

# Home Energy Ratings: A Primer

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## INTRODUCTION

Energy is a vital issue in terms of affordable housing. Heating and cooling a home is the largest cost of housing after the monthly rent or mortgage payment. Lower income Americans spend a disproportionate share of their incomes on energy. Not only do they have less disposable income to spend, their energy costs are all too often multiplied by their substandard housing which is cold, drafty and expensive to heat.

Making the nation's housing stock more energy efficient has many potential benefits: safe, healthy, comfortable, and affordable housing for all Americans; reduction of the nation's dependence on imported oil; and decreased production of carbon emissions aiding the environment. In the past few years, cost-effective, energy efficiency technologies have made dramatic progress. In a recent report, the Congressional Office of Technology Assessment estimated that the growing consumption of energy nationwide could be reduced by a third just by using commercially available, cost-effective technologies. The annual savings for consumers? More than \$34 billion!

Despite this dramatic potential, energy efficiency programs across the nation are being scaled down, a result of state and federal government budget constraints and the competitive cost-cutting by utilities. However, the mortgage industry is very interested in developing financing packages which allow buyers to upgrade the energy efficiency of their homes through their mortgage loans. For these programs to succeed, however, a standardized system of measuring the relative energy efficiency of a home and quantitative means of recommending energy improvements is needed -- a home energy rating, to be precise.

This primer, developed by the Residential Energy Services Network (RESNET) with funding from the U.S. Department of Energy, is written as a guide to understanding home energy rating systems and energy mortgages, as well as, their potential uses.

RESNET is a network of mortgage lenders and other housing and residential energy efficiency professionals. RESNET's mission is to qualify more families for home ownership and improve the energy efficiency of the nation's housing stock through expanding the availability of mortgage finance options and home energy ratings. RESNET is working with the mortgage industry to develop a national market for home energy ratings and energy mortgages.

## HISTORY OF HOME ENERGY RATINGS AND ENERGY MORTGAGES

Home energy ratings date back to 1981, when a group of mortgage industry leaders set up the National Shelter Industry Energy Advisory Council. The Council consisted of representatives of Fannie Mae, Freddie Mac, the Federal Home Loan Bank, American Society of Real Estate Appraisers and the leading Multi-Listing Services. The Council's goal was to establish a measurement system which factored the energy efficient features of a home into the mortgage loan. The result was the establishment of Energy Rated Homes of America, a national non-profit organization. Since then Energy Rated Homes of America has grown steadily and now has member rating programs operating in over 38 states.

Energy Mortgages also date back to the early in the 1980s when Fannie Mae, Freddie Mac, the U.S. Department of Housing and Urban Affairs' Federal Housing Administration (FHA) and the Veteran's Administration (VA) all adopted energy mortgage programs. However, these programs were not widely used for a variety of reasons: a lack of consumer and lender awareness, no uniform method of efficiency evaluation (except in a few states with home energy rating systems) and complicated program procedures.

In 1984, home energy ratings and energy mortgages emerged as a national policy issue. The party platforms at both the Democratic and Republican National Conventions called for a national system of home energy ratings and energy mortgage programs. In 1990, President George Bush included market-driven initiatives, such as home energy ratings and energy mortgages, in his administration's national energy strategy.

In 1990, the National Association of State Energy Officials asked the U.S. Department of Energy to work with the states, operating home energy rating systems, and the mortgage and housing industries to develop protocols encouraging nationwide uniformity in home energy ratings and energy mortgages. In response, the Department of Energy and the Department of Housing and Urban Development formed a national collaborative on home energy ratings and energy mortgages in 1991.

The collaborative represented a broad spectrum of the housing market including state governments, operating home energy rating systems, Realtors, builders, appraisers, consumer and environmental groups, and the secondary mortgage market. The following year, the collaborative issued its recommendations calling for a national uniform system of voluntary home energy ratings and energy mortgages.

The recommendations were included in several pieces of legislation passed by Congress that year:

- The National Energy Policy Act of 1992 required the Department of Energy to promulgate voluntary guidelines to encourage the adoption of home energy ratings in all states after consultation with the states, operating home energy rating systems and the secondary mortgage market.
- The Housing and Community Development Act of 1992 required the Department of Housing and Urban Development to test a pilot energy efficient mortgage program in five states.
- The Veterans' Home Loan Program Amendment of 1992 required the Veteran's Administration to adopt a national energy efficient mortgage program for its veteran home loan program.

