The Energy Efficient Mortgage: New Lending Policies to Boost Bank Acceptance

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ABSTRACT

By including the costs of conservation measures in their mortgage when purchasing an older home, buyers can finance energy improvements at a low monthly cost. The energy savings achieved from the installation of the improvements will offset or exceed the additional mortgage payment. Despite the potential benefits that direct lenders can gain from offering consumers this financing option, few have done so.

This paper describes the preliminary findings of a demonstration project the Alliance to Save Energy is conducting in Hartford, Connecticut to promote adoption of this mortgage financing option. Conn Save Inc. and the Alliance have investigated barriers which inhibit lenders from offering this option and conducted focus group testing with Connecticut home buyers to determine their interest in using this financing arrangement. Results of the focus group test and summaries of discussions with lenders, realtors and appraisers are presented.

This loan program achieved limited success when first introduced through a pilot project in 1983. The original lending policies governing the loan option have been restructured to address lenders' concerns and are being tested in this demonstration project. This paper describes these new policies.

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INTRODUCTION TO THE ENERGY EFFICIENT MORTGAGE

This year's three million consumers who will buy older houses are the potential market for a mortgage loan option that can finance energy efficiency measures. The option--the energy efficient mortgage (EEM)--allows home buyers to finance the cost of energy efficiency improvements in their mortgage. Most consumers will not be able to use this financing option this year, however, because direct lenders such as savings and loans have not passed on to their customers the EEM program that has been established by two secondary mortgage market lenders, the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).

These two firms, which buy a large share of the loans direct lenders originate, will purchase EEMs from their approved lenders. To assist and encourage lenders to make the EEM available to consumers, the Alliance to Save Energy and Conn Save Inc. are conducting a pilot project in Connecticut to 1) investigate concerns with the operational guidelines of the EEM and, if necessary, recommend changes to those guidelines to Fannie Mae and Freddie Mac; and 2) develop marketing support for the EEM among lenders, contractors, realtors, and other businesses.

Fannie Mae and Freddie Mac announced to direct lenders the availability of the EEM in 1983. Fannie Mae's approved lenders can allow buyers to finance improvements worth up to 15 percent of the value of the property in their mortgage; Freddie Mac's lenders can finance measures worth up to 10 percent.

In order to use the program, a home buyer would take written estimates from a contractor for the work to be done to a lender when applying for a first mortgage. The lender would set up an escrow account to cover the cost of the improvements. The lender would pay the contractor, who must install the improvements within 120 days after the loan closing.

EEM PROGRAM FIRST INTRODUCED IN MASSACHUSETTS

The Energy Efficient Mortgage program was first introduced by Fannie Mae and Freddie Mac as one part of a pilot project conducted in Massachusetts in 1983. This project, developed by Energyworks, Inc., the Alliance to Save Energy and Mass Save, Inc., was intended to design and incorporate a home energy rating system as part of a utility's RCS energy audit.[1] Fannie Mae and Freddie Mac supported the project because they believed the information provided by the audit would help buyers invest in energy conservation, thereby lowering the cost of home ownership.

Fannie Mae and Freddie Mac tested two uses of the rating developed as part of that pilot project. For the first test, lenders were allowed to be flexible when applying the standard qualifying guidelines to buyers of energy efficient homes, to reflect lower monthly energy costs of these homes. Lenders could allow buyers to commit 30 percent of their income to the mortgage payment, an increase of 2 percent from the traditional 28 percent. This increase enables a buyer with an annual income of $30,000, for example, to qualify to purchase an energy efficient home worth $5,000 more than if he or she were purchasing a non-efficient home.

The two firms also changed their underwriting guidelines to allow the financing of energy improvements as part of the mortgage. This new program, the Energy Efficient Mortgage(EEM), offered an attractive financing arrangement for consumers purchasing older homes in need of major improvements such as a furnace replacement.

Table I. presents the comparative costs of financing at current interest rates $5,000 in energy conservation improvements through a 30 year home mortgage and a 48 month home improvement loan. As shown, the additional monthly mortgage payment of $46 is about one-third of the monthly payment of a home improvement loan.

