



### Key concepts

- This is the introductory module for a much larger course or program designed to prepare remodelers to incorporate energy efficiency concepts into remodeling projects.

### Explanation

- The overall goal of the course is to provide remodeling contractors with expertise in energy efficiency so that they can incorporate energy-saving features into almost any project. By understanding cost effective measures that enhance existing home performance, a remodeler can offer customers extra value. In addition to meeting a customer's needs for remodeling such as more space, updating, etc., energy improvements can add increased comfort, reduced maintenance, better indoor air quality, and lower monthly utility bills.

### Action Items

- Someone enrolling in this program and meeting its requirements will be eligible for certification as an energy efficient remodeler. The steps toward certification are yet to be finalized, but will likely include learning the concepts in the modules, taking and passing an exam, and verifying that the concepts are being implemented on an ongoing basis.

# Course Objectives

- Develop technical skills
- Develop management methods



## Key concepts

### Course Objectives

- Develop technical skills
- Develop and implement management methods

## Explanation

- Technical skills related to energy efficiency improvements include:
  - Diagnose existing or potential problem areas.
  - Evaluate and identify cost effective remedies.
  - Define the benefits – both quantitative and qualitative.
  - Implement the measures properly.
  - Verify performance via testing or utility bill comparison to demonstrate effectiveness.
  - Incorporate energy efficiency measures into every remodeling project.
- Management methods
  - Convey importance of energy efficiency and related skills to employees and trade contractors. This ensures all are working towards the same goals. Good management practices help because they:
    - Make it less likely that problems will be overlooked.
    - Increase quality of workmanship and customer satisfaction.

## Action Items

- While going through this module and the overall program, look for ways to incorporate the concepts into your unique business.

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# Marketing Energy Efficiency

- Improve profitability and market share
- Add energy efficiency expertise to your toolbox




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3

## Key concepts

- The focus of this introductory module will be on marketing energy efficiency.
- In this module, you will learn how energy efficient technologies can help improve your company's profitability and market share.

## Explanation

- This module will illustrate how and why knowledge of energy efficiency can enhance your business. It also discusses how to demonstrate benefits to customers and methods of financing energy efficiency improvements.
- In addition to helping customers save money via lower utility bills and increasing the comfort of their home, you can also use your skills as an energy efficient remodeler to help improve your business.
- This module will look at the ways in which incorporating energy efficiency into your projects can help improve your profitability and market share.

## Action Items

- When creating marketing materials, talking with current or potential customers, or developing a business plan, think about how your knowledge of energy efficiency makes your company better than other competing remodeling companies.

**Teacher's Notes:** Ask the audience the following types of questions to help you fine-tune your presentation: How many of you would like to improve your profit margins? What are some ways you can do so? Is a remodeler a commodity with a fixed price, and can some remodelers charge premium prices based on superior quality, service, or reputation?

# Module Objectives

- Value of certification and training
- Added value of energy efficiency
- Marketing tools
- Financial incentives



## Key concepts

### •Module Objectives

Understand the value of energy efficiency

Understand the importance of certification and training in energy efficiency

Identify marketing tools to help sell energy efficiency to your customers

Identify financial incentives for energy efficiency

## Explanation

There are numerous ways in which this program can help your business:

- Certification helps to differentiate you from the average remodeler in your locale.

- Importance of certification and training in energy efficiency:

1. Certification lends credibility and confidence in your knowledge and your skills due to 3<sup>rd</sup> party credentials.

2. As in any competitive industry, earning certification from a nationally respected industry leader increases your qualifications by setting you apart as a certified energy efficient remodeler.

3. Training keeps you abreast of new developments and products

- Energy efficiency concepts help save your customers money through lower utility bills and can make the house feel more comfortable.

- Marketing tools

1. Learn how to convey the importance and value of energy efficiency to your customers

- Financial incentives

1. Awareness of available financial incentives for energy efficiency upgrades can help sell the job. With reduced interest rates, increased borrowing power, and sometimes even cash incentives, your customer will be able to stretch their remodeling dollars. The energy improvements can often help pay for the amenities they want by reducing monthly expenses.

