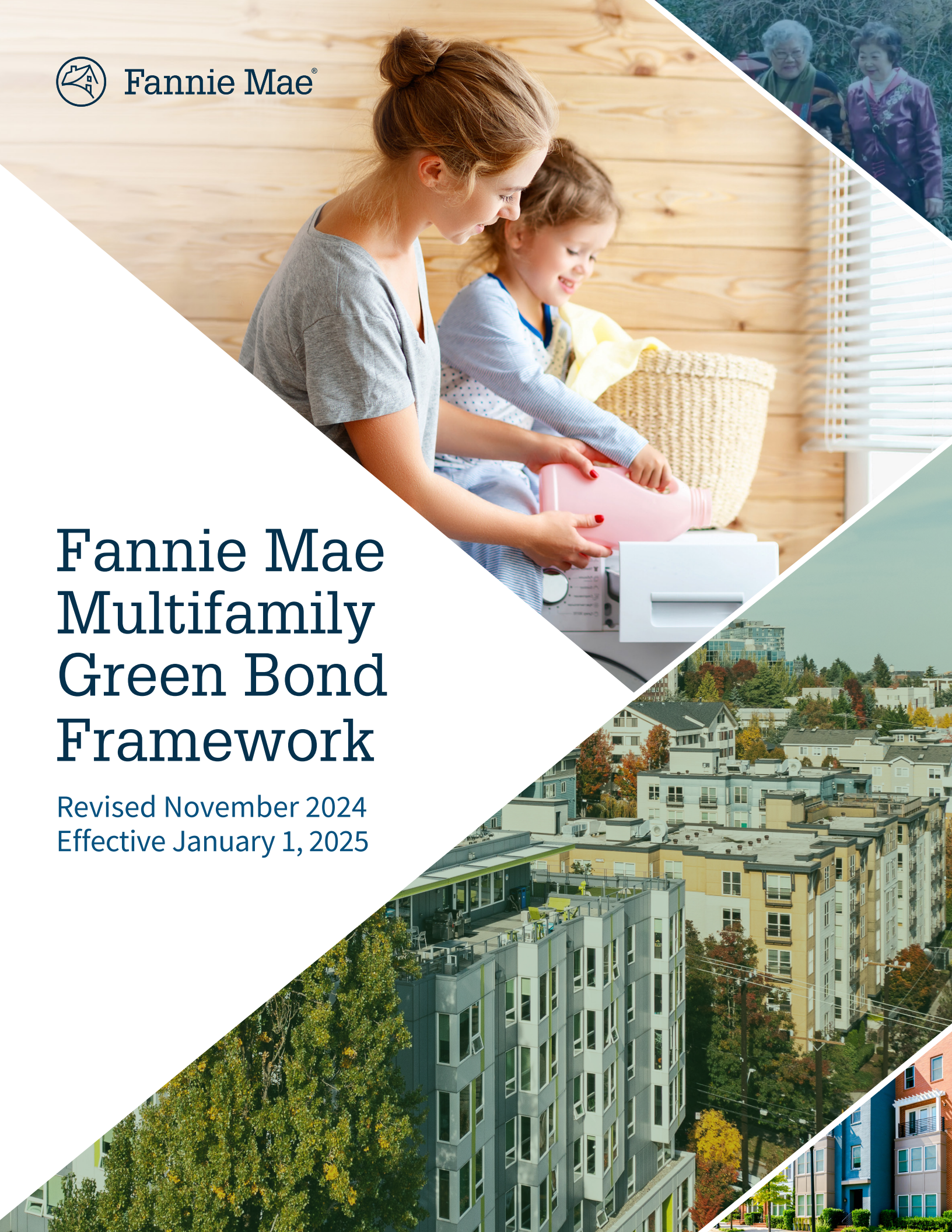




Fannie Mae®

# Fannie Mae Multifamily Green Bond Framework

Revised November 2024  
Effective January 1, 2025





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# 1. Background and Objective

## 1.1. Fannie Mae Multifamily Green Financing

The mission of Fannie Mae's Multifamily Green Financing Business is to target positive, measurable impact to environmental, social, and financial metrics. Our Green Financing portfolio is transforming rental housing in the United States to be more energy and water efficient and reducing GHG emissions.

Fannie Mae is committed to harnessing the positive impact of energy and water efficiency, green buildings, and renewable energy to create more affordable, quality housing in the United States, reduce real estate's impact on the environment, and enhance financial value. The Green Financing Business at Fannie Mae was founded in 2010. Fannie Mae launched its first Green Mortgage Loan product in 2011, issued its first Green MBS in 2012, and surpassed \$100 billion in green bond issuance in 2022.

We have made some significant updates in our policies and procedures since our 2020 Green Bond Framework was released. These updates include:

- No longer accepting the installation of fossil-fuel powered heating equipment as an eligible Green Rewards efficiency measure, even as replacements for lower-efficiency items, to help decarbonize multifamily housing stock;
- Adding a required Electrification analysis to the High Performance Building Report (HPB Report) for Green Rewards to increase the understanding of energy auditors, lenders, and property owners about the pathway to decarbonization;
- Raising the energy savings minimums for Green Building Certification (GBC) eligibility to increase positive impact and adding minimum requirements for ventilation for New Construction certifications in Towards Zero and Group 1; and
- Enhancing the Fannie Mae Green Measurement and Verification Service with updated systems, forms, and procedures to increase compliance and data quality.

These changes not only increase the positive impact of Fannie Mae green financing but also improve the back-end processes that ensure that Borrowers will meet their green financing obligations. Fannie Mae is committed to continuing to enhance and develop Green Financing to meet the needs of the green bond market and our borrowers.

## 1.2. About Fannie Mae<sup>1</sup>

Since 1938, Fannie Mae has provided a reliable source of affordable mortgage financing across the country. We support renters, homebuyers, and homeowners by creating solutions that expand access to affordable housing opportunities. We do not originate loans or lend money directly to borrowers. Instead, we acquire mortgage loans made by lenders in accordance with our standards then issue guaranteed mortgage-backed securities (MBS) backed by those loans that attract investors. In 2022, Fannie Mae enabled the financing of approximately 2.6 million home purchases, refinancings, and rental units.

We create opportunities to rent, buy, and refinance. Our work benefits the housing market in several key ways:

- We increase housing affordability by offering programs, products, and tools to help make housing more accessible.
- We support housing stability by providing homeowners and renters with education — including foreclosure prevention options — and by maintaining sustainable, inclusive credit standards.
- We enable additional liquidity for mortgage lending, which helps expand access to affordable housing.

Fannie Mae's mission is to facilitate equitable and sustainable access to homeownership and quality, affordable rental housing across America. We continue to address the inequities of the past and are working to reduce the housing gaps that exist for members of underserved communities. Fannie Mae also provides reliable information to educate and empower renters and homeowners in their housing decisions.

Fannie Mae was placed into conservatorship in 2008. Our regulator and conservator, the Federal Housing Finance Agency (FHFA) and the U.S. Treasury entered into an agreement that permits us to continue to fulfill our mission. A key term of the agreement is that the U.S. Treasury provides funding if our net worth falls below zero in any given quarter. Upon entering into the agreement,

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<sup>1</sup> This section was updated in May 2025 to reflect recent organizational changes at Fannie Mae.



the U.S. Treasury stated that holders of senior debt, subordinated debt, and MBS issued or guaranteed by the GSEs are protected by the agreement without regard to when those securities were issued or guaranteed.

Fannie Mae does not lend directly to consumers. Fannie Mae operates in the secondary mortgage market, in two business lines:

- Single-Family (1-4 residential units)
- Multifamily (5+ residential units)

### **1.2.1. Fannie Mae and Natural Disaster Risk**

Recent years have seen frequent and severe natural disasters in the U.S., including hurricanes, wildfires, and floods. The increased frequency, intensity, and unpredictability of major natural disasters pose risks for all stakeholders in the housing system, including homeowners, renters, lenders, investors, and insurers. Our business teams assess this risk on an ongoing basis and identify strategies, as appropriate, to mitigate the resulting impacts.

Beyond managing the credit risks inherent in natural disasters, helping families and communities recover and become more resilient is an important part of our work. We have established the following initiatives:

- Fannie Mae's [disaster recovery counseling service](#) offers renters and eligible single-family borrowers free financial counseling from HUD-approved housing advisors, including help in developing a recovery assessment and action plan, filing claims, working with mortgage servicers, and identifying and navigating sources of federal, state, and local assistance.
- [Disaster Rebuild Deployment](#) program provides opportunities for our employees to participate in clean-up activities as well as home repairs and rebuild efforts with the goal of reducing the time it takes for a family to return to a safe and stable home after a disaster.
- Fannie Mae's [consumer website](#) provides comprehensive information for homebuyers, renters, and homeowners, including mortgage relief options in the wake of a natural disaster and resources for researching a home's flood risk and flood insurance options.
- Fannie Mae's [HomeStyle® Energy](#) and [HomeStyle® Renovation](#) single-family mortgage products provide affordable ways to finance resiliency upgrades to help a home better withstand damaging weather.