HUD selected Alaska, Arkansas, California, Vermont and Virginia to pilot its energy efficient mortgage, FHA program in 1993. The FHA program was expanded nationwide in 1995. Fannie Mae selected Colorado to pilot its energy efficient mortgage effort the same year.

In 1993, the Department of Energy contracted with the Home Energy Rating System Council (HERS Council) to develop voluntary technical guidelines for home energy rating systems. A joint task force of the NASEO and HERS Council technical committees developed a consensus recommendation of a technical standard. This recommendation were the basis of DOE's proposed guidelines in its 1995 notice of rule making. Because a dispute between competing utility issues over fuel neutrality, DOE never adopted the proposed standard. Using the recommendations of the joint RESNET/HERS Council Task Force the National Association on September 19, 1999, adopted technical guidelines that addressed the fuel neutrality issue.

In October of 1993, the Clinton-Gore Administration announced its Climate Change Action Plan in compliance to the Rio Accord. The Climate Change Action plan included a provision for making home energy ratings and energy mortgages available nationally. In 1995, DOE selected Energy Rated Homes of Alaska, Inc., Energy Rated Homes of Arkansas, Inc., California Home Energy Efficiency Ratings, Inc., Energy Rated Homes of Colorado, Energy Rated Homes of Vermont Inc., and Virginia Home Energy Rating Organization, Inc. to provide support for the national home energy rating effort.

In April 1995, the National Association of State Energy Officials and Energy Rated Homes of America founded RESNET to develop a national market for home energy rating systems and energy mortgages. RESNET's activities are guided by a mortgage industry advisory council composed of the leading national mortgage executives.

In October 1998, the mortgage industry, RESNET and National Association of State Energy Officials adopted the Mortgage Industry National Home Energy Rating System Accreditation Standard. Fannie Mae and Freddie Mac adopted the national accreditation standard.

After more than a decade of development, the infrastructure needed to make energy efficiency a standard feature in the nation's housing market is in place. Across the nation, states, in partnership with their housing industries, are forging the public/private partnerships required for successful home energy rating systems. RESNET is providing the technical, program and marketing assistance required for this effort.

## MARKET BARRIERS TO RESIDENTIAL ENERGY EFFICIENCY

The tools for cost-effective, energy efficient housing exist now. Recent progress toward a comprehensive understanding of building science has been dramatic. Cost-effective, energy efficient, building techniques and technologies are available. Yet, America's housing stock is far less energy efficient than is economically justified. Consumer surveys show owning an energy efficient home is important to the majority of home buyers. However, this demand is, for the most part, latent. Why is this?

Currently, specific market barriers hinder the adoption of proven and cost-effective practices and materials. These barriers include:

- **NO CREDIBLE INFORMATION SOURCE ON A HOME'S ENERGY EFFICIENCY** - Most of the energy efficient features of a home are hidden once the sheet rock is in place. Consumers are very hesitant to pay for things they cannot see. Home buyers are also wary of accepting the builder's claims regarding the homes they are trying to sell. Unlike cars or major appliances, there is no national system to test the efficiency of a new home

and label it in understandable terms for prospective home buyers.

- **LACK OF INCENTIVES** - Home builders find it difficult to recoup the added costs of energy efficient features. For the most part, these upgrades are not recognized or credited in either the appraisal or mortgage loan. The home builders stressing energy efficiency are at a disadvantage when competing with builders offering similar-looking, less efficient homes at lower prices. Generally, when upgrading a home, a builder invests in features a prospective buyer can easily see, such as landscaping or expensive cabinets.
- **FIRST COST BIAS** - In the U.S., both builders and buyers tend to minimize the "up-front" costs of a home, even at the expense of long-term economic savings. This tendency is reinforced by current mortgage loan practices. The lower costs of owning an efficient home, figured when energy expenses are added to the mortgage, insurance and tax payments, are rarely considered. A number of initiatives, sponsored by government agencies and utilities, have attempted to address this first-cost bias through subsidies in the form of grants, rebates and interest rate reductions. However, the sheer size of the nation's housing market and economic realities have limited the effectiveness of these efforts and led to their reduction.
- **LACK OF A COMMON LANGUAGE** - The housing industry's job is to build, sell, appraise and finance homes. Many of the terms associated with residential efficiency are technical and difficult for a buyer or lender to understand. Evaluating the home as a whole, in terms of its relative energy efficiency, is not usually done.

Across the nation, there is a growing realization that the states, in partnership with housing agencies and the housing industry, can be an effective force for eliminating these market barriers. State energy offices have traditionally taken the lead in addressing these issues through residential energy codes. In the current political climate, such efforts, seen as "unfunded mandates," are resisted. There is, however, a growing movement to use market-driven approaches to circumvent or eliminate the barriers.

## THE POTENTIAL OF HOME ENERGY RATINGS AND ENERGY MORTGAGES

In a time of declining federal and state budgets and down-sizing of utility demand-side management programs, home energy ratings and energy mortgages offer a real growth opportunity for financing residential energy efficiency. The mortgage industry is one of the largest economic activities in the nation. The mortgage industry finances over \$2 trillion in home loans annually. This huge potential makes the development of a national market for home energy ratings vital.

In 1985, Harvard and MIT's Joint Center for Urban Studies analyzed the possible implications of home energy ratings and energy mortgages on home ownership. Using data from the cities of Hartford, Connecticut; Houston, Texas; Portland, Oregon; Chicago, Illinois; and Seattle Washington, the Joint Center for Urban Studies concluded a national program of home energy ratings and energy efficient mortgages would have a significant impact on the ability of lower income families to qualify for home ownership. The study found the use of home energy ratings would enable a minimum of 11% more first-time home buyers to afford mortgage loans.

A more recent study on the potential of energy efficiency programs was completed by the Indiana Office of Energy Policy in 1995. The Indiana State Energy Office studied the potential impact resulting from a significant penetration of the nation's housing market by home energy ratings and

energy improvement mortgages. According to the agency's estimate, an annual penetration into just 20% of the nation's housing market would result in:

- **1.6 million homes being energy rated.**
- **\$8 billion of cost-effective energy improvements installed and financed through the mortgage loan process.**
- **50,000 jobs created in the housing industry installing the improvements.**
- **\$640 million in additional economic activity through increased mortgage payments.**
- **113 billion Btu's in energy saved.**
- **5.52 million-ton reduction in CO2 emissions.**

Home energy ratings can also transform the new housing market by incorporating energy efficiency. In Alaska, the new housing market was transformed through the main-streaming of energy efficiency. In 1994, 83% of the homes built in the state were energy rated. Of the homes built in the state that year, 74% exceeded both the national CABO Model Energy Code and the State of Alaska's energy code. Even more significant, 31% of the new homes received a 5 Star rating or better. In Alaska, a 5 Star rated home is at least 50% more energy efficient than a home built to the CABO Model Energy Code.

The impact of Energy Rated Homes of Alaska is felt throughout the state's housing industry. Real estate companies, builders and mortgage companies use the rating system to market their services. In fact, two affiliates of the nation's largest real estate firms, Coldwell Banker and Century 21 pay for the ratings on homes they list. Other real estate firms commonly use the energy ratings of homes they are marketing in newspaper and magazine advertisements. Appraisers use the Alaska rating system to credit the higher costs of building efficiently in the appraisal. Lenders rely on the home energy ratings to originate construction loans and to qualify buyers for energy efficient mortgages.

Once home energy ratings penetrate a market, it is remarkable how fast the transformation towards energy efficiency can take place. The following chart show how quickly this happened in Alaska.

#### **TRANSFORMATION OF ALASKA'S HOUSING MARKET**

##### ***% NEW HOMES ENERGY RATED***

1992 - 20%  
1993 - 56%  
1994 - 83%

##### ***% NEW HOMES EXCEEDING MINIMUM STANDARDS OF CABO MODEL ENERGY CODE & STATE ENERGY CODE***

1992 - 9%  
1993 - 23%  
1994 - 74%

##### ***% NEW HOMES RATED 5 STAR OR ABOVE***

1992 - 6%  
1993 - 12%  
1994 - 31%

Home energy ratings are also used to finance energy improvements to a home at the time of sale or refinancing through the mortgage loan.

Clearly, home energy ratings and energy efficient mortgages can play an important role in boosting home ownership and improving the energy efficiency of the nation's housing stock.

But exactly what is a rating and an energy mortgage?

