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Spotlight on Fannie Mae's Green Measurement and Verification Service

Implementing a large-scale effort to evaluate energy and water efficiency performance in multifamily housing

Fannie Mae®

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Introduction

Since 2012, Fannie Mae's Green Financing Business has supported multifamily owners as they increase the energy and water efficiency of multifamily housing on a national scale by integrating green mortgage loan products into the standard financing process. In November 2018, Fannie Mae launched the Fannie Mae Green Measurement and Verification (Green M&V) Service with two goals:

- To collect consistent, high-quality data on the energy and water performance of the properties backing its Green Mortgage Loans (Measurement).
- To verify energy and water efficiency improvements were installed as specified at properties that qualified for green financing based on planned improvements (Verification).

Together, Measurement and Verification data may enable Fannie Mae to gain a fuller understanding of the impact of green financing and to identify ways that we may be able to improve the positive impact of our program. As a first step, this paper reviews Fannie Mae's Green Mortgage Loan program, its approach to Green M&V, lessons learned from other efficiency programs, as well as opportunities for further research and next steps. Drawing from the landscape of results and findings from other studies of energy and water efficiency programs that have leveraged pre- and post-retrofit data, this paper considers the current opportunities and limitations of data collected for the Fannie Mae Green Mortgage Loan portfolio, many of which may be applicable for multifamily utility efficiency programs more broadly.

To assist with delivering the Green M&V Service, Fannie Mae engaged Bright Power, an expert in energy and water efficiency for multifamily properties. Together we have established the rigorous data collection and improvement verification processes that comprise the Green M&V Service. By the end of 2021, Fannie Mae will have gathered whole-property energy and water data for more than 3,500 properties through annual Measurement reporting, reflecting properties at various points in their retrofit process, including pre-retrofit, in process, and post-retrofit. As we gather and analyze more year-over-year data, the post-retrofit period will be more fully reflected, and we look forward to sharing portfolio-level results that increase the understanding of energy and water efficiency in multifamily properties.

Fannie Mae Multifamily Green Mortgage Loans

Fannie Mae currently offers two Green Mortgage Loan options to the multifamily market: Green Rewards and Green Building Certification. These product offerings are a result of a multi-year effort to develop and test products and industry partnerships while maintaining the core credit and underwriting standards of the Fannie Mae Multifamily Delegated Underwriting and Servicing (DUS®) program.

The Green Financing Business started as an initiative in 2010 and acquired its first Green Mortgage Loans in 2012, designing its financing offerings around the concept of positive impact to the Triple Bottom Line — environmental, social, and financial performance. As of the end of 2020, Fannie Mae has issued a total of $87 billion in Green Mortgage-Backed Securities (MBS) backed by multifamily properties that have qualified for a Green Mortgage Loan, making Fannie Mae the largest green bond issuer in the world.

Green Rewards Mortgage Loans

Green Rewards Mortgage Loans incentivize property owners to renovate and retrofit existing multifamily properties with capital investments in energy efficiency, water efficiency, and/or energy-generating solar technology and systems. To identify the recommended capital improvements at each property, a qualified engineer must provide a High Performance Building (HPB) Report, which includes an on-site property inspection, a review of the prior 12 months of historical utility bill data, and an analysis of energy and water use and savings opportunities. For a loan to qualify as Green Rewards, the loan must meet the eligibility requirements set by Fannie Mae, including requirements that the property owner commit to implement energy and water saving improvements that are projected to result in a defined level of energy and/or water savings. Since 2019, Fannie Mae has required that property owners commit to implementing improvements that project combined energy and water consumption savings of at least 30%, inclusive of at least 15% energy reduction or on-site renewable energy generation. Projected energy and water savings are based on a trailing 12-month baseline using whole-property (owner and tenant) utility data. Fannie Mae evaluates the eligibility requirements for Green Rewards loans annually and may modify the requirements to further support the transition of the U.S. rental housing market to a low-carbon economy.