Fannie Mae Multifamily manages natural disaster risk by maintaining insurance requirements on all its collateral. Any exceptions are reviewed by the Delegated Underwriting and Servicing (DUS®) lenders and/or Fannie Mae's dedicated insurance team. Multifamily maintains prudent LTV/DSCR sizing requirements that maintain sponsor equity ahead of its loans as a "buffer to default" in the event of a natural disaster.



### 1.3. Fannie Mae Multifamily Mortgage Business

Fannie Mae supports multifamily housing by providing financing for the acquisition and refinance of individual properties or groups of properties. Fannie Mae Multifamily Mortgage Business provides this financing primarily through a nationwide network of DUS lenders. Through its DUS lenders, Fannie Mae either finances or guarantees the financing of multifamily properties including:

- Apartment buildings, where the property is owned and operated as a commercial entity and all the units are rented through a single owner or operator;
- Manufactured housing communities, where the land on which manufactured homes are placed is owned and operated as a commercial entity;
- Seniors housing, where the property is owned and operated as a commercial entity, all the units are rented through a single owner or operator and Independent Living, Assisted Living, and/or Alzheimer's/Dementia Care services are provided to senior residents;
- Dedicated student housing, where the property is owned and operated as a commercial entity, all the units are rented through a single owner or operator and the rentals are primarily to students, but the property is not a dormitory owned by an educational institution;
- Affordable housing, where the property is owned and operated as a commercial entity, all the units are rented through a single owner or operator and the rents are restricted to low and very low-income residents; and
- Cooperatives with five or more individual units, where the property is governed by shareholders who live in and own shares in the property.

The loans are originated by our DUS lenders to Fannie Mae's underwriting standards, sold to Fannie Mae, and then securitized into Mortgage-Backed Securities (MBS) that carry Fannie Mae's guarantee of timely payment of principal and interest. These securities are sold to investors and are freely tradable in the secondary market.

### 1.4. Fannie Mae Multifamily Green Financing Team and Governance

The Green Financing Business' strategy, loan products, and portfolio is led by a Senior Director and consists of a dedicated team of finance and sustainability experts. The Senior Director's and team members' deep expertise includes energy and water efficiency technologies, energy audit standards, energy benchmarking protocols, renewable energy financing, and green building certifications. The Senior Director reports on the performance of the Green Financing Business to the executive leadership of the Multifamily Business.

In addition, Fannie Mae has had an advisory council in place since 2010. The Green Rental Housing Task Force meets at least once a year to discuss market transformation goals and the strategy of the Green Financing Business. The Task Force's invited members represent key stakeholders in the multifamily and sustainability industries including U.S. federal agencies, green building certification-issuing organizations, energy efficiency experts, utilities, non-profit entities engaged in energy efficiency policy, multifamily lenders, and multifamily property owners.

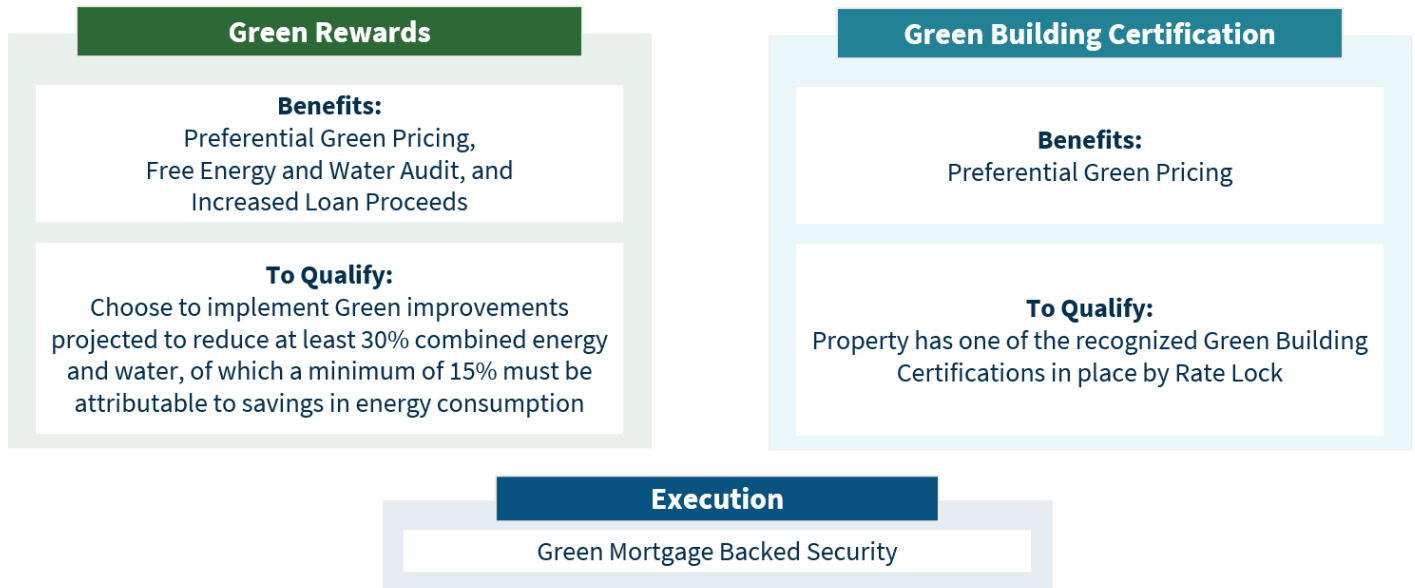
## 2. Use of Proceeds

Fannie Mae's Multifamily Green Financing Program works within Fannie Mae's 35 year old DUS Multifamily business to source green financing opportunities. Fannie Mae's Green Bonds finance the acquisition of Green Mortgage Loans.

### 2.1. Eligible Green Mortgage Products

Fannie Mae currently offers two Multifamily Green Mortgage Loan products which incentivize property owners to build and/or retrofit properties to increase efficiency:

- Green Building Certification
- Green Rewards



### 2.1.1. Green Building Certification

To be eligible for a Green Building Certification loan, the property backing the loan must have been awarded a certification:

- currently recognized by Fannie Mae; and
- granted to the property within the last 5 years prior to loan closing.

Fannie Mae conducts a market analysis and a technical evaluation of green building certifications at least bi-annually to determine which certifications are eligible for inclusion in the Green Building Certification program. Certifications must be available nationally and have minimum energy performance standards to be considered. The Fannie Mae list of recognized certificates is evaluated periodically to determine whether new certifications should be added or certifications should be removed due to failure to meet our criteria. In each of the past five years, Fannie Mae has engaged an independent consulting firm to conduct this review.

The components of the certification evaluation process are:

**Baseline determination:** In 2024, we moved from a baseline of ASHRAE 90.1-2004 (the national median EUI for multifamily buildings) for all certifications to a significantly higher baseline of:

- ASHRAE 90.1-2010 for existing building certifications; and
- ASHRAE 90.1-2019 for new building certifications.

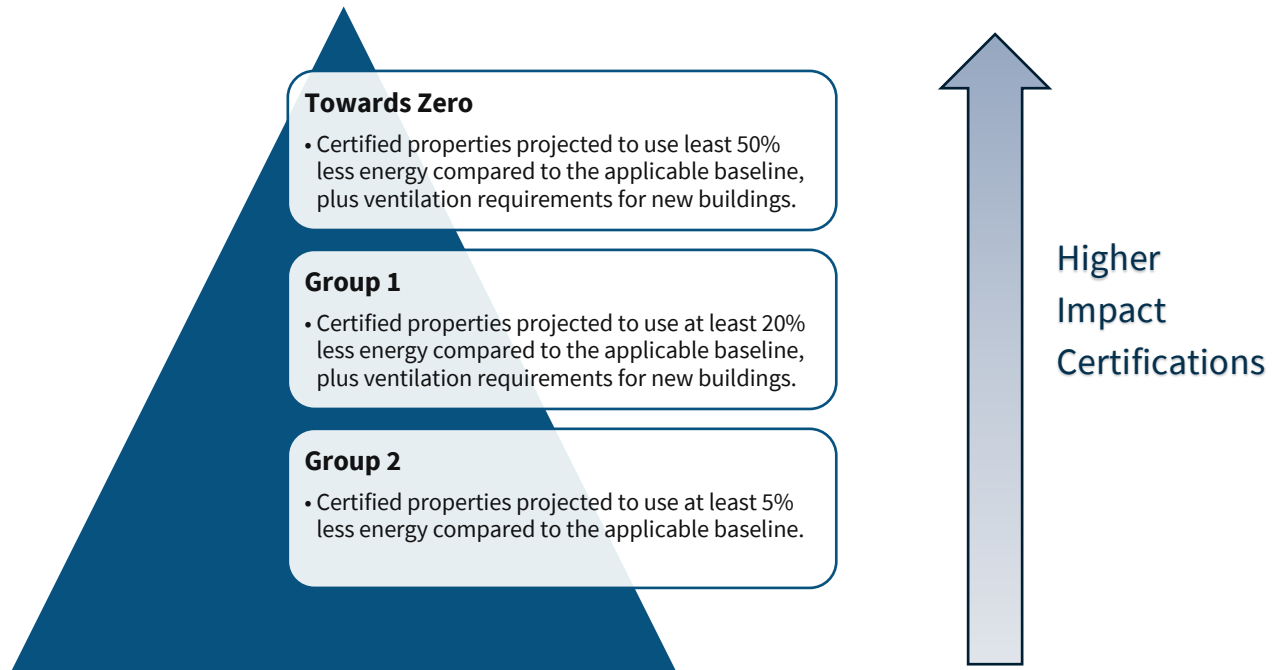
As only 6 states in the U.S. have adopted ASHRAE 90.1-2019 as the required building code for new construction, requiring performance above this baseline ensures that new construction certifications are impactful. The national median EUI for existing buildings aligns to ASHRAE 90.1-2004. Although almost impossible for existing buildings to meet the most recent energy codes, requiring a baseline of ASHRAE 90.1-2010 for existing buildings represents significant performance improvement, thereby incentivizing and recognizing high-performing for existing buildings.

