

2022
Affordable Housing Preservation
Outreach

REGULATORY ACTIVITY:

F. Finance improvements on multifamily properties: (a) which reduce energy or water consumption by tenant or property by at least 15%; and (b) where the savings generated over the improvement’s expected life will exceed its cost (FHFA Criteria) (12 C.F.R. § 1282.34 (d)(2)).

OBJECTIVE:

1. Increase positive environmental and social impact of green financing through development of market awareness and understanding of energy and water efficiency improvements and financing.

INFEASIBILITY:

Check here if the Enterprise is submitting an infeasibility request for the objective.

SUMMARY OF RESULTS:

Objective’s components detailed in the Plan	Corresponding actions taken	Explanation of any deviations from the Plan (if applicable)
<input checked="" type="checkbox"/> Increase impact of Fannie Mae Green Financing through program development and enhanced stakeholder understanding of energy and water efficiency and financing opportunities.	The implementation steps that follow, collectively, constitute completion of this target.	N/A
<input checked="" type="checkbox"/> Develop a roadmap for integration of building electrification into Fannie Mae's green financing offerings to advance a low carbon economy and hold a lender learning series on building electrification and decarbonization. Electrification is the process of replacing fossil fuel- dependent building systems with those that use electricity. This is often cited as the single most important lever to reduce emissions in the building sector. Electricity produces fewer emissions than fossil fuels, and the electric grid is getting cleaner over time with increased generation from lower carbon and renewable sources. To develop the roadmap, Fannie Mae will evaluate ways to incentivize, require,	Developed Fannie Mae Multifamily Electrification and Decarbonization Roadmap to guide our efforts to reduce greenhouse gas (GHG) emissions from multifamily housing, while driving affordable, stable utility costs for Multifamily residents. Held four Green Financing Lender Learning Series webinars for Fannie Mae DUS® Lenders: <ul style="list-style-type: none"> • April 21, 2022 - Multifamily Decarbonization and What it Means for Your Borrowers • June 29, 2022 - Hear Directly from Cities with Building Performance Standards • Oct. 12, 2022 - Green Rewards and Solar PV training 	N/A



<p>and/or support building electrification and to enable property owners to respond to local laws that require decarbonization and electrification. Because electrification can increase the cost of energy for tenants, research on the potential affordability implications will be conducted.</p>	<ul style="list-style-type: none"> Dec. 8, 2022 - Electrification Tips to Help Your Borrowers Meet Their Sustainability Goals 	
<p><input checked="" type="checkbox"/> Use knowledge gained from 2021 outreach to lender partners and High Performance Building Consultants to improve guidance and/or refine requirements for green mortgage loans to increase positive program outcomes.</p>	<p>Tools/guidance to drive quality Green Rewards recommendations:</p> <ul style="list-style-type: none"> Added new QC Alerts to the Green Rewards energy audit tool (Form 4099.H) to reduce likelihood that HPB Consultants under-estimate cost for key recommendations. Provided new guidance on the air seal envelopes / weather-strips energy efficiency measure. <p>Tools/requirements to encourage electrification projects:</p> <ul style="list-style-type: none"> Developed and integrated an electrification assessment into the energy audit tool used for Fannie Mae Green Rewards loans (Form 4099.H) Announced new guidance prohibiting fossil fuel heating systems from being recommended and selected as an eligible measure to qualify for Green Rewards. <p>Resources to describe program processes and benefits:</p> <ul style="list-style-type: none"> Green Building Certification Mortgage Loan Guide (companion doc to the Green Rewards Mortgage Loan Guide released in 2021) Communications Kit for HPB Consultants 	N/A
<p><input checked="" type="checkbox"/> Design a workplan for a research study focused on increasing environmental impact of green financing</p>	<p>Completed analysis on installation cost data for efficiency measures across the</p>	N/A



<p>and/or tenant affordability through cost savings. Study areas will include:</p> <ul style="list-style-type: none"> o Using insights from the white paper released in 2021 and leveraging data analysis tool created in 2020-2021 to inform further analysis of energy and water data and build on program efficacy. Research billing practices to improve understanding of how savings accrue to tenants and owners. Using results to refine Green Financing business offerings. o Evaluating data on energy and water efficiency, measure installation costs to standardize and improve third-party cost estimates, to increase accuracy and understanding of payback for efficiency measures. 	<p>Green Rewards portfolio and used results to refine energy audit tool (Form 4099.H).</p> <p>Developed work plan for research study on utility billing practices at multifamily properties, which will include an evaluation of tenant utility costs across the multifamily green portfolio, analysis of how tenant billing practices impact household energy cost savings, and how costs compare between utility types.</p>	
<p><input checked="" type="checkbox"/> Build on research from 2021 to understand the impact of COVID-19 on energy and water consumption patterns.</p>	<p>Incorporated new data from 2021 into the analysis conducted last year (on 2019 and 2020 data) to test the hypothesis that the COVID-19 pandemic led people to spend more time at home, leading to higher energy/water usage. Consistent with prior findings, we found no statistically significant differences in energy or water use intensity between 2019, 2020, and 2021, indicating that observed changes in consumption were more likely due to efficiency upgrades made at properties rather than behavior changes due to the pandemic, consistent with other external analyses completed in the market during this time.</p>	N/A
<p><input checked="" type="checkbox"/> Participate in two key energy efficiency/green building industry conferences.</p>	<p>Members of the Fannie Mae Green Financing Team participated in four key industry conferences in 2022:</p> <ul style="list-style-type: none"> • Building Energy Boston 2022 • RealPage Energy Summit • DOE Better Buildings Summit • Greenbuild International Conference & Expo 	N/A
<p><input checked="" type="checkbox"/> Host one convening of the Green Rental Housing Task Force, capitalizing on the 2021 re-launch of this advisory group. Evaluate and report out on the</p>	<p>Fannie Mae Green Financing Business held two Green Rental Housing Task Force meetings in June and December 2022. Key strategies suggested by</p>	N/A



strategies suggested by members in the 2021 meeting to increase positive impact of green financing.	members in 2021 and reported on and implemented in 2022, include pricing for green building certified deals tied to impact levels of certifications and a pivot from energy efficiency alone to electrification and greenhouse gas emissions reduction.	
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SELF-ASSESSMENT RATING OF PROGRESS:

- Target met
- Target exceeded
- Target partially completed
- No milestones achieved

IMPACT:

- 50 – Very Large Impact
- 40 –
- 30 – Meaningful Impact
- 20 –
- 10 – Minimal Impact
- 0 – No Impact

IMPACT EXPLANATION:

1. How and to what extent were actions under this objective impactful in addressing underserved market needs, or in laying the foundation for future impact in addressing underserved market needs?

Our work in 2022 focused on efforts to continually improve our existing energy efficiency offerings and educate our partners, who we see as critical to successful program implementation and driving positive impact. In addition, our work focused on laying the groundwork for future impact by taking steps to evolve our programs and educate the market to ensure that multifamily property owners can leverage Fannie Mae green financing to electrify and decarbonize properties in a way that contributes to lowering utility burden for residents.

Program enhancements and market education drove positive impact by improving quality of deal submissions.

Improving the quality of deals delivered to Fannie Mae is key to driving positive impact. By refining Green Rewards energy audit tools and guidance, we can help increase the quality of the efficiency recommendations made. This work increases the likelihood of realizing the projected energy, water, and cost savings of improvements and improves the program experience for borrowers. For example:

- By releasing new guidance on air sealing recommendations, an important and cost-effective energy efficiency measure for many properties, we increase the likelihood that borrowers have the information they need to get the work completed to the level/specifications needed to realize projected energy and utility savings.
- By conducting an analysis to evaluate installation cost data on energy and water efficiency measures from thousands of Green Rewards loans, we were able to develop a cost range for key measures. We used this information to update the energy audit tool (Form 4099.H) with cost bounds/alerts for key efficiency recommendations. This reduced the likelihood that costs are underestimated by energy auditors for key efficiency measures. This also improves borrower experience with the program by enabling more accurate understanding of payback, as well as reducing the likelihood that the actual cost of installation is higher than the initial estimate.



We monitor the quality of Green Mortgage Loans delivered to Fannie Mae through a quarterly internal audit of a subset of delivered loans, where we have observed continued improvement in Green Rewards loan quality between 2021 and 2022, with the average audit score increasing from 92% to 94% for energy auditors/HPB consultants and 94% to 95% for lenders. We attribute this in part to the guidance and program refinements over time as well as consistent engagement with lenders and consultants through monthly calls.

Laying the groundwork for electrification and decarbonization projects that will drive impact.

A growing consensus has emerged on the need to substantially reduce greenhouse gas (GHG) emissions to mitigate the future impacts of climate change. Fannie Mae's Green Financing Business must evolve along with the market, both by incentivizing deeper energy efficiency and by focusing on reducing GHG emissions through electrification and decarbonization, while driving more affordable, stable utility costs for residents.

New research shaped our approach to encouraging decarbonization.

We conducted research to inform Fannie Mae's strategy for reducing GHG emissions while driving affordable utility costs. Electrification will be a critical tool for decarbonization of the housing stock, especially as more renewable energy sources are added to electric grids, dramatically reducing emissions from electricity. However, as we discovered through research of the ~3,000 Green Mortgage Loan properties in this analysis, a majority (51%) already use electricity as their primary source for heat and hot water, and 38% are fully electric. For those properties, the most effective way to reduce GHG emissions and drive more affordable utility costs is through switching inefficient electric systems to higher efficiency heat pumps, as well as other energy efficiency measures like insulation and air sealing. For the smaller share of existing properties that use fossil fuels, the most effective path to reducing GHG emissions is through a combination of electrification and energy efficiency measures. In many cases, electrification must be paired with energy efficiency to offset energy cost increases. This analysis also helped us quantify the proportion of properties (12%) where tenants are at risk of utility cost increases if owners choose to transfer central heating costs that are currently owner-paid onto tenant-paid electricity bills when they electrify and decentralize heating systems.

These insights, and others gathered through industry engagements, have shaped our comprehensive approach to decarbonization moving forward.

Enhanced existing green programs to drive electrification.

In 2022, we took two steps that lay the groundwork for driving future electrification projects:

- **We developed and integrated a new electrification assessment into the Green Rewards energy audit tool (Form 4099.H).** The electrification assessment highlights opportunities and barriers to electrification specific to the property and illustrates the impact of various choices on property emissions. This is significant for the market, as traditional energy audits are not focused on electrification. This new assessment also requires energy auditors to assess electrification, deepening their subject-matter expertise, and serves as an educational resource for lenders and borrowers.
- **We prohibited new fossil fuel space-heating systems as an eligible Green Rewards efficiency measure** given the electric options available for heating and the long-term environmental costs of locking in fossil fuel usage at a property for the lifespan of new systems (as many as 20+ years). Our aim is to incrementally move the market toward decarbonization while using our existing program instruments, keeping pace with the market, technology, and the energy industry.



Educating lenders and borrowers on decarbonization to drive future impact.

Raising market awareness of and interest in ways to transition the housing stock to low-carbon emissions can help drive property owners to make significant improvements to multifamily buildings, while also reducing environmental impact and providing utility cost savings to property owners and tenants. While decarbonization is still a new area for many lenders and borrowers, we expect focus to increase in the coming years due to local regulations (such as building performance standards) on building emissions in some markets and a significant influx of federal incentives to support this work, including the Inflation Reduction Act.

In 2022, we developed the Fannie Mae Green Financing Lender Learning Series, which enabled us to educate lenders on electrification and decarbonization so they can better assess the needs of their borrowers and become fluent in emerging energy topics, including electrification and building performance standards and how they may apply to multifamily properties. The webinars were both well-attended and successful in raising the level of knowledge of these topics. In the final webinar, our poll indicated that 36% of respondents said they learned a lot about multifamily decarbonization and electrification and understand why it is relevant to their borrowers, while 64% said they feel more familiar but still need to learn more. Based on the success of our 2022 programming, we will continue the Lender Learning Series in 2023.

2. What did the Enterprise learn from its work about the nature of underserved market needs and how to address them?

Through engagement with a broad group of stakeholders, analysis of our book of green business, and consultation with external experts, we made strides in identifying and deepening our understanding of the needs of the affordable housing preservation market in 2022. Some of our key learnings this year:

- Electrification is critical for decarbonizing buildings but must be done with efficient equipment, and ideally paired with additional energy efficiency improvements to make it beneficial to tenants and cost effective for borrowers.
- Electrification may be especially challenging for affordable housing because of the lack of payback for most projects, yet combining electrification with deep efficiency may address some of these issues, in addition to federal incentives through the Inflation Reduction Act to support this work.
- We have the data available to understand where decarbonization may impact tenant affordability through utility cost burden but will need further research to understand how we should adapt our product offerings to minimize cost increases, if possible.
- Continued customer engagement has long been recognized as an important aspect of the Green Financing Business, as Fannie Mae relies on lenders to get borrowers to leverage the product. If we make our Green Mortgage Loan products too complicated or cost-ineffective, they will not be used by lenders or borrowers. The challenge is that applying energy concepts, such as electrification, can be complex. We will continue to make incremental and measured enhancements to our Green Mortgage Loan offerings to aid our HPB Consultants, lenders, and borrowers in driving the transition to a low carbon future.
- As the advent of building performance standards begins to drive increased interest, lenders will have to grapple with their customers' capital needs. Fannie Mae must proactively engage with our partners to ensure they are prepared to meet the present and future needs of borrowers, while making buildings more energy efficient and driving cost savings for tenants.

3. Optional: If applicable, why was the Enterprise unable to achieve the Plan target?

Not Applicable