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Second Party Opinion

Freddie Mac's Multifamily Green Bonds Framework

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Location: U.S.	**Sector:** Financial services

Alignment With Principles

Aligned = ✓ Conceptually aligned = O Not aligned = ✕

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

See Alignment Assessment for more detail.

Light green

Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term low-carbon climate resilient solutions.

Our Shades of Green Analytical Approach >

Strengths

The Federal Home Loan Mortgage Corp.'s (Freddie Mac's) multifamily green bonds support investments in renewable energy and energy efficiency in homes, leading to lower greenhouse gas emissions. Eligible projects include buildings with renewable energy sources or that achieve energy and water efficiency or emissions performance improvements. The issuer's significant role in the secondary U.S. mortgage market encourages property developers and other financiers to direct investments toward similar projects across the U.S.

Weaknesses

Eligible projects can include loans for homes with existing fossil fuel energy systems, which may lock in greenhouse gas emissions. While these emissions can be significant over the long useful life of buildings, we note that two out of the three project categories have a focus on shifting energy sources away from fossil fuels.

Areas to watch

The financing framework does not directly address physical climate risk. Freddie Mac's portfolio faces diverse physical climate risks including flooding, wildfire, extreme weather, and sea level rise. Resulting damage to buildings could undermine the benefits achieved through energy efficiency enhancements financed through the framework. However, that the issuer's corporate sustainability strategy includes assessment and mitigation efforts of potential physical climate risk impacts to its portfolio.

The calculation of one ton of emissions reduction per housing unit depends on the attributes of the property. Accurately measuring such emissions performance is dependent on the attributes of the housing unit such as energy sources and age.

Eligible Green Projects Assessment Summary

Freddie Mac's multifamily green bond framework does not give visibility on future funding allocations between the three funding categories. The funding allocations will vary based on the utilization of the future programs.

Based on the project category shades of green detailed below and consideration of environmental ambitions, we assess the framework to be Light green.

Eligible projects under the issuer's green finance framework are assessed based on their environmental benefits and risks, using Shades of Green methodology.

Green buildings	**Light green**
Properties committed to making energy- and/or water-efficiency improvements within the next two years, expected to reduce total property energy and water consumption by at least 30%, and total property energy by at least 15%.	
Properties with a meaningful portion of energy generated from renewable sources, such as solar, wind and geothermal.	
Properties with retrofits aimed at complying with government funding programs or building performance standards and at a minimum reducing whole building energy consumption by 20% or reducing carbon emissions by at least one metric ton per housing unit annually. This may include improvements to reduce emissions and replacing systems with alternatives that run on electricity efficiently instead of fossil fuels and contribute to a property's progress toward net zero.	

See Analysis Of Eligible Projects for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Freddie Mac, chartered in 1970 by the U.S. Congress, is a government sponsored enterprise operating under the conservatorship of the Federal Housing Finance Agency (FHFA). Freddie Mac aims to facilitate equitable and sustainable access to homeownership and quality affordable rental housing across the U.S. in single and multifamily properties. It provides market liquidity by purchasing mortgages from qualified originators which it then securitizes and sells to investors as mortgage-backed securities with guarantees. Through its support of the secondary mortgage market, Freddie Mac increases the willingness of lenders to offer mortgages to both individual and commercial buyers, thereby increasing the affordability of housing to homeowners and renters.

Freddie Mac first published its Multifamily Green Bonds Framework in 2019 and updated it in 2021, encouraging energy and water efficiency investments in the multifamily housing market. The multifamily program has issued $5.6 billion in green bonds since 2019.

Material Sustainability Factors

Climate transition risk

Energy use in buildings is a major contributor to climate change, representing approximately a third of global greenhouse gas emissions on a final-energy-use basis for all building types, according to the IEA. Embedded carbon emissions from building materials and new construction may also adversely affect progress toward future low-carbon climate resiliency goals. This leaves the sector susceptible to the growing public, political, legal, and regulatory pressure to accelerate climate goals. Building occupiers may face higher energy bills as power prices rise, and higher capital expenditures as upgrades are required to accommodate the energy transition and meet more stringent efficiency standards. Incremental climate-related investments can require significant capital outlays but will potentially reduce the risk of obsolescence due to changes in regulation or climate goals.