## WHAT ARE HOME ENERGY RATINGS?

Getting information on the relative energy efficiency of washers, dryers, heating systems, computers and cars is easy for a consumer - just check the product efficiency label on the product. Ironically, when buying a home, the largest single purchase and by far the biggest source of energy bills for most families, consumers do not have such a reference. A home energy rating, comparable to checking the miles per gallon sticker on a new car, fills that need.

The home energy rating is a standard measurement of a home's energy efficiency. An energy rating allows a home buyer to easily compare the energy costs for the homes being considered. A home owner who wants to upgrade the home's energy efficiency can use the energy rating to evaluate and pinpoint specific, cost-effective improvements.

Home energy ratings involve an on-site inspection of a home by a residential energy efficiency professional, a home energy rater. Home energy raters are trained and certified by the operating home energy rating system. As a rule, home energy raters come from either the housing or energy fields. Their backgrounds include experience as home inspectors, appraisers, energy auditors, low-income weatherization contractors, and energy efficient home builders and designers.

The home energy rater inspects the home and measures its energy characteristics, such as insulation levels, window efficiency, wall-to-window ratios, the heating and cooling system efficiency, the solar orientation of the home, and the water heating system. Diagnostic testing, such as blower door for air leakage and duct leakage testing, is often part of the rating.

The data gathered by the home energy rater is input into a computer program and translated into points. The home receives a point score between 1 to 100, depending on its relative efficiency. An estimate of the home's energy costs is also provided. The home's energy rating is then equated to a Star rating ranging from a 1 Star for a very inefficient home to a 5 Star for a highly efficient home. Along with the rating sheet, a home owner receives a report listing cost-effective options for improving the home's energy rating.

One of the major differences between a home energy rating and a energy audit or weatherization assessment is that the rating is a recognized tool in the mortgage process. Home energy ratings are valuable to the housing industry and can be utilized in a variety of ways.

## HOW THE HOUSING INDUSTRY USES HOME ENERGY RATINGS

### CONSUMERS:

- Determine the relative energy efficiency of a residence when purchasing a home.
- Make educated decisions when investing in cost-effective energy improvements to the home.
- Add the cost of making the energy improvements to the mortgage loan through an energy improvement mortgage.
- Qualify for a higher quality, energy efficient home.

## **BUILDERS:**

- Market the energy efficient features of a home.
- Qualify more potential home buyers for the home.
- Finance the energy efficient features exceeding code through the FHA Energy Efficient Mortgage Program.
- Demonstrate compliance to state energy codes.

## **REAL ESTATE AGENTS:**

- Present information on the energy efficiency of a home in non-technical and easily understandable terms (Star rating).
- Market the energy efficient features of the homes they are selling.
- Identify energy efficient homes on the market for their clients through the Multiple Listing Service.
- Mitigate the lower selling price of inefficient, existing homes through energy improvement mortgages.
- Receive accredited training to recognize and market the energy efficiency of a home for state occupational licensing requirements.

## **LENDERS:**

- Present information on the energy efficiency of a home in non-technical and easily understandable terms (Star rating).
- Determine the relative energy efficiency of the home being financed.
- Increase confidence in the home's marketability in case of default.
- Participate in energy mortgage programs.
- Receive Community Reinvestment Act credits.

## **APPRAISERS**

- Present information on the energy efficiency of a home in non-technical and easily understandable terms (Star rating).
- Verify a home's relative energy efficiency through an independent source.
- Factor a home's energy efficiency into the appraisal.
- Have access to a statewide data base for comparing market data on homes according to their relative energy efficiency.
- Receive accredited training on valuing the energy efficient features of a home in the appraisal for state occupational license requirements.

## **PUBLIC HOUSING AUTHORITIES/AFFORDABLE HOUSING PROGRAMS**

- Identify cost-effective improvements to the housing stock.
- Document energy efficient improvements to housing.

## **UTILITIES:**

- Is cost-effective method to deliver residential energy efficiency programs to all classes of consumers.

## WHAT ARE ENERGY MORTGAGES?

A generic definition of an energy mortgage is a mortgage that credits a home's energy efficiency in the home loan. For an energy efficient home, for example, it could mean allowing the borrower a greater debt-to-income ratio and giving the home buyer the ability to buy a higher quality home because of the lower monthly costs of heating and cooling the home. For homes in which the energy efficiency can be improved, this concept allows the money saved in monthly utility bills to finance energy improvements.

A variety of energy mortgages have appeared in recent years and more are anticipated as the Residential Energy Services Network (RESNET), the operating home energy rating systems and the Environmental Protection Agency increase education/information outreach. Energy mortgages come in two basic categories: energy efficient mortgages used to finance homes that are already energy efficient, and energy improvement mortgages used to improve the efficiency of existing homes. Energy mortgages are sponsored by both federally insured mortgages programs (Federal Housing Administration and Veterans Administration), as well as, the conventional secondary mortgage market (Fannie Mae and Freddie Mac).

As interest in improving the energy efficiency of America's housing stock increases, so has the availability of energy mortgages. A variety of approaches have been piloted in select states and several energy mortgage programs are now available nationwide. The two types of energy mortgages are:

**ENERGY EFFICIENT MORTGAGES (EEMs)** - In its initial form, the energy efficient mortgage was a straight two percent stretch which allowed the buyers of energy efficient homes to qualify for up to two percent more debt because of their lowered monthly utility costs. This stretch allowed more buyers to afford the higher quality, energy efficient homes. This program has worked best when a home energy rating system is available to document the relative efficiency of a home.

One state housing finance agency experimented with an interest rate reduction program which allowed the buyers of homes with home energy ratings exceeding the state's energy code to qualify for lower interest rates. Another state housing finance agency has offered down-payment assistance for the purchase of high energy-rated homes. Both programs were extremely successful in spurring consumer demand for energy efficient homes.

The U.S. Department of Housing and Urban Development's Federal Housing Administration (FHA) recently announced its version of the energy efficient mortgage program. Basically, FHA will allow home buyers to finance the energy efficiency of a new home above its appraised value when the home energy rating documents the home exceeds the Model Energy Code. Through this program, home buyers can purchase homes whose prices exceed FHA limits.

**UPGRADES OF EXISTING HOMES** - This type of energy efficient mortgage finances cost-effective improvements recommended in an energy rating through the mortgage at the time of sale or refinancing. A home energy rater inspects the home and makes recommendations

on cost-effective energy improvements. The rating also provides information on the relative economic return on the improvements. The funds for the improvements are placed into an escrow by the lending institution. The home owner has a minimum of three months after closing to make the improvements. Once the improvements are made, a post-improvement home energy rating is performed to confirm the improvements were installed. The lending institution then releases the escrow funds to pay for materials and contracted labor. The total expended is rolled into the mortgage loan. The FHA and VA mortgage energy improvement mortgage programs can finance energy improvements above the appraised value, if the measures are shown to be economical.

## HOW AN ENERGY MORTGAGE WORKS

Here are examples an energy efficient mortgage and an improvement mortgage. In the first, the home buyer adds \$4,000 to his mortgage loan to finance the energy upgrade of the home being purchased. The increase in the monthly mortgage payments, resulting from the financing of the energy upgrades, is more than offset by the monthly energy savings. The second example illustrates how the stretch works so a buyer can afford a more expensive, energy efficient home.

### EXAMPLE I: ENERGY IMPROVEMENT MORTGAGE

\$75,000 VA 30-Year Mortgage at 7.5% Interest  
(Source: Energy Rated Homes of Vermont, Inc.)

Monthly Costs	With \$4,000 in energy improvements	Without energy improvements
Monthly mortgage payment	\$552.38	\$524.42
Monthly energy expenses	\$90.00	\$150.00
Total monthly cost	\$642.38	\$674.42

*THE BOTTOM LINE: The buyer in this example reduces his monthly housing costs by \$32 --- nearly \$400 a year --- and has a more comfortable and durable home, after making the energy efficiency improvements.*

### EXAMPLE II: ENERGY EFFICIENT MORTGAGE

2% Stretch - Increased Debt-to-Income Ratio When Buying an Energy Efficient Home  
(Source: Energy Rated Homes of Alaska, Inc.)

Monthly Income	Regular Mortgage	Energy Efficient Mortgage	Increased Purchase Power
\$2,000	\$62,500	\$66,933	\$4,433
\$2,250	\$70,223	\$75,372	\$5,149
\$2,750	\$83,667	\$85,955	\$5,578
\$3,000	\$93,678	\$100,400	\$6,722

*THE BOTTOM LINE: The Buyer of an Energy Efficient Home Can Get a Bigger Mortgage Loan and More Easily Afford His Dream Home!*

The institutionalization of energy mortgages into the national mortgage market and their widespread use could mean a significant improvement in the quality of our country's housing stock without a great infusion of government or utility funds.

