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DESIGNING A MORTGAGE PROCESS FOR ENERGY EFFICIENCY

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Executive Summary

As the U.S. housing stock ages and energy prices climb, more robust strategies and financing mechanisms are needed to drive energy efficiency renovations in existing homes, particularly among low- and middle-income households. To date, residential retrofit strategies have broadly targeted homeowners, with less emphasis placed on leveraging the home purchase process to trigger renovations early in a homeowner's tenure. In theory, the Energy Efficient Mortgage (EEM) program offered by the Federal Housing Administration (FHA) represents a promising model for catalyzing energy-saving upgrades with home purchase transactions. However, the program has struggled to gain traction. This study sought to understand why.

Both the study's focus group and interviews revealed a need to better educate stakeholders, including homebuyers, housing counselors, real estate agents, and the lending community, on home energy efficiency and EEMs. However, greater awareness of the FHA EEM is unlikely to significantly increase its use, as the product's design must also be improved to increase its appeal to stakeholders. Introducing a paid facilitator responsible for overall management of the FHA EEM could make the process less cumbersome for both homebuyers and lenders. Time and cost concerns surrounding Home Energy Rating System (HERS) work, as well as the likely limited supply of HERS raters, merits a follow-up investigation focused on the optimal way to integrate home energy evaluations with an EEM. In addition, it is recommended that FHA reevaluate the EEM's maximum loan amount conditions, seek a solution that allows for deeper energy retrofits, and maintain acceptable levels of lender, as well as borrower, risk. Finally, making the FHA EEM more attractive to lenders is vital, and this study presents a few possibilities to increase lenders' interest in the product.

Introduction

Residential buildings currently account for approximately 22 percent of primary energy consumption in the United States (U.S. Department of Energy 2012), and within the residential sector, single-family homes are responsible for around 80 percent of the energy use (Energy Information Administration 2013). Single-family homes thus contribute significantly to the nation's overall energy and carbon footprints, and there is a great opportunity to reduce these negative environmental effects by increasing the energy efficiency of this specific housing market.

Of course, there are barriers to making single-family homes more energy-efficient. The relatively low levels of education among homebuyers and homebuying professionals on topics related to energy efficiency must increase. Current mortgage underwriting processes do not consider home energy costs and, as a result, existing mortgage products have been insufficient in stimulating the market for more energy-efficient homes. The SAVE Act—federal legislation that would include energy costs in mortgage underwriting and thereby encourage energy-efficient home improvements and construction—has yet to progress through Congress.

The Federal Housing Administration (FHA) is working to integrate home energy costs into its insured mortgage products. It does offer an Energy Efficient Mortgage (EEM) as a vehicle toward a more energy-efficient housing stock, but this mechanism suffers from very low participation rates.

In many respects, a home purchase provides an opportune moment to finance and implement home energy improvements. Homebuyers often apply for a mortgage to purchase a home and the additional effort required to apply for an EEM to finance energy-saving upgrades can be relatively low. In addition, by financing improvement costs in a first mortgage, the payments can be amortized up to 30 years. Homebuyers generally expect to live in a home for 10-15 years, which is equal to or less than the useful life of many upgrades. Therefore, the benefit-to-cost ratio of energy-saving improvements would likely be at its highest point at the start of the household's tenure (National Association of Realtors 2013). Further, renovation projects are easier to complete before the occupant has fully settled into the property. Perhaps the most important advantage of addressing energy upgrades at the point of purchase is the fact that home purchase transactions involve many professionals, such as mortgage loan officers, real estate agents, housing counselors, home inspectors, and insurance agents, and this extensive network offers multiple channels by which information can be provided to a homebuyer.

1. Overview of Energy Efficient Mortgages (EEMs)

In broad terms, an EEM can include any mortgage that adjusts underwriting guidelines to account for a home's energy-saving features, or otherwise provides financing incentives for energy efficiency (Farhar 2000). Over the past 30 years, various EEM products have been offered inconsistently by FHA, the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac), the U.S. Department of Veterans Affairs, and the U.S. Department of Agriculture. For the purposes of this study, the current FHA EEM provided the basis for exploring more effective ways to package energy-saving renovations with home purchase originations.