**Leveling against baseline:** The independent consulting firm engaged by Fannie Mae interviews each issuing organization and reviews certification documentation to identify the baseline code used by the certification and the minimum energy savings required compared to that code, then levels all the certifications to a common ASHRAE baseline code for comparison.

**Grouping:** To incentivize multifamily property owners to build and retrofit even greener, Fannie Mae sorts the certifications into groups based on the projected minimum energy savings requirements of each certification. The groups align with the pricing incentives offered by Fannie Mae, with the more rigorous certifications getting greater benefits. Currently three groups are recognized: Towards Zero, Group 1, and Group 2. Figure 1 illustrates the requirements for each group.



**Figure 1. Fannie Mae's Green Building Certification groupings.**



Fannie Mae's Green Building Certification program has steadily increased in impact and rigor over the years as the Green Building Certification market continues to develop and mature. For example, the Towards Zero group was added in 2019 as the highest-impact group, requiring a measurable reduction of at least 50% in energy usage from the national baselines. In 2020 Fannie Mae added minimum ventilation requirements for new construction certifications in Group 1 or Towards Zero, ensuring that these properties are not improving building energy efficiency at the expense of occupant health. The minimum energy savings requirements for Groups 2 and the former Group 3 were raised in 2022, prompting multiple certifying organizations to raise their own certification standards in response. This 2024 update raises the baselines for all the certifications, significantly reduces the number of certifications recognized, and eliminates Group 3 entirely.

### **2.1.2. Green Rewards**

This Green Mortgage Loan product rewards an owner's initiative to improve the energy and water efficiency of an existing Multifamily property, including affordable, workforce, and seniors housing. To be eligible for a Green Rewards Mortgage Loan, the property owner must commit to install energy and water efficiency measures that are projected to reduce whole property energy and water consumption combined by at least 30%, inclusive of a minimum of 15% reduction in energy consumption. Loans acquired before January 1, 2019 were eligible if the owner committed to efficiency measures projected to reduce whole-property energy or water consumption by a minimum of 25%. Loans acquired before December 18, 2017 were eligible if the owner committed to efficiency measures that were projected to reduce whole-property energy or water consumption by a minimum of 20%. Energy consumption reduction requirements may be met through a combination of renewable energy generation and energy efficiency.

Eligible efficiency measures must be capital improvements to the property, requiring purchase and installation. Improvements to operations and maintenance procedures are not eligible as they do not represent a permanent improvement to the property, however strategies for improving efficiency through operations and maintenance are recommended as a part of Green Rewards energy and water audits. Eligible efficiency measures include:

- Energy efficient heating, ventilation and air conditioning (HVAC) systems;
- Energy efficient lighting;
- Water efficient fixtures including WaterSense low-flow toilets, showerheads;
- Energy efficient appliances such as ENERGY STAR® refrigerators; and
- Solar photovoltaic systems.



### 3. Process for Project Evaluation and Selection

#### 3.1. Fannie Mae Multifamily Selling and Servicing Guide, Forms, Loan Documents, and Loan Agreements

DUS lenders provide mortgage loans to commercial real estate owners for the acquisition or refinance of multifamily properties. If a loan conforms to Fannie Mae’s standards, DUS lenders may then sell the loan to Fannie Mae to guarantee and securitize in the form of an MBS. These securities are then sold to investors in the capital markets as agency commercial mortgage-backed securities (CMBS). Loans purchased by Fannie Mae from its DUS lenders are considered to be **eligible Green Mortgage Loans** if they:

- Conform to the [Multifamily Selling and Servicing Guide](#) (the “Guide”) requirements;
- Conform to additional requirements documented in Fannie Mae Forms; and
- Contain all required modifications and exhibits to the Loan Agreement.

The Guide chapters, Business Forms, and Loan Documents that specifically govern Green Mortgage Loan eligibility and the process for evaluation and selection of Green Mortgage Loans are listed in the Annex, Section 8.1.

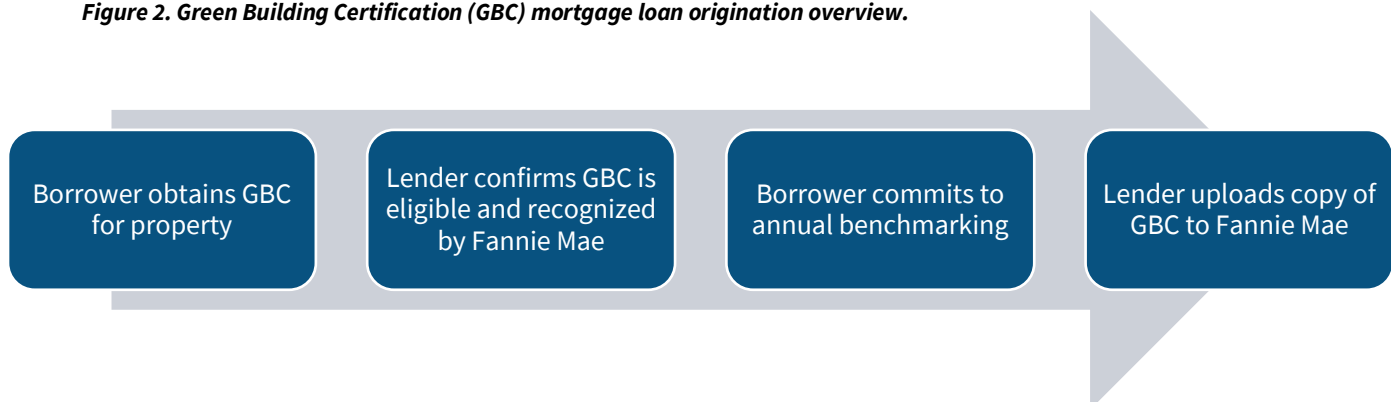
#### 3.2. Process for project evaluation and selection of Green Building Certification Mortgage loans

To secure the Green MBS designation on a Green Building Certification loan:

- The borrower must provide the DUS Lender a copy of the property’s certification. The certification must be from the issuing certification organization; letters or emails confirming the award from consultants or other entities are not acceptable.
- The certification must be one of the certifications recognized by Fannie Mae in Form 4250; see Annex, Section 8.2.
- The certification must be unexpired and must have been awarded within the last five years prior to loan closing.
- At the time of loan closing, the borrower must sign loan document Form 6267 committing to report to Fannie Mae annually the property’s energy and water performance including the ENERGY STAR Score, Source Energy Use Intensity (EUI), EPA Water Score and Water Use Intensity; see “Modifications to Multifamily Loan and Security Agreement (Green Building Certification)” on our website.
- The Lender must provide the certification to Fannie Mae at the time of loan delivery, which occurs after locking the interest rate and closing the loan with the borrower.

Failure to meet any of the above conditions will result in the inability of the MBS backed by the loan to obtain a green bond designation.

**Figure 2. Green Building Certification (GBC) mortgage loan origination overview.**





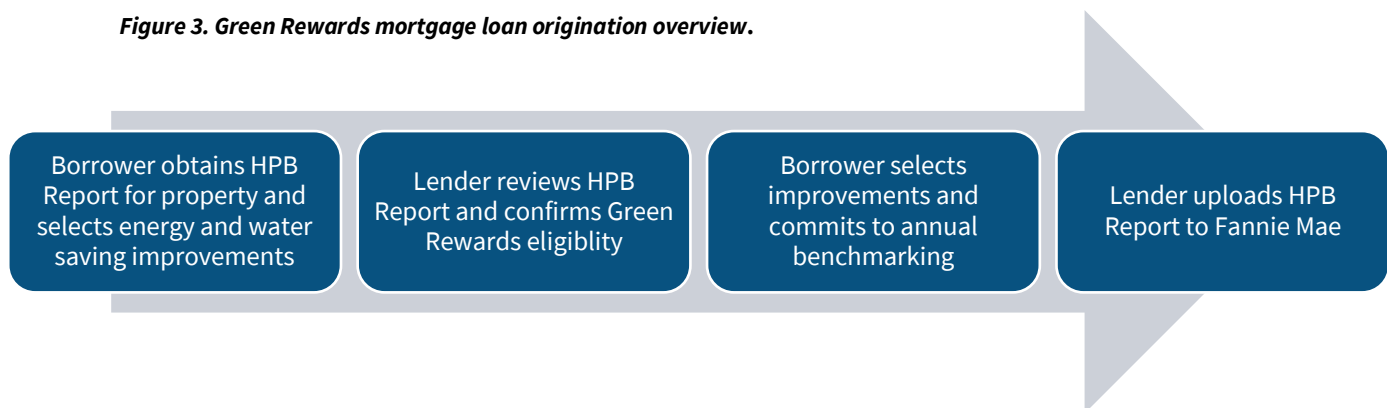


### 3.3. Process for project evaluation and selection for Green Rewards Mortgage loans

To secure the Green MBS designation on a Green Rewards loan:

- The DUS lender must have completed a High Performance Building (HPB) Report. The HPB Report must adhere to the requirements of an ASHRAE Level II Energy Audit and any additional requirements set by Fannie Mae.
- The HPB Report must be completed according to Fannie Mae Form 4099 “Instructions for Performing a Multifamily Property Condition Assessment (PCA)”, Section 5.10. MODULE: High Performance Building Assessment.
- The HPB Report must be completed by a Consultant who holds at least one of the following professional designations, in good standing:
  - Certified Energy Manager (CEM) or Certified Energy Auditor (CEA), certified by the Association of Energy Engineers (AEE);
  - Multifamily Building Analyst (MFBA), certified by the Building Performance Institute, Inc. (BPI);
  - High-Performance Building Design Professional (HPBD) certified by ASHRAE; or Building Energy Assessment Professional (BEAP ) certified by ASHRAE.
- The HPB Consultant is required to report all opportunities to save energy and water or to generate energy at a property in a written document with photographs, and a standard Excel form that captures hundreds of data points on the property’s historical and projected energy and water performance. See Appendix: Sample HPB Report and 4099.H.
- If the Borrower is also interested in installed solar photovoltaic systems, there is an additional report, the Technical Solar Assessment (Form 4099.I) and Technical Solar Report which must be completed by a Consultant with North American Board of Certified Energy Practitioners (NABCEP). The HPB Report must be completed according to Fannie Mae Form 4099 “Instructions for Performing a Multifamily Property Condition Assessment (PCA)”, Section 5.11. MODULE: Technical Solar Assessment.
- The borrower must select improvements that are projected to save 30% or more on energy and water consumption combined, with a minimum of 15% reduction in energy consumption. See figure below for typical property improvements listed in an HPB Report that are projected to save energy and water at a multifamily property.

**Figure 3. Green Rewards mortgage loan origination overview.**



- At the time of closing the loan, the borrower must sign loan document Form 6241 committing to report to Fannie Mae annually the property’s energy and water performance. See “Modifications to Multifamily Loan and Security Agreement (Green Rewards Mortgage Loan),” on our website. If the Borrower opts to install a solar photovoltaic system, they will sign loan document Form 6264 which also includes requirements specific to solar. See “Modifications to Multifamily Loan and Security Agreement (Green Rewards/ Solar Mortgage Loan),” on our website.
- The Lender must submit the HPB Report to Fannie Mae at the time of loan delivery, which occurs after locking the interest rate and closing the loan with the borrower.



Failure to meet any of the above conditions will result in the inability of the MBS backed by the loan to obtain a green label, and of the borrower to access the financial incentives available to loans in the Green Financing program.

**Figure 4. High Performance Building Report sample table.**

EWEM No.	Energy and Water Efficiency Measure Category	Type of Energy and Water Efficiency Measure	Costs and Savings					Whole Property Projected Savings		
			Installed Cost			Annual Owner Cost Savings	Annual Tenant Cost Savings	Site Energy Savings	GHG savings	Water Savings
			Material	Labor	Total	Total	Total			
			\$	\$	\$	\$	\$			
1	Building envelope	Air seal envelope/weather-strip	\$ 20,160	\$ 80,640	\$ 100,800	\$ -	\$ 19,046	2.1%	1.8%	0.0%
2	Building envelope	Add attic insulation	\$ 817,547	\$ 817,547	\$ 1,635,094	\$ -	\$ 38,648	4.8%	3.8%	0.0%
3	Heating ventilating and air conditioning	Install or replace heat pumps	\$ 1,965,600	\$ 1,310,400	\$ 3,276,000	\$ -	\$ 190,968	36.1%	24.0%	0.0%
4	Lighting	Upgrade in-unit lighting	\$ 16,440	\$ 5,480	\$ 21,920	\$ -	\$ 4,642	0.2%	0.3%	0.0%
5	Lighting	Upgrade common area lighting	\$ 413	\$ 138	\$ 551	\$ 49	\$ -	0.0%	0.0%	0.0%
6	Appliances and plug load reductions	Replace washing machines with ENERGY STAR certified	\$ 44,000	\$ 2,750	\$ 46,750	\$ -	\$ 9,594	0.3%	0.3%	1.1%
7	Water and sewer conservation	Install WaterSense low-flow bath faucets/aerators	\$ 6,440	\$ 10,304	\$ 16,744	\$ -	\$ 11,685	0.4%	0.3%	2.1%
8	Water and sewer conservation	Install WaterSense low-flow showerheads	\$ 40,320	\$ 10,080	\$ 50,400	\$ -	\$ 39,396	1.8%	1.4%	5.2%
9	Water and sewer conservation	Install thermostatic showerhead valves and/or tub diverters	\$ 40,320	\$ 10,080	\$ 50,400	\$ -	\$ 19,999	1.0%	0.8%	2.5%
10	Water and sewer conservation	Install WaterSense low-flush toilets	\$ 238,250	\$ 47,650	\$ 285,900	\$ -	\$ 34,635	0.0%	0.0%	7.2%
11	Renewable energy systems	Install photovoltaic system	\$ 10,560	\$ 21,440	\$ 32,000	\$ 3,504	\$ -	0.1%	0.2%	0.0%
			\$ 3,200,050	\$ 2,316,509	\$ 5,516,559	\$ 3,553	\$ 368,613	46.7%		18.1%

## 4. Management of Proceeds

### 4.1. Green Loans

Each Fannie Mae Green mortgage loan product supports one or more multifamily properties (a) that have received a third-party Green Building Certification or (b) where the Borrower has committed to make efficiency improvements projected to reduce energy or water consumption by a minimum amount through Green Rewards. The process and management of the proceeds from these financings are consistent across Fannie Mae's Multifamily program.

For those existing property owners who choose to use Fannie Mae's Green Rewards to renovate an existing asset with energy and water efficiency improvements, the tool for proceeds tracking is the use of an escrow account. Escrow accounts are often used in the commercial real estate sector to provide lender control of loan proceeds and ensure completion of required improvements. Each Fannie Mae lender partner that oversees escrow accounts for Green Rewards borrowers holds a license to conduct Fannie Mae business and is a risk-sharing partner in each loan originated. This relationship ensures the responsible management of the proceeds reserved for energy and water efficiency improvements in the escrow accounts.

When a Green Rewards loan closes, 125%<sup>2</sup> of the capital costs associated with the selected improvements are put into an escrow account and documented in a schedule to the Loan Agreement. These proceeds represent the anticipated cost of making the necessary energy or water efficiency improvements to the property. The Green Rewards program requires that borrowers implement their energy and water improvements no later than 12 months<sup>3</sup> from loan closing. The Lender releases the funds from

<sup>2</sup> Escrows of 125% of the estimated improvement cost as document in the HPB Report is standard. Fannie Mae may, at its discretion, approve reduced escrows of 110% of the projected improvement cost for solar PV installations if the Borrower has obtained a documented bid for the work from a qualified vendor.

<sup>3</sup> Fannie Mae may, at its discretion, approve a modified time frame under specific conditions. An extension of up to an additional eight months (20 months total) may be approved prior to loan closing for unusually large properties or extensive scopes of work. For Moderate Rehabilitation loans, the implementation timeline for the Green improvements may be matched to the timeline of the rehab work, which is usually 18-24 months but may be as long as 36 months. Lastly, Borrowers approaching the 12-month limit may request an extension if they can indicate a valid reason they were unable to complete the work in the required time frame.



escrow back to the multifamily owner/borrower only when the owner provides documentation, such as photos, invoices, and work orders confirming that the improvements have been completed.

Fannie Mae continues to enhance its IT systems to aggregate detailed data on the energy and water improvements made by borrowers in accordance with energy audits. In late 2019 Fannie Mae launched DUS Property Monitor™, a new portal integrated with our Asset Management systems that allows Fannie Mae and its lenders to track and monitor the status of energy and water improvement installations.

## **4.2. Green Mortgage-Backed Securities**

Fannie Mae's green MBS are generally backed by an individual green loan originated by one of our DUS lenders in compliance with our published DUS origination and servicing standards. The lender enters into an interest rate lock with the borrower for each loan, with the rate determined through solicitation of bids from the general investor community for the lowest coupon on the MBS that will be backed by the mortgage loan. Lenders then complete the loan closing and deliver the loan to Fannie Mae, after which the loan is securitized with the Fannie Mae guaranty and delivered to the investor as a Fannie Mae MBS. This process ensures that borrowers receive the best possible interest rate for the mortgage financing and creates price transparency for the investor community. For loans to be labeled as Fannie Mae green MBS, they must also undergo an energy and water audit or provide a Fannie Mae-recognized Green Building Certification prior to delivery to Fannie Mae.

Fannie Mae green bonds are a subset of Fannie Mae's total securities, benefiting from the same features, including prepayment protection and conservative credit underwriting. Fannie Mae also guarantees timely principal and interest payments to the investor for all of our MBS, including our green bonds.

## **4.3. Green Guaranteed Multifamily Structures (GeMS)**

Fannie Mae's green bond offerings also includes green Fannie Mae GeMS™, which are re-securitized pools of green MBS structured as Real Estate Mortgage Investment Conduits (REMICs). The intended audience for green GeMS is investors seeking a more diversified investment product than a single green MBS, whether by property-type diversity or geographic diversity, and who are interested in larger, block-sized transactions. Green GeMS also serve investors looking for specific payment structures. MBS aggregated into a REMIC structure are typically segmented into sequential-pay tranches and interest-only tranches to meet investors' different cash flow demands.

Fannie Mae began incorporating green MBS in our GeMS issuances in 2017, and we issue Green GeMS securities as collateral supply permits. These GeMS deals range in size from \$500 million to \$1 billion, are U.S. dollar-denominated, and are backed by the same Fannie Mae credit as the underlying DUS MBS pools. Fannie Mae's long-term senior debt is currently rated AA+ by S&P, Aaa by Moody's and AA+ by Fitch. Of our total \$110 billion in green MBS issuances through year end 2022, Fannie Mae has re-securitized \$14.2 billion as green REMICs through the GeMS program.

# **5. Governance and Internal Audit**

Fannie Mae uses various methods to ensure that Green mortgage loan borrowers will fulfil their obligations to Fannie Mae. These process steps start prior to loan closing and continue after loan delivery, to ensure that Green mortgage loans have been correctly assessed and delivered to Fannie Mae, and to provide ongoing feedback to our Lender partners and HPB Consultants to improve loan deliveries in the future. Fannie Mae has a dedicated Green Asset Management team that leverages comprehensive automated reporting and system tools to track and communicate life-of-loan compliance requirements with servicer partners.

## **5.1. Green Measurement and Verification Service**

In November 2018, Fannie Mae launched the Green Measurement and Verification (M&V) Service, which provides customized, hands-on assistance to all Borrowers with a Green Mortgage Loan to meet their reporting obligations. A skilled energy analyst supports each Borrower with whole property energy and water consumption reporting (Measurement). After the energy and water efficiency measures are implemented for Green Rewards loans, energy audit specialists review inspections conducted by our Servicer partners or designated third-parties on these properties to ensure that the efficiency measures were installed properly (Verification). Fannie Mae has partnered with Bright Power, a specialist in multifamily energy and water efficiency, as the service provider for the Green M&V Service. The creation of the Green M&V Service has allowed Fannie Mae to gather and report



high-quality and consistent measurement and verification data. We continue to use this data to improve on the Green Mortgage Loan offerings, implement process improvements, and enhance disclosure and transparency for investors.

### **5.1.1. Measurement**

On an ongoing annual basis for the life of the Green Rewards Mortgage Loan, the multifamily property owner must submit whole property utility data to Fannie Mae. Beginning in 2019, the Fannie Mae Green Measurement and Verification Service began collecting this data. Each Green Mortgage Loan property is assigned a Bright Power energy analyst who assists the Borrower with reporting whole property utility data. Similar to pre-retrofit data obtained through the HPB report, Fannie Mae requires measurement data to separately capture owner and tenant usage, but relies on sampled and modeled data for tenant consumption in jurisdictions where aggregate utility data cannot be obtained or in instances where the Borrower is unable to gather an adequate sample of tenant releases. This data is entered in EPA's Portfolio Manager® tool which creates five key metrics: ENERGY STAR Score, Source Energy Use Intensity, EPA Water Score, Water Use Intensity, and Score Date. For properties where renewable energy is produced onsite, a sixth field, Renewable Energy Generation, may be populated. These metrics are disclosed to investors.

### **5.1.2. Verification**

For all Green Rewards properties that committed to implement energy and water efficiency improvements, the servicer or a third-party energy audit partner, engaged by Bright Power, uses a designated pre-filled form to conduct an inspection of the property to verify that the efficiency improvements are installed to the correct quantity and specification and are operating as expected. Fannie Mae conducts a rigorous training for its servicers and servicers' delegated third-parties to be approved as a Green Rewards Verification inspector. Fannie Mae also contracts with Bright Power to conduct complex inspections for efficiency measures that need specialized expertise or additional verification, such as HVAC systems and/or solar photovoltaic installations. This verification site visit occurs at least one month after the property's deadline to complete improvements, which is 12 months from mortgage loan origination. If a property is found to be non-compliant, the Borrower establishes a remediation plan with their servicer and with Fannie Mae's Green Asset Management team. Fannie Mae also monitors servicer-led Verification by contracting with Bright Power to perform Impact Inspections, a second-line Verification for quality control.

## **5.2. Green Mortgage Loan Reviews and Audits**

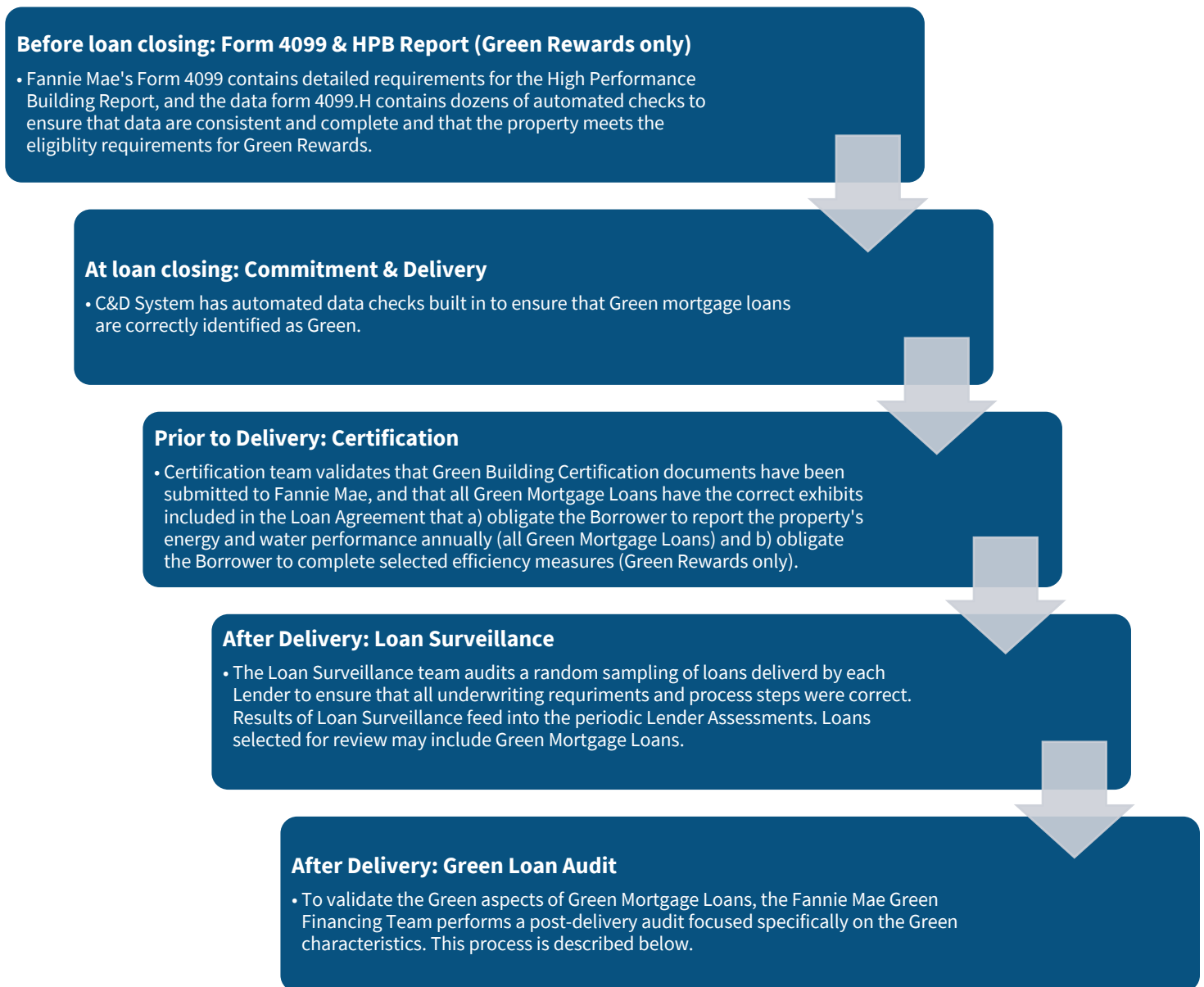
There are two audit processes and two audited entities, the lender and the HPB ("High Performance Building") Consultants. These reviews validate that loans were made in accordance with established Fannie Mae processes, procedures, and requirements, ensuring that our loans and MBS consistently meet our standards. The two processes are:

1. The Fannie Mae Multifamily Loan Surveillance team conducts reviews focused on the lenders' compliance with the Fannie Mae Guide and related policies and processes. Their standard loan audit includes several Green Mortgage Loan characteristics.
2. The Green Financing Business team conducts expanded audits to review (a) items that Green Business determines are outside the scope of the Loan Surveillance audit, and (b) a higher proportion of Green Loans than are included in the Loan Surveillance process. Audits are conducted on a sampling of all Green Mortgage Loans and include analysis of both Lender and HPB Consultant activities.





**Figure 5. Overview of Green Mortgage Loan validations.**



## **5.2.1. Green Rewards Mortgage Loan Audit**

### **5.2.1.1. Selection of Loans for Audit: By Lender**

To ensure that each lender fully understands all the requirements of Green Mortgage Loans, Fannie Mae reviews a randomly selected sample of loans delivered by each lender. There are two loan sampling protocols:

1. For the first three months after a lender has been newly delegated approval of green loans, at least 20% of each lender's delivered Green Mortgage loans are reviewed each month.
2. Starting with month 4 after delegation of approval, at least 10% of each lender's delivered Green Mortgage loans that were lender-approved are reviewed each month.
3. If a lender uses multiple HPB Consultants in a given evaluation period, at least one HPB Report by each consultant is reviewed, so the total number of Green Rewards loans audited frequently exceeds 10% of all loans.



#### **5.2.1.2. Selection of Loans for Audit: By HPB Consultant**

To ensure that each HPB Consultant fully understands all the requirements of Form 4099 and produces a high-quality HPB Report, Fannie Mae reviews a randomly selected sample of Green Rewards loans with HPB Reports produced by each HPB Consultant. There are two loan sampling protocols:

1. For the first three months after a Consultant is pre-qualified, a minimum of three reports by each consultant that were approved by lenders are reviewed each month.
2. Starting with month 4 after pre-qualification, a minimum of two reports by each consultant that were approved by lenders are reviewed each month. If a given consultant has not submitted the number of reports needed for review in a given month, then all the reports submitted by the Consultant in that month are reviewed.

#### **5.2.1.3. Green Rewards Loan Audit process**

Documentation required from the review includes, but is not limited to:

- HPB Report;
- Form 4099.H excel file;
- Green Building Certification;
- DUS Gateway waivers and Chatter history;
- Loan Surveillance review results, if applicable; and
- HPB Report Post-Delivery Review Template (Excel file).

The HPB Report Post-Delivery Review Template contains a roadmap for each audit. The reviews cover:

- Green Loan Process (flags and waivers);
- Documentation;
- Green Loan Eligibility;
- Underwriting, if applicable;
- HPB Report review;
- Acquisition Data; and
- Loan Documents.

### **5.2.2. Green Building Certification Mortgage Loan Audit**

#### **5.2.2.1. Selection of Loans for Audit**

All Green Building Certification Mortgage Loans delivered are audited.

#### **5.2.2.2. Green Building Certification Loan Audit process**

Documentation required from the review includes, but is not limited to:

- Green Building Certification;
- DUS Gateway waivers and Chatter history;
- Loan Surveillance review results, if applicable; and
- Green Building Certification Audit Template (Excel file).

The Green Building Certification Audit Template contains a roadmap for each audit. The reviews cover:

- Green Loan Process (flags and waivers);
- Documentation;
- Green Loan Eligibility;
- Green Building Certification review;



- Acquisition Data; and
- Loan Documents.

### 5.2.3. Use of Green Mortgage Loan Audit Results

The results of the Green Mortgage Loan audit are incorporated into Fannie Mae's bi-annual Lender Assessment process. More timely feedback is given to lenders and HPB Consultants on a one-off basis if an issue is identified that could result in a repeated error. If a loan is found to have significant issues that impact its eligibility for Green pricing and disclosure as a Green MBS, remedies may include requiring repurchase of the loan by the lender and a change to the disclosure of the MBS as a Green Mortgage Loan. If multiple HPB Reports by an HPB Consultant are found to have significant issues, remedies may include loss of a HPB Consultant's status as pre-qualified, or exclusion from eligibility to serve as a consultant. Findings from Fannie Mae's review of Green Loans are incorporated into Fannie Mae's monthly Lender and Consultant update calls to raise the knowledge and performance of all Green mortgage loan stakeholders.

## 6. External Reporting

### 6.1. DUS Disclose

As part of our Green mortgage loan reporting, Fannie Mae maintains a Green Financing website where investors can find background materials on its Green Financing programs ([www.fanniemae.com/mfgreen](http://www.fanniemae.com/mfgreen)).

Fannie Mae's Multifamily business publishes data both at-issuance and ongoing for its MBS through a web-based system called DUS Disclose®. Through DUS Disclose, investors can obtain comprehensive information about multifamily securities including the performance of the loans backing multifamily MBS and financial information at the property level.

DUS Disclose provides the following features:

- At-issuance and ongoing disclosure documents and data that align with the industry;
- Detailed property financial statement disclosure;
- Security, loan, and property information in a downloadable format;
- Available active and terminated security information; and
- User-friendly interface.

DUS Disclose users can search a multifamily pool number or CUSIP in the website or use the advanced search feature. This search feature allows investors to customize a downloadable search result including extensive pool information such as factors, a green identifier, loan details, and weighted-average statistics. For more information on Fannie Mae's Multifamily disclosure system, please see:

<https://mfdusdisclose.fanniemae.com/>.

Fannie Mae's disclosure system also includes energy and water performance data that is required to be reported by borrowers using Green Financing products. The data available has evolved over time as both the data points collected and the time points at which data are collected have expanded. Fannie Mae is committed to providing extensive disclosure on Green Mortgage Loans to enable investors to evaluate the performance of each property.

#### 6.1.1. At-Issuance Disclosure Data

The data fields currently available on DUS Disclose and the dates at which they were added to the disclosure are:

- At-issuance ENERGY STAR Score and Source Energy Use Intensity (EUI) (Green Rewards only, added Dec 2017);
- At-issuance EPA Water Score and Water Use Intensity (Green Rewards only, added Jul 2019); and
- At-issuance data as-of date (Green Rewards only, added Dec 2016 ).

Additional fields are planned for disclosure as data availability and investors needs develop.



### 6.1.2. Ongoing Annual Disclosure Data

In 2019, Fannie Mae began disclosing ongoing energy and water performance data through DUS Disclose. These data are sourced from the Green Measurement and Verification Service. Ongoing data is generally available starting 18-24 months after the acquisition of the mortgage loan by Fannie Mae. The data fields currently available on DUS Disclose and the dates at which they were added to the disclosure are:

- Annual calendar year ongoing ENERGY STAR Score and Source Energy Use Intensity (all Green loans, added Nov 2019); and
- Annual calendar year ongoing EPA Water Score and Water Use Intensity (all Green loans, added Nov 2019).
- For properties where renewable energy is generated, Energy Generated is also disclosed (all Green loans, added 2020).

## 6.2. Impact Reporting

Fannie Mae is committed to ongoing reporting and transparency of the energy and water performance of its Green Mortgage Loans. Fannie Mae publishes an annual investor report describing the financing of Green eligible assets for the preceding year. Green Bond Impact is published on the [Fannie Mae website](#), including a CUSIP-level impact file targeted to investors. The details of such financing for the purposes of this report will include (a) a list of the different categories of Green eligible assets financed and the percentage distribution to each such category of Green eligible assets, (b) a description of a selection of Green eligible assets, as examples of the eligible assets financed in that year and (c) a summary of Fannie Mae's Green Bond development and green financing activities in general.