Energy improvement mortgages offer home buyers of existing homes opportunities to:

- Upgrade the homes they are buying immediately without tapping the family's savings or taking out a higher interest, home improvement loan.
- Own a more comfortable home that costs less to heat and cool.
- Net a better return when selling because of the higher resale value.

- Energy efficient mortgages offer opportunities to:
- Help more lower and middle class American families achieve the American dream of home ownership.
- Purchase higher quality and more affordable housing.
- Create a market demand and value for energy efficient homes.
- Catapult new construction standards above minimum energy codes.

## HOW THE MORTGAGE INDUSTRY WORKS

Not only is buying a home the largest single purchase most families make, it is also one of the most complicated. That is why the average home buyer depends on a network of housing professionals to help guide him through this cumbersome process. Real estate companies, loan originators, loan underwriters, appraisal firms, primary lenders and secondary mortgage institutions: all have a stake in the selling and financing of the nation's homes and each plays a crucial role in the success of home energy rating/energy mortgage programs. Understanding how the mortgage industry works is essential to the design and implementation of a successful home energy rating program.

## HOUSING INDUSTRY PRIORITIES

First, it is important to realize that saving energy is not the primary concern to the industry. The home builder focuses on building a home the buyer is willing to pay for. The real estate agent's primary motivation is to market a home for the quickest possible sale. The lender in the transaction makes money by financing the residential purchase in as secure a manner as possible. Determining market value of the home is the priority of the appraiser. Home energy rating systems and energy mortgages can bridge all of these interests while fostering an increased demand for energy efficiency from consumers.

Generally, a real estate agent or loan originator is the first point of contact for a consumer interested in purchasing a home. Most home buyers depend on these industry professionals to locate the home that meets their needs and advise them about their financing options. Ideally, the seed for taking advantage of a home energy rating or an energy mortgage is planted right away by either or both of these sources. Since real estate agents and loan originators get paid on a commission basis, adding energy efficiency into the mortgage increases their return for a transaction. However, volume and a fast turnaround are also vital to their livelihood, so the home energy rating and energy mortgage process must be quick and easy to win their critical advocacy.

Ask most home owners what kind of home mortgage they have and they will tell you the name of the bank or credit union where they applied and qualified for the loan. However, in the professional mortgage field, the local lender, the one who has the direct contact with the community, is generally considered the *primary lender*.

## SECONDARY MORTGAGE MARKETS

Because the mortgage industry requires a large volume of sales to minimize the risk of default, primary lenders work with major financing sources known as the *secondary mortgage market* to access the funds necessary to finance home loans throughout the nation. The secondary mortgage market buys and sells mortgage loans in large lots on a national basis. By handling mortgages in huge quantities, and hence reducing risk, the secondary mortgage markets can offer competitive benefits, such as lower interest rates, and still make targeted profit margins because of the high volume. Primary lenders can offer their borrowers a broad menu of mortgage options by taking advantage of programs offered by the secondary mortgage market.

There are two main components of the secondary mortgage market: "government" and "conventional" markets. Government markets generally offer attractive terms to meet social

needs, such as lower and middle class families or veterans purchasing their first home. Under the structure of government markets, the government assumes a large portion of the risk for lending the money. This assurance gives the primary lenders greater freedom and flexibility when making the loans and allows families, who might not otherwise be eligible, qualify for a home purchase. The two general types of government markets are state and national. The state level is generally state housing finance agencies. State housing finance agencies use the full faith and credit of a state government and IRS tax codes to offer attractive interest rates to first time home buyers and veterans. The national markets, including the U.S. Department of Housing and Urban Development's Federal Housing Administration (FHA), the Department of Veterans Administration (VA) loan program and the Department of Agriculture's Farmer's Home Administration (FmHA) loan program, insure and guarantee mortgages which meet national priorities. Since these loans are guaranteed and insured by the federal government, the risk to lenders is reduced, but eligibility for these loans is restricted by income, geographic region and/or the price of the home. FHA loans exemplify government-insured loans. Those made by the VA are examples of government-guaranteed loans. FmHA guarantees and insures loans in rural areas and small towns.