1.1 Brief History of the FHA EEM

Like many innovations currently used to improve building energy efficiency, the concept of the EEM was developed in reaction to the energy crisis of the 1970s. The first EEM pilot was introduced by Fannie Mae and Freddie Mac in Massachusetts in 1983, as part of a larger project developed by Energyworks Inc., the Alliance to Save Energy, and Mass Save Inc. (Miller 1986). Only one bank offered the product, and it completed fewer than 10 purchase originations before ending its involvement in 1984. Fannie Mae and Freddie Mac continued to offer the pilot in subsequent years, though participation likely remained low.

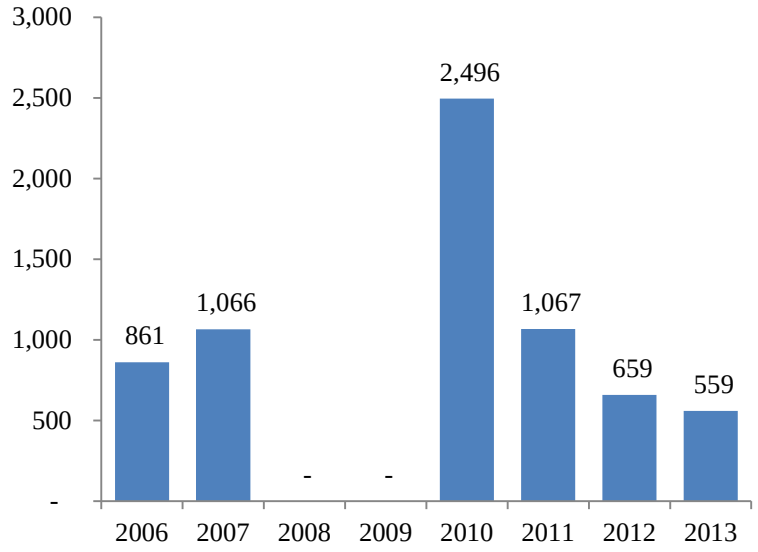
In 1991, the U.S. Department of Energy (DOE), in cooperation with the U.S. Department of Housing and Urban Development (HUD), convened the National Collaborative on Home Energy Rating Systems and Mortgage Incentives for Energy Efficiency, with the mission of designing a voluntary national program that linked mortgage lending with home energy ratings (Farhar 2000). Soon after the Collaborative published its recommendations, the Energy Policy Act of 1992 (EPACT) was enacted, providing for the establishment of an FHA EEM pilot program. In 1995, the FHA EEM program was expanded nationwide.

In 2009, FHA implemented the requirements of section 2123 of the Housing Economic Recovery Act of 2008 (HERA), which increased the maximum loan amount for the FHA EEM energy improvements from $8,000 to its current limit. HERA also placed a statutory limit on FHA EEM volume: the number of FHA EEMs may not exceed 5 percent of the total number of mortgages on 1- to 4-family homes insured by HUD (under title II of the National Housing Act) during the previous fiscal year.

Over the past two decades, the FHA EEM has gained little traction. From fiscal years 1994 through 1998, 8,534 loans were completed in

the seven pilot states (Farhar 2000, 6). In more recent fiscal years, FHA EEM endorsements have ranged from 2,496 loans in 2010 to 559 loans in 2013 (see Figure 1). In comparison, FHA insured over 1.3 million single-family mortgages in 2013 (HUD 2013). No data could be found for the number of FHA EEM endorsements in 2008 or 2009. Other similar programs have also had low participation. For example, Fannie Mae reported that its pilot EEM program averaged only 61 loans per year between 2005 and 2007 (United States Congress 2008, 260).

Figure 1: FHA new endorsements of Energy Efficient Mortgages (EEMs), by fiscal year



Source: HUD 2008; HUD 2012b; Data for 2012 and 2013 are previously unpublished figures provided by HUD

1.2 How the Current FHA EEM Works

The FHA EEM allows a borrower to finance a cost-effective "energy package," or a set of energy-saving home upgrades, with a home purchase or refinance transaction. A qualified home energy rater must determine that the present value of the energy saved over the useful life of the energy package exceeds the cost of those upgrades to the borrower, including maintenance costs. To construct a cost-effective energy package, the rater must use a Home Energy Rating System (HERS) that meets minimum requirements set by DOE (HUD 2005). FHA does not set the fees for the inspections or the home energy rating, but these fees can be financed as part of the EEM as long as the entire energy package remains cost-effective. The loan amount for the cost-effective energy package cannot exceed the lesser of 5 percent of: (a) the value of the property; (b) 115 percent of the median area price of a single-family dwelling; or (c) 150 percent of the Freddie Mac conforming loan limit (HUD 2009, 1).

