

U. S. Department of Housing and Urban Development
Washington, D.C. 20410-8000

May 24, 1993

OFFICE OF THE ASSISTANT SECRETARY
FOR HOUSING-FEDERAL HOUSING COMMISSIONER

Mortgagee Letter 93-13

TO: ALL APPROVED MORTGAGEES

SUBJECT: Single Family Loan Production-Energy Efficient Mortgage
Pilot Program

In compliance with Section 513 of the Housing and Community Development Act of 1992 (Act), HUD is establishing an FHA Energy Efficient Mortgage (EEM) Pilot Program for existing properties located in the following states: Alaska, Arkansas, California, Vermont and Virginia. This Pilot Program is effective immediately. An EEM recognizes the energy savings of a home that has "cost effective" energy saving improvements that increase the energy efficiency of a home. Because the home is energy efficient, the family will save on utility costs and thereby can afford to devote more of its income to the monthly mortgage payment. Energy efficiency can include both energy saving and active and passive solar technologies.

Under the FHA EEM Pilot Program, a borrower can finance into the mortgage 100% of the cost of eligible energy efficient improvements, subject to certain dollar limitations, without an appraisal of the energy efficient improvements. To be eligible for inclusion into the mortgage, the energy efficient improvements must be "cost effective," i.e., the total cost of the improvements (including maintenance costs) must be less than the total present value of the energy saved over the useful life of the improvements. The mortgage includes the cost of the energy efficient improvements in addition to the usual mortgage amount permitted by Regulations. The detailed program requirements and processing and underwriting procedures for the FHA EEM Pilot Program are set forth below.

I. BASIC PROGRAM REQUIREMENTS

A. Only existing one and two unit properties located in the above mentioned States are eligible. New construction is not eligible, nor are three and four unit existing properties.

B. The cost of any improvement to the property that will increase the property's energy efficiency and that is determined to be "cost effective" is eligible for financing into the mortgage and its cost may be added to the mortgage amount up to the greater of:

1. 5% of the property's value (not to exceed \$8,000) or,
2. \$4,000.

"Cost effective" means that the total cost of the improvements, including any maintenance costs, is less than the total present value of the energy saved over the useful life of the energy improvement. The FHA maximum loan limit for the area may be exceeded by the cost of the energy efficient improvements.

C. The cost of the energy improvements (including maintenance costs) and the estimate of the energy savings must be determined based upon a physical inspection of the property by a home energy ratings system (HERS) or energy consultant.

The HERS or energy consultant must be an independent entity, not related, directly or indirectly, to the seller of the property or the prospective borrower. The contractor selected by the borrower to install the energy efficient improvements may not be related, directly or indirectly, to the HERS or energy consultant. The HERS or energy consultant may be:

1. a utility company or,
2. a local, state or Federal government agency or,
3. an entity approved by a local, state or Federal government agency specifically for the purpose of providing home energy ratings on residential properties or,
4. a non-profit organization experienced in conducting home energy ratings on residential properties.

D. The home energy rating report prepared by the HERS or energy consultant must be a written report provided to the prospective borrower and lender and it must contain the following information:

1. Address of the property.
2. Name of the current owner(s) of the property.
3. Date of the property inspection.
4. Description of the energy features currently in the property. This must include, at a minimum, a description of the insulation R values in ceilings, walls and floors; infiltration levels and barriers (caulking, weatherstripping and sealing); a description of the windows (storm windows, double pane, triple pane etc.) and doors; and a description of the heating (including water heating) and cooling systems.
5. Description of the improvements recommended to improve the energy efficiency of the property.
6. Estimated costs of the energy improvements, their useful life and the costs of any maintenance over the useful life.
7. Present estimated annual utility costs before installation of the energy efficient improvements.
8. Estimated annual utility costs after installation of the energy efficient improvements.
9. Estimated annual savings in utility costs after installation of the energy efficient improvements.
10. Printed name(s) and signature(s) of the person(s) that inspected the property and prepared the report and the date of preparation of the report.
11. The following certification, signed by the person(s) who inspected the property and prepared the report, must accompany the report:
"I certify, that to the best of my knowledge and belief, the information contained in this report is true and accurate and I understand that the information in this report may be used in connection with an application for an energy efficient mortgage to be insured by the Federal Housing Administration of the United States Department of Housing and Urban Development."

E. A mortgage for the purchase or refinance (including rate reduction streamline refinance) of a property to be insured under Section 203(b), Section 221(d)(2) or Section 234(c) is eligible for this EEM Pilot Program. For streamline refinance transactions, however, lenders are reminded that the borrower's monthly payment for principal and interest for the refinance mortgage (which will include the cost for the energy efficient improvements) must be lower than the monthly principal and interest on the current mortgage.

F. An escrow account may be established for no more than three months after loan closing to allow for installation of the energy efficient improvements. The escrow account may be administered by the lender, a utility company, a non-profit organization or a government agency. The escrow account must be insured and be established at a financial institution supervised by a Federal agency.

II. PROCESSING AND UNDERWRITING REQUIREMENTS

A. The lender will first process the mortgage loan application and qualify the borrower using our standard underwriting requirements and qualifying ratios. If the borrower elects to have an EEM and add the cost of the energy efficient improvements to the mortgage, the lender must take the following additional steps:

1. The lender must obtain a report prepared by a HERS or energy consultant showing the estimated costs of installing the energy efficient improvements (including any maintenance costs) and the estimated annual savings in utility costs that will result from the installation of the energy efficient improvements.

2. Using the HERS or energy consultant's report, the lender must determine that the energy efficient improvements are "cost effective" by calculating the present cost of the energy improvements, including maintenance costs, if any, over the useful life of the improvements and the present value of the energy savings over the useful life of the energy improvements. If the energy efficient improvements meet the "cost effective" test, i.e. present cost of improvements is less than the present value of the energy

savings, then the lender may add 100 percent of the cost of the energy efficient improvements (subject to the dollar limits in paragraph IB, above) to the otherwise allowable maximum mortgage amount. (See Attachment A to this letter for examples showing how to make these calculations and Attachment B

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to this letter which is an EEM Worksheet that must be used to qualify the borrower for the mortgage before adding the energy efficient improvements and then to calculate the EEM amount. If the mortgage is an EEM, Attachment B must be attached to the Mortgage Credit Worksheet (Form HUD-92900WS) when the lender submits the case for insurance endorsement). No appraisal of the energy efficient improvements is necessary and the borrower need not meet any further credit standards. If the energy efficient improvements meet the "cost effective" test, then the full cost of the improvements can be added to the borrower's base loan amount without a determination of value and without further credit qualification.

3. The lender will calculate the upfront mortgage insurance premium on the full mortgage amount (which will include the cost of the energy improvements). Closing can then occur.

B. HUD will insure the mortgage before the energy efficient improvements are installed, provided the lender establishes an escrow account and deposits to it the funds to pay for the energy efficient improvements. The escrow account shall be for a period of no more than 90 days. If the improvements are not installed with 90 days, the lender must apply the funds held in escrow to a prepayment of the principal balance of the mortgage. The escrow account may be established by the lender and administered by either the lender, a utility company, a non-profit organization or a government agency. However, the lender is responsible for assuring HUD that the escrow has been cleared. Lenders shall execute form HUD 92300, Mortgagee Assurance of Completion, to

indicate that the escrow for the energy efficient improvements has been established and the lender, subsequently, is responsible for notifying HUD that the improvements have been installed and that the escrow has been cleared. The installation of the improvements may be inspected by the lender, the HERS or a HUD fee inspector and the borrower may be charged an inspection fee in accordance with the local HUD Field Office fee schedule.

C. The lender must include a copy of the home energy rating report performed by the HERS or energy consultant in the closing package when requesting insurance endorsement.

D. When calculating the borrower's maximum mortgage amount, the lender may include as an eligible closing cost, up to \$200, the cost of the inspection report prepared by the HERS or energy consultant.

