



Energy Efficient Financing: Rater Opportunity?



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Overview

- EEM Statistics
- Identifying barriers
- The role of the HERS Rater
- Necessity of building competent teams



History of EEMs

1993 HUD launches the EEM pilot program with 8 states

“An EEM recognizes the energy savings of a home that has ‘cost-effective’ energy saving improvements that increase the energy efficiency of a home.”

~ 1993 HUD Mortgage Letter

In other words: a home owner or home buyer is allowed to finance cost effective energy improvements into their mortgage beyond their qualification limitations and beyond the home’s appraised value, because those improvements will reduce utility bills, which reduces the homes overall cost of ownership.

1995 HUD expands the program to be nationwide



Sample New Purchase EEM

	Standard Loan	EEM Loan
Loan Amount	\$165,000	\$175,740
Interest Rate	4.5%	4.5%
Improvements	\$0	\$10,740
Monthly Payment with PITI *	\$1,103	\$1,168
Energy Bills	\$270	\$150
True Monthly Cost	\$1,373	\$1,318
Monthly Savings		+ \$55
Annual Savings		+ \$660



The FHA EEM

The subprime meltdown, recent troubles at Fannie Mae and Freddie Mac, and FHA's attractive down-payment requirements have all led to a renewed interest in FHA loans. However, that interest has not carried over to their EEM products.

30% of all loans are now through FHA
(500,000 +)

Table 1. FHA Single Family Activity in the Home-Purchase Market Through January 2010
Market Shares and New Insurance Volumes by Numbers of Households Served

Annual Summaries	FHA Share of Home Purchase Activity (%)			Numbers of Households Buying Homes (000)					
	All Homes	Existing Homes	New Homes	All Homes		Existing Homes		New Homes	
				FHA	Market	FHA	Market	FHA	Market
FY1993	14.04	15.14	9.22	639	4,554	561	3,705	78	849
FY1994	13.07	14.14	8.66	652	4,987	568	4,014	84	972
FY1995	11.48	12.78	6.32	556	4,845	494	3,865	62	980
FY1996	12.97	14.50	6.81	686	5,289	614	4,235	72	1,054
FY1997	13.73	15.60	6.35	751	5,467	681	4,361	70	1,106
FY1998	12.96	14.78	5.49	789	6,084	724	4,896	65	1,188
FY1999	14.06	16.03	5.86	909	6,463	836	5,213	73	1,249
FY2000	13.52	15.01	6.97	856	6,335	774	5,159	82	1,177
FY2001	13.57	14.81	7.64	869	6,405	785	5,300	84	1,104
FY2002	12.18	12.65	9.82	806	6,615	698	5,514	108	1,100
FY2003	9.16	8.99	10.03	655	7,148	539	5,991	116	1,157
FY2004	6.40	6.14	7.70	505	7,901	406	6,616	99	1,285
FY2005	4.08	3.80	5.58	345	8,454	269	7,084	76	1,370
FY2006	3.77	3.52	5.03	301	7,979	234	6,640	67	1,339
FY2007	4.12	3.80	5.97	288	6,992	226	5,942	63	1,050
FY2008	12.64	11.94	17.61	719	5,688	595	4,986	124	702
FY2009	18.70	17.98	26.63	994	5,315	875	4,869	119	446
FY2010	20.10	19.15	31.02	362	1,801	317	1,657	45	144

Year Trends by Month (SAAR)

2009	10	21.45	20.28	39.65	1,391	6,490	1,235	6,090	158	400
2009	11	21.68	20.11	41.84	1,510	6,966	1,316	6,492	198	474
2009	12*	18.17	17.89	23.94	1,067	5,871	972	5,435	104	436
2010	1 ^P	16.28	15.90	21.36	892	5,480	803	5,050	92	430

Preliminary

Report date: April 1, 2010

*Revised

Sources: Existing Home Sales are from the National Association of Realtors; New Homes Sales are from the U.S. Census Bureau and include manufactured housing; FHA numbers are insurance contracts on home-purchase mortgages, from HUD.



How many EEMs are being originated?

Year	# of EEMs
2005	450
2007	1,100
2009	2,300



Call to action

The Housing and Economic Recovery Act of 2008 (HR 3221), passed by Congress in July 2008, includes a provision directing Federal agencies to:

- (1) identify barriers preventing widespread adoption of energy efficient mortgages;
- (2) give recommendations to Congress to alleviate obstacles if found; and
- (3) authorize a public education and marketing campaign for energy efficient mortgages.



Barriers to Widespread use of EEMs

- Lack of reliable and accessible information about EEMs
- Confusion about underwriting requirements
- The complexity and time involved in securing the loan
- Lack of publicly available research on the default risk



Barriers to Widespread use of EEMs

- Lack of public awareness
- Initial costs to consumers
- Perceived Financial risk
- Lack of training and incentives for industry professionals



Why the time is NOW!

- Low interest rates for the next 2 years
- Lucrative rebates across the country
- Consumer demand for EE improvements is rising
- The housing market needs a boost



Present Value Variables

	5.5%	8%
23 years	\$7094	\$5714
10 years	\$4153	\$3697

Higher PV from:

- *Lower interest
- *Longer lifetimes



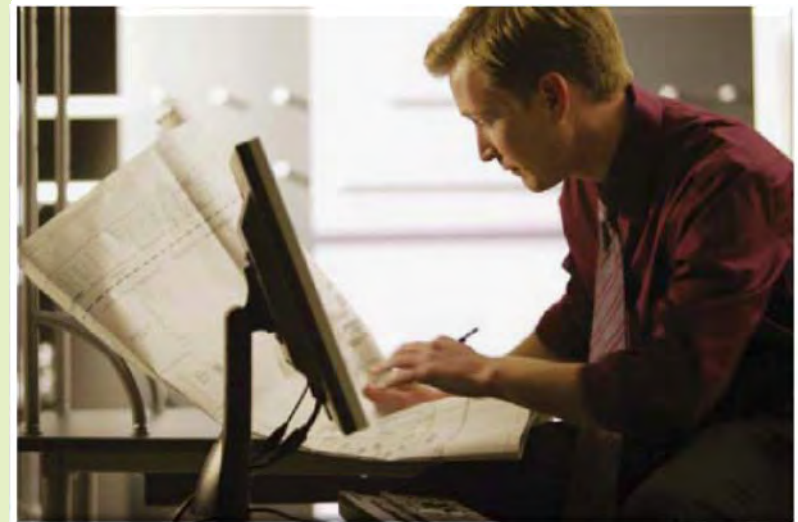
Role of HERS Raters

The HERS rater, not the lender, ultimately determines whether an EEM will be approved.



Role of HERS Raters

- Model house as-is.
- Determine improvements that are cost-effective.
- Specify cost and lifetimes of improvements.
- The HERS Rater will provide all of the necessary energy savings documentation for underwriting approval.





An Experienced Team

- One-Stop-Shop: HERS Rater, Lender, Agent, Contractors
- No Closing Delays
- Maximize Energy Savings Dollars
- Qualify for Cash Rebates
- Health and Comfort
- Increase Property Value



Proper Training Will Lead to Success!





Questions?

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Rebuilding Mortgages for Energy Efficiency

By Todd Gerarden

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Residential energy consumption accounts for over twenty percent of global energy use.¹ In 2001, American homeowners spent approximately 160 billion dollars per year on energy costs, averaging almost 1,500 dollars per residence.² In order to moderate domestic energy use and defray these costs, the 102nd Congress established the Energy Efficient Mortgage (EEM) Pilot Program in 1992. Despite its potential to address these issues, this program has effected virtually no change in national home energy consumption. On May 15th, 2008, Representative Ed Perlmutter (D-CO) introduced the GREEN Act of 2008 to correct some of the deficiencies in the EEM program. This article discusses the shortcomings of the EEM program, first addressing the confusing statistical record on past participation and then identifying barriers that have affected its performance since inception. It also reviews the relevant sections of the GREEN Act of 2008 and proposes additional steps necessary to advance the EEM program in order to impact domestic energy use significantly.

Findings and Recommendations

The EEM program has not gained market share in the residential housing market. Despite misleading participation statistics suggesting otherwise, the number of mortgages issued under this program pales in comparison to the number of total annual mortgages. Many barriers to successful implementation exist; these include a lack of public awareness, initial costs, financial risk, and a lack of incentives for industry representatives. In order to overcome these barriers, this article recommends the following steps, to be discussed in more detail later:

Recommendations for Program Promotion and Improvement

- *The apparent fact that the EEM program has never gained a substantial market share should be addressed by a formal study.*
- *National, state, and local governments should use appropriate media to disseminate information about and market EEMs.*
- *Explicit goals or requirements for 'green banking' centers should be set before these centers are established (pursuant to Rep. Perlmutter's bill).*
- *The government should cooperate with private enterprise (beyond the media) to publicize and market this product.*
- *The standard for Energy Efficient Homes should be updated to the most recent and ambitious building energy code.*

Recommendations for Program Expansion

- *The government should adopt a mandatory national home energy rating system devised by industry experts.*
- *The federal government should also require energy audits concurrent with home sales.*

About Energy Efficient Mortgages

The concept of Energy Efficient Mortgages first appeared in the late 1980's. However, due to perceived financial risk, the program received little attention from mortgagers until the federal government recognized the market potential of this product.³ Beginning in 1992, the Department of Housing and Urban Development (HUD) offered EEMs to participants in five states through the Federal Housing Administration (FHA). Borrowers could qualify for more expensive but energy efficient homes or roll the cost of energy audits and recommended improvements into their mortgages without additional credit assessments. Ideally, lower utility bills would offset higher mortgage payments and save the mortgagee money while raising his or her standard of living. The pilot program expanded to ten states in 1994 and became available nationally in 1995.⁴ Meanwhile, the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) began supporting the EEM concept in their operations.

While the implementation of this program varies among these three lenders, the FHA standards illustrate the program's mechanics.* The Federal Housing Act insures properties under Title II of the National Housing Act.[†] The FHA offers two types of EEMs: Energy Improvement Mortgages (for existing homes) and Energy Efficient Homes mortgages (for new homes).

In order to obtain an Energy Improvement Mortgage, home buyers must first qualify for a loan under the National Housing Act. While this does not include income limits, there are maximum prices on homes purchased through the FHA. Then, the potential borrower must hire an energy auditor to evaluate energy use and potential savings, make recommendations for cost-effective retrofits, and produce a home energy rating report. An eligible home buyer may then roll an additional \$4,000 to \$8,000 into their mortgage to make these improvements (including limited funds for the energy audit) without credit reassessment.⁵ The lender places this money in an escrow account, where it remains until the energy efficiency improvements are completed (up to 90 days).⁶ This system diminishes financial risk to both borrower and lender while guaranteeing completion of the energy efficiency improvements.

The FHA Energy Efficient Homes program offers mortgage incentives for new homes. In order to obtain this mortgage product, the purchaser must prove the property meets the 2000 International Energy Conservation Code through an energy report that includes a physical inspection.⁷ This makes the buyer eligible for an increase of two percentage points in their qualifying ratios.⁸

* This summary consists of information found in a 2003 HUD publication.

[†] See National Housing Act, 12 U.S.C. §1707 et seq.

Limited Success

Following the national expansion of this program, EEMs *appeared* to grow in popularity. According to multiple HUD publications, the FHA program reported an average of over 26,000 mortgagees each year between 1998 and 2003.⁹ In contrast, the FHA reported only 441 EEMs to Congress in 2005.¹⁰ While this report emphasized the EEM program as a “priority loan product,” it included no goals or metrics to promote or evaluate the product. By 2007, HUD reported 1,066 EEMs.¹¹ Although over double the number from two years prior, this is little improvement over 2005 data when compared to the eight million total home sales annually in the United States.¹² Meanwhile, industry executives say less than one percent of all home loans are EEMs.¹³

New, more accurate reporting procedures used by the Department of Housing and Urban Development in 2005 explain the apparent decline in participation since 2003.¹⁴ These new statistics raise questions about the historically high participation *reported* for the program. For example, both new homes and those with energy improvements have been included in the aggregate numbers reported, obscuring the prevalence of each mortgage classification. In addition, the Energy Efficient Homes program seems to have offered considerable flexibility concerning compliance before the change in reporting procedures. For that reason, lenders may have mistakenly classified some inapplicable home loans as EEMs.

While EEMs are issued by Fannie Mae, Freddie Mac, and the FHA, these widely published statistics represent only FHA-insured mortgages. Fannie Mae and Freddie Mac do not consistently report EEMs; the scope and variety of their operations complicate this challenge. For instance, Fannie Mae reported “more than 40,000 unsecured energy improvement loans between 1995 and 1998.”¹⁵ In written testimony in June, 2008, Fannie Mae reported an average of 61 energy efficient loans annually between 2005 and 2007.¹⁶ Meanwhile, some private lenders offer similar benefits that are not considered in the usage statistics of this program. These mortgages vary significantly and lenders are not required by law to report their characteristics or differentiate between these and other mortgages.¹⁷ Although these explanations remove some concern about a possible recent dramatic decline in EEM usage, no extensive study of program participation has been undertaken. Accurate reporting is essential to evaluating the performance of the EEM program; government and lending institutions should overcome this barrier before the program proceeds.

Barriers to Successful Implementation

Several obstacles preventing wider success of the EEM program include: a lack of public awareness, the need for consumer initiative, prohibitive initial costs, lack of incentives for industry representatives, and undue risk.

A lack of customer and professional awareness is the most prominent obstacle to market success. Barriers to information transfer slow the implementation of energy-saving technologies.¹⁸ This market failure demands government attention and intervention. In part due to this market failure, participation in the EEM program requires both significant initiative and initial investments (time and

money) from the customer. For many homeowners who struggle to afford down payments, this small additional cost could prevent their consideration of this program.

To compound this lack of awareness, industry representatives have no clear incentives to promote the EEM program. Cost barriers to energy efficient homes prevent builders from constructing high performance buildings because they are not guaranteed profitable sales. Meanwhile, real estate agents rely on volume to produce profits. Therefore, requirements of the EEM program could serve as disincentives to realtors, preventing them from promoting mortgage alternatives that would slow sales.

A National Renewable Energy Laboratory report stated that energy audits are widely available but seldom uniform, demonstrating the need for government and industry action.¹⁹ An article in *Energy and Buildings* reinforces this need, emphasizing that informing the homeowner of the relative energy performance of his house enables rational decision-making.²⁰ This article also asserted the importance of guaranteeing the effectiveness of energy performance projects.²¹ Policy alternatives could simultaneously address these two needs. Financial incentives are the third component of a successful residential energy efficiency program.²² Of these three components, the EEM program effectively offers only financial incentives, leaving homeowners to assume much risk.

Recent Developments

While these obstacles have persisted since the program's inception, policymakers also need to consider changing conditions affecting the nation and incorporate appropriate responses to them in current and future legislation. With its ability to reduce energy use and simultaneously reduce carbon emissions, the EEM program should also serve as an instrument to combat higher consumer energy costs and climate change. According to the Energy Information Administration, residential CO₂ emissions grew more than any other sector in 2007, accounting for 1242 million metric tons of carbon.²³ These emissions and the potential for cost-effective efficiency improvements combine to create a favorable environment for this mortgage incentive program. Meanwhile, American household energy expenditures have steadily increased over the past twenty years.²⁴ Between 1997 and 2001, total annual energy expenditures for homes rose over 17 percent, from 136 to 160 billion dollars.²⁵ Although a report from the National Renewable Energy Laboratory cited low utility prices as a "barrier to progress" in 2000, impending climate change legislation and rising energy prices could change this.²⁶ The EEM program would financially assist homeowners facing higher energy bills, potentially broadening the consumer base interested in EEMs.

Solutions Offered by the GREEN Act of 2008

The GREEN Act of 2008, sponsored by Rep. Perlmutter and introduced in May of 2008, attempts to mitigate some of the barriers to successful implementation of the EEM program.[‡] The act includes provisions on reporting requirements, public awareness initiatives, and goals for program participation.

[‡] See Green Resources for Energy Efficient Neighborhoods Act of 2008, H. R. 6078, 110th Cong. (2008).

The GREEN Act of 2008 addresses unclear usage statistics through more accurate information collection. Section 9 of this bill modifies the Home Mortgage Disclosure Act of 1975 to track EEMs precisely. This should prevent these mortgages from being neglected or, conversely, incorrectly included in aggregate data. In turn, these results will help determine the effectiveness and appropriateness of the EEM program.

As mentioned earlier, a lack of public awareness deters widespread use of this program. Section 8 of the GREEN Act of 2008 calls for an interagency “campaign to inform and educate residential lenders and prospective borrowers regarding the availability, benefits, advantages, and terms of energy efficient mortgages.”²⁷ Later, Section 25 of the GREEN Act establishes ‘green banking’ centers that would provide information to prospective borrowers. These centers would educate consumers about energy audits, cost-effective home improvements, and mortgage incentives, furthering efforts to publicize the EEM program.

In addition to dedicated provisions to improve public awareness, the GREEN Act of 2008 mandates promotion by Fannie Mae and Freddie Mac. The bill amends the charters of Fannie Mae and Freddie Mac to include EEMs in their activities, sending a clear message about their increased responsibilities and greater role in effecting energy policy. Quantifiable goals for the program outlined in Section 6 reinforce this message. In a similar manner, Section 7 of the GREEN Act of 2008 requires the FHA to insure at least one billion dollars in mortgages for energy efficient homes after 2012. While not all these mortgages must fall under the EEM program, this provision will likely increase participation in the program. With proper promotion, the EEM program could assist the FHA in fulfilling this mandate. It is imperative that legislators set such goals to ensure energy efficiency improvements and convey their expectations to federal agencies.

Future Steps

While education policies must change, it is clear that outreach alone will not energize this program. In order to ensure the effectiveness of the EEM program, other measures should be taken in parallel with those advocated by Rep. Perlmutter. Both the current bill and future legislation should consider the following alternatives to improve and expand the EEM program, alleviate the financial burden of energy bills on American citizens, and reduce national energy consumption:

Recommendations for Program Promotion and Improvement

➤ ***The apparent fact that the EEM program has never gained a substantial market share should be addressed by a formal study.*** Given that eight million home sales occur annually in the United States, the residential market continues to be a relatively untapped resource for the EEM program.²⁸ Simultaneously, this high volume of sales presents a chance to affect national energy consumption significantly. However, the lack of penetration of this market by EEMs thus far must be analyzed and then addressed by policy changes in order to promote energy efficiency successfully. This should begin with a formal study to explain both errors in reporting and low participation rates.

➤ **National, state, and local governments should use appropriate media to disseminate information about and market EEMs.** The legislation *allows* for contracts with the appropriate media, but it should *require* such publicity. The Canadian government successfully improved a similar program by disseminating information through regional newspapers and television broadcasters, analyzing participation and verifying its effectiveness.²⁹ The federal government should study prior media use for similar products and initiate an advertising campaign implemented both nationally and locally. This campaign should use a combination of broadcast and print media. Such a framework for education would maximize the public knowledge of this program.

➤ **Explicit goals or requirements for 'green banking' centers should be set before these centers are established.** This would bolster the program's competitiveness with other federal priorities. This initiative could also expand the breadth of EEM program awareness, augmenting the education campaign in the GREEN Act of 2008.

➤ **The government should cooperate with private enterprise (beyond the media) to publicize and market this product.** Collaboration with industry representatives, such as realtors, lenders, builders, energy auditors, and lenders could increase the visibility of this product. This could be in the form of periodic training that includes updates on the status of mortgage qualifications and incentives. Another step would be to offer incentives to industry members for promoting this product. With incentives, builders could invest in energy efficiency with a guarantee of greater returns. Similarly, real estate agents would take time to sell EEMs, feeling less rushed to finalize sales. This could stimulate the private sector to offer these mortgages widely, removing the need for government administration and funding in the future.

➤ **The standard for Energy Efficient Homes should be updated to the most recent and ambitious building energy code.** In 2005, HUD updated the requirement to receive a stretch in qualifying ratios. Homes must meet the 2000 International Energy Conservation Code, now outdated by two code revision cycles. In order to modernize the energy efficiency requirements of this program and continue to raise the bar for new home construction, the most recent edition of the appropriate code should be used. In the future, subsequent editions of this code should be adopted after their development.

Recommendations for Program Expansion

➤ **The government should adopt a mandatory national home energy rating system devised by industry experts.** Although HUD issues guidelines for energy audits under select programs, the federal government should issue a single uniform system for all energy audits completed in the United States.

Such a federal mandate would boost participation in the EEM program by providing prospective homeowners with a concrete and uniform system for evaluating the energy performance of their homes. In addition, appraisers often ignore energy performance because no conclusive evidence quantifies the market value of energy efficiency measures.³⁰ A uniform rating system would facilitate accurate house pricing that includes energy performance, reinforcing efforts in the GREEN Act of 2008 to include energy efficiency in appraisals. This would further financial incentives to consumers for completing energy efficiency improvement projects and reduce risk to both lenders and borrowers.

➤ ***The federal government should also require energy audits concurrent with home sales.*** This would enable buyers to account for energy use and lifecycle costs in their financial decisions, removing the barriers of unfamiliarity, inadequate initiative, and lack of resources. Monetary incentives could reduce the financial burden of home energy audits. For instance, the federal government could follow states such as New Jersey, New York, and Connecticut by directly subsidizing energy audits.³¹ This policy would stimulate growth in the energy rating industry. However, a system of mandatory home energy audits would require careful orchestration to avoid technical barriers for both private companies and governments. For instance, mandatory audits could exacerbate existing inaccuracy in home ratings due to inadequate training of industry personnel.³² One possible solution to this problem, a tiered scheme of requirements for energy audits concurrent with home inspections and corresponding mortgage incentives, could ease the transition from our current system. Although this system would need to be developed, it would allow for incentives scaled to match consumer demand. Mandatory home energy audits could benefit as many as eight million consumers annually with equal access to accurate information.³³

Conclusion

The success of the EEM program demands a combination of these recommended alternatives and provisions like those found in Rep. Perlmutter's GREEN Act of 2008. These efforts will assist up to 250,000 new mortgagees who could qualify for, but do not obtain, EEMs each year.³⁴ The policy recommendations in this article would mitigate this lack of participation and could present new opportunities to currently ineligible consumers. Government promotion of the EEM program will result in essential improvements in home energy performance, benefiting current homeowners and future Americans alike.

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