The FHA EEM can be used for existing or new detached homes, townhouses, or condominiums. A borrower may also combine an EEM with other FHA property improvement programs, such as weatherization, solar, and 203(k) rehabilitation loans. All FHA-approved lenders are eligible to originate EEMs with no special approval process.

The loan is initially underwritten as if the energy package does not exist. If the borrower qualifies to purchase or refinance the home, no further qualification is needed to finance a cost-effective energy package. The borrower does not need to provide a down payment on the energy package cost, and no second appraisal is needed to reflect the as-completed value of the home. For loan applications that are manually underwritten, properties that meet or will be renovated to meet a certain level of energy efficiency (currently the 2000 International Energy Conservation Code) are eligible for a two-percentage-point stretch in qualifying debt-to-income ratios. Therefore, homebuyers and homeowners can utilize the FHA EEM to increase their borrowing capacity to a level that exceeds what is allowable for a regular home mortgage.

For existing properties, the lender places the funds for the energy package in an escrow account at closing, and the EEM is insurable by FHA immediately after closing. Borrowers are subject to an upfront mortgage insurance premium equal to 1.75 percent of the base loan amount, as well as annual mortgage insurance premiums that vary depending on the loan characteristics (HUD 2012a, 2-4). The energy package must be installed within 90 days of closing, after which any remaining funds in the escrow account must be applied to pay down the loan principal. For new construction, the energy package is part of the home's construction and must be completed prior to loan closing.

2. Methodology

This research attempted to address the following questions:

1. Considering both demand- and supply-side factors, what are the most significant barriers to participation in the FHA EEM program?

2. Recognizing these barriers, what are potential strategies to improve the product and thus better leverage home purchase transactions to trigger energy-saving renovations, particularly among low- and middle-income households?

For insights to these questions, a preliminary focus group was organized with four participating pre-purchase housing counselors,

and qualitative phone interviews were conducted with a variety of stakeholders involved in the homebuying process (see Table 1). The interviewees represented a diverse cross-section of the U.S. housing market, including different climate conditions, housing stock ages, and levels of real estate market competitiveness.

Table 1: Breakdown of professionals interviewed for this study

Stakeholders	Number Interviewed
Pre-purchase Housing Counselors	5
Realtors	6
Lending Community	8
Homeownership Program Managers (State Housing Authorities)	2
Mortgage Loan Officers and Underwriters	4
Mortgage Lending Experts	2

Note: Table does not include four housing counselors who participated in the focus group

This study is somewhat unique in that it included the perspectives of pre-purchase housing counselors, who some researchers argue have been underutilized in terms of educating consumers about their options to lower home energy costs (Martin 2011). Housing counselors must adhere to guidelines set by HUD, which require that "if a counselor discusses specific products, features, properties or programs, they must provide at least three reasonable and comparable alternatives…Counselors must not advise clients, or promote specific products, features or programs" (HUD 2010, 21).

Counselors work with a subset of prospective homebuyers who tend to be younger, have lower incomes, and have lower credit scores than the typical U.S. household (Turnham and Jefferson 2012). In fiscal year 2012, about 148,000 households received one-on-one pre-purchase counseling from HUD-approved agencies (HUD 2012c, 2). To put this number in perspective, there were over 4.6 million existing home sales in 2012 (NAR 2014), and another approximately 368,000 new homes sold in 2012 (United States Census Bureau 2014, 2).

3. Focus Group Findings

The focus group of four pre-purchase housing counselors provided a number of insights regarding the challenges that have stalled wider adoption of FHA EEMs.

3.1 Demand for Energy Efficiency

Focus group participants expressed that a large majority of homebuyers, and especially FHA borrowers, are unlikely to demand energy-efficient homes.

- *"I think the EEM is more geared to sophisticated homebuyers who probably won't use FHA in the first place."*
- *"My clients are already pinching pennies, and they just want to get in the house. They don't really care. There is a very minute population that thinks they absolutely have to have a green house."*

3.2 Awareness of EEMs

The housing counselors expressed a personal lack of knowledge and thought other professionals also lack awareness of the FHA EEM.

- *"We really don't know about this program. We need more education about the process, the terms, and who can use it. What are the benefits?"*
- *"I don't think most of my mortgage brokers would even know about this."*

Counselors had little knowledge of home energy efficiency concepts in general.

- *"I think the home energy rater is not included in the pre-purchase counseling books, so we don't know who they are or what they do."*
- *"We have to let our clients know what energy efficiency is. Energy efficiency sounds good, but what does it mean? Am I going to save $100 a month? Am I going to save $15 a month? No one knows. Energy efficiency sounds good, but what is it? I don't know."*

3.3 Need for EEMs

Counselors reported that some first-time homebuyer programs have property requirements that would preclude the need for an EEM.

- *"Clients that use the [local program] must buy a property that's ready to move in, in order to qualify for the program. The program conducts a home quality inspection. The program sends one of its own inspectors. So usually [the clients] don't do improvements in the first year, because they bought a new house or a renovated house in a new development."*

They also noted that homebuyers who want to implement energy-saving upgrades are more likely to use an FHA 203(k) rather than an FHA EEM.

- *"If [clients] know that they need to do work, they'll try to take out a 203(k) loan. It's probably the best-known program for homes that need improvement."*

3.4 Attractiveness of EEMs

The focus group questioned whether planning home improvements with a home purchase may overwhelm homebuyers.

- *"That might be too much up front, because [homebuyers] have a lot to deal with just understanding what they need to do to qualify for the house. Turning in paperwork to the lender and understanding their loan—now they're going to have to plan for a home that they don't even own yet. It's going to be difficult."*

Counselors reacted negatively to a hypothetical scenario in which homebuyers could select energy-saving improvements from a list rather than work with a home energy rater.

- *"The home energy rater is a safety mechanism."*

4. Interview Findings

4.1 Pre-Purchase Housing Counselors

Housing counselors can be a critical resource for homebuyers, especially first-time buyers who are unfamiliar with the home purchase process. Prospective homebuyers can find counseling services in several different ways, including through their lenders. Housing counselors can work with homebuyers to address several important questions, such as:

- What can homebuyers afford?
- How to establish a budget?
- How to apply for down payment assistance?
- How to receive the best interest rate?
- What is the credit level required?

All five housing counselors interviewed had at least a basic level of "green" training. The housing counselors had a mixed reaction to the FHA EEM.

- *"[It is] something of interest for a sizable demographic of our clients. A lot of people are getting involved in our first-time homebuyer program. This could go hand in hand."*

- *"A lot of clients aren't thinking about FHA. When they go to the bank, the bank wants them to use a different kind of product."*

- *"Most people end up going through the state housing finance authority. It's probably 1 to 1.5 percent lower than standard FHA. Closing costs are much more controlled with housing authority."*

They indicated that the 90-day timeframe for completing energy improvements after closing may not be sufficient.

- *"I think it can be done. My concern is the paperwork. It's a slow moving process. There's not enough manpower to expedite the process. Weather issues can also be a problem, for example: wall insulation that has to be done from the outside. One hundred and eighty days would be better."*

They also noted that the maximum allowable loan amount for home improvement costs may be low.

- *"I think it's probably low in our area. A lot of people are buying homes for $100,000. Five-thousand dollars may not be enough to put in a reasonable furnace."*

- *"Depending on the property. For a $100,000 property, $5,000 won't get you very far. It would be helpful to know the average costs of the improvements."*

4.2 Realtors

Realtors, intermediaries between buyers and sellers, are deeply involved in the home purchase process and can be instrumental in

promoting energy-saving home improvements during the transaction. Realtors can also play an important role in connecting prospective homebuyers to lenders with whom they've established strong relationships.

The Realtors interviewed generally possessed a mixed client base of first-time and repeat homebuyers, and the homes purchased ranged from historic homes of the early 20th century to new construction. Most clients used conventional financing, while only a small minority pursued FHA financing or paid with cash. Five of the six Realtors interviewed possessed the National Association of Realtors' Green Designation.

The Realtors felt that FHA borrowers are not as likely as conventional borrowers to be interested in EEMs.