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## Value of Energy Efficiency Certification Expand Your Skills

- More competitive
- Well informed
- An industry leader
- Recognized



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5

### Key Concepts:

Certification is important because:

- You are in a competitive business environment
- You can keep abreast of the latest information
- You can be a leader in your industry
- You can set a strong example for your employees and trade partners that education is a life-long process

### Explanation:

- In the current business environment you need to stay up to date on the most advanced technology available for remodelers.
- Anecdote: Would you want to go to an aging dentist using antiquated practices? Of course not, and you also do not want to be that dentist-or remodeler.
- Instead, you want to be at the cutting edge of your industry and you want to learn the latest information from a credible industry leader.

### Action items

- Use the information in this program to develop a plan on staying up to date on the latest technologies and practices.

### Resources

- Visit the Websites listed throughout this training program to keep abreast of the latest building science information.

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## Value of Energy Efficiency Certification Distinguish Yourself From The Competition

- Not every remodeler is using energy efficiency measures
- The effects of your services last a long time after you leave the job
- Energy prices are uncertain

Heating oil retail price in cents per gallon, excluding taxes:

Date	Price (cents per gallon)
Jan. 1998	49
Jan. 1999	~35
Jan. 2000	~75
June 2000	80

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6

### Key Concepts

- Energy efficiency can set your company apart from the rest.

### Explanation

•What sets you apart from other remodelers? Why not highlight your use of energy efficiency measures in your marketing materials? Since not every remodeler is using energy efficiency measures, energy prices are uncertain, and the effects of energy efficiency upgrades last a long time after you leave the job, you can use energy efficiency to help distinguish your company.

-Word of mouth referrals are one of the best ways to increase your business and your reputation. Being able to save your customers money, improve comfort, and increase the value of their home long after you leave can help set you apart from the average remodeler. Your increased understanding of principles of energy efficiency and the way homes work may also help you solve problems that competitors have not solved. For instance, because you recognize that roof leaks may be due to ice dams caused by improper attic ventilation and/or installation of insulation, you might be able to solve the root problem rather than to simply fix the symptom.

### Action Items

- Get testimonials from past customers on how energy efficiency measures helped save them money. In doing your follow-up with customers, try to get real numbers from them – dollars per month – and compare that to what the homeowners used to pay (you can get that information before the project even starts) to show potential clients the power of energy efficiency.
- Use existing marketing materials and programs associated with energy efficiency programs. For example, ENERGY STAR® offers a marketing package for its partners. You can show how ENERGY STAR appliances can save money on utility bills. In order to use ENERGY STAR materials, you must sign up as a program partner.

### Resources



- [http://www.energystar.gov/index.cfm?c=join.join\\_promote](http://www.energystar.gov/index.cfm?c=join.join_promote) – This site provides information on how to become an ENERGY STAR partner to highlight your business as a proponent of energy efficiency.

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## Value of Energy Efficiency Certification Develop Technical Skills

Recognize and solve common problems

- Moisture
- Durability
- Comfort

**Damaged wallboard due to roof leakage**

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7

### Key concepts

Recognize and solve common house problems that are related to energy efficiency

- Moisture
- Durability
- Comfort

### Explanation

•Energy efficiency is not just about saving money on utility bills—it is a whole-house approach that can solve other problems such as moisture, durability, and comfort. For example, the ice dams that formed on this roof due to poor insulation and air leakage into the attic can lead to moisture damage and mold problems on the inside of the home.

-By informing your customer of possible options related to energy efficiency, you may increase the scope of your project. You do not need to be pushy or give them a hard sell, but you can make them aware of additional possible benefits. Alternatively, some energy improvements need not cost more than the original remodeling project. For instance, caulking and air sealing properly, knowing when and where to install air barriers and vapor barriers, being aware of new products that may “do the job better” (e.g., high-performance insulation materials like spray foams may not raise the cost of a job significantly. But, you can make your customer aware of the decisions you are making and why. By increasing their confidence in your abilities, they may be more inclined to trust that you are not simply trying to sell them a bigger job.

-Many remodeling contractors are successfully making energy efficiency a standardized approach in their projects rather than an option. They can provide more consistent products more efficiently if their expectations from subcontractors are the same on all projects. Some of the measures that they have made company standards include the quality of insulation installation, air sealing details, duct sealing, high efficiency low-sone bath fans, blown insulation, and/or fresh air intakes. Consider which approach makes the most sense for your company – offering the customer a list of options or a standard package.