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III. DISCLOSURE STATEMENT REQUIRED TO BE GIVEN TO ALL BORROWERS

The Act requires that all applicable borrowers receive a Disclosure Statement informing them of the FHA EEM program requirements and the benefits of an EEM. Therefore, the attached disclosure statement (Attachment C to this letter) must be signed and dated by all borrowers at the time of initial loan application who are either purchasing or refinancing with FHA mortgage insurance, an existing one or two unit property in the above five states. This Disclosure Statement must be given to all applicants effective for sales contracts (or initial loan applications for refinance transactions) signed on or after July 1, 1993. A photocopy of this Disclosure Statement, signed by the borrowers, must be included in the case binder when the case is submitted to the Field Office for insurance endorsement.

If you have any questions concerning this Mortgagee Letter, please contact the local HUD Field Offices located in the above-mentioned five states.

Very sincerely yours,
Nicolas P. Retsinas
Assistant Secretary for Housing
- Federal Housing Commissioner

Attachments

Attachment A

EFFECT ON MORTGAGE AMOUNT OF ENERGY EFFICIENT IMPROVEMENTS

NOTE: All examples assume the property appraised (not including the energy efficient improvements) for an amount equal to or exceeding the sales price of the property. All loan amounts are prior to adding HUD's Upfront Mortgage Insurance Premium (UFMIP). Calculate maximum mortgage amounts (before adding the cost of energy efficient improvements) as presently required by applying maximum loan-to-value (LTV) ratios to the mortgage basis, as well as by applying the 97.75% (or 98.75 for properties at or below \$50,000) limitation to the appraised value excluding closing costs. The lower of the two amounts determines HUD's maximum insurable mortgage (up to the maximum dollar amount for the area) before adding the cost of the energy efficient improvements and UFMIP. Except as noted, no maintenance costs for the energy efficient improvements are expected.

Example 1.

The existing property sold for \$60,000. The borrowers wish to install \$2,000 worth of energy-efficient (EE) improvements that have a useful life of 7 years and will save \$35 in monthly utility costs. The borrowers, closing costs total \$1,200, including \$200 of the \$250 charge for the HERS inspection report. The interest rate on the mortgage is 8.00%

\$60,000 Sales Price \$60,000 Ap. Value
+ 1,200 Closing Costs x97.75% Max. LTV

\$61,200 Mortgage Basis \$58,650 Max Loan
x97/95% Maximum Loan-to-Value Ratio

\$58,640 Loan Amount (before UFMIP)
\$2,000 Installed Cost of EE Improvements
7 Years Expected Life of Improvements
\$35 Expected Monthly Savings
\$420 Expected Yearly Savings
5.206 Present Value Factor (8% Interest Rate @ 7 Years)
\$2,186 EE Premium (5.206PV x \$420 Annual Savings)
Since the present value of the energy savings over the expected

life of the improvements (the EE premium) is greater than the installed cost of the improvements, the entire cost of the improvements may be added to the mortgage amount (as shown below):

\$58,640 Mortgage Amount from above
+ 2,000 Installed Cost of EE Items

\$60,640 Mortgage Amount with Installed EE Items

Example 2.

The existing property sold for \$60,000. The borrowers wish to install \$3,000 worth of energy-efficient (EE) improvements that have a useful life of 10 years and will save \$40 in monthly utility costs. The borrowers, closing costs total \$1,200, including \$200 of the \$250 charge for the HERS inspection report. The interest rate on the mortgage is 8.00%

\$60,000 Sales Price \$60,000 Ap. Value
+ 1,200 Closing Costs x97.75% Max. LTV

\$61,200 Mortgage Basis \$58,650 Max. Loan
x97/95% Maximum Loan-to-Value Ratio

\$58,640 Loan Amount (before UFMIP)
\$3,000 Installed cost of EE Improvements
10 Years Expected Life of Improvements
\$40 Expected Monthly Savings
\$480 Expected Yearly Savings
6.710 Present Value Factor (8% Interest Rate @ 10 Years)
\$3,220 EE Premium (6.710pv x \$480 Annual Savings)

Since the present value of the energy savings over the expected life of the improvements (the EE premium) is greater than the installed cost of the improvements, the entire cost of the improvements may be added to the mortgage amount (as shown below):

\$58,640 Mortgage Amount from above
+ 3,000 Installed cost of EE Items

\$61,640 Mortgage Amount with Installed EE Items

Example 3.