Table I.
Financing $5,000 In Energy
Conservation Improvements

	Financed through a 30 year mortgage at 10½%	Financed through a 4 year home at 16%
Montly payment required	$46	$142
Monthly payment after tax (30% tax bracket)		
Year 1	$33	$123
Year 2	$33	$128
Year 3	$33	$132
Year 4	$33	$138
Year 30	$42	
Total principal paid	$5,000	$5,000
Total principal and interest paid	$16,466	$6,802
Total principal and interest after taxes	$13,026	$6,259

The EEM program was offered by one bank in Massachusetts during the pilot project. The bank made a single loan using the energy rating and incorporating the retrofit loan during the short Mass Save pilot project in 1983. Subsequent interviews with a bank official revealed that less than 10 buyers used the EEM before it was dropped by the bank in 1984.[2]

The official suggested several reasons why the program experienced little demand. First, the bank was unwilling to commit substantial advertising support for the financing option because they did not expect it would add a lot of loan demand. Second, real estate agents did not support using the rating system or the loan program because they did not believe either one would be helpful in selling a home. Third, no marketing assistance for the loan option was given by contractors, a group that also stood to gain from its successful operation. (It was noted, however, that other businesses were not contacted by the bank to request their support.)

The banker believed the loan program could be successful under certain circumstances. Most importantly, it was felt that marketing and promotion of the loan option would have to be done jointly with other businesses, including real estate firms. In addition, restricting the improvements that can be financed to only higher cost measures $2,000 would provide some assurance to the bank that they could cover costs and perhaps make a small return.

ALLIANCE AND CONN SAVE INITIATE PROJECT TO PROMOTE EEM PROGRAM

Fannie Mae and Freddie Mac have continued to offer the EEM since its' introduction in Massachusetts. However, the two firms are unaware of any lenders that have offered the loan option. To determine why lenders have not made the option available to home buyers and to promote the adoption of the EEM in Connecticut, the Alliance to Save Energy and Conn Save, Inc. began a pilot project in the fall of 1985. The goals of the pilot are to:

- Determine consumer interests in using the EEM option.
- Investigate lenders' concerns with the operational policies of the EEM and, if needed, recommend to Fannie Mae and Freddie Mac changes to these policies.
- Establish a marketing support program for the EEM among realtors, contractors, manufacturers and others with financial interests in home buying and energy conservation.
- Produce a guidebook that can be used by lenders and others in Connecticut and across the country to establish an EEM program.

The Alliance is a private, nonprofit coalition that promotes investment in energy efficiency through research, educational and demonstration programs. Conn Save, Inc. is a nonprofit organization funded by six Connecticut utilities to provide RCS audits and other energy conservation programs and information to state residents. A Connecticut state law has been passed that guarantees Conn Save will continue providing audits and other services through 1992.

HOME BUYERS WOULD USE THE EEM PROGRAM IF IT WAS AVAILABLE: RESULTS OF FOCUS GROUP TESTING

To investigate home buyers' interest in the EEM option -- would they use it if it was available -- and the importance of energy conservation in the purchase decision, the Alliance and Conn Save arranged for a focus group test in Hartford, Connecticut.[3] An advertising and marketing agency located in the Hartford area was chosen to conduct the test in its' focus group facility. The agency recruited 12 consumers in the home-buying market, 6 renters and 6 current owners, as participants.

An independent moderator from the agency led the testing, starting first with a general discussion of the characteristics buyers look for when purchasing a home. The participants were told only that the agency's "client" (ASE and Conn Save) wanted to learn about their home-buying process. The moderator also revealed that his client was interested in determining what weight the energy efficiency of a home and other factors are given in the purchase decision. Findings of this discussion include:

- Buyers believe it is very difficult, and of limited meaning, to rank various features of a home on any sort of comparative scale. Rather, they tend to rank features in sets or tiers. Energy conservation features fall in the second of four tiers along with size of the home and design. Location, schools and price are the most important features in the decision to buy.

- The decline in oil prices that had occurred (the testing was held February 12, 1986) would not change buyers' decisions to purchase energy efficient homes or upgrade a home after purchase. The participants believe the current oil price decline is a false signal. Further, their purchase decision is based on the presumption that they may be living in the home for a long period of time during which energy prices will continually rise.

- Most buyers judged the energy efficiency of a home based on the features present, (e.g., levels of insulation), rather than on energy bills.

When participants were asked about their willingness to buy a home in need of major improvements and how they would pay for those improvements they responded:

- In general, buying an inefficient home and making the improvements later was considered less desirable than buying a home that was already energy efficient.

- The participants would be willing to spend without much question $1,000 or $2,000 more for an energy efficient home or to improve an inefficient home. Buyers would be hesitant to spend amounts approaching $5,000 without knowing in advance with some assurance, what the resultant energy savings would be.

- Nearly all participants believe that adding $1,000 worth of insulation or other energy improvements adds $1,000 in value. They also believed these improvements would appreciate in value along with the entire home.

The moderator then introduced the EEM program and asked for the participants reactions. A chart similar to Table I was used to illustrate the compartive financing costs for 1) a $5,000 add-on to a 30 year mortgage at 10.5 percent and 2) a $5000 48 month home improvement loan at 16 percent. Despite the fact that the total amount repaid over the life of the mortgage loan was more than double what would be paid with a home improvement loan, the EEM enjoyed unanimous acceptance. The substantially lower monthly payment is the determining factor.

The participants found the concept of "buy now, pay later" for conservation improvements attractive. For example, when contrasting the monthly financing costs of the two options, buyers quickly calculated that it would take 12 years before the payments made with the mortgage add-on would equal the total payments made with the 48 month home improvement loan. Because many of the participants did not expect to live in the home they would be purchasing that long, this was considered an additional benefit of the EEM program.

The buyers also expect that the improvements will produce energy bill savings equivalent to the incremental mortgage cost. The annual after-tax cost of the $5,000 mortgage add-on would be approximately $400 for a taxpayer in the 30 percent bracket. Achieving a savings of this amount is reasonable in a state such as Connecticut where the average annual energy bill exceeds $1800.[4]

Participants discussed marketing the EEM program as the final topic of the focus group. Buyers said they would seek banks offering the financing program. They would look for information on the measures that are needed for their home from Conn Save, which is viewed as an independent and reliable source. They would not rely on energy information from contractors or banks.

LENDER CONCERNS WITH THE EEM UNDERWRITING GUIDELINES IDENTIFIED

Lenders' concerns with the EEM guidelines were investigated through an interview with an officer from the Massachusetts bank that first offered the EEM and a meeting with loan officers, marketing staff and others from 17 Hartford mortgage lending firms. This sample represented about one-third of Fannie Mae and Freddie Mac's approved lenders in the Hartford area. (All of their approved lenders were invited to attend the meeting.) The major findings which emerged from the meetings are:

- An EEM program cannot be operated by a lender acting on its own. Real estate agents must fully support and market the program. In addition, the lenders believe that use of an independent agency (such as Conn Save or a utility) for energy audits would make it more saleable to home buyers.

- Allowing buyers to include the cost of energy conservation improvements in their mortgage requires that the measures add value to the home equal to the cost of the measures. The lenders believe it is difficult to isolate a single measure like an energy conservation improvement and assign a dollar value to it.

- Fannie Mae and Freddie Mac require that value be calculated using either a market data approach or, where market data is not available, by calculating value based on the energy savings that will result from the installation of the measure. The latter approach requires the completion of an appraisal form, the Energy Addendum.(5) Lenders believe that market data is not available. Further, they believe that appraisers would be unwilling to calculate value based on energy savings, because this would require that the appraisers either calculate the estimated savings themselves (which few have the ability to do) or use the energy savings estimates of a third party (which appraisers are reluctant to do).

  (Subsequent interviews with appraisers from three Hartford firms revealed that the appraisers would be willing to use the information provided in Conn Save's audit to complete this form. The appraisers were all familiar with Conn Save's audit and believe it is thorough and well documented. These appraisers would be unwilling to use energy saving estimates from other sources.)

- The underwriting guidelines governing the program are difficult to interpret. The lenders reported that they could not determine, for example, what measures are eligible for the program and whether mortgage insurers would cover these loans. Mortgage insurers may be reluctant to allow value of conservation measures to be determined using any method other than the market value approach. This is because the mortgage insurer will absorb any losses if the property owner should default, therefore they want to be as conservative as possible when establishing property values. In order for the lenders to offer the program, the guidelines would have to be easily understood and simple to administer.

- The lenders believe the EEM program would be a very marketable product if these concerns with the underwriting guidelines could be worked out.

MODIFICATIONS TO THE EEM UNDERWRITING GUIDELINES PROPOSED TO FANNIE MAE AND FREDDIE MAC

Based on the discussions with lenders, meetings with staff from appraisal firms and the focus group test, the Alliance developed and proposed to Fannie Mae and Freddie Mac modifications to their underwriting guidelines governing the EEM program. The changes covered three areas: 1) simplifying the process of assigning value to improvements installed under the EEM program, 2) more accurately defining eligible measures, and 3) limiting the costs of those measures.

By adopting a policy allowing the appraised value of conservation measures to equal installed costs, Fannie Mae and Freddie Mac could simpify the appraisal process for lenders. Lenders would not have to identify market data or calculate value based on the projected energy savings. This policy would be consistent with buyer demand. Several trade magazines and home-buying guides for example, report that insulation adds 83-100 percent of value.[6] Similar reports suggest that storm and replacement windows add value equivalent to or near cost.[7] Participants in the focus group all felt strongly that energy conservation measures would add value equal to cost.

Fannie Mae and Freddie Mac could reduce the risk in allowing value to equal cost by restricting the type of measures that can be financed under the EEM program. Furthermore, defining the measures that are eligible for the loan option would address a concern of the lenders. Measures recommended by the Alliance included those technologies which are proven to reduce energy costs and now have widespread or growing market acceptance.

By restricting the total dollar amount of improvements that can be added to a home to a small fraction of the homes' total price, Fannie Mae and Freddie Mac could reduce any risk associated with allowing value to equal cost. Fannie Mae and Freddie Mac could lower this maximum to 7 percent from their current maximums of 15 and 10 percent, respectively. This percentage allows a dollar amount sufficient to upgrade most homes, preserving the financial attractiveness of the program for buyers. Insulation, for example, is generally installed on cost per R-value per square foot basis. According to contractors we contacted in Connecticut, R-38 ceiling insulation can be installed for about $.55-$.75 a square foot. A ranch home of 1600 square feet would require $880-$1,200.

A review of sales literature, trade association surveys and other information revealed that heating system replacement or improvement, storm and replacement windows, and high efficiency cooling systems can each be installed at a cost of less than seven percent of the value of most homes. The limit is also high enough to allow the installation of a combination of these measures.

NEW POLICIES FOR THE EEM PROGRAM ARE OFFERED

In response to these recommendations, Fannie Mae revised its guidelines governing the EEM program. The changes will be tested as part of the pilot program being conducted by the Alliance and Conn Save. Fannie Mae's original program guidelines will remain in effect for other areas of the country. Freddie Mac will not make the changes, responding that while they recognize it is difficult to assign value to conservation measures, they do not want to remove the appraiser from that process. Freddie Mac will offer its original program guidelines to approved lenders in Connecticut and participate in the Alliance/Conn Save pilot program.

The primary changes Fannie Mae has made for the Connecticut pilot program are:

- Allowing lenders to set value equal to cost for a limited list of conservation improvements.

- Restricting the list of eligible improvements to 1) ceiling, wall and slab insulation, 2) infiltration barriers around windows and generally between any two different building materials, 3) new oil or gas heating systems that have an AFUE rating of 80 percent or higher, 4) heat pumps with an SEER of 9.0 or greater and a heating seasonal performance factor (HSPF) of 7.0 or greater, 5) central air conditioners with an SEER of 9.0 or higher, 6) flame retention head burners with an AFUE of 80 percent or greater, and 7) system modifications including power gas burners, vent dampers, pilotless ignition, and a condensing heat exchanger for forced-air furnaces.

  These measures were recommended by the Alliance and Conn Save as proven technologies that now have widespread or growing market acceptance. The measures are recommended, when appropriate, in Conn Save's audit.

- Limiting the total dollar amount of improvements that can be added to the mortgage. Fannie Mae is reducing this limit to 5 percent of the value of the property.

- Approving use of Conn Save's audit and home energy rating for determining whether a home is energy efficient. Lenders can relax the standard qualifying guidelines for buyers purchasing homes that are energy efficient. This policy will also apply to homes that are brought up to an efficient level by the addition of improvements using the EEM program. (Freddie Mac has also approved the use of the audit and rating for these same purposes.)

Fannie Mae will offer these revised policies in Connecticut for one year. Once the program is underway, Fannie Mae will review loans written under the test policies to determine whether they should be made into corporate-wide policy.

TESTING THE NEW EEM POLICIES IN CONNECTICUT

After Fannie Mae agreed to these new policies and both firms approved Conn Save's audit, the Alliance and Conn Save held a second meeting with Hartford lenders. It was held to explain the new policies, present the operational and marketing plan for the program, and secure commitments from the lenders to offer the program for at least one year.

Fannie Mae's new policies were presented by comparing them with Freddie Mac's. The principal difference is that Fannie Mae will not require lenders to do a value calculation if a buyer is installing one of the measures from their approved list.

Commitments from real estate firms to use the EEM to market older homes to buyers were also described at this second meeting. Several firms have agreed that when they get a new listing, they will ask the seller to get a Conn Save audit. If the audit reveals that the home needs major improvements, the agent will use the EEM to sell that home.

Six Connecticut lenders began offerring the loan program at the end of June. These include smaller savings banks, mortgage banks and a large commercial bank. No information was available on EEM loans written in the first few weeks the program was offererd.

The Alliance and Conn Save are now assisting these lenders in offerring the program by conducting training workshops for loan originators and appraisers. A brochure explaining the program to consumers has been prepared and is available from Conn Save and participating banks. Conn Save has also established an 800- number to take questions from consumers about the program. Conn Save's willingness to act as a central source for information has helped in marketing the program to realtors and banks.

Promotional and advertising materials have been developed for lenders, contractors, real estate agents and manufacturers of energy efficiency equipment. These include advertising slicks, counter card displays and a consumer brochure. The materials reflect discussions of marketing materials which took place during the focus group testing.

Trade organizations representing lenders, realtors and other businesses as well as individual firms have been involved in the development of a marketing plan. Each of these businesses stands to gain from adoption of the EEM program and have agreed to support it through marketing and advertising.

Meetings with real estate firms in Hartford have revealed a great interest in supporting the EEM program. This was unexpected, as the one bank in Massachusetts which first offered the program stated that agents there were not at all supportive of it. When this issue was raised with the realtors, they responded they are increasingly concerned about their liability while buyers are demanding greater value for their investment dollars. A majority of buyers are getting professional home inspections to uncover all the problems that exist in a home. As a result, the sale is sometimes lost or in other cases delayed while the buyer haggles repair of the improvements or a price cut with the seller.

NATIONAL PROMOTION OF THE EEM PROGRAM

The Alliance is now preparing a "how-to" guidebook that can be used by lenders in other communities in Connecticut that want to offer the EEM. It will describe the new guidelines governing the EEM program and include the advertising and marketing materials prepared for lenders and other businesses in Hartford. The guide is being designed to substitute for the workshops the Alliance and Conn Save have offerred directly to lenders in Hartford.

An evaluation of the Connecticut program will be completed this fall. The evaluation will include a survey of lenders to explore their attitudes towards the energy efficient mortgage program and their opinion of how energy efficiency can best be incorporated in the mortgage process.

The Alliance will seek to expand the availability of the EEM to other areas of the country once the evaluation is completed. The how-to guide will be revised to reflect the results of the evaluation and to eliminate Connecticut specific aspects of the program. Several utilities and state governments have expressed an interest in developing a EEM program similar to the Alliance/Conn Save pilot.

NOTES

1. Centaur Associates Inc.. An evaluation of The Home Energy Rating Concept and the Massachusetts Pilot Project April 1983, Washington, D.C.

2. Phone and personal interviews with Charles Ferraro, Assistant Vice President, Bank of New England, Boston, Massachusetts, conducted in the summer of 1985.
3. Lessner, Slossberg, Gahl and Partners. Alliance to Save Energy Focus Group Report February 1986, Avon, Connecticut.

4. Conn Save computer printout summarizing audit data, March, 1986. The average annual energy cost for 4,381 residential audits conducted in the fall of 1985 was $1,842.

5. Both Fannie Mae and Freddie Mac allow lenders to use the Energy Addendum (FHLMC Form 70A) to estimate the value of energy saving measures when comparable market data are not available.

6. Sumichreast, Michael. "The Complete Book of Homebuying", 1984, Washington, D.C., and Rodale Press, New Shelter, August 1985.

7. Hanley-Wood Publications. Remodeling, May 1985.