- *"People who would be most interested in this product are not the ones who would participate in FHA. It seems like we're dealing with a different part of the marketplace. The [FHA] audience is narrowed to those who have minimal cash."*

- *"Most people who go [for] FHA are first-time buyers. They don't want to coordinate all this work being done to their house. There is so much extra cost to the buyer, so much unknown."*

They also noted that extra time required for the HERS work is concerning.

- *"We're seeing very short due diligence periods now. Sometimes [homebuyers] only have 7 to 10 days to get all of the inspections done. On top of getting a HERS rating and estimates, [they] also need to get home inspection, apply for a loan, fill out lender documents. A lot to get done in a short amount of time."*

4.3 State Housing Authorities

State housing authorities provide affordable housing opportunities and support services to low- and middle-income homebuyers. Two individuals who manage the homeownership programs for their respective state housing authorities were interviewed. They both knew of the FHA EEM, but neither had much success enticing lenders to try the product.

One respondent did not believe his state housing authority was associated with any lenders who had originated an FHA EEM.

- *"We have a lender advisory committee—we've discussed EEMs with members of that committee, but there doesn't seem to be much interest. We used to offer the 203(k) streamlined, and there were some bad experiences with some of our lenders working with contractors and getting the work completed. This may have left a bad taste in their mouths."*

It is unclear if additional compensation would encourage lenders to try the product, as one respondent noted:

- *"Is there any additional compensation for lenders to do these loans? Because there is some management in seeing this work get completed that is greater than just originating a loan. Even with the 203(k) streamlined, there is an extra point lenders can earn for originating that product, but it doesn't seem to get anybody's interest to do the work."*

The interviewees had mixed reactions to the HERS process.

- *"It will be good so borrowers know what should be done to the home, but if they pay for the home energy rater and then decide not to get the EEM, it's a big cost to a first-time homebuyer. It would be good to know the timeframe of getting the HERS work done—coordinating this with lenders could be tricky."*

- *"My concern is whether we have enough [home energy raters]. Are they readily available?"*

4.4 Mortgage Loan Officers and Underwriters

Mortgage loan officers, who are responsible for originating mortgage loans, and mortgage underwriters, who assess the risk of offering these loans to borrowers, have a sound understanding of the home lending process and as a result they provided important perspectives on the FHA EEM. Three loan officers and one underwriter with varying levels of experience with the product were interviewed. One loan officer had a thorough understanding of the FHA EEM, having originated approximately eight of them over the past two years, whereas the other interviewees had limited knowledge of the product.

One loan officer had promoted the FHA EEM in several ways.

- *"I've created a flyer on it ... The flyer talks about the facts regurgitated from HUD … Agents can request to place [the flyer] into properties stating that the home is approved for an EEM if a buyer would want to utilize it.*

"I've done homebuyer seminars at home shows about the EEM. I've also done 'Lunch and Learns' to the local real estate association. I promoted it to the state housing and development authority as well, to see if they could approve the loan in their system."

The large majority of FHA EEMs originated by one loan officer have been for existing home purchases.

- *"One hundred percent [have been for existing homes]. [I have] yet to put one together for a new home, although [we are] in discussions with a contractor who's building energy-efficient homes. We might attempt that sometime in the future. [Of the FHA EEMs for existing homes], 90 percent are purchases and 10 percent are refinances."*

Moving forward, improving the HERS report is recommended.

- *"The biggest piece of the puzzle where I could see improvement is the HERS report itself—standardization of that would be excellent. I like how the HERS index is elementary in a way that everybody can understand. The contents of the report are good, but standardization is needed. We need the same setup from one institution or rater to another."*

According to one loan officer, contractors would not be able to receive payment upfront.

- *"That would not be an option. I have not run into this. If they are requesting a payment upfront, I would educate the contractor that funds have been added to the escrow account to pay them upon completion of the work. If they didn't like this setup, they would have the option of declining the job."*

These participants also noted that a product similar to the FHA EEM was unsuccessful.

- *"We offered a similar in-house product to [the FHA EEM] for two or three years and we only completed two of those [loans] over that time period. Our experience was that the homebuying process is already so drawn out and complicated that borrowers were hesitant to add anything to that process that would further complicate it."*

4.5 Mortgage Lending Experts

Finally, two individuals each with over 25 years of experience in the mortgage lending industry were interviewed. These two professionals have been authors, speakers, trainers, and loan officers for the green building industry. Both had extensive knowledge of the FHA EEM and provided several important insights.

Lenders are deeply concerned by the associated risk of FHA EEMs.