Physical climate risk

The geographically fixed nature of real estate assets exposes them to physical climate risks. While varied by location, these could include acute risks such as wildfires, floods, and storms, all of which are becoming more frequent and severe. Chronic risks include long-term changes in temperature and precipitation patterns and rising sea levels. These impacts could damage properties or place tenant health and safety at risk, as well as require investments to manage potential effects or, in severe cases, relocation of tenants. The aggregate impact is moderate since the type, number, and magnitude of these risks varies by region, but highly exposed regions may be subject to material physical climate risk exposure.

Access and affordability

Low housing availability and lack of affordable housing options can severely influence people’s livelihoods, especially vulnerable, low-income populations who can face the threat of homelessness. Access and affordability are especially important for residential tenants in areas where rents can account for a sizable percentage of residents' incomes. Lack of accessibility and affordability of commercial properties can also hinder the sustainable growth of local communities.

Impact on communities

Properties, and by extension the owners, are inherently part of the communities in which they operate because they provide an essential service and can shape communities economically and socially. The residential sector is particularly meaningful to communities, where affordable housing and gentrification pressures can alter communities' social fabric and can be challenging to remediate.

Issuer And Context Analysis

The framework’s project categories aim to address climate transition risk, which we consider one of the most material sustainability factors for the sector. Meanwhile, the framework does not directly address physical climate risk, another material environmental factor.

Freddie Mac’s Multifamily Green Bonds Framework intends to support the development of multifamily housing with improved energy efficiency and emissions performance across the U.S. The issuer's green bond program leverages Freddie Mac's national scale to further the development of multifamily properties with green attributes as well as fund energy efficient building improvements. Additionally, as increasingly stringent regulations addressing the environmental performance of buildings expand in the U.S., Freddie Mac's program can help property owners and tenants lower operating costs and stay ahead of future legislative requirements. Freddie Mac estimates it achieved environmental benefits of 27 million Btu in energy savings, avoided greenhouse gas emissions of 2,542 tons, and reduced water consumption of 43 million gallons in 2023. We note, however, the issuer does not yet report its scope 1 or 2 emissions or scope 3 financed emissions at the corporate level, nor does it have emissions reduction targets.

Freddie Mac's framework does not explicitly address physical climate risk within its loan portfolio, which is a potential risk over the medium to long term. However, the issuer’s climate strategy addresses the management of physical climate risk through analysis of potential impacts and Freddie Mac has strong corporate oversight of the issue including a management-level climate risk steering committee. Buildings throughout the U.S. face various physical climate impacts, including acute events like floods, intense storms, and wildfires, as well as chronic effects from rising sea levels. We believe incorporating criteria and mitigation measures for physical climate risk in future financings can help mitigate potential damage to buildings in the loan portfolio and ensure the full sustainability benefits of the financings are achieved. While the current framework lacks specific criteria to address these risks, it is worth noting that the issuer's climate strategy focuses on managing its acute and chronical physical risks through a combination of programs like insurance requirements, disaster relief, loan workout options, climate risk awareness, geographic diversification, and credit risk transfer to address these risks.

Additionally, Freddie Mac enhances access to and affordability of multifamily housing in the U.S. Considering the declining affordability of housing in the U.S., the role of entities such as Freddie Mac that support liquidity in the mortgage market is rising in importance. Freddie Mac has programs in place that aim to lower the cost of multifamily housing, including in underserved markets, including the Green Bonds program. Such programs typically focus on workforce housing as well as reduce utility costs for tenants. These are typically older properties that have a higher cost savings benefit from energy and water reduction.

Alignment Assessment

This section provides an analysis of the framework's alignment to Green Bond principles.

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✕

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

✓ Use of proceeds

We assess all the framework’s green project categories as having a green shade, and the issuer commits to allocating the net proceeds issued under the framework exclusively to eligible green projects related to energy and water efficiency, renewable energy, and decarbonization or electrification. Please refer to the Analysis Of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds.

✓ Process for project evaluation and selection

The framework describes the process for project evaluation and selection including the specific criteria for building energy, water, emissions abatement, and renewable energy. Prior to issuance of the securitizations, Freddie Mac’s multifamily ESG Team verifies that eligible properties meet the criteria established in the framework. Additionally, the company’s underwriting standards include requirements to identify and manage environmental and social risks related to eligible projects including climate risk, hazardous materials, and health hazards such as asbestos, lead paint, and drinking water quality.

✓ Management of proceeds

The management of proceeds from the green bonds is consistent across Freddie Mac's securitization programs. Freddie Mac commits to acquire the mortgage loan from the lender if it conforms to all requirements stated in its framework and Multifamily Seller/Servicer Guide. Once acquired, Freddie Mac securitizes the loans into guaranteed and unguaranteed bonds and sells them to the investor community. For each securitization, the acquired loans are placed into a third-party trust which then issues green bonds. The acquired loans serve as collateral for the green bonds. Freddie Mac purchases and guarantees the senior classes and securitizes them via a Freddie Mac trust. The process differs from the typical use and management of proceeds associated with green bond issuances in that the issuer has already made the eligible investments prior to green bond issuance and uses green bond proceeds to recoup the funds. According to the issuer, there are no unallocated proceeds.

✓ Reporting

Freddie Mac commits to reporting asset-level and portfolio-level performance for properties backing green bonds including issuance volumes and select impact metrics in its annual impact report. It will use proceeds from bonds issued under the framework to finance mortgage loans identified that are consistent with the criteria set forth in the framework, eliminating the need for reporting until full allocation of proceeds. The framework includes a commitment to publish certain disclosures included in the impact report, including estimated avoided greenhouse gas emissions, estimated energy savings, and estimated average annual utility cost savings for homeowners. Freddie Mac’s impact reports are intended to be consistent with the core principles and recommendations in “Harmonized Framework for Impact Reporting (June 2022),” which we view favorably.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the Shades of Green methodology.

Overall Shades of Green assessment

Based on the project category shades of green detailed below, the expected allocation of proceeds, and consideration of environmental ambitions reflected in Freddie Mac's multifamily green bonds framework, we assess the framework to be Light green.

Light green

Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term low-carbon climate resilient solutions.

Our Shades of Green Analytical Approach >

Green project categories

Green buildings

Assessment	Description
Light green	**Energy and water efficiency** • Properties committed to making energy- and/or water-efficiency improvements within the next two years, expected to reduce total property energy and water consumption by at least 30% and total property energy by at least 15%. **Renewable energy** • Mortgages backed by properties with a meaningful portion of energy generated from renewable sources, such as solar, wind, and geothermal used at the property. **Decarbonization and/or electrification** • Properties with retrofits aimed at complying with government funding programs or building performance standards and at a minimum reducing whole building energy consumption by 20% or reducing carbon emissions by at least one metric ton per housing unit annually. This may include improvements to reduce emissions and replacing systems with alternatives that run on electricity efficiently instead of fossil fuels and contribute to a property’s progress toward net zero.

Analytical considerations

- Green buildings support climate change mitigation by reducing greenhouse gas emissions associated with the built environment. They may also have other benefits such as increasing energy efficiency, reducing water consumption, and reducing waste generation. However, building construction activities introduce other issues such as emissions associated with building materials and construction. The framework’s eligibility criteria do not exclude properties with fossil fuel energy systems.
- The issuer's eligibility criteria allow properties to qualify for the green bond program through reductions in energy and water consumption, installation of renewable energy systems, and investments that reduce building greenhouse gas emissions, which contribute to lowering the environmental footprint of buildings over their lifetime. While the performance improvements have quantitative thresholds for eligibility and represent near-term transition measures, in their current state they are not sufficiently ambitious to be fully consistent with a long-term view of a low-carbon and climate resilient future. Furthermore, the potential emissions savings from improved energy performance and use of onsite renewable energy may be curtailed by the eligibility of properties with fossil fuel heating systems, which may lock in emissions over the lifetime of the home, limiting our assessment of the green buildings category to Light green. Additionally, the criteria

do not address embodied emissions and physical climate risks, which could be material and undermine the positive impact of eligible projects.

