Agency Advisory Bulletin 2013-07, November 20, 2013.

Risk Management Oversight, Federal Housing Finance Board Advisory Bulletin 2005-05, May 18, 2005.

Regulatory References

12 CFR Part 1236, Appendix, Prudential Management and Operations Standards.

12 CFR Part 1239 Responsibilities of Boards of Directors, Corporate Practices, and Corporate Governance (Corporate Governance Rule).

12 CFR 1290.6(a)(5) Community Support Requirements (requirement that each Bank shall have an annual Targeted Community Lending Plan approved by the Bank's board).

12 CFR Part 1291 Federal Home Loan Banks' Affordable Housing Program.

12 CFR Part 1292 Community Investment Cash Advance Programs.

12 CFR Part 1293 Fair Lending, Fair Housing, and Equitable Housing Finance Plans [the effective date for Subpart D is February 15, 2026].

FHFA has statutory responsibility to ensure the safe and sound operations of the FHLBanks and the Office of Finance. Advisory bulletins describe FHFA supervisory expectations for safe and sound operations in particular areas and are used in FHFA examinations of the regulated entities and the Office of Finance. Questions about this advisory bulletin should be directed to: SupervisionPolicy@fhfa.gov.