There also two types of conventional mortgage markets. The largest are federal government-chartered institutions: Fannie Mae, Freddie Mac and Ginne Mae. A majority of loans made in America are purchased by these institutions. In fact, Fannie Mae is one of the largest corporations in America, with a volume of more \$350 billion in mortgage loans a year. The other market category is loans kept within the private lending institution or held by a large private lender, often referred to as "jumbo loans". The conventional market reduces the risk to the primary lender by buying all or part of the firm's mortgage loan portfolio. The purchased loans are then packaged into mortgage-backed securities and sold on the bond market.

As the underwriter for most of the country's mortgage loans, the secondary mortgage market is where energy mortgages must be initiated. Primary lenders will not sell energy mortgages, unless they know the secondary mortgage market is a willing partner in the process. Fortunately, both the government and secondary components of the secondary mortgage market recognize the benefits of creating and supporting programs which allow the financing of residential energy efficiency features through the mortgage loan. However, home buyers in states without home energy rating systems, which are recognized and accepted by the secondary mortgage market, rarely qualify for energy mortgage programs.

## **TOOLS TO ADD VALUE FOR EFFICIENCY**

After the loan originator initiates a loan, the primary lender uses a loan underwriter and an appraiser to ensure the borrower meet market risk criteria. The loan underwriter certifies the borrower has met the necessary credit qualification for the applicable secondary mortgage market program. The debt-to-income ratio stretch feature of an energy mortgage allows an underwriter greater flexibility in qualifying a borrower to purchase an energy efficient home.

The appraiser evaluates the value of the property and compares it with similar houses in the neighborhood. A lender can only finance a portion of the home's market value. The market value of the home must be high enough to assure the primary and secondary lenders that their institutions will not lose money if the lender forecloses and the property is repossessed. If the appraisal does not place value on a feature of a home, it cannot be financed, and the buyer must pay the added costs out of pocket, thus increasing the down payment. Because of this, an appraiser bases the appraised value on the home's market value and not price.

Appraisers use several tools when determining the market value of a home,. The first is the Multiple Listing Service (MLS). The MLS is a listing of all the homes in a community being offered through real estate agents. Real estate agents use the service to assist in locating homes according to location, price range, special features and other consumer preferences. The MLS also tracks the sales of homes. Appraisers use the service to identify homes similar to the those being appraised to use in cost comparisons. The local appraisal institute's computerized data base is another useful tool. This data base contains information on homes that have been appraised. Appraiser members can access this information for comparison purposes and to establish market trends.

Traditionally conservative in giving dollar-cost benefits to housing design innovations, appraisers have been slow to recognize and credit the energy efficient features of homes in the appraisals. A primary reason has been the lack of market data showing how energy efficient features of a home influence the sales price. For that reason, establishing an industry-backed standard method of measuring and labeling the relative energy efficiency of a home is vital.

## **IT'S THE KEY!**

A home energy rating system is the answer. A rating presents data about a home's efficiency in terms all facets of the industry, as well as consumers, can understand. Rating information can be added to and easily tracked through the MLS and appraisal data base. The rating gives appraisers the data they need to add value for increased efficiency.

The rating system information has become integral to the housing market in Alaska. A home's energy rating is included in the MLS and the state's appraisal institute data base. Because of this market data, appraisers routinely add value for higher rated homes. Other states are taking steps to incorporate the collection of this market data. The rating systems in Colorado and Rhode Island now include in the MLS.

However, even with the quantitative measurement provided by a home energy rating, energy efficiency may continue to be appraised conservatively until enough data is collected to demonstrate the added value stands up when the energy efficient home is resold. There are several ways to help expedite this process. The first is to educate the appraisal industry about how the rating system works and how the appraiser can use the energy rating to add or subtract value. The second method is to create a transition period during which a home energy rating system can capitalize the energy efficiency above the appraised value. Fannie Mae, Freddie Mac and FHA all allow this through the form 70A addendum to the standard appraisal form. However, this form is seldom used.

By its very complexity, the mortgage market challenges the introduction of new ideas and concepts. Each tier of the professional network must be educated about the benefits of energy mortgages to both their industry and their clients before energy mortgages become institutionalized. The adoption of a common method of measuring the relative energy efficiency of a home - the home energy rating system - is the first, vital step to meeting that goal.