### Action Items

- How many of your customers have shown the need to address moisture, durability, and/or comfort issues?



## Key Concepts

Enhanced credibility through certification.

## Explanation

•In today's market, the customer is often well educated about home construction and can quickly access information on the Internet. Coincidentally, the increasing number of lawsuits and media attention to the poor workmanship by a few has decreased public trust in home builders. Certification provides credibility by demonstrating your commitment to continuous improvement and staying current on the latest developments in the housing industry.

## Action items

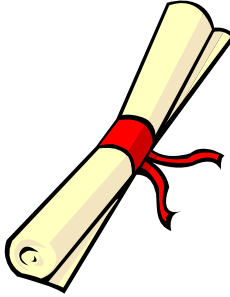
- Make it clear that you are especially qualified to do your job because of your training and certification.
- Be able to answer customers' questions about new energy technologies and materials or know where to find the answers.

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## Value of Energy Efficiency Certification Recognized Qualifications

Certification gives you recognition from:

- A respected organization within the housing industry
- Independent, 3<sup>rd</sup> party evaluation



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9

### Key Concepts

Certification gives you recognition from:

A respected organization within the housing industry

Independent, 3<sup>rd</sup> party evaluation

### Explanation

•As in any competitive industry, earning certification from a nationally respected industry leader increases your qualifications by setting you apart as a certified energy efficient remodeler. The value of this certification is increased because of the third-party independent evaluation required after training to earn certification.

### Action items

•Remember that the purpose of this training is to prepare you for certification, so keep certification as your goal.

### Resources

•You can learn more about other homebuilder and trade contractor certification programs at [www.nahbrc.org](http://www.nahbrc.org). Click on quality at the top of the page.

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## Value of Energy Efficiency to Your Customers

# Enhance Value to the Customer

- Increase quality
- Increase value



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10

### Key concepts

- Enhanced attention to efficiency can improve the quality and value of the remodeling job.

### Explanation

- Energy efficiency improvements entail attention to detail. Careful attention to detail increases quality, reduces potential for call backs, and increases customer satisfaction.
- If you don't talk about the efficiency measures you use, you are giving it away.
- For instance, if your customer wants to replace windows as part of a kitchen remodel, you can help them select the right glazing for their climate and the application. While the customer may know they want a casement window, they may not be aware of glazing choices – e.g., low-e, solar heat gain properties. They also may not be aware of the importance of insulating and air sealing behind the jambs of old windows as they are replaced. This is work you would do anyway as part of the job, but the customer may not be aware of the value you are adding. Offering information about available products and about the methods you will use adds value in your customers' eyes.

### Action Items

- Show the customer how their remodeling project can be enhanced by also improving the energy performance.
- Effective plans showing the extent to which energy efficient measures are to be used in a job can explicitly show your customer how the pieces should work as a system.
- Discuss options affecting energy efficiency and the pros and cons of each to help them make wise choices.
- Talk to customers about the energy efficiency measures you take on the job. This information ensures that customers understand the value that they are receiving.

**Teacher's Notes:** Ask students if anyone has discussed energy efficiency with their customers or used it in marketing their company. If so, then ask if they feel like it has helped win referrals, repeat customers, customer's perception of the quality of the job, etc.

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## Value of Energy Efficiency to Your Customers

# Cost Savings Through Value Engineering

- Understand the options
- Make smart decisions

11

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### Key Concepts

Methods to improve efficiency and save money, too.

### Explanation

- Value engineering concepts allow the remodeler to use alternative materials and techniques to produce the same quality product at a comparative or reduced cost. These same techniques can improve building performance and durability resulting in increased comfort and reduced energy costs for the homeowner.

- Examples of value engineering techniques include:

- Optimum value engineering (OVE) framing techniques that reduce the amount of lumber required to build a secure structure yet increase the insulation value of its exterior walls
- Alternative plumbing distribution systems that ensure adequate water supply yet reduce the waste of hot water.
- Right-sized HVAC systems. Tighter construction and more efficient windows result in smaller HVAC equipment requirements, which may save initial investment money. Proper design, sealing and insulation of new and existing ducts will reduce the overall load on the HVAC equipment and also reduce its size. Improvements to the existing building envelope and ductwork may also allow for the construction of additions without adding new HVAC equipment.

- Value engineering can increase performance and reliability within typical construction budgets. As you adopt these strategies into your renovation projects you should see reduced costs, improved productivity, and a quality finished product. Your promotion of these strategies should also help distinguish yourself from your competition and demonstrate your firm's commitment to offering high quality work at the best value for your customers.


### Action Items

- Explore additional sections in this course for specific value engineering techniques to lower costs and improve building performance. Discuss general concepts of value engineering with your customer and illustrate how your use of these strategies will improve comfort and reduce energy costs.

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## Value of Energy Efficiency to Your Customers Exceed Customer's Expectations

- Same features and styles available
- More comfort
- Improvements usually “invisible”
- Often reduced maintenance



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12

### Key Concepts

- Energy efficient products and techniques can offer the same or better performance at reduced economic and environmental cost.

### Explanation

• Homeowners often have high expectations for style, appearance, and performance of materials they choose for home improvements. There is an increasing and wide variety of energy efficient products to meet customers' demands. Efficient products can not only improve energy performance, but can also meet other goals and desires. Examples:

- High efficiency windows that reduce solar heat gain can also block significant amounts of UV light, resulting in reduced carpet or fabric fading. Efficient heating and cooling systems keep indoor temperatures more consistent and better regulate humidity levels, thereby increasing comfort and durability of a home.
- Energy efficient construction techniques such as tight construction, properly sized mechanical systems, and careful duct design help maintain even temperatures throughout a home.
- Improved air sealing and insulation reduce noise transmission, resulting in a quieter home.
- Efficient homes are bright due to adequate natural sunlight
- Through tight construction and proper ventilation, efficient homes have high indoor air quality.
- None of the strategies discussed in this course will result in increased operation or maintenance requirements for the homeowner. In fact, there are many technologies such as programmable thermostats or motion sensors that reduce the need for a homeowner's attention. Other products such as fluorescent bulbs that last longer than incandescent bulbs should reduce maintenance intervals.

### Action Items

- ✓ Ensure that the homeowner understands that there is a wide selection of energy efficient appliances available that allow them to choose the same features and styles they've come to expect with conventional options.
- ✓ Communicate to the homeowner that there should be no added maintenance required with more efficient options and in fact, maintenance intervals and costs should be reduced.

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## Value of Energy Efficiency to Your Customers

# Homes Cost Less to Operate

- Homeowner is better protected against volatile energy prices

**Figure 9. Natural Gas Spot Prices  
(Base Case and 95% Confidence Interval\*)**

\*The confidence intervals show +/- 2 standard errors based on the properties of the model. The ranges do not include the effects of major supply disruptions.  
Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, August 2003. eia.gov

13

**Key Concepts**

Operational cost of efficient homes.

**Explanation**

- Regardless of location or utility rates, energy improvements made during the remodeling process will result in lower utility bills for the customer. Every unit of energy saved helps buffer homeowners from future energy price increases. For example, during the 2004-2005 heating season, the prices of fuel oil, natural gas, and electricity rose 20%, 7%, and 4%, respectively, in January 2005 compared to January 2004. As with a more fuel-efficient vehicle, the magnitude of the cost increase due to fuel price increase will be lower than that of a less-efficient home. For example, consider two cars; one gets 50 mpg and the other 25 mpg. The less efficient car typically uses \$1,000 of gasoline in a year; a 20% increase in fuel price translates into \$200 added cost. The more efficient car typically uses \$500 of gasoline per year; the increase in price causes an additional \$100 fuel cost.
- This money, which would typically be paid to a utility, is now available for the homeowner to spend or save as they see fit. The money saved each month may even help the homeowner afford those other options for their home that they couldn't otherwise purchase.
- In general, a nominal increase in cost for energy efficiency upgrades today will not only pay for itself over time but will continue to save customer money for years to come, ensuring a return on their financial investment.

**Action Items**

- Consider the long-term investment and reduced impact of price volatility due to energy efficiency.

**Resources**

- Home Energy Saver web tool: <http://homeenergysaver.lbl.gov/>
- <http://weatherization.ornl.gov/>

# Marketing Energy Efficiency



## Key concepts

Efficiency measures can free up cash each month; this cash can be spent on other amenities that homeowners want.

## Explanation

- Because energy efficiency measures save money each month in utilities, the cash flow that is now available can be spent on other amenities during a remodel such as a granite countertop and furnace replacement.
- Through the use of value engineering and trading how the customer spends their remodeling dollars, you can show your customers how they can achieve the aesthetic or space considerations they initially desired plus greater value in terms of dollars saved, increased comfort, and healthier indoor air quality.

## Action Items

- Look for ways that energy efficiency improvements can save money by eliminating the need for other expenditures. For instance, as will be demonstrated in a later module, tightening up the home ***using a blower door (as shown in the photograph)*** and increasing insulation levels can eliminate the need to purchase a larger furnace or air conditioner when adding on new living space.
- Show your customers the long-term benefits associated with increasing energy efficiency including:
  - Overall energy savings
  - Heating and cooling savings
  - Water and water heating savings
  - Added comfort
  - Improved health through better indoor air quality



## Marketing Energy Efficiency Consider Your Business Model

**Business Model # 1:**  
**Wait for consumers to ask**  
for new technology

**Business Model # 2:**  
Continually **offer the best new**  
**technology** to improve performance  
and cost



15

### Key Concepts

- Develop a conscious, pro-active business model or approach.

### Explanation

- Most of your customers are not likely to be thoroughly familiar with construction methods, materials, or practices.
- There is a difference between giving a client “a hard sell” and providing information so that they can make intelligent decisions. Most customers look to their builder for solutions and advice. Often, they don’t know the “right” questions to ask. By offering suggestions, you can provide value-added service to customers.
- Treating the house as a system can help to give your clients the improvements they want as well as reductions in utility bills and a more comfortable home with healthy indoor air quality.

### Action Items

- Do not be afraid to offer suggestions that your clients may or may not have inquired about.
- As a certified contractor, you will have tools and techniques to show customers the value of energy efficiency.

### Teacher’s Notes

Be informed of various Websites that can help contractors keep up with the latest technology and techniques such as [www.buildingamerica.gov](http://www.buildingamerica.gov), [www.toolbase.org](http://www.toolbase.org), [www.eeba.org](http://www.eeba.org), and [www.buildingscience.com](http://www.buildingscience.com).



## Marketing Energy Efficiency Adopt Business Model #2 “Offer the Best New Technology”

- **Added VALUE?**
  - Convenient
  - Versatile
  - Higher Quality
- **Saleable?**
  - YES!!! Often at a higher cost!



16

### Key Concepts

- View energy efficiency as an upgrade analogous to other options that you might offer your client.
- View energy efficiency as a “new technology” that can offer both qualitative and quantitative value to a remodeling project.

### Explanation

Take the example of Corian® countertops. The concept probably didn’t start by a customer asking for a synthetic material solid-surface counter. However, the product was created and the company advertised the benefits well, and now the product is in high demand.

- In developing new products and technologies, manufacturers don’t wait for customers to ask for a particular item. Rather, they assess the market, identify niches and potential demand for new products, develop the product, and then advertise or demonstrate the benefits to the public. Usually, a new product doesn’t sell itself. In most manufacturing businesses, the advertising department is equally as important as the product development department.
- Energy efficiency is not very different from other new technologies. Although it is a “system” rather than a single object, it carries advantages and benefits; it offers greater convenience and comfort; and it adds value (e.g., good indoor air quality); and reduces monthly expenditures over the life of the home. Offering your client an energy efficiency package is analogous to informing them about a new line of more durable countertops.
- If your client were choosing countertops, would you neglect to suggest Corian or granite just because they did not inquire? As a professional, you have greater knowledge about various construction materials and methods. Your customer depends upon you not only to execute the work in a skilled manner, but also to assist them in making wise decisions on the basis of complete information.

### Action Items

- Look for ways in which energy efficiency can be incorporated into the project at little or no extra cost.
- Then offer your clients the “option” of energy improvements – just as you would inform them of other upgrades such tile, Corian™, a Jacuzzi, etc.

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# Marketing Energy Efficiency

How does  
energy  
efficiency  
**Add VALUE?**



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17

## Key Concepts

- Ways that energy efficiency adds value to a remodeling project.

## Explanation

In addition to reducing energy bills, energy efficiency measures can increase comfort, improve indoor air quality, enhance durability, reduce the need for maintenance and repair, eliminate the need for adding heating and cooling capacity, among other benefits.

## Action Items

- Highlight information about your knowledge, skills, and commitment to energy efficiency in your brochures and advertising materials.
- Include your credentials in all correspondence.
- Participate in energy efficiency industry events, like classes, seminars, professional associations, workshops, and conferences.
- Take advantage of services like the NAHB Research Center's Toolbase Hotline.
- Keep in touch with experts. Network and share marketing strategies with others in the field.
- Subscribe to industry journals and magazines to stay abreast of current products and research.
- Become known and respected as an energy efficiency contractor.

## Greater Comfort

- No drafts or hot spots
- More evenly distributed temperature
- Better dehumidification with properly sized cooling equipment



### Key Concepts

• Comfort adds value. Energy efficiency improvements increase comfort year-round and often achieve additional benefits such as reduced street noise.

### Explanation

• If your clients' house is 20 years old or more, they are likely to be aware that comfort carries value. For example, parts of the house "don't seem to ever warm up" in the winter or feel clammy in the summer even though the temperature seems to be comfortable. Homeowners may think that discomfort is just part of owning a older home; but you know better and can offer possible solutions.

### Action

- As you look at the proposed project, make note of the age and condition of existing equipment in the home.
- Visually inspect or ask the customer about insulation levels, areas of the home that may be too hot or too cold, and adequacy of hot water as well as an estimate of their monthly utility bills.
- Also ask customer about excessive dust, possible mold spots, or signs of moisture around windows and doors, near foundation walls.
- Consider developing a list of questions about comfort for customers that can trigger customers to recall issues that they were not considering in the context of the current remodeling project. It is also a way to offer suggestions about possible energy upgrades in a non-pressuring manner.

**Teacher's Notes:** Ask students, "Do you live in or have experience living in a drafty old house—if so, where are the cold or drafty spots? (typically near windows and doors and uninsulated walls, floors on 2<sup>nd</sup> stories in dormers or near walls). Have you experienced "cold clammy" conditions that can result when air conditioning systems are oversized—ask "Why do you think this happens?" Ask students, "What do you think helps in getting even temperatures throughout a house?" (well insulated walls, good air distribution (return and supply), eliminating drafts, etc.)



**Key Concepts:**

- Good indoor air quality adds value.

**Explanation:**

• People are becoming increasingly familiar with and concerned about indoor air quality. Given recent extensive media coverage of mold and moisture issues and more available information about contaminants present in building materials as well as furnishings, your clients may already be aware of the value of “avoided costs” – whether it be in expensive repairs or in doctors’ visits and medications.

• Some relatively low cost improvements or testing that you can suggest include:

- **Source Control:** Familiarize yourself with common household contaminants as well as building materials that do not outgas (such as volatile organic compounds or urea-formaldehyde).
- **Ventilation:** Quiet, high-efficiency bath fans and/or range hoods; timer-switches on bath fans; whole house mechanical ventilation. Correctly sized ventilation can avoid dangerous (and sometimes deadly) gases (e.g., a range hood that is too large may result in backdrafting of natural draft combustion equipment or pull in unwanted fumes from an attached garage).
- **Filtration:** Replace lower quality furnace filters with more effective pleated filters; a filter with an ASHRAE efficiency rating of 65-85% efficiency (MERV 11-13) removes 20-60% of larger allergens such as dust mites and 80% of fine particles and do not result in significant pressure drops. Also check reservoirs of humidifiers and settings. Measures that will improve the quality of the indoor air will undoubtedly be appreciated by your customers.
- **Testing and diagnostics:** Include duct leakage, flow testing, and combustion appliance zone testing in your inspection package to “prove” efficiency and good air quality to customers.


**Action Items**

- Spot conditions that can be remedied fairly easily but can improve the performance of the home with respect to indoor air quality. For instance, is there adequate return air in a forced air heating or cooling system? Do doors need to be undercut to facilitate this? Does combustion equipment have an adequate source of supply air – especially natural draft equipment in an enclosed closet? Are dryers and local exhaust ventilