

Financing Energy Efficient Homes

by Bruce Sullivan



Energy-saving construction features like better insulation, improved windows, and more efficient heating systems can add 5% to 10% to the cost of a home. Although most of these products pay for themselves over time, anything that raises construction costs is a hard sell to clients who are pressed for cash to begin with. If that's the case, you may want to tell your customers about energy-efficient mortgages, or EEMs. Though EEMs have been accepted for many years by the secondary mortgage market (Freddie Mac and Fannie Mae, for example), they're just now gaining acceptance among realtors, lenders, and government agencies.

Here's how EEMs work. Traditional mortgage financing doesn't look at energy costs, even though energy consumes about 10% of a typical family's housing budget. In households with limited income, energy costs can approach 30%. By contrast, energy-efficient mortgages lump energy costs with other recurring payments — principal, interest, taxes, and insurance — and recognize that every dollar saved by energy improvements is another dollar available for the mortgage payment.

The result is an increase in the amount of money available to a borrower. Lenders cap mortgages at a percentage of a buyer's gross monthly income — usually 28% or 29%. EEMs automatically qualify buyers for an extra 2%. "The monthly savings will be greater than the extra amount in the monthly payment," says Jim Curtis of EEMs, Inc., a Palo Alto, California, consulting company (see Advantages of Energy-Efficient Mortgages, below). "In most cases, owners of energy-efficient homes enjoy positive cash flow from the first month." In Portland, Oregon, for example, a 1970's vintage 1,500-square-foot ranch house could cost about \$75 per month to heat with electric heat. Energy improvements could reduce that to \$35. The \$40 savings could then be used to increase the amount of the mortgage payment. "The net effect of an EEM is to qualify loan applicants with 7% lower income," says Curtis. "Nationwide, that increases the pool of qualified applicants by one-quarter million."

EEMs can also be used to refinance new homes that already contain energy-saving features, and to upgrade existing but inefficient homes. As a

Advantages of Energy-Efficient Mortgages

(30-year loan at 7.5%)

	Conventional Mortgage	EEM
1. Easier Qualifying		
Monthly Income	\$3,000	\$3,000
Debt-to-Income ratio	28%	30%
Maximum mortgage payment (PITI)*	\$840	\$900
2. Lower Monthly Cost		
Cost of energy-saving features	\$0	\$4,000
Mortgage Amount	\$100,000	\$104,000
Monthly Mortgage Payment (PITI)*	\$840	\$868
Monthly Energy Costs	\$90	\$50
Total Mortgage and Energy Costs	\$930	\$918

*PITI: principal, interest, taxes, and insurance

Using an energy-efficient mortgage, applicants qualify for a larger mortgage because an EEM takes into account the fact that energy-efficient construction lowers a homeowner's monthly expenses. The money borrowers save on monthly energy bills is often enough to pay for the energy improvements during construction.

bonus to lenders, an energy-efficient property is a more secure risk. Because an efficient house uses less energy, its monthly energy costs fluctuate less with a rise in fuel prices than do costs in a traditional home.

More Interest From Lenders

Several national mortgage lenders, such as GMAC, Norwest, and First Interstate, now handle EEMs in all or parts of their territories, while local and regional lenders use EEMs to compete with larger competitors. The Veterans Administration also offers an EEM.

Another plus is that EEMs reduce the risk for lenders who want to satisfy the Community Reinvestment Act, a federal law that encourages lenders to increase loans to borrowers who would have been only marginally qualified in the past. For example, Ryland Homes, with operations in 17 states in the mid-Atlantic and Midwest, has used the improved ratios since the mid-1970s. "Fifteen percent to 20% of our mid-Atlantic homes take advantage of the stretch," says Dick Tracey, Ryland's Manager of Engineering Services. Most of the mortgages are to first-time buyers. "That's 500 to 600 homes per year," notes Tracey.

How to Qualify

To be considered energy efficient, a home must meet or exceed the Council of American Building Official's 1992 Model Energy Code (MEC). Utility certification programs, like Super Good Cents and Energy Crafted Homes, easily exceed this standard (using the same methods that the MEC names), as do statewide building codes in 17 states. All new homes with HUD-insured mortgages must comply with the 1992 MEC. Home energy rating systems, now used in more than 14 states, also document a home's energy features. Many of these ratings systems are associated with the Arkansas-based Energy-Rated Homes of America (501/374-7827).

There are three ways of calculating MEC compliance: *systems analysis*, *component performance*, and *acceptable practice*. Systems analysis calculations can be done with one of several commercial computer programs. The component performance method requires you to calculate the heat loss through each

component — walls, roof assemblies, doors, and windows. You can compensate for excess heat loss through one component by reducing heat loss through a different component. Both these methods offer precise calculation and design flexibility.

The acceptable practice method uses a prescriptive list of insulation values for each component. Charts and tables in the MEC booklet enable you to figure out how much insulation you need. This approach is less flexible, but some builders may find it easier to deal with.

Acceptable practice depends on climate. Here's a simple example of the insulation levels that might be needed in Boston, Mass.

Ceiling	R-38
Wall	R-19
Floor over unheated space	R-19
Basement wall (interior)	R-11

In addition to insulation, the MEC contains specs for air infiltration and mechanical equipment efficiency.

If you're interested in calculating thermal performance, there are two helpful publications. For \$10 you can buy the *Model Energy Code Thermal Envelope Compliance Guide for One- and Two-Family Dwellings* published by the National Insulation Manufacturers' Association (NAIMA, 44 Canal Center Plaza, Suite 310, Alexandria, VA 22314; 703/684-0084). The Celotex Corporation distributes a similar *Guide to Model Energy Code* that features rigid insulation products (Celotex Corporation, 4010 Boy Scout Blvd., Tampa, FL 33607; 813/873-1700). It's free of charge, but a Celotex representative must deliver the guide and demonstrate its use. The demonstration takes about an hour and involves plugging in the numbers from a particular job. Both guides use the component performance method.

The upshot is that given a lender's cooperation, you can put together an EEM no matter where you build. Contact local lenders, housing agency offices, or your state energy office to find out what programs are available. ■

Bruce Sullivan is a writer in Eugene, Ore., specializing in energy topics for builders. He is a principal of Iris Communications, Inc. and the editor of Energy Source Builder.