At the time a Green Building Certification or Green Rewards mortgage loan is originated, the borrower signs a Loan Agreement that includes Form 6241 (Green Rewards), Form 6246 (Green Rewards with Solar PV), or Form 6267 (Green Building Certification) committing to report to Fannie Mae annually the property's energy and water performance. Through the Fannie Mae Green Measurement and Verification Service, Fannie Mae collects whole property energy use and is able to disclose fields such as ENERGY STAR Score, Source Energy Use Intensity (EUI), EPA Water Score, and Water Use Intensity.

At the time of origination for Green Rewards, the lender reports the property's ENERGY STAR Score, Source Energy Use Intensity (EUI), EPA Water Score and Water Use Intensity as determined by the HPB Consultant to Fannie Mae. These numbers are published through Fannie Mae's web-based disclosure site, DUS Disclose, described in the Annex, Section 8.3.

## 7. External Review

Fannie Mae has obtained an independent opinion from Shades of Green, part of S&P Global, to verify the greenness and governance of our Green Bond Framework. The opinion can be found on Fannie Mae's website [www.fanniemae.com/mfgreen](http://www.fanniemae.com/mfgreen).





## 8. Annex

### 8.1. Process for Project Evaluation & Selection

Fannie Mae must conform to key requirements governing loan credit and property quality. These requirements are documented in the Guide and in multiple forms.

Name	Type
Form 4099.H – Appendix H: HPB Module Report Tables	Form
Form 4099 I – Appendix I: Technical Solar Assessment	Form
Form 4099 – Instructions for Performing a Multifamily Property Condition Assessment (PCA)	Form
Form 4221 – Green Rewards Verification Inspection Form	Form
Form 4250 – Green Building Certifications	Form
Form 4660 – Multifamily Underwriting Standards	Form
Guide Part III Chapter 3 – Moderate Rehabilitation Mortgage Loans	Guide
Guide Part III Chapter 4 – Green Mortgage Loans	Guide
Guide Part IV Chapter 3 – Streamlined Rate Lock	Guide
Guide Part V Chapter 4 – Asset Management: Loan Document Administration	Guide
Guide Part V Chapter 5 – Surveillance	Guide
MBS Prospectus	Prospectus
Form 6001 8.02(b)(2)(D) – Multifamily Loan and Security Agreement	Loan Agreement
Form 6241 – Modifications to Multifamily Loan and Security Agreement (Green Rewards Mortgage Loan)	Loan Agreement
Form 6264 – Modifications to Multifamily Loan and Security Agreement (Green/Solar Mortgage Loan)	Loan Agreement
Form 6267 – Modifications to Multifamily Loan and Security Agreement (Green Building Certification)	Loan Agreement
Form 6430 – Streamlined Rate Lock Agreement	Loan Agreement
Form 6502 – Multifamily Mortgage Loan Delivery Package Table of Contents	Loan Agreement
Form 6620.b – Annual Loan Agreement Certification	Loan Agreement



## 8.2. List of Green Building Certifications recognized by Fannie Mae

Please note that the recognized Green Building Certifications may change based on our annual review, but the baselines and group definitions listed below will not change while this framework is in effect. Please refer to [Form 4250](#) for the current list.

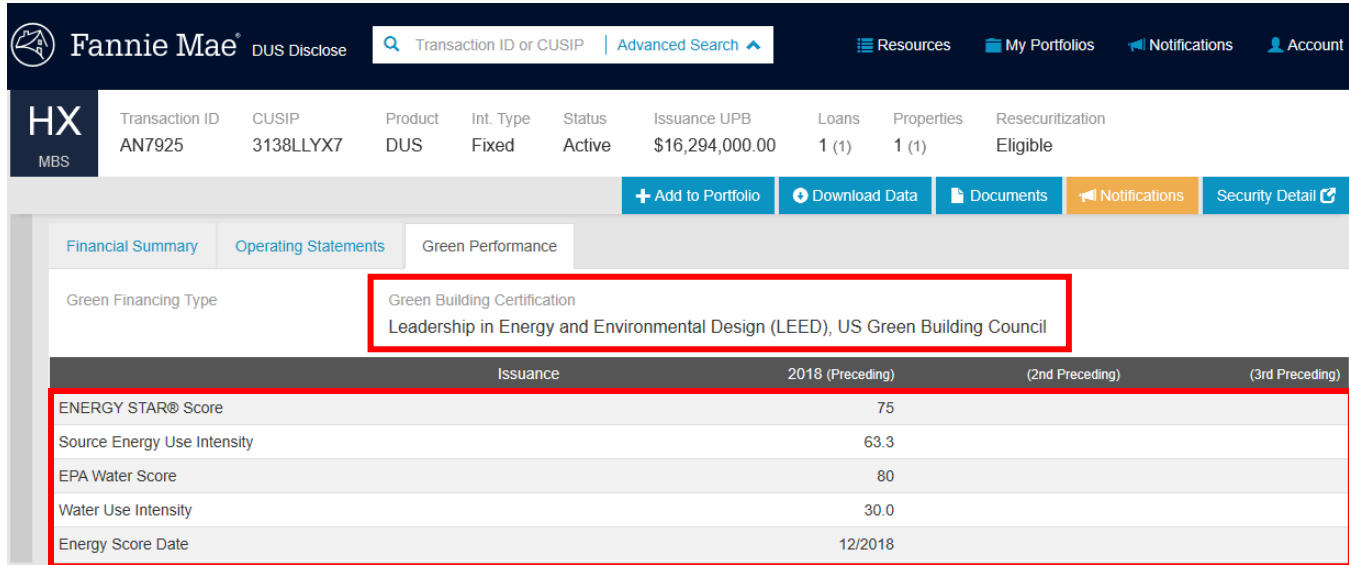
Group	Group Definition	Existing Building Certifications Baseline: ASHRAE 90.1-2010	New Construction Certifications Baseline: ASHRAE 90.1-2019
<b>Towards Zero</b>	Certified properties projected to use at least 50% less energy compared to the applicable baseline, plus ventilation requirements for new buildings.	<ul style="list-style-type: none"> <li>Home Innovation Research Labs, NGBS Green+ Net Zero Energy 2020</li> <li>International Living Future Institute, Zero Energy</li> <li>USGBC, LEED Zero Energy</li> </ul>	<ul style="list-style-type: none"> <li>Home Innovation Research Labs, NGBS Green+ Net Zero Energy 2020</li> <li>International Living Future Institute, Living Building Challenge v3, v3.1, v4</li> <li>International Living Future Institute, Zero Energy Certification</li> <li>Passive House Institute (PHI), Certified Passive House v9 &amp; v10,</li> <li>Passive House Institute (PHI), EnerPHit Certified Retrofit v9 &amp; v10</li> <li>Passive House Institute US (PHIUS), PHIUS+ Certified 2018</li> <li>Passive House Institute US (PHIUS), PHIUS Certified 2021</li> <li>USGBC, LEED Zero Energy</li> </ul>
<b>Group 1</b>	Certified properties projected to use at least 20% less energy compared to the applicable baseline, plus ventilation requirements for new buildings.	<ul style="list-style-type: none"> <li>Green Building Initiative, Green Globes Multifamily for Existing Buildings with Net Zero v2.3</li> <li>Green Building Initiative, Green Globes Multifamily Performance Plus for Existing Buildings with Net Zero v2.3</li> <li>International Living Future Institute, Zero Carbon</li> </ul>	<ul style="list-style-type: none"> <li>Build it Green, GreenPoint Rated New Home Multifamily v7</li> <li>Green Building Initiative, Green Globes Multifamily for Existing Buildings with Net Zero v2.3</li> <li>Green Building Initiative, Green Globes Multifamily Performance Plus for Existing Buildings with Net Zero v2.3</li> <li>International Living Future Institute, Core Green Building Certification v1</li> <li>Passive House Institute (PHI), Low Energy Building v9, v10</li> <li>Passive House Institute US (PHIUS), PHIUS+ Certified 2015</li> <li>U.S. Environmental Protection Agency, ENERGY STAR Single-Family New Homes v3.3</li> </ul>
<b>Group 2</b>	Certified properties projected to use at least 5% less energy compared to the applicable baseline, plus ventilation requirements for new buildings.	<ul style="list-style-type: none"> <li>BREEAM USA, BREEAM USA In Use: Residential Plus v6</li> <li>USGBC, LEED O+M: Existing Buildings v4, v4.1</li> <li>Green Building Initiative, Green Globes Multifamily Performance Plus for Existing Buildings v2.1, v2.2, v2.3</li> <li>U.S. Environmental Protection Agency, ENERGY STAR Existing Multifamily Buildings</li> </ul>	<ul style="list-style-type: none"> <li>Build it Green, GreenPoint Rated New Home Multifamily v8.3</li> <li>Enterprise Community Partners, Enterprise Green Communities Criteria Plus 2020</li> <li>International Finance Corporation, EDGE v3</li> <li>U.S. Department of Energy, Zero Energy Ready Home – Single-Family v2</li> <li>U.S. Environmental Protection Agency, ENERGY STAR Single-Family New Homes v3.2</li> <li>U.S. Environmental Protection Agency, ENERGY STAR Next Gen v2023</li> <li>U.S. Environmental Protection Agency, ENERGY STAR Multifamily New Construction v1.3</li> </ul>