Green Building Certification Mortgage Loans

Green Building Certification mortgage loans are loans on properties that have been awarded one of the select certifications recognized by Fannie Mae. Fannie Mae conducts an annual market analysis and a technical evaluation of green building certifications. During this review, Fannie Mae first identifies newly available certifications or newly released revisions to previously published certification standards applicable to multifamily rental housing. Fannie Mae next conducts a technical analysis to determine the minimum level of energy and water savings the certification requires compared to a national baseline to achieve the certification. Fannie Mae uses this analysis to determine which certifications are eligible for inclusion in the Green Building Certification program.

Green Financing Value Proposition

The Green Financing Business's products have a multi-pronged value proposition:

- **Green properties are more durable properties**. Properties that make energy and water efficiency improvements may extend the useful life of properties within Fannie Mae's portfolio, and property owners may see increases in their net operating income due to reduced utility expenses.
- **Green Mortgage Loans enhance housing affordability.** Housing costs include both rent and household utility expenses. Our research shows that tenants pay for some or all of their utility usage through direct billing, RUBS, or other reimbursement scenarios in 97% of properties financed with Green Rewards loans, so reducing utility consumption at the property leads to reduced costs for most tenants. Our most recent Green Bond Impact Report showed that the improvements that are being made at properties backing multifamily Green Bonds issued in 2020 are projected to provide annual household savings of $235 per family.
- **Green MBS expand Fannie Mae's pool of investors sustainably supporting liquidity in the market**. Fannie Mae has attracted new environmentally focused investors due to interest in our Green MBS. Interest is expected to grow as the green bond market continues to mature, which will further support market liquidity.

Existing Public Disclosure

As part of our standard multifamily loan securitization process, we share detailed information on each MBS, including the security-, loan-, and property-level information in DUS Disclose®. In addition, we publicly disclose energy and water performance metrics for Multifamily Green MBS where available. Depending on the loan type and security issuance date, investors and the public can search by the CUSIP identifier for each security to learn the type of Green Financing product used and, where applicable and available, the:

- Type of green building certification.
- ENERGY STAR® Score at issuance.
- Source Energy Use Intensity at issuance.
- EPA Water Score at issuance.
- Water Use Intensity at issuance.
- Ongoing annual energy and water performance metrics (beginning in 2019).

We leverage multiple platforms and communications channels to deliver impact transparency to investors. Fannie Mae's Green Bonds webpage serves as a centralized source of key information for investors on our Green Bond products and green data impact metrics. We consider our disclosures to be best-in-class, with loan and impact data reported at the CUSIP level.

For more detail about Fannie Mae's existing green bond disclosures, please see our Green Bond Disclosures At-a-Glance guide.

For our Multifamily Green MBS, investors can access the projected environmental impact per CUSIP in a downloadable Excel format on our Green Bond Impact website. These data points include:

- Annual projected energy savings (kBtu).*
- Annual projected water savings (gallons).*
- Annual projected GHG emissions savings ($MTCO_2e$).*

*All numbers are based on one-year estimated impacts.

Fannie Mae Green Measurement and Verification Service

Green M&V Service Overview

The Fannie Mae Green M&V Service serves all Fannie Mae Green Mortgage Loan Borrowers and provides value to Fannie Mae and its Lender partners in the following four ways:

1. **Measurement.** Per Fannie Mae's Green Mortgage Loan program requirements, annual whole-property energy and water data must be reported by Green Mortgage Loan Borrowers. Owner and tenant cost and consumption are reported separately. Properties with loans acquired by Fannie Mae in the first half of the year (Jan. 1 – June 30) must report that year's utility data the following year. Properties with loans acquired by Fannie Mae in the second half of the year (July 1 – Dec. 31) are required to collect the following year's data and report it the year after. For example:

    a. If a loan was acquired on June 30, 2020, the Borrower reports 2020 calendar year data in 2021.

    b. If a loan was acquired on July 1, 2020, the Borrower reports 2021 calendar year data in 2022, and would not need to report any 2020 calendar year data.

    Properties report their previous calendar year's consumption the following calendar year.[1]

2. **Verification.** Owners of all Green Rewards properties commit to implement energy and water efficiency improvements and/or renewable energy generation, and a Verification site inspection is conducted to confirm that the efficiency improvements are installed and are operating as expected. This verification site visit occurs at least one month after a property's deadline to complete improvements, which is typically 12 months from mortgage origination. If the verification inspection finds that improvements have not been made or have been made incorrectly, the property is considered non-compliant, and Fannie Mae requires the property owner to establish a remediation plan with its Loan Servicer and Fannie Mae's Green Asset Management team.