- *"What [lenders] really need from the regulatory side is insurance that they're not going to have to buy back these loans. The biggest thing for them is the risk. If we fund these [loans], are we going to have to buy them back later?"*

Lenders also are disincentivized to originate FHA EEMs.

- *"Loan officers see [FHA EEMs] as additional work and there's no additional compensation, so human nature is to avoid them."*

One interviewee thought that the maximum loan amount prevents deep energy retrofits.

- *"Basically I'm going to save $10 to $20 on my utility bill, but my utility bill is still $250 per month. [The FHA EEM] hasn't worked because it's not deep enough."*

The FHA EEM's median sales price stipulation limits the maximum loan amount for energy improvements.

- *"The median sales price always draws down the potential in many regions. As an example, in Nevada if [homebuyers] had an ability [to not be limited by the median sales price], they could have been able to add $15,000, but because of the median sales price, they're only approved for $7,000."*

One suggestion was that FHA allow multiple types of energy inspections for its EEM to reduce borrower costs.

- *"We do not have a lot of RESNET-certified HERS inspectors in our state. There's a bottleneck because there's not healthy competition, therefore the prices are higher. It would be ideal if FHA would change [its] model to allow some other type of energy inspection."*

5. Discussion and Conclusions

Both the focus group participants and interviewees provided valuable perspectives on the FHA EEM, and more generally on making energy improvements to single-family homes purchased or refinanced by low- to middle-income borrowers. Focus group attendees reported that they lack understanding of home energy efficiency concepts and none had previous knowledge of the FHA EEM or home energy rating. If housing counselors were better educated about the FHA EEM and home energy efficiency, they could more effectively communicate the product's features and purpose with clients. More education is also necessary for other homebuying professionals, such as real estate agents, mortgage lenders, and homeownership professionals at the state housing authorities. As one mortgage lending expert stated, stakeholder education is "the critical point."

Housing counselors and prospective homebuyers can become better educated by integrating home energy efficiency material into housing counseling training and homebuyer education programs. One of the housing counselors interviewed revealed that pre-purchase housing counseling is a requirement for his state's first-time homebuyers' mortgage program and down payment assistance. Incorporating information about home energy efficiency and EEMs into required pre-purchase housing counseling sessions could significantly increase homebuyers' awareness of and interest in EEMs.

The persistent work of energy efficiency champions can also greatly improve stakeholder education. One loan officer interviewed for this study has been an effective supporter of the FHA EEM by actively promoting and originating the product. There is a critical need for more stakeholders, who are passionate about saving energy and reducing household energy costs, to be proactive and champion products such as the FHA EEM. In addition, the interviews revealed that utility costs have the attention of prospective homebuyers. Therefore, specifically educating homebuyers on how energy improvements can lower their utility costs could help generate demand for more energy-efficient homes and possibly the FHA EEM, as well.

More widespread education can increase the awareness of high-performance buildings and EEMs, but education alone is not sufficient to increase the popularity of the FHA EEM. Rather, a combination of factors, which appear to have contributed to the product's historically low participation rates, must be addressed. Both the focus group and interviews revealed concerns that the FHA EEM would add complexity to the mortgage application process, which by itself is already overwhelming to many first-time homebuyers. In addition to the typical work, which includes a home inspection, the loan application, and various lender documents, the FHA EEM also requires a HERS inspection

and rating, as well as estimates of the costs and savings associated with the HERS-recommended energy efficiency measures. These extra requirements may detract both lenders from offering the product and prospective homebuyers from demanding it. A potential solution to this issue of complexity, posited by an interviewed Realtor, is to follow the FHA 203(k) model by having a paid facilitator streamline the EEM process.

There was a wide range of opinions on the HERS component of the FHA EEM. Focus group attendees spoke positively about the role of the home energy rater and had a negative reaction to a hypothetical scenario in which the home energy rating was removed from the EEM framework. While some interviewees shared these sentiments, others were concerned by the costs and time commitment associated with completing the HERS work. One mortgage lending expert thought that FHA should allow multiple types of energy inspections to occur, including those performed by non-HERS raters, in order to increase competition and thus reduce the home energy evaluation costs incurred by borrowers. Another interviewee suggested that an energy audit with a blower door test could suffice, and that pursuing a HERS rating is not worth the extra time and cost. In addition, a few study participants had experienced a limited supply of home energy raters, which can create a bottleneck in the process and detract stakeholders from participating in the FHA EEM program. Although some respondents noted the value of a detailed and quantifiable HERS analysis, the time, cost, and supply issues warrant a follow-up study that specifically investigates how the HERS process and alternative methods of home energy evaluation could be optimally integrated into the FHA EEM framework. This study should include interviews with home energy raters and other building energy professionals.