## 8.3. Disclosure Data Systems

### 8.3.1. DUS Disclose

#### Green Building Certification and Energy Performance Data

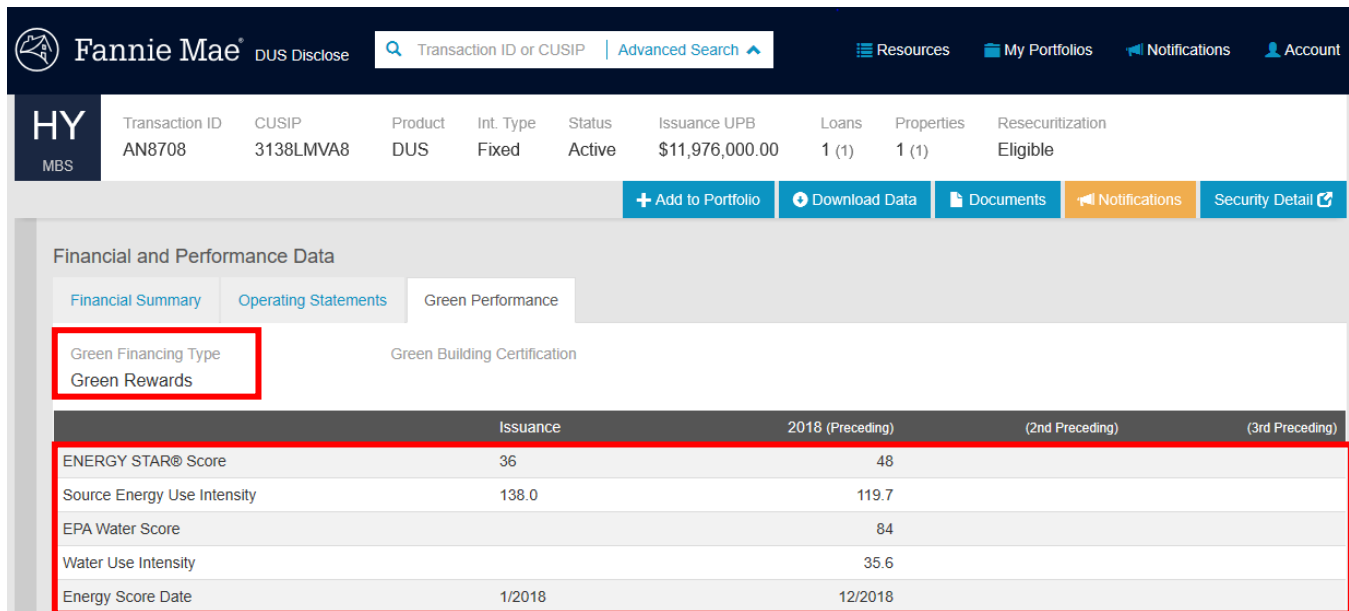


Transaction ID	CUSIP	Product	Int. Type	Status	Issuance UPB	Loans	Properties	Resecuritization
AN7925	3138LLYX7	DUS	Fixed	Active	\$16,294,000.00	1 (1)	1 (1)	Eligible

Green Financing Type	Green Building Certification
	Leadership in Energy and Environmental Design (LEED), US Green Building Council

	Issuance	2018 (Preceding)	(2nd Preceding)	(3rd Preceding)
ENERGY STAR® Score		75		
Source Energy Use Intensity		63.3		
EPA Water Score		80		
Water Use Intensity		30.0		
Energy Score Date		12/2018		

#### DUS Disclose Screen Shots: Green Financing Type and Energy Performance Data



Transaction ID	CUSIP	Product	Int. Type	Status	Issuance UPB	Loans	Properties	Resecuritization
AN8708	3138LMVA8	DUS	Fixed	Active	\$11,976,000.00	1 (1)	1 (1)	Eligible

Green Financing Type	Green Building Certification
Green Rewards	

	Issuance	2018 (Preceding)	(2nd Preceding)	(3rd Preceding)
ENERGY STAR® Score	36	48		
Source Energy Use Intensity	138.0	119.7		
EPA Water Score		84		
Water Use Intensity		35.6		
Energy Score Date	1/2018	12/2018		

In addition to the [DUS Disclose](#) website, Fannie Mae issues a number of disclosure files that feed third-party security sites such as Bloomberg, Intex, eMBS, and Trepp. These third-party data providers are also working to improve their Green-related disclosures. Currently, Fannie Mae MBS carry a Green bond flag on their description pages in the Bloomberg system, enabling investors to quickly determine if a bond falls under the Green Financing Business. In addition, Green GeMS deals disclose the nature of their underlying assets on Bloomberg. Fannie Mae continues to work with these data providers to improve the clarity of a bond's ability to fit into a portfolio with a Socially Responsible Investment (SRI) mandate.



### 8.3.2. Bloomberg Green Bond Flag

DES 4-BLOOMBERG

GO F1 F2 F3 F4 PRINT HELP MEMO SEARC QUOTE QUOTE MONIT NEWS MSG

MENU PG BA PG FW BC35 10PRP 7PRP 5PRP 76ARM

< > FN AN8708 Mtge DES Related Functions Menu Message

FN AN8708 99-11<sup>3</sup>/<sub>8</sub> 99-04<sup>7</sup>/<sub>8</sub>/99-18 Yield 3.603/3.552 Coupon 3.450% BVAL  
As of 23 May Fannie Mae Pool Prepay OCPY

FN AN8708 Mtge Export Page 1/3 Security Description

US POOL 4.460(118)2 CUSIP 3138LMVA8 Pool Level 95 Buy 99 Sell

Summary Comments Notes

Pool FN AN8708 As Of 05/2018  
Type (HY) Actual / 360 Balloon Conv >7 years Level pay Issue Date 03/01/2018  
Traits IO, Balloon, ACT/360 Maturity Date 03/01/2028  
Seller Arbor Commercial Funding I, LLC

Pool Information

Coupon	3.450	WAC*	4.460	Orig WAC	4.460
		WARM	118	Orig WAM	120
		WALA*	2		

Collateral Information

WADLS	11,976,000	Orig Amort	0	Prop Name	Duval Villa Apartments
WALS*	11,976,000	Rem IO*	118	Prop Addr	4305 DUVAL ST
Orig Date	--	Tier	3	City	AUSTIN, TX
		DSCR (Curr)*	1.87	Prop Type	Dedicated Student
LO End Date	--	DSCR (Orig)	1.87	Num Units	112
Orig Pen*	YM(114),1(3)...	NCF (Orig)	\$1MM	Units <60%	
Rem Pen*	YM(112),1(3)...	Orig LTV*	63.7	Green Bond	Y
		Occ (Orig)	95%		

# Loans\* 1 Delay 54 ( 24 ) #Value calculated by Bloomberg

Paydown Information TRACE Eligible

Performance Hist May18 Apr Mar18

1 Month CPR	0.0	0.0
3 Month CPR		
6 Month CPR		
12 Month CPR		

FN AN8708 115-07+ 115-01/115-13<sup>7</sup>/<sub>8</sub> Yield 1.461/1.410 Coupon 3.450% BVAL  
As of 21 Apr Prepay OCPY Fannie Mae Pool

FN AN8708 Mtge Export Page 3/3 Security Description

US POOL 4.460(95)25 CUSIP 3138LMVA8 Pool Level 95 Buy 90 Sell

Summary Comments Notes

Mortgage Notes

Pool Number AN8708

Fannie Mae Loan Number 1717474724

Lender Name (aka Seller Name) Arbor Commercial Funding I, LLC

Loan Issuance Upb Amount 11,976,000.00

Security Issue Date 03/01/2018

Original Note Rate Percent 4.46

Current Interest Rate Percent 4.46

Loan Interest Accrual Method Code Actual/360

Loan First Payment Due Date 04/01/2018

Loan Maturity Date 03/01/2028

Loan Lien Priority Code First

Loan Interest Only Term (aka Interest Only Period) 120

Loan Note Signed Date 02/26/2018

Loan Interest Type Code Fixed

Green Financing Green Rewards

Loan Purpose Refinance

Original Upb 11,976,000.00

% Of Initial Pool Balance 100

Loan Original Amortization Term 0

Loan Last Interest Only Payment Date 03/01/2028

Loan To Value Ratio (%) / loan Combined Loan To Value Ratio Percent 63.7

Loan Prepayment Premium Type Code YM(114) 1%(3) 0(3)

Prepayment Penalty Provision YM(114) 1%(3) 0(3)

300) Edit Panel 301) Expand Panel