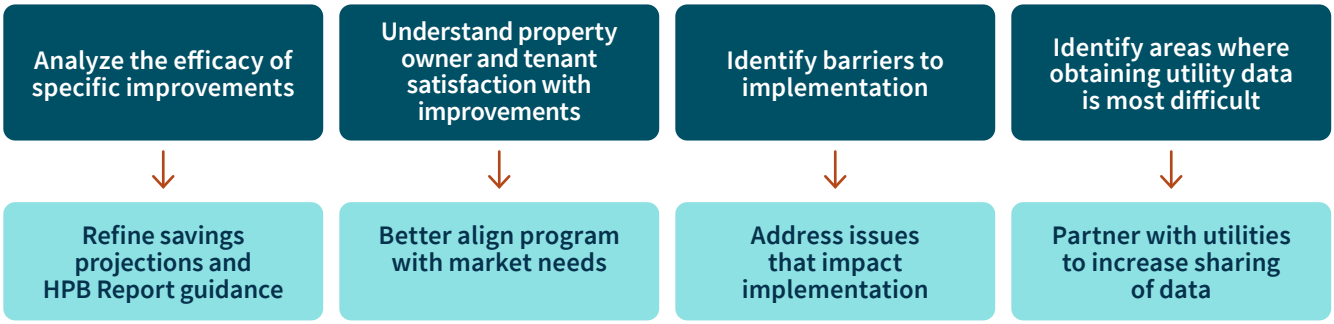
3. **Data collection and reporting.** Fannie Mae Green M&V data include data points on utility cost and consumption for Green Mortgage Loans. These data support the disclosure of ongoing water and energy performance metrics to investors via DUS Disclose, as well as internal analysis for business insights and continuous improvement of our Green loan products.

4. **Education.** Fannie Mae provides Lenders, Servicers, third-party utility service providers, inspectors, and property owners with educational resources to assist with the Green M&V process. The educational resources cover how to build in processes within routine property management operations to access tenant utility data and how to use utility data to identify additional energy and water efficiency opportunities at a multifamily property.

1 Fannie Mae is currently allowing property owners to opt in to earlier Measurement reporting, thereby closing the data gap between closing and the first year of measurement.

Why Measure and Verify?

Fannie Mae's pre- and post-retrofit data is one of the largest datasets of its kind for an energy and water efficiency program, presenting an unprecedented opportunity to test and improve aspects of the Green Financing program and to share information with the energy and water efficiency community to further drive positive impact.[2] Anticipated outcomes from the Green M&V Service include:



Fannie Mae plans to use the Green M&V data set to conduct analyses to answer questions that will not only support further improvement of the Green Rewards program, but also support the whole energy and water efficiency community in future years. These questions include:

- Does increasing the energy and water efficiency of properties lead to better financial performance of the mortgage loan?
- If savings are less than projected and/or below the industry standard realization rate, how can the HPB Report methodology be refined to lead to better outcomes?
- If the projected energy and water savings outcomes were not achieved, why not?
- Could Fannie Mae's Green Mortgage Loan program design be modified to provide greater positive Triple Bottom Line impact?

(2) Fannie Mae only collects pre- and post-retrofit data for Green Rewards Mortgage Loans. Fannie Mae's Green Building Certification Mortgage Loans only need to report data on properties annually following mortgage acquisition.

Lessons Learned from Other Utility Efficiency Programs

Analysis of other utility efficiency programs can add context to what we might expect to see from Fannie Mae's program. However, only a few programs have published data or analytics, so the comparison set is limited. A MacArthur-funded 2014 study by Bright Power compared the results of the U.S. Department of Housing and Urban Development's (HUD) Green Retrofit Program (GRP) to four other large-scale multifamily retrofit programs. The HUD GRP was a national energy and water retrofit program, while the four comparison programs were all at the city or state level, and three of the four comparison programs were focused only on energy savings. Their analysis found that:

1. **Energy savings projections are often overestimated, with multifamily utility efficiency program realization rates ranging from 61 to 87%.**[3] The highest realization rate was achieved by the New York State Energy Research and Development Authority's (NYSERDA) Multifamily Performance Program, which employed an incentive payment tied to first-year actual performance and the most rigorous review process for audits and inspections of installations. Similarly, the Fannie Mae Green Rewards program can be expected to achieve less than 100% of projected savings.

Summary of multifamily retrofit program data sets

DATA SET	# OF PROPERTIES	LOCATION	UTILITIES ANALYZED	MEASURED ENERGY REDUCTION	REALIZATION RATE
HUD GRP	179	National	Gas, electric, water: owner and tenant	19% gas 16% electric 26% water	64%
Energy Savers	57	Chicago area	Gas: owner only	26% gas	N/A
Deutsche Bank/Living Cities	104	NYC	Gas, electric: owner only	19% gas/oil 7% electric	61%
NYSERDA MPP	219	NY State	Gas, electric: owner and tenant	28% gas/oil 17% electric	87%
MA Green Retrofit Initiative	148 buildings	MA	Gas, electric: owner only	22% gas 11% electric 14% water	N/A

3 Jonathan Braman, Steven Kolberg, and Jeff Perlman, *Energy and Water Savings in Multifamily Retrofits. Results from the U.S. Department of Housing and Urban Development's Green Retrofit Program and the Energy Savers Program in Illinois* (Washington, D.C.: Stewards of Affordable Housing for the Future, 2014); Lindsay Robbins and Betsy Parrington, "Realizing Measurable Savings in Multifamily Buildings: Results from NYSERDA's Multifamily Performance Program," ACEEE Summer Study on Energy Efficiency in Buildings, 2014; Living Cities, *Recognizing the Benefits of Energy Efficiency in Multifamily Underwriting* (New York City: Deutsche Bank Americas Foundation and Living Cities, 2012); Local Initiatives Support Corporation, "Green Retrofit Initiative Summary Evaluation Report," 2013.

2. **Meaningful savings accrue at the program and portfolio level;** however, savings examined at a property level can be highly variable.[4] Changes in energy and water consumption cannot be isolated to just the improvements installed through the program and may be due to other changes at the property or data issues. For these reasons, energy program impacts can be best understood when aggregating the results across hundreds of properties.

3. **Savings realization rates on tenant-paid utilities were lower than on owner-paid utilities** in the study of the HUD Green Retrofit Program.[5] Lower tenant savings realization may be due to a number of factors, including (a) incomplete tenant data; (b) less control over occupant operation and maintenance of in-unit equipment; (c) less financial incentive for an owner to maintain equipment when tenants reap the benefits, a known multifamily industry issue referred to as the split incentive; or (d) greater difficulty in modeling and projecting tenant consumption at the project outset.

The challenges faced by these programs reflect industry-wide issues. Though Fannie Mae's Green Rewards program is unique in many ways, such as the wide geographic diversity and high number of properties, it is possible that some findings from other efficiency programs also apply to our program.

4 Braman *et al.*, *Multifamily Retrofits*; Robbins and Parrington, "Multifamily Buildings"; *Living Cities, Multifamily Underwriting*.

5 Braman *et al.*, *Multifamily Retrofits*.

Understanding the Green M&V Data

To develop a rigorous Green M&V program, Fannie Mae has drawn on the experience of previous utility efficiency programs and has coordinated closely with industry stakeholders, including its consulting partner, Bright Power. However, due to the nature of multifamily building operations, the insights that can be gathered from the Green M&V data is limited. This section describes the limitations and issues that impact the industry as a whole, and as a result Fannie Mae's Green M&V data.

Data Collection and Programmatic Limitations

Historically, many large-scale energy and water improvement programs, including those funded by utilities and governments, do not conduct post-installation measurement and verification of every project. Most utility programs met regulatory requirements to deliver energy savings through some form of "deemed" savings. That is, engineering calculations and estimates were used to project savings achieved, rather than actual measurement of consumption data before and after interventions.

In recent years, several programs, including Green Rewards, have begun to systematically collect pre- and post-retrofit consumption data — typically through utility bills — to consistently capture accurate impacts and glean other insights for program participants and managers. While providing a wealth of useful information on building and program performance, utility bills are problematic as a data source for several reasons.

1. **Utility data collection is a highly involved process and is limited by the access utilities and owners provide, requiring some data to be partially or fully modeled.**

   Measuring a property's annual energy and water consumption requires a coordinated effort to collect monthly bills across all utility accounts (often involving working with dozens of accounts or paper-format bills). Even with expert accounting and quality control of the data received, it is entirely up to the property owner to provide accurate information about its accounts and ensure all accounts have been included.

   Capturing whole-property consumption is particularly difficult when tenants are directly billed by utilities for their consumption. For example, 94% of tenants were directly billed for electricity at properties with Green Rewards loans delivered to Fannie Mae from 2019 – Q2 2021. While some utilities offer access to whole-property consumption data to authorized parties, the majority either require individual authorization forms from each tenant to release data from their accounts or do not offer tenant data access at all. An additional challenging trend is utility companies charging property owners for their whole-property data. While some utilities charge only nominal fees, others charge significant fees of up to $400 per building, adding a cost-prohibitive barrier to obtaining high-quality data. When utilities do not provide whole-building consumption data, tenant consumption must be estimated, either through extrapolation from a sample of tenant utility bills or based on engineering calculations.

   In circumstances where owner or tenant utility consumption and costs are modeled, Bright Power references baseline HPB report utility data or uses a proprietary modeling approach, such as Bright Power's EnergyScoreCards tool. Although not as reliable as actual utility data, these models are useful in estimating the overall impact of the Green Mortgage Loan products. However, properties with modeled data will likely be excluded from any detailed statistical analysis.

2. **HPB Report methodology and data quality has improved over time.**
Fannie Mae first introduced the HPB Report in 2012 and the Form 4099.H data file in 2014. To improve data quality, the guidance and forms have changed significantly over time in response to Fannie Mae's identification of issues that could be addressed with additional guidance or automated data checks in Form 4099.H. For example, between 2016 and 2020, Fannie Mae:

   - Changed the HPB Report guidance to require measurement of water fixture flow rates, rather than only relying on fixtures' stated flow rates. This increases the accuracy of the savings projections by ensuring that the actual water usage of the existing fixtures is captured.
   - Redesigned Form 4099.H to eliminate the potential for errors to be introduced from manual data entry and to automate and standardize the data calculations and energy conversion factors.
   - Added dozens of automated data checks throughout Form 4099.H to prevent common mistakes.
   - Allowed for modeling of tenant data due to the challenges in collecting direct-metered tenant data. While this allows for a speedier and more streamlined energy and water audit, the tradeoff is that the energy and water savings calculated using estimated baseline data may be less accurate. Automated reasonableness checks have been added to the Form 4099.H to strengthen the validation of modeled data.

3. **Timing of improvements and data collection means that we cannot yet see the full picture for most Green Rewards loans.**
Fannie Mae Green Rewards properties have a standard 12-month time frame in which the property owner can complete the selected energy and water efficiency measures (EWEMs). However, for very large properties or extensive scopes of work, Fannie Mae may on rare occasion allow a longer time period to complete the improvements. In addition, property owners may request up to a three-month extension from their Servicer if improvements cannot be completed in the required time frame.

   As the Green M&V data will be comparing a full calendar year of energy and water consumption against the baseline consumption from the original HPB Report, the full impact of the EWEMs will not be seen until the reporting year following a full calendar year after the EWEMs were completed. For example, a loan that closed on June 1, 2020, would generally complete improvements by June 1, 2021; if the property owner completed the improvements toward the end of the 12-month time frame, the 2021 property data collected in 2022 by the Fannie Mae Green M&V Service may only reflect half a year of performance with the improvements in place. Thus, the full impact of the improvements would not be seen until the full year 2022 data is collected in 2023.

   Due to the Measurement and Verification reporting timelines in the first year or two of a Green Rewards loan, conclusions comparing savings projections to actual energy and water consumption can be difficult to draw from the data collected in the early years after the loan origination.

4. **The COVID-19 pandemic has impacted the Green M&V Service.**
   In 2020, the COVID-19 pandemic altered individuals' and families' lives. The impact of the pandemic has had ripple effects on the Fannie Mae Green M&V Service, limiting the availability and quality of data for both Measurement and Verification. COVID-19 impacted Green Mortgage loans and the Fannie Mae Green M&V Service in a number of ways, including:

   - Immediate temporary pause to Verification site inspections in March 2020 to help slow the spread of COVID-19 and protect the health of inspectors, property staff, and tenants. As of June 2021, Verification site inspections are on a voluntary basis. Fannie Mae and its Servicers continue to ramp up inspections during the second half of 2021 while keeping an eye on the evolving nature of the pandemic.
   - Additional time provided to property owners to complete Green Rewards improvements. From March 2020 to June 2021, property owners could request an additional three- to six-month extension from their Servicer if improvements could not be completed in the required timeframe. In 2020 and 2021, over 500 properties exercised at least one extension. These extensions were vital given policies and mandates to limit unnecessary entry into common areas and tenant spaces.
   - Reduction in actual tenant data received in 2020. In March 2020, Fannie Mae paused the collection of tenant utility data releases to limit unnecessary in-person interactions of property managers and staff with residents. In addition, some utility companies failed to provide aggregate utility data or fulfill requests for tenant utility bills in 2020. Due to utility staffing constraints and other challenges, approximately 16% of tenant or aggregate data requests were not fulfilled in 2020.
   - Changes in utility consumption patterns for multifamily rental properties. The dramatic shift to greater time spent at home has become the new normal, following the implementation of stay-at-home orders and long-term work-from-home/school-from-home arrangements. These marked routine changes may increase tenant utility consumption. Fannie Mae has begun to explore these impacts in 2021.

Structural Limitations

As a leader in multifamily green financing, Fannie Mae remains steadfast in its commitment to better understand the impact of Green Mortgage Loans, despite the data collection and programmatic limitations. Structural limitations are inherent in the design of any efficiency program. These structural limitations, as well as structural barriers that have been addressed through the Green Rewards program, are highlighted below.

1. **Whole-building energy and water consumption is affected by many other factors that are subject to change over time.**
   Even with perfect utility data, whole-property consumption is an imperfect approach to measuring savings from specific energy and water efficiency measures. Results will be highly variable among properties, often due to factors outside the scope of Green Rewards improvements. These external factors include weather, occupancy, tenant behavior, building operation, and other equipment. For example, water savings from installing low-flow faucets and showerheads can easily be masked if a property also experiences a 10% decrease in vacancies, experiences toilet leaks, or increases its irrigation after local drought restrictions are lifted. The measurement methodology can control for some of these variables — for example, ENERGY STAR Scores and Source Energy Use Intensities can be weather-normalized — but not all.

2. **Tenant behavior may impact utility usage.**
While there are limited published studies specifically looking at the long-term adoption rate of high efficiency water fixtures, numerous studies show a high level of tenant satisfaction with their new fixtures. For example, three low-flow showerhead studies from the past 10 years all showed an 87% – 89% tenant satisfaction rate.[6] However, quality of the fixtures selected can have a significant impact on tenant satisfaction, and incoming tenants may replace fixtures. To mitigate this issue, Fannie Mae has taken the following steps:

   - To increase fixture quality and therefore increase tenant satisfaction, Fannie Mae added a requirement in 2018 that if an ENERGY STAR-certified or WaterSense-certified fixture, product, or appliance is available on the market, then the engineer performing the HPB Report must recommend that an ENERGY STAR- or WaterSense-certified fixture, product, or appliance is to be used.[7] This guidance was further strengthened in 2021 by setting minimum performance requirements for kitchen faucets, which are not currently included in the WaterSense standard.
   - To reduce attrition over time, Fannie Mae added a requirement in 2019 that property owners maintain the improvements throughout the life of the loan.
   - To make savings projections more conservative for removable water fixtures, Fannie Mae requires that projected energy and water savings calculations assume a 75% adoption rate for showerhead and faucet recommendations.

3. **Multiple steps and outside parties are necessary to complete energy and water upgrades, and a high level of coordination is needed so that the installed upgrades match the assumptions that consultants used to project savings.**
A successful retrofit project relies on the consultant to accurately assess existing conditions at the property and make informed recommendations; the Servicer to clearly document the property owner's obligations; the property owner to engage qualified engineers, architects, and contractors; and these vendors to provide quality design and installation services. In addition, property staff must operate and maintain equipment over its lifetime. Adequate communication and education among all stakeholders are important for the outcome of the installed project to meet the consultant's assumptions and projections. To address this issue, Fannie Mae has taken the following steps:

   - Through the Green M&V Service, Fannie Mae and its Servicer partners are conducting Verification site inspections at all Green Rewards properties to verify that the energy and water improvements were installed correctly and as scoped in the HBP Report. Additionally, educational materials have been developed and incorporated into program outreach to ensure parties involved at each stage of implementation are aware of their role in the program's success.
   - To increase the knowledge and capabilities of the consultants that prepare HPB Reports, Fannie Mae hosts monthly consultant calls where we discuss technical issues, update guidance, and answer questions. Fannie Mae then uses questions from these calls to develop additional consultant guidance as needed.
   - To align the Servicers' communication of the property owners' obligations under Green Rewards, in 2018 and 2019 Fannie Mae updated requirements around documenting EWEMs that property owners commit to install so that equipment specifications and quantities are clearer.

6 The Cadmus Group, Inc., Colorado Showerhead Program Evaluation, 2011; NMR Group, Inc., Energy Futures Group, Efficiency Maine Low-Income Multifamily Weatherization Evaluation Report, 2016; Itron, Inc., Verification of Reported Program Impacts from 2013 EmPOWER Maryland Energy Efficiency Programs with Recommendations to Improve Future Evaluation Research, 2014, prepared for EmPOWER Maryland Utilities and the Maryland Public Service Commission.

7 ENERGY STAR and WaterSense are national efficiency standards, backed by detailed technical specifications, from the U.S. Environmental Protection Agency. Certified products are required to meet rigorous efficiency and performance standards.

Next Steps

While Fannie Mae Green Financing has evolved significantly since a decade ago, a deeper dive into the results of the Fannie Mae Green M&V Service will likely reveal additional opportunities for analysis and improvements. The Measurement data gathered in future years will be significantly more revealing than the same data collected for 2017 – 2021 for three important reasons:

1. The dataset will be significantly larger and include a longer time period of installed efficiency measures. By the end of 2021, Fannie Mae will have gathered whole-property energy and water data for more than 3,500 properties, with nearly 1,080 properties having two or more years of post-retrofit data. This dataset will grow as the program matures.
2. The dataset will represent loans originated under a more mature Green Rewards program after many program enhancements. In 2021, 63% of total properties completing their 2020 Measurement represent loans originated in 2018 or later. Fannie Mae's Green Mortgage Loan program benefits from continuous improvement to its guidance and requirements.
3. Fannie Mae will be uniquely situated to conduct analysis and draw conclusions about the COVID-19 pandemic's impact on changes in multifamily utility consumption using a dataset that includes pre- and post-pandemic whole-property consumption. Due to the evolving nature of the pandemic and its impact on daily lives, data that represents the "new normal" of a post-pandemic world will likely not be available until 2023, when calendar year 2022 data can be collected.

Fannie Mae is dedicated to maintaining and enhancing the rigor of its green lending programs and will continue to refine the Green Rewards program using the insights gained from real-world property owner and lender feedback and the Green M&V Service. However, the greatest leap in improving efficiency program outcomes and impact is likely to come from making progress on the industry-wide challenges. One of the most pressing challenges is utility data access. As more cities across the country have added regulations requiring utility benchmarking, the utility companies in those markets have adapted to providing the necessary data. However, more work is needed to expand access to whole-building aggregate data and to reduce the cost to obtain these data. Fannie Mae will continue to work with its partners, and encourages others in the industry to push for affordable access to whole-property utility data.

Fannie Mae looks forward to using this powerful and growing data insight to continue the evolution of its Green Financing Business. Fannie Mae will also share analysis and commentary about the performance of the Green Financing program with industry stakeholders, investors, and regulatory bodies. Moreover, as a company dedicated to environmental, social, and governance (ESG) impacts, insights gathered represent a significant opportunity to understand and increase the impact of energy and water efficiency programs in multifamily real estate.

Citations

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