The maximum loan amount eligible for energy improvements also appears to be a flaw of the FHA EEM. The maximum loan amount for energy improvements cannot exceed 5 percent of the value of the property, and this restriction limits the number and size of energy improvements that can be financed. This condition is relatively more restrictive for low- to middle-income borrowers who are only eligible for lower-valued homes—and lower-priced homes are likely to be the most in need of improvements, according to one mortgage underwriter. In addition, a mortgage lending expert noted that the median sales price stipulation also limits the amount of financing that can be allocated for home energy improvements. Due to these constraints, deeper energy retrofits that can result in greater energy savings cannot be pursued with the FHA EEM. Therefore, it is recommended that FHA reevaluate the maximum loan amount conditions by collaborating with loan officers who have originated FHA EEMs and home energy professionals such as HERS raters. Ideally, these stakeholders can devise a solution that permits deeper energy retrofits and also keeps lender and borrower risk at acceptable levels.

The FHA EEM must be made more attractive to the lending community in order for its market share to increase. When compared to conventional mortgage products, the FHA EEM requires more work from lenders. Therefore, lenders must be properly incentivized to undertake this additional effort. One option is to reward lenders with extra compensation for originating the product, although, according to one interviewee, this strategy was tried with FHA's Streamlined 203(k) loan and did not seem to increase lender interest in the product. Another potential solution is to have a paid facilitator streamline the FHA EEM process, as mentioned above. By managing the loan process, this facilitator could reduce the burden both on lenders and homebuyers. These two options should be explored further as ways to increase lender participation in the FHA EEM.

While redesigning some of the product's structural elements can help increase its attractiveness to stakeholders, the FHA EEM still suffers from the relative unpopularity of FHA financing, as compared to convention financing. Both the focus group and interviews suggested that FHA loans are now unappealing to prospective homebuyers due to their upfront and annual mortgage insurance premiums. Furthermore, the FHA EEM struggles to compete with more attractive or well-known financing options such as first-time homebuyer assistance programs and the FHA 203(k) loan program. Although lowering FHA mortgage insurance premiums would make the FHA EEM a more attractive product, such a monumental change is unrealistic. Instead, interest in the FHA EEM could be stimulated by tying financing for energy improvements with financing for cosmetic improvements, which are widely desired and implemented by new homeowners.

While this study focused on the FHA EEM and exposed several ideas that could generate greater interest in the product, the FHA EEM is just one tool for addressing the broader issue of limited energy efficiency investment in single-family homes. FHA is actively involved in creating a more energy-efficient housing stock through its product and service offerings, but more work needs to be done. This study concludes that the following initiatives are necessary not only to increase participation in the FHA EEM, but also, on a much larger scale, to develop a more energy-efficient single-family housing stock.

- The development of more widespread green training programs, such as NeighborWorks America's Green Organization Program, to increase both professional and consumer knowledge of home energy efficiency concepts, including EEMs.

- Collaboration between industry groups, such as the Residential Energy Services Network (RESNET) and the Mortgage Bankers Association (MBA), and HUD to address aspects of the FHA EEM that are limiting the product's appeal. This includes reducing the product's

complexity and increasing the maximum allowable loan amount for energy improvements.

- A follow-up study that investigates the optimal way to integrate home energy evaluations, including those performed by non-HERS raters, into an EEM framework.

- Continued support of the SAVE Act and other federal actions that would lead to the inclusion of energy costs in mortgage underwriting guidelines. Current mortgage underwriting does not consider home energy costs and this is a key barrier to increasing energy efficiency investment in single-family homes.

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About the Institute for Market Transformation (IMT)

The Institute for Market Transformation (IMT) is a Washington, DC-based nonprofit organization promoting energy efficiency, green building, and environmental protection in the United States and abroad. IMT's work addresses market failures that inhibit investment in energy efficiency and sustainability in the building sector. For more information, visit imt.org.

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