- Eligible projects include loans that produce projected reductions in energy and water consumption of at least 30% combined, with a minimum of 15% coming from energy. The loans are also conditional upon securing either a Green Assessment or Green Assessment Plus report, which provides a property analysis with recommended property improvements that can reduce water and energy consumption. Borrowers select improvements from the Green Assessment or Green Assessment Plus report, as applicable, that will meet the required savings thresholds. A Green Assessment report details proposed property-level improvements to promote utility consumption efficiency at the property. The Green Assessment report uses the ASHRAE Level 1 standard plus additional specific and rigorous inspection and consumption data requirements. The report describes projected savings in terms of utility consumption and dollars saved per improvement item. A Green Assessment Plus report requires a more detailed energy analysis based on the ASHRAE Level 2 standard.
- Eligible projects including properties with solar, wind, and geothermal systems support the transition to a low-carbon built environment. There are carbon emission considerations at various steps of the life cycle of renewable energy assets, which range from material sourcing, manufacturing, transportation, and equipment end-of-life management. For the renewable energy projects, borrowers must receive a third-party report to confirm the feasibility of solar, wind, or geothermal energy at the property and detailing the projected cost, utility cost savings, energy reduction, and emissions reduction. The total direct emissions threshold must be 100gCO2/kwh or lower, which we view favorably. Additionally, the issuer requires sufficient documentation of renewable energy systems through engineering reports, invoices, or other eligible documentation. While we view investments in renewable energy systems on a standalone basis as Dark green due to the criticality of renewable energy in the green transition, the issuer is unable to only finance the investments in renewable systems and will use green proceeds to finance the full value of the eligible property loans, of which renewable energy is only a small portion.
- We assign a Light green shade to financed buildings that reduce emissions, replace systems with alternatives that run on electricity efficiently instead of fossil fuels, and contribute to a property's progress toward net zero this project category. For these projects, the program's investments should be aligned with governmental or local municipality funding requirements for decarbonization or aid compliant with a building performance standard. These funding requirements and building performance standards must support retrofits reducing property emissions and/or replacing systems with alternatives that run on electricity efficiently instead of fossil fuels. At a minimum, the program must reduce whole building energy consumption by 20% or reduce carbon emissions by one metric ton per unit annually. The one metric ton reduction is a criterion of one of the programs that Freddie Mac will consider. There may be challenges associated with accurately measuring this absolute emissions reduction, underscoring the importance of utilizing rigorous estimation methodologies. Additionally, the improvements must contribute to a property's progress toward net zero. The property must meet emissions or energy targets within the applicable program or building performance standard. The borrower must also receive a third-party report, as the applicable program stipulates, to recommend improvements needed to electrify and decarbonize the property. In the report, there must be sufficient documentation of selected improvements, projected costs, and projected energy and emissions reduction.
- Physical climate risks are highly material for the real estate sector. Impacts from extreme weather events, wildfire, floods, and temperature and sea level rise can damage or destroy properties, requiring costly reconstruction and undermining climate benefits achieved by transition investments. Freddie Mac's standard due diligence practices consider climate risk mitigation and analyzes the potential impact on properties, including if the concentration of properties within FEMA Special Flood Hazard Areas (SFHAs) is increasing over time. To mitigate the impact of physical climate risk, Freddie Mac leverages the significant geographic diversity of its loan portfolio and leverages insurance to reduce financial impacts. We note, however, that as physical risks continue to increase over time, the issuer's portfolio will likely face greater threats and require additional mitigation measures.

S&P Global Ratings' Shades of Green

Assessments	Dark green	Medium green	Light green	Yellow	Orange	Red
Description	Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
Example projects	Solar power plants	Energy efficient buildings	Hybrid road vehicles	Health care services	Conventional steel production	New oil exploration

Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Related Research

- Analytical Approach: Second Party Opinions: Use of Proceeds, July 27, 2023
- FAQ: Applying Our Integrated Analytical Approach For Use-Of-Proceeds Second Party Opinions, July 27, 2023

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