The existing property sold for \$60,000. The borrowers wish to

install \$2,500 worth of energy-efficient (EE) improvements that have a useful life of 7 years and will save \$35 in monthly utility costs. The borrowers, closing costs total \$1,200, including \$200 of the \$250 charge for the HERS inspection report. The interest rate on the mortgage is 8.00%

\$60,000 Sales Price \$60,000 Ap. Value
+ 1,200 Closing Costs x97.75% Max. LTV

\$61,200 Mortgage Basis \$58,650 Max. Loan
x97/95% Maximum Loan-to-Value Ratio

\$58,640 Loan Amount (before UFMIP)
\$2,500 Installed Cost of EE Improvements
7 Years Expected Life of Improvements
\$35 Expected Monthly Savings
\$420 Expected Yearly Savings
5.206 Present Value Factor (8% Interest Rate @ 7 Years)

\$2,186 EE Premium (5.206PV x \$420 Annual Savings)

Since the present value of the energy savings over the expected life of the improvements (the EE premium) DO NOT exceed the installed cost of the improvements, the cost of the improvements are not eligible to be added to the mortgage amount.

Example 4.

The existing property sold for \$60,000. The borrowers wish to install \$5,000 worth of energy-efficient (EE) improvements that have a useful life of 30 years and will save \$40 in monthly utility costs. The borrowers, closing costs total \$2,500, including \$200 of the \$250 charge for the HERS inspection report. The interest rate on the mortgage is 7.50%

\$60,000 Sales Price \$60,000 Ap. Value
+ 2,500 Closing Costs x97.75% Max LTV

\$62,500 Mortgage Basis *\$58,650 Max Loan
x97/95% Maximum Loan-to-Value Ratio

\$59,875 Loan Amount (before UFMIP)

* Because of the 97.75% limitation applied to the appraised

value excluding closing costs, the maximum insurable loan before UFMIP is \$58,650.

\$5,000 Installed Cost of EE Improvements

30 Years Expected Life of Improvements

\$40 Expected Monthly Savings

\$480 Expected Yearly Savings

11.810 Present Value Factor (7.5% Interest @ 30 Years)

\$5,668 EE Premium (11.810PV x \$480 Annual Savings)

Since the present value of the energy savings over the expected life of the improvements (the EE premium) is greater than the installed cost of the improvements, \$4,000 of the improvements may be added to the mortgage amount (as shown below). Only \$4,000 of the improvements may be added to the mortgage because of the limit on the amount of EE premium that can be added to the mortgage. See paragraph IB of the mortgagee Letter:

\$58,650 Mortgage Amount from above

+ 4,000 Installed Cost of EE Items

\$62,650 Mortgage Amount with Installed EE Items

Example 5.

The existing property sold for \$60,000. The borrowers wish to install \$3,000 worth of energy-efficient (EE) improvements that have a useful life of 10 years, has average maintenance costs of \$25 per year, and will save \$45 in monthly utility costs. The borrowers, closing costs total \$1,200, including \$200 of the \$250 charge for the HERS inspection report. The interest rate on the mortgage is 8.00%

\$60,000 Sales Price \$60,000 Ap. Value

+ 1,200 Closing Costs x97.75% Max. LTV

\$61,200 Mortgage Basis \$58,650 Max. Loan

x97/95% Maximum Loan-to-Value Ratio

\$58,640 Loan Amount (before UFMIP)

\$3,000 Installed Cost of EE Improvements

10 Years Expected Life of Improvements

\$45 Expected Monthly Savings

\$515 Expected Yearly Savings (\$540-\$25 maintenance costs)

6.710 Present Value Factor (8% Interest Rate @ 10 Years)

\$3,456 EE Premium (6.710PV x \$515 Annual Savings)

Since the present value of the energy savings (not of maintenance costs) over the expected life of the improvements (the EE premium) is greater than the installed cost of the improvements, the entire cost of the improvements may be added to the mortgage amount (as shown below):

\$58,640 Mortgage Amount from above
+ 3,000 Installed Cost of EE Items

\$61,640 Mortgage Amount with Installed EE Items

Example 6.

The maximum mortgage limit for the area is \$151,725. The existing property sold for \$155,000. The borrowers wish to install \$10,000 worth of energy-efficient (EE) improvements that have a useful life of 30 years and will save \$75 in monthly utility costs. The borrowers, closing costs total \$5,000, including \$200 of the \$500 charge for the HERS inspection report. The property was valued at \$155,000. The interest rate on the mortgage is 8.00%

\$155,000 Sales Price \$155,000 Ap. Value
+ 5,000 Closing Costs x97.75% Max LTV

\$160,000 Mortgage Basis \$151,512
x97/95/90 Maximum Loan-to-Value Ratio

\$150,750 Loan Amount (before UFMIP)
\$10,000 Installed Cost of EE Improvements
30 Years Expected Life of Improvements
\$75 Expected Monthly Savings
\$900 Expected Yearly Savings
11.258 Present Value Factor (8% Interest Rate @ 30 Years)
\$10,132 EE Premium (11.258PV x \$900 Annual Savings)

Although the present value of the energy savings over the expected life of the improvements (the EE premium) is greater than the installed cost of the improvements, the amount that may be added to the mortgage amount is limited to the lowest of the cost of improvements, \$8,000 or 5% of the appraised value (as shown below):

\$150,750 Mortgage Amount from above
+ 7,750 Lowest of installed cost (\$10,000), \$8,000 limit, or 5% of appraised value of \$155,000
(\$7,750)

\$158,500 Mortgage Amount with Installed EE items

Also note that the mortgage amount permitted exceeds the statutory limit for the area of \$151,725 because of the amount of the EE items.

Example 7.

The existing conventional loan is being refinanced to a HUD-insured mortgage. The borrower owes \$60,000 and wishes to install \$2,500 worth of energy-efficient (EE) improvements that have a useful life of 10 years and will save \$35 in monthly utility costs. The property was appraised for \$65,000 and the borrower's closing costs including discount points total \$2,500, including \$200 of the \$250 charge for the HERS inspection report. The interest rate on the mortgage is 8.00%

\$60,000 Unpaid Principal Balance \$65,000 Ap. Value

+ 2,500 Closing Costs + 2,500 C. Costs

\$62,500 Maximum Mortgage \$67,500 Mort Basis

x97/95% Max LTV

\$64,625 Loan Amount

\$2,500 Installed Cost of EE Improvements

10 Years Expected Life of Improvements

\$35 Expected Monthly Savings

\$420 Expected Yearly Savings

6.710 Present Value Factor (8% Interest Rate @ 10 Years)

\$2,818 EE Premium (6.710PV x \$420 Annual Savings)

Since the present value of the energy savings over the expected life of the improvements (the EE premium) is greater than the installed cost of the improvements, the entire cost of the improvements may be added to the mortgage amount (as shown below):

\$62,500 Mortgage Amount from above

+ 2,500 Installed Cost of EE items

\$65,000 Mortgage Amount with Installed EE Items

Example 8.

The existing property is being streamline refinanced without an appraisal from a 12% interest rate mortgage to a 8% interest rate.

The borrower owes \$60,000 (of an original debt of \$61,500) and

wishes to install \$2,500 worth of energy-efficient (EE) improvements that have a useful life of 10 years and will save \$35 in monthly utility costs.

\$60,000 Unpaid Principal Balance (Loan excluding MIP cannot exceed this amount; no closing costs may be financed.)

\$2,500 Installed Cost of EE Improvements

10 Years Expected Life of Improvements

\$35 Expected Monthly Savings

\$420 Expected Yearly Savings

6.710 Present Value Factor (8% Interest Rate @ 10 Years)

\$2,818 EE Premium (6.710PV x \$420 Annual Savings)

Since the present value of the energy savings over the expected life of the improvements (the EE premium) is greater than the installed cost of the improvements, the entire cost of the improvements may be added to the mortgage amount (as shown below) provided that the principal and interest of the new mortgage with the energy efficient items added is less than the P&I of the mortgage being refinanced:

\$60,000 Mortgage Amount from above

+ 2,500 Installed Cost of EE Items

\$62,500 Mortgage Amount with Installed EE Items

Compare: P&I for \$61,500 @ 12% = \$633

P&I for \$62,500 @ 8% = \$458

Since even with the inclusion of the energy efficient items into the new mortgage amount there is a reduction to the borrowers monthly principal and interest payment, the installed cost may be added to the insurable mortgage.

Attachment B

ENERGY EFFICIENT MORTGAGE WORKSHEET

STEP 1: QUALIFYING THE BORROWER

The borrower must be qualified for the mortgage amount before adding the cost of energy efficient improvements to the mortgage. To show that the borrower qualified for the mortgage amount, show the borrower qualifying ratios on the mortgage by completing the worksheet below.

1. Enter the amount from line 14g of the HUD 92900-WS \$ _____

2. Estimated upfront MIP for amount on line 1, above. \$ _____

3. Sum of line 1 and 2, above: \$ _____

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4. Monthly payments based on mortgage amount from line 3, above.

a) Estimated PITI and monthly MIP \$ _____

b) Estimated PITI, monthly MIP, and
recurring expenses (total fixed) \$ _____

5. Qualifying ratios using mortgage amount before adding cost of energy
efficient improvements.

a) Mortgage payment to income ratio _____ . _____ %

b) Total fixed payment to income ratio _____ . _____ %

STEP 2: ADDING THE COST of ENERGY EFFICIENT ITEMS to
THE MORTGAGE AMOUNT

If the borrower is an acceptable credit risk for the mortgage amount
requested before adding the cost of the energy efficient items, complete
the worksheet below to determine if the cost of the energy efficient
improvements may be added to the mortgage amount.

1. Mortgage Interest Rate _____ . _____ %

2. Expected Useful Life _____ Years

3. Present Value Factor (from chart) _____ . _____

4. Expected Monthly Savings \$ _____

x 12

5. Expected yearly savings \$ _____

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a. Minus expected yearly maintenance \$ _____

b. =Net Yearly Savings \$ _____

6. EE Premium (Net Yearly Savings x Present Value Factor)

= (Present Worth of Estimated Savings)

Net YR Savings \$ _____ x _____ PV = \$ EE
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7. Installed Cost \$ _____

Compare EE Premium to Installed Cost:

8. If EE Premium (line 6) is less than installed cost (line 7), the energy efficient items may not be financed into the mortgage.

If EE Premium (from line 6) exceeds installed cost (line 7), answer the following questions to determine the amount that may be added to the mortgage amount:

Does installed cost (line 7) exceed \$4,000? If NO, show installed cost (line 7) here \$ _____ and add to base mortgage amount. If YES (installed cost exceeds \$4,000), does installed cost exceed 5 percent of the appraised value of the property? If NO, show the lesser of \$8,000 or the installed cost (line 7) here \$ _____ and add to base mortgage amount. If YES (installed cost exceeds 5 percent of appraised value), show the lesser of \$8,000 or 5 percent of the appraised value here \$ _____ and add to the base mortgage amount.

The amount calculated above is the maximum amount that may be added to the mortgage previously calculated on line 14g of the HUD-92900-WS, Mortgage Credit Analysis Worksheet. Line 6a, 6b, and 6c of the analysis worksheet will reflect the addition of the EE premium in the new mortgage amount. Be certain to identify in the "Remarks" section of the worksheet why the final mortgage exceeds the line 14g and also show the revised loan to value ratio and borrower qualifying ratios for the higher mortgage amount. A copy of this Attachment B must be attached to the worksheet. The upfront MIP must be calculated on the mortgage amount including the energy efficient improvements.

PRESENT VALUE FACTORS for ENERGY EFFICIENT MORTGAGES

INTEREST P R E S E N T V A L U E F A C T O R S

RATE 7 YEARS 10 YEARS 15 YEARS 30 YEARS

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4.00%	6.002	8.111	11.118	17.292
4.25%	5.947	8.011	10.927	16.779
4.50%	5.893	7.913	10.740	16.289
4.75%	5.839	7.816	10.557	15.820
5.00%	5.786	7.722	10.380	15.372
5.25%	5.734	7.629	10.206	14.944
5.50%	5.683	7.538	10.038	14.534
5.75%	5.632	7.448	9.873	14.141

6.00%	5.582	7.360	9.712	13.765
6.25%	5.533	7.274	9.556	13.404
6.50%	5.485	7.189	9.403	13.059
6.75%	5.437	7.105	9.253	12.727
7.00%	5.389	7.024	9.108	12.409
7.25%	5.343	6.943	8.966	12.104
7.50%	5.297	6.864	8.827	11.810
7.75%	5.251	6.786	8.692	11.529
8.00%	5.206	6.710	8.559	11.258
8.25%	5.162	6.635	8.430	10.997
8.50%	5.119	6.561	8.304	10.747
8.75%	5.075	6.489	8.181	10.506
9.00%	5.033	6.418	8.061	10.274
9.25%	4.991	6.348	7.943	10.050
9.50%	4.950	6.279	7.828	9.835
9.75%	4.909	6.211	7.716	9.627
10.00%	4.868	6.145	7.606	9.427
10.25%	4.829	6.079	7.499	9.234
10.50%	4.789	6.015	7.394	9.047
10.75%	4.751	5.951	7.291	8.868
11.00%	4.712	5.889	7.191	8.694
11.25%	4.674	5.828	7.093	8.526
11.50%	4.637	5.768	6.997	8.364
11.75%	4.600	5.709	6.903	8.207
12.00%	4.564	5.650	6.811	8.055
12.25%	4.528	5.593	6.721	7.908
12.50%	4.492	5.536	6.633	7.766
12.75%	4.457	5.481	6.547	7.629
13.00%	4.423	5.426	6.462	7.496
13.25%	4.388	5.372	6.380	7.367
13.50%	4.355	5.320	6.299	7.242
13.75%	4.321	5.267	6.220	7.120
14.00%	4.288	5.216	6.142	7.003
14.25%	4.256	5.166	6.066	6.889
14.50%	4.224	5.116	5.992	6.778
14.75%	4.192	5.067	5.919	6.670

The following example shows a completed HUD 92900 Mortgage Credit Analysis Worksheet and an Attachment B for an EEM. In this case the property is valued at \$70,000 and the borrower wishes to install \$2,000 of energy efficient improvements that have a useful life of 10 years. The energy efficient improvements will save \$30 per month in utility costs, but the improvements will also have estimated yearly maintenance costs of \$60. The interest rate of the mortgage is 8% for 30 years.

Attachment B
ENERGY EFFICIENT MORTGAGE WORKSHEET

STEP 1: QUALIFYING THE BORROWER

The borrower must be qualified for the mortgage amount before adding the cost of energy efficient improvements to the mortgage. To show that the borrower qualified for the mortgage amount, show the borrower qualifying ratios on the mortgage by completing the worksheet below.

1. Enter the amount from line 14g of the HUD 92900-WS \$ 67,000
2. Estimated upfront MIP for amount on line 1, above. \$ 2,010
3. Sum of line 1 and 2, above: \$ 69,010
4. Monthly payments based on mortgage amount from line 3, above.
 - a) Estimated PITI and monthly MIP \$ 594
 - b) Estimated PITI, monthly MIP, and recurring expenses (total fixed) \$ 700
5. Qualifying ratios using mortgage amount before adding cost of energy efficient improvements.
 - a) Mortgage payment to income ratio 28.2 %
 - b) Total fixed payment to income ratio 33.3 %

STEP 2: ADDING THE COST of ENERGY EFFICIENT ITEMS to THE MORTGAGE AMOUNT

If the borrower is an acceptable credit risk for the mortgage amount requested before adding the cost of the energy efficient items, complete the worksheet below to determine if the cost of the energy efficient improvements may be added to the mortgage amount.

1. Mortgage Interest Rate 8.00 %
 2. Expected Useful Life 10 Years
 3. Present Value Factor (from chart) 6.710
-
4. Expected Monthly Savings \$ 30
x 12
 5. Expected yearly savings \$ 360
 - a. Minus expected yearly maintenance \$ -60
 - b. =Net Yearly Savings \$ 300
 6. EE Premium (Net Yearly Savings x Present Value Factor) (Present Worth of Estimated Savings)

Net YR Savings \$ 300 x 6.710 PV = \$ 2013 EE

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7. Installed Cost \$ 2000

Compare EE Premium to Installed Cost:

8. If EE Premium (line 6) is less than installed cost (line 7), the energy efficient items may not be financed into the mortgage.

If EE Premium (from line 6) exceeds installed cost (line 7), answer the following questions to determine the amount that may be added to the mortgage amount:

Does installed cost (line 7) exceed \$4,000? If NO, show installed cost (line 7) here \$2000 and add to base mortgage amount. If YES (installed cost exceeds \$4,000), does installed cost exceed 5 percent of the appraised value of the property? If NO, show the lesser of \$8,000 or the installed cost (line 7) here \$ N/A and add to base mortgage amount. If YES (installed cost exceeds 5 percent of appraised value), show the lesser of \$8,000 or 5 percent of the appraised value here \$ N/A and add to the base mortgage amount

The amount calculated above is the maximum amount that may be added to the mortgage previously calculated on line 14g of the HUD-92900-WS, Mortgage Credit Analysis Worksheet. Line 6a, 6b, and 6c of the analysis worksheet will reflect the addition of the EE premium in the new mortgage amount. Be certain to identify in the "Remarks" section of the worksheet why the final mortgage exceeds the line 14g and also show the revised loan to value ratio and borrower qualifying ratios for the higher mortgage amount. A copy of this Attachment B must be attached to the worksheet. The upfront MIP must be calculated on the mortgage amount including the energy efficient improvements.

[Click Here to Open Mortgage Credit Analysis Worksheet \(PDF\)](#)

Form HUD-92900-WS (10/92)

ref. handbook 4155.1

Attachment C

U.S. Department of Housing and Urban Development

ENERGY EFFICIENT MORTGAGE PILOT PROGRAM

Section 513 of the Housing and Community Development Act of 1992 requires the U.S. Department of Housing and Urban Development (HUD) through

the Federal Housing Administration (FHA) to establish a pilot program to provide mortgage insurance for Energy Efficient Mortgages. The property you are purchasing or refinancing may be eligible for this pilot program. The law requires that you be informed of this program and that you acknowledge by signing this statement that you understand the benefits of the program.

What is an Energy Efficient Mortgage?

An Energy Efficient Mortgage, or EEM, recognizes the energy savings of a home. It allows the homebuyer (or homeowner if it is a refinance) to qualify for a larger mortgage to finance the construction or installation of improvements to a home that will increase the home's energy efficiency. Because the home will be more energy efficient after installation of the energy saving improvements, the family can devote more of its income to the mortgage payment.

How do I apply for an EEM?

When you apply for your mortgage loan, tell your lender that you are interested in an EEM. You or the lender must then have the home inspected and rated by a home energy rating organization. Many utility companies and other organizations perform these energy inspections and ratings. The home energy rating organization will determine the energy use of the home and recommend the improvements that may save energy. For example, the inspection may show that adding additional insulation, replacing an old furnace or other similar improvements will increase the energy efficiency of the home. If these improvements will save you more money than it costs to install them, then the costs of the improvements (up to certain dollar limits) may be financed into your mortgage.

Where can I get more information about an EEM?

Ask your real estate broker, mortgage lender, utility company or state energy office for more information about an EEM.

Borrower Signature Date

Borrower Signature Date