IMPACT ANALYSIS

Federal Housing Administration Proposed Pilot Program:

"PowerSaver" Home Energy Retrofit Loan Insurance

FR-5450-N-01

1 Summary of Impact Analysis

The Consolidated Appropriations Act of 2010 (the Act) directs HUD to conduct an "Energy Efficient Mortgage Innovation" pilot program targeted to the single family housing market, and provides $25 million in appropriated funds to support such an initiative. FHA's authorizing statute for insurance authorities, the National Housing Act, authorizes FHA to provide insurance for home improvement loans. In this Notice, FHA proposes to combine its existing authority under the National Housing Act with the new authority and funding appropriated under the Act to provide an incentive to lenders and potential loan investors to participate in a pilot program wherein FHA insurance for home improvement loans would be made available to homeowners for the specific purpose of making energy efficiency improvements to their homes that result in lower energy costs and consumption levels. In addition, FHA proposes to tighten portions of its relevant underwriting guidelines, enhance claim procedures and strengthen its administrative oversight in connection with the pilot program. The primary benefit of the set of actions outlined in the Notice will be to increase the availability of affordable financing for consumers to make energy improvements to their homes.

As a pilot program, FHA proposes to select a limited number of lenders, to generally define the eligible markets lenders may serve, and to limit the pilot's duration to a period of two years. FHA envisions that the pilot program will provide insurance for up to 24,000 loans over that two year period, with an expected average loan size of $12,500. Thus, the program is expected to result in the extension of $300 million in FHA-insured energy efficiency property improvement loans.

2 Need for Policy Change

The opportunities to reduce residential energy consumption, with resulting reductions in both greenhouse gas emissions and consumer expenditures on energy, have been widely

observed. According to the U.S. Energy Information Agency (EIA), the residential sector accounts for 20.9 percent of the energy consumed in the U.S. and accounts for 20 percent of U.S. carbon dioxide emissions. Energy expenditures per household have increased by 20 percent on average since 1990 and currently exceed $200 billion annually, according to EIA.

Estimates of the actual, economic and technical potential for reducing energy consumption and expenditure in existing homes through efficiency improvements (as opposed to conservation) are somewhat varied. There is considerable consensus that reductions of 20 – 30 percent in both energy consumption and related expenditures are achievable. A meta analysis of multiple studies conducted by the American Council for an Energy Efficient economy in 2004 found the median achievable potential for reduction of energy consumption in the residential sector is 26 percent. The Harvard University Joint Center for Housing Studies found that energy consumption per square foot in homes fell 21.6 percent from 1993 to 2005, likely due to energy-efficient home improvements. The Center noted that if pre-2000 homes were brought up to the same efficiency level as post-2000 homes in their regions, overall residential energy consumption would fall by an additional 22.5 percent. In terms of expenditure, an Environmental Protection Agency analysis shows that the typical home can save about 30 percent on monthly home energy bills ($200 - $400) through use of ENERGY STAR-qualified products. The Department of Energy (DOE) reports that homes assisted under the Weatherization Assistance Program reduce annual gas heating consumption by 32% percent on average and realize average monthly cost savings of $350.

Despite the benefits of residential energy efficiency, relatively few homes are as efficient as they could be. It has been estimated that fewer than 5 percent of existing single family homes have been fully retrofitted for energy efficiency. There is a substantial body of literature on the interlocking barriers to broader and deeper levels of energy efficiency in the residential sector. A lack of access to capital to pay the upfront costs of energy improvements is frequently observed as one of the primary barriers. Recent analysis by McKinsey and Company, among others, suggests that affordable, accessible financing for home energy improvements, in combination with strategies to increase consumer awareness, provide quality assurance and enhance the delivery of related services, can “unlock” substantial energy, economic and environmental benefits for individual consumers, and society as a whole.

2.1 Lack of Alternatives to FHA loans

As noted, the Act directs HUD to develop an innovative pilot program to support single family home energy improvements. FHA determined that there was a need for less expensive and more widely available financing for energy-related home improvements. FHA established a set of core principles it believed any such financing should include:

1. Financing should be affordable and easily accessible to borrowers.
2. Borrowers should qualify for the loan based on sound underwriting practices;
3. The expected energy savings should be equal to or greater than the cost of the financed amount; and
4. The term of the financing should be equal to or less than the expected life of the improvements.

With the exception of a few very small programs serving specific markets, FHA determined that a form of financing for home energy improvements that reflected the principles above and was generally available and affordable did not exist. In addition, FHA determined that the programs that generally did reflect these principles, such as the Fannie Mae Energy Loan, are typically provided as unsecured consumer loans. FHA determined that this fact results in a higher cost for consumers and a less liquid market for financing than a more conventional mortgage product, since consumer loans of this nature typically cannot be sold or securitized and therefore cannot generate liquidity through capital markets investment.

FHA determined that for mainstream mortgage financing for home energy improvements to be generally available and affordable, liquidity for such products would be necessary. FHA determined that unless lenders were able to either sell whole loans, or securities backed by loans in a secondary market, it would be unlikely that such loans would ever be as widely available or as affordable as would be desirable. FHA determined that piloting the viability of a federally insured home energy retrofit loan program that could generate capital markets investment would be the optimal utilization of the funding and congressional authority under the Act.

Under the pilot program, as under the Title I PI program, the loan interest rate will be determined by the market and likely will vary to some extent by lender and location. Under the Title I PI program, FHA has little ability to influence the interest rate beyond the (presumably

significant) positive effect that federal insurance has on the rate. Recent reported interest rates for Title I PI loans have been 6 – 8 percent.

Under the pilot program, FHA is proposing several measures to further lower the interest rate and/or provide other financial benefit to borrowers – in addition to making financing more widely available than some other forms of financing. The first is through the use of appropriated funds under the Act as described below . The second is through the removal of the limitation on borrower discount points. By allowing city and state agencies states and nongovernmental entities to help lower the cost of financing for borrowers (either directly, such as through an interest rate write down, or indirectly, such as through a partial payment of servicing or other transaction costs), FHA projects that nominal interest rates could be reduced by up to 200 basis points for some consumers for loans that are sold or securitized, perhaps more for loans that are held in portfolio by the originating lender.

It is also the case that some of the requirements FHA proposes to add, such as required property valuation, may contribute to slightly higher lender costs, and therefore, potentially higher interest rates than would otherwise be the case. In all, FHA anticipates that most borrowers under the pilot program will be able to access financing at rates at or below the current interest rate for Title I PI loans.

Financing Type	Availability	Cost	Pros	Cons
Energy Efficient Mortgage	Not widely available	Relatively low; generally at current first mortgage rates.	Liquid Secure	FHA EEM is a negative equity product Costs may exceed benefits due to term
Home Equity Loans	Varies widely by borrower, home value	Relatively low, 6-7% on average.	Can be relatively quick and simple for homeowners to execute.	Not marketed or targeted for energy efficiency. Home values flat or declining for many consumers
Unsecured Personal Home Improvement Loans	Widely available	High	Can be relatively quick and simple for homeowners to execute	Not marketed or targeted for energy efficiency, except for Fannie Mae Energy Loan, which is available only through three lenders and operates at very low-volume Cost may exceed savings
Credit Card Loans	Widely available	High	Can be relatively quick and simple for homeowners to execute	Not marketed or targeted for energy efficiency Cost may exceed savings
Retail sales Installment Contracts	Widely available	Relatively high	Can be relatively quick and simple for homeowners to execute	Cost may exceed savings
"PACE" Assessments	Not widely available	Relatively low in most cases; 6-7 percent on average; APRs higher in some cases	Can be relatively quick and simple for homeowners to execute	Currently available in a few communities due to federal financial regulator and GSE concerns
Utility "On Bill" Financing	Not widely available	Relatively low in most cases; 6-7 percent on average cases	Can be relatively quick and simple for homeowners to execute	Currently available in a few communities

2.2 Cost-Benefit Analysis of Energy Efficient Investment

The net benefit of an energy-saving retrofit depends on the cost of the retrofit, the resulting reduction in energy consumption, the path of energy prices, and the discount rate. The potential reduction in energy consumption from the retrofit (technical efficiency) provides us with the value of annual saving at current energy prices. The annual benefit, as measured by the potential reduction in energy expenditure depends on energy prices: as energy prices rise, the energy efficiency is worth more. The longer the lifetime of the investment the greater the sum of benefits. Finally, as benefits are discounted at a higher rate, the sum of the present value of benefits will be lesser. The tables below show the benefit-cost ratios for a retrofit cost of $10,000 that provides energy savings over a period of twenty years. Ratios vary by the discount rate, annual energy saving, and energy price growth. The estimates in these tables are similar to other benefit-cost analyses. Clinch and Healy (2001) estimate a benefit-cost ratio of 1.7 and find that their estimate is about midpoint of other studies on energy efficiency.

The benefit estimates rely on the estimates of annual saving. From the 2008 Consumer Expenditure Survey, we know that the average household spends $2,400 on energy. The $600 saving would represent a 25% reduction; $800 represents a 33% reduction; and $1000 represents a 41.7 percent reduction. These estimates are in line with what is provided by Pike Research (2010) based on data from HUD, DOE, and EPA: they find a potential 36 percent reduction in annual energy bills. Energy saving estimates of this range is confirmed by Nadel et al. Upon reviewing other studies, they conclude that the technical potential for energy saving is 33 percent for electricity and 40 percent for natural gas. The assumed cost of the investment at $10,000 is 10 percent of the highest annual saving. This is roughly similar to the 15 percent reported by Pike Research.

Table A. shows the cost-benefit ratios when the cost is an up-front investment, $10,000 in the first year. Table B. shows the cost-benefit ratios when the retrofit is financed with a 15 year loan subject to a 5 percent interest payment, a 1 percent annual premium, and a 3 percent downpayment.

Cost Benefit Ratio of $10,000 Energy saving Retrofit (over 20 years)									
A. Upfront Investment of $10,000									
Energy Price Growth	Discount Rate of 3% Annual Energy Saving			Discount rate of 7% Annual Energy Saving			Discount rate of 10% Annual Energy Saving		
	$600	**$800**	**$1,000**	**$600**	**$800**	**$1,000**	**$600**	**$800**	**$1,000**
-1%	0.85	1.13	1.41	0.63	0.84	1.05	0.53	0.70	0.88
0%	0.92	1.23	1.53	0.68	0.91	1.13	0.56	0.75	0.94
1%	1.00	1.34	1.67	0.73	0.98	1.22	0.60	0.80	1.00
B. Financed by 15 year loan with 5% interest rate and 1% premium									
Energy price Growth	Discount Rate of 3% Annual Energy Saving			Discount rate of 7% Annual Energy Saving			Discount rate of 10% Annual Energy Saving		
	$600	**$800**	**$1,000**	**$600**	**$800**	**$1,000**	**$600**	**$800**	**$1,000**
-1%	0.68	0.90	1.13	0.63	0.85	1.06	0.61	0.81	1.02
0%	0.74	0.98	1.23	0.68	0.91	1.14	0.65	0.87	1.08
+1%	0.80	1.07	1.34	0.73	0.98	1.22	0.69	0.93	1.16

The net benefits of an energy efficient retrofit are not always positive under the scenarios considered above. The highest benefit-cost ratio is 1.67, which, with a $1000 annual saving, 1% appreciation, and 3% discount rate, breaks even after eleven years. The retrofits with a lower cost-benefit ratio take longer to repay. With a ratio of 1.05, annual saving of $1000, price appreciation of -1%, and a discount rate of 7%, the investment breaks even after seventeen years.

Offering a loan to pursue the retrofit has two effects on costs: it adds to the cost through the interest cost, but at the same time it postpones the costs of the investment into the future. The net effect on cost to the consumer depends on the difference between the cost of the loan and their own discount rate. The payments of a 5 percent loan with a 1 percent premium over fifteen years add up to $14,800. When the discount rate of the consumer is high, for example 10 percent, then the loan makes the investment beneficial under certain

circumstances. Consumers with higher discount rates value money in the present more highly relative to money in the future. Energy savings would need to be significant to motivate an upfront investment of $10,000. If, however, a consumer can leverage the investment through a loan, then he or she can delay the costs as well as the benefits. The present value of the loan payments is $8,600 when the discount rate is 10 percent. The loan allows the consumer with a 10 percent discount rate to make an energy saving investment when the annual saving is $1,000. As long as there is a buffer between the interest rate on the loan and the consumer's interest rate, the loan will be advantageous. This positive effect of the loan can also be seen with the consumer who has a discount rate of 7%, although the difference is very small and does not affect outcomes.

The loan has the opposite effect on the benefit-cost ratio for consumers with discount rates below the interest rate. We see from the above Table that the loan is less advantageous than the upfront investment for the consumer with a 3 percent discount rate. The present value of the loan payments is $12,500. In this case, two of the scenarios are no longer profitable with the loan. Despite this particular example, we expect the loan to have positive effects on investment. First, the discount rates of consumers have consistently shown to be high in the context of energy-saving investment, ranging from 20 percent to 800 percent (Jaffe and Stavins, 1994). Even the lower bound of 20 percent is high when compared to prevailing interest rates at the time when these various studies were done (ranging from 6 to 10 percent). With interest rates below the discount rate, it is much more likely that the loan will decrease the costs of the investment. Second, even if the interest cots add to the costs of the investment, many consumers would not have the necessary funds to undertake the investment without a loan.

The reaction of the consumer to the energy-saving technology will not necessarily reduce energy consumption by what is technically possible. By increasing energy efficiency, the retrofit reduces the expense of physical comfort and will thus increase the demand for comfort. In fact, the retrofit may have been driven for a demand for more heating in the winter or cooling in the summer. The size of the rebound effect will depend on the income of the household and the path of energy prices. Boardman (1994) found that 70 percent of the benefits of energy-efficient improvements reduce energy consumption, the rest go towards increased health and comfort.

The concept of a rebound effect is not controversial in energy-efficiency studies. Although it is difficult to pinpoint an agreed upon proportion, the rebound effect is usually less than 50 percent (Clinch and Healy 2001). More controversial is the idea that the rebound effect can be equal to or greater than 100 percent. Such an effect is referred to as the "Jevons effect" or paradox. While theoretically compelling, there is little empirical validation of the Jevons paradox. Indeed, one of the most rigorous studies of fuel efficiency (Small and Van Dender 2007) finds a 4.5 percent short-run and 22 percent long-run rebound effect for fuel use.

Even if there is a rebound effect, consumers will still realize an energy efficiency benefit. The rebound effect informs us to what extent the benefits of the consumer are divided between reduced energy costs and increased comfort. The technical efficiency generated by a retrofit expands the budget set of the consumer and may be consumed either as income or comfort. The net benefit to the consumer of the loan is thus equal to the above benefit-cost ratio multiplied by the cost of the investment less the cost of the investment. For example, for an annual saving of $1000, 0% price growth, and 7% discount rate, the net benefit to the consumer is $1,400.The $1,400 will be divided between comfort and energy savings, but that proportion does not affect the total amount.

The size of the rebound effect does have implications for measuring the public benefit of reducing energy consumption. If the primary goal of an energy efficiency investment program is to reduce emissions, then the amount of benefits going towards reduced energy consumption is critical. A careful cost-benefit analysis would take into account the sensitivity of various credible estimates of the rebound effect.

2.3 Benefits

The aggregate net benefits are obtained by multiplying the individual net benefits by the expected number of loans and adding the expected social benefits of reduced energy consumption.

2.3.1 Aggregate Private Benefits

If we take the annual saving of $1000, 0 percent price growth, and 7 percent discount rate as a base case, then the present value of the technical retrofit is $11,400. Assuming a rebound effect of 30 percent yields a comfort benefit of $3,400 and energy savings of $8,000 per participant. Approximately 24,000 loans are expected over two years. For the base case

scenario described above, this would equal $41 million in comfort benefits and $96 million in energy savings for each year of the program. The benefits of the FHA program may not equal the sum of the benefits of all retrofits financed through the program, but only reflect the benefits of the retrofits that would not have occurred without the program. For example, if consumers would have invested without the loan guarantee, then the only effect of the program would be a transfer to consumers equal to the lower cost of capital. We have discussed, however, the existence of significant market imperfections and the lack of affordable financing so that it is reasonable to assume that a large proportion, if not all of the loans, will generate benefits. While there are no previous experiments of energy efficient loans, the federal government provides an incentive in the form of the energy conservation tax credit. Studies of the impacts of the tax credit have been mixed, but the most complete work by Hasset and Metcalf (1995) shows that an increase in the tax price of energy increases the propensity to make an energy conservation investment. The lessons to be taken from this study are that 1) incentives that reduce the cost of capital will lead encouraging energy efficient investment; and 2) there is a demand for those incentives.

Present Value of Potential Energy Savings of Pilot Program in First Year (12,000 Participants) in $Millions									
Retrofits Induced by Pilot	Discount Rate of 3%			Discount Rate of 7%			Discount Rate of 10%		
	Benefits	Costs	Net benefits	Benefits	Costs	Net benefits	Benefits	Costs	Net benefits
25%	46	37	9	34	30	4	28	26	2
50%	92	75	17	68	60	8	56	52	4
100%	184	150	34	136	120	16	112	104	8

A sensitivity analysis of the energy saving benefits is provided in the table above for different assumptions of the proportion of participants whose investment would not have happened without the loan guarantee.

Present Value of Potential Energy Savings over Two Years of Pilot Program (24,000 Participants) in $Millions

Time Period	Discount Rate of 3%			Discount Rate of 7%			Discount Rate of 10%		
	Benefit	Cost	Net benefit	Benefit	Cost	Net benefit	Benefit	Cost	Net benefit
Year 1	184	150	34	136	120	16	112	104	9
Year 2	179	145	33	127	112	15	102	94	8
Total	362	295	68	263	232	31	215	198	17
Annualized	24	19	4	24	21	3	25	23	2

The estimated energy saving over the lifetime of the program, given a 100 percent incentive effect, is provided in the table above. The benefits and costs of the total program are annualized over 21 years to yield an annual rate of return of 1.5 percent (4 divided by 150) for the case of the 3 percent discount rate; 1.2 percent for the case of the 7% discount rate; and 0.9 percent discount for a 10 percent discount rate.

2.3.2 Environmental Benefits

A decline of energy consumption reduces emissions of pollutants (such as particulate matter) that cause health and property damage and greenhouse gases (such as carbon dioxide) that cause global warming. While the data on the potential carbon emission reduction is limited, data from the DOE suggests that low-income residential retrofits through the Weatherization Assistance Program reduce carbon dioxide emissions by an average of 1.6 tons per home, per year. Another study found that weatherizing 12,000 homes in Ohio avoided more than 24,000 tons of carbon dioxide (while also reducing 100,000 pounds of sulfur dioxide). An in-depth cost-benefit analysis by Clinch and Healy (2001) of domestic energy efficiency estimated emissions reduction at 8 percent of total benefits. For these emission reductions to be noticeable, however, a program would have to be significantly larger than the current pilot program. Even for more sizable programs, emission reductions will be large only as long as the rebound effect is not overwhelming.

2.3.3 Health Benefits

Besides reductions of emissions, there are health benefits resulting from reduced mortality and morbidity. Greater energy-efficiency for all allows households to afford energy for

heating during sever cold or cooling during intense heat. Doing so reduces the risk of both death and illness for vulnerable populations. This health benefit would apply primarily to very low-income households and would not pertain to participants of the loan program.

2.3.4 Employment Effects

In the practice of cost-benefit analysis, jobs created within a particular industry should not be counted as a "benefit" of a policy action. Employment created in one sector as the result of an external stimulus will lead to the reduction in another sector. Unless there is significant slack in the economy, Data on the jobs generated by home energy retrofits is limited, which has limited modeling of projected job impacts. The proposed "Home Star" federal rebate program for home energy retrofits would create 168,000 jobs from a $6 billion investment, according to independent analysis by Climate Works using economic models from REMI and McKinsey & Co. Those jobs will be heavily concentrated in the construction and manufacturing sectors of the U.S. economy, according to the analysis. According the National Association of Home Builders, 1.11 jobs and $30,217 in taxes is generated directly for every $100,000 spent on residential remodeling in a typical metropolitan area of the United States. In addition, DOE reports that every $1 invested through the Weatherization Assistance Program returns $2.73 in energy and non-energy related benefits at the community scale.

2.4 Costs

2.5 The cost of receiving the energy-savings is the upfront investment plus the costs of financing the investment. The cost per investment is thus equal to the size of the loan. Transfers Involving Borrowers

The transfer to consumers is equal to the difference between the FHA interest rate and the interest rates on other loans available for the same purpose. As discussed, alternative means of financing are limited and come with higher interest costs. However, if the next best interest rate for the consumer was 10 percent, then this loan would represent a transfer to consumers of approximately $5,000 per household. Aggregated over 12,000 participants, the aggregate annual consumer transfer through lower interest costs would be $62 million for each cohort of the program. The source of this transfer is FHA incentive payments to banks to encourage them to reduce rates and the availability of FHA insurance at less-than-market rates which also should encourage banks to reduce rates or other costs to borrowers.

The gain to consumers is not limited to reduced loan costs but will consist also of the benefits of energy efficient investment. The extent of these benefits depends upon the subsidy from an FHA loan guarantee. It is more likely that the program will induce energy-efficient investment (and not simply serve as a transfer) as the difference between the program rate and the next best alternative increases. When the barriers to energy-efficient investment are market failures then an increase in energy saving investment can be counted as a benefit created by the program. If, however, there are primarily non-market failures, then the energy savings should be counted as a transfer to consumers.

FHA has estimated the credit subsidy rate for the Title I PI program for FY 2011 to be 0.76. The actual subsidy rate, which will depend on the policies and procedures governing the pilot program established after consideration of public comment, could be positive.

3 Summary of Notice

After analyzing the viability of several existing FHA programs to serve as the basis for such a pilot program, FHA determined that the FHA Title I Property Improvement (PI) program provided the most appropriate basis for a pilot. Therefore, FHA proposes a set of modifications to the current Title I PI program that will yield a new product for use in the pilot.

While most of the proposed changes are relatively minor, as a group, and in combination with the appropriated funds, they have the effect of creating an innovative pilot program that accords with Congress' direction in the Act. These changes fall into the following categories: 1) changes designed to enhance FHA underwriting of program loans; 2) changes related to FHA administration of the program, specifically in the areas of loan servicing, claim procedures and reporting; 3) changes that will streamline the issuing process to make it less burdensome for consumers; 4) changes to target the pilot program specifically for the purpose of improving home energy performance; and 5) changes to provide additional benefits to borrowers. Finally, as noted, FHA proposes to augment these changes with incentives for lenders to participate, using funding appropriated for the under the Act. In summary, these changes adjust the current flexible framework for the Title I PI program to enable it to encourage and directly support home improvements that improve energy performance, while reducing barriers to making financing under the program more widely available and more affordable.

3.1 Changes to Enhance Underwriting

FHA's underwriting standards for Title I PI loans give lenders flexibility in extending credit. There is no minimum required credit score for borrowers and no combined loan-to-value ratio (CLTV) cap. (Total debt-to-income is capped at 45 percent). In the Notice, FHA proposes that for the pilot program product borrowers be required to have a decision credit score[1] of 660 or higher. In addition, FHA proposes to limit the maximum CLTV ratio for the mortgage and energy retrofit loan to 100 percent. FHA also proposes to require a method to determine valuation of the property, such as an Exterior-Only Inspection Residential Appraisal Report (HUD Form 2055) or other approved valuation method. The borrower's total debt-to-income ratios would remain capped at 45 percent under the pilot program.

There are several reasons for these changes. The purpose of tighter mortgage underwriting is to determine a borrower's ability and willingness to repay the debt, and to limit the probability of default. FHA believes it is important to limit the financing under the program to borrowers who are in a financial position to take on and repay additional debt. While these proposed changes would prevent some consumers from being able to access the program, FHA determined that it is appropriate, if not necessary, to test the program with borrowers who meet the above criteria. In addition, FHA determined that creating liquidity for loans under the program would require the adoption of requirements such as these.

3.2 Changes in Loan Servicing, Claim Procedures and Reporting

Under the Title I PI program, lenders remain responsible for proper collection efforts, even though actual loan servicing and collection may be performed by an agent of the lender. For the purposes of the pilot, FHA proposes that in addition to meeting these requirements the servicer be made fully accountable for the required servicing responsibilities, whether the servicer is the original lender or a subsequent servicer. This is the norm under FHA's major single family program (commonly referred to as the Title II Program). As with the Title II program, FHA proposes that in the pilot program, "the mortgagee shall remain fully responsible for proper servicing, and the actions of its servicer shall be considered to be the actions of the mortgagee." FHA proposes to specify that the servicer shall also be fully responsible for its

[1] A decision credit score is one using the methodology established by the Fair Isaac Corporation, or other similar credit scoring systems.

actions as a servicer and intends to seek recovery from servicers if FHA losses are attributable to servicing errors.

Also, under the Title I PI program, FHA requires that insurance claims be fully documented. Under the pilot program, FHA proposes that the holder of the note will be accountable to FHA for origination/underwriting errors, and the servicer will be accountable to FHA for servicing errors. If a claim would be denied due to servicing errors, FHA would pay the claim to the holder of the note and seek recovery of its losses from the servicer. To effectuate this, the insured lender would be required to obtain at loan origination an indemnification or subrogation agreement from the sub-servicer that would be assigned to FHA when an insurance claim is filed.

The primary reason for these changes is to clarify the responsibilities and obligations of servicers under the pilot program. In addition, FHA determined that clarity with respect to FHA claim payments due to servicer errors would mitigate risk from the perspective of potential capital market sources.

3.3 Changes to Improve Home Energy Performance

Under the Title I PI program, loan proceeds may be used only for the purposes disclosed in the loan application. Under the Title I PI program, proceeds may be used only to finance property improvements that substantially protect or improve the basic livability or utility of the property. FHA has the authority to establish a list of items and activities that may not be financed with the proceeds of any property improvement loan. Under the pilot program, FHA proposes that loan proceeds may be used only for measures that improve home energy performance or directly make such measures possible. FHA proposes that if a lender has any doubt as to the eligibility of any item or activity, the lender must request a determination from FHA before making a loan.

The reason for this limitation is that the purpose of the pilot is to provide financing specifically for home energy retrofits. In addition, FHA determined that limiting the eligible uses of loan proceeds as described will allow better evaluation of the pilot for its intended purpose and facilitate broader analysis of pilot program data to inform other financing efforts to support home energy retrofits.

A related change is a specification on loan maturities. Under the Title I PI program, an insured loan may have a term as long as 20 years. Under the pilot, FHA proposes to limit loan maturities to 15 years, except in the case of renewable energy improvements, which may be financed with 20-year loans. The reason for this change is to better align the term of financing with the useful life and benefits of typical home energy improvements which the pilot program will allow and encourage. In general, most the typical retrofit improvements financed through the program will have a useful life of 15 years or less. More closely aligning financing with useful life helps ensure that consumers do not pay an inordinate amount over time for the cost of the improvements.

3.4 Changes to Provide Additional Borrower Benefits

Under the Title I PI program, the lender may not require or allow any party, other than the borrower, to pay discount points or other financing charges in connection with the loan transaction. FHA proposes to allow other parties, such as state and local governments, private organizations and nonprofit organizations to pay discount points or other financing charges in connection with loans under the pilot program. FHA proposes to specify that the benefits must be bona fide and accrue to the borrower. FHA would review and approve the use of this authority on a case-by-case basis. The rationale for this change is that a growing number of cities and states, as well as utilities, nonprofits and other institutions, have made commitments to provide grant funds and other resources to leverage, extend, or otherwise enhance the value of financing for home energy retrofits. Participating lenders would also have this ability (see 3.5 below). FHA determined that enabling and encouraging lenders participating in the pilot program to work with and align resources with such entities would foster innovative partnerships, help generate additional investment and offer additional value to consumers.

In addition the Title I PI requirements generally provide that loan proceeds may be disbursed to the borrower in full at loan closing. Under the pilot program, FHA proposes that funds would be disbursed to the borrower(s) in two increments: (1) 50 percent of the proceeds shall be disbursed at loan funding/closing; and (2) the remaining 50 percent of the proceeds shall be disbursed after the energy retrofit improvements have been completed as evidenced by an executed Completion Certificate for Property Improvements (Form HUD-56002) by the borrower(s), and a lender required inspection. This change strikes a balance between enabling

contactors to start work, while providing borrowers the ability to ensure that they receive the services and improvements they expect and were approved for under the pilot program.

Finally, the Title I PI program allows "dealer loans" defined as, "a loan where a dealer, having a direct or indirect financial interest in the transaction between the borrower and the lender, assists the borrower in preparing the credit application or otherwise assists the borrower in obtaining the loan from the lender." Generally, dealer loans made under the Title I PI program are marketed by home improvement contractors and executed in the form of retail sales installment contracts. FHA proposes to disallow dealer loans under the pilot program. While FHA recognizes that there are many responsible dealers who can and would provide financing through dealer loans in a responsible manner, FHA is proposing to limit the pilot program to "direct loans" as defined under the Title I program (at § 201.2) as, "a loan for which a borrower makes application directly to a lender without any assistance from a dealer." FHA determined that dealer loans have been disproportionately correlated with poor loan performance under Title I and other home improvement loan programs in the past. Home performance contractors and others whose activity may be described under the definition of "dealer" under the Title I program would still have an opportunity to participate in their primary business by performing the actual retrofits.

3.5 Use of Appropriated Funds

FHA determined that even with federal mortgage insurance such as would be available under the pilot program, any type of small property improvement loans may have relatively high transaction costs for lenders, discouraging some from offering such loans and forcing others that do offer them to increase costs to borrowers. FHA proposes to use the $25 million appropriated by the Act to provide lender incentive payments to support activities that lower costs to borrowers. Eligible uses of such payments will include lowering loan interest rates (per 3.4 above) and, for lenders that will also service their loans, reducing servicing costs. HUD will also consider other proposed uses of such funds, such as streamlining the loan issuing process. Any use of funds must deliver, to HUD's satisfaction, bona fide benefit to borrowers. The amount of payment to each lender and the eligible uses of funds by each lender will be determined by HUD based on the lender's Expression of Interest. HUD anticipates that the amount of grant funds will not exceed $5 million per lender. Funds would be available to lenders

who request them, but would not be required for participation. Lenders who do not seek funds could still participate in the program.

4.Alternatives Considered

FHA considered utilizing the $25 million in appropriated funds to augment the statutory feature that restricts insurance claim payments to 10 percent of the value of lender's loan portfolio. To operationalize this requirement, HUD requires lenders to establish "insurance reserve accounts," representing insurance in force, equal to 10 percent of each loan. With portfolio insurance, lenders are not guaranteed coverage against loss and subsequently price their loans for additional risk. FHA considered options to use the $25 million in appropriated funds to augment the statutory feature that restricts insurance claim payments to 10 percent of the value of lender's loan portfolio; however, it would have resulted in additional risk to lenders, and therefore higher costs to borrowers. FHA also considered utilizing the $25 million to mitigate the lender's risks under this option, though it would have been administratively burdensome for FHA. FHA determined that the goals of the program could be achieved through the use of grant funds now intended.

The primary FHA insurance alternative FHA considered for the Pilot Program was the FHA Energy Efficient Mortgage (EEM) program. The FHA EEM program allows a borrower to finance an incremental amount on their first mortgage to invest in energy efficiency, without an additional appraisal or further credit qualification, provided that the benefit of projected energy savings exceed the cost of the improvements, as estimated by an energy audit.

The maximum cost of the improvements that may be eligible for financing into the mortgage is the lesser of 5 percent of: 1) the value of the property; 2) 115 percent of the median area price of a single-family dwelling; or 3) 150 percent of the Freddie Mac conforming loan limit.

The FHA EEM is available for new and existing homes and for purchase as well as refinance transactions. The additional principal is added to the underlying mortgage. Downpayment requirements do not apply. EEMs may exceed the FHA loan limits, so long as the retrofit improvements yield reliable cost savings over the life of the loan.

The FHA EEM has never been widely utilized (neither have similar products offered by the Veteran's Administration, Fannie Mae, Freddie Mac and private lenders). While FHA has not formally evaluated the program, FHA generally concurs with an assessment by the Federation of American Scientists, which found that the primary barriers include: "a lack of public awareness, the need for consumer initiative, prohibitive initial costs, lack of incentives for industry representatives, and undue risk." The Federation concluded, "A lack of customer and professional awareness is the most prominent obstacle to market success." (See Gerearden, Todd, "Rebuilding Mortgages for Energy Efficiency," Federation of American Scientists, 2009.)

Notwithstanding these barriers, FHA determined that, conceptually, the FHA EEM program may have some advantages as a vehicle for financing energy retrofit improvements. By adding the cost of energy improvements to the first mortgage, the EEM taps into a widespread occurrence – home purchase and refinance – and is ostensibly part of the mortgage system and process, potentially creating opportunities to expand liquidity and availability. Energy retrofit advocates have argued that "point of sale" (or refinance) is a potential "moment of opportunity" that can be leveraged to advance energy efficiency, if the lenders (and others associated with the transaction) promote it as such.

FHA ultimately determined that the EEM was not an optimal vehicle for achieving the energy innovation goal of the Act. First, the FHA EEM is, by definition, a negative equity instrument, and negative equity is extremely problematic in the current housing market. Recent analysis suggests that the rise in negative equity is closely tied to increases in pre-foreclosure activity and is a major factor in changing homeowners' default behavior (See First American Core Logic, "Media Alert: Underwater Mortgages on the Rise According to First American CoreLogic Q4 2009 Negative Equity Data," February 23, 2010). FHA loans already are at maximum loan-to-value ratios (LTV) most of the time on purchases, and FHA's 96.5 percent maximum LTV level is generally far higher than available for loans that lack FHA insurance. FHA borrowers often have limited reserves; unlike the private sector requirement for high LTV loans, there is no reserve requirement for FHA which leaves the borrower with no alternative when stresses occur.

Another problematic feature of the FHA EEM is that the financing may exceed the benefit from and useful life of the measures, and result in a total net cost to the consumer that does not represent the optimal use of funds. For example, an EEM that financed $10,000 in additional

costs for energy improvements at 5 percent note rate results in total principle and interest payment of up to $19,325 total (not discounted) over the life of the loan.

Finally, while the FHA EEM nominally “underwrites” projected future energy savings by basing the additional debt on the projections of an energy audit, it is not clear whether in fact the projected energy and monetary savings appear and whether borrowers reserve them for paying the incremental higher amount of their mortgage associated with the improvements. FHA has never evaluated its limited EEM portfolio on this basis and is not aware of data from other sources that would enable it to come to even a provisional determination. As noted, FHA intends to address this issue as part of the evaluation of the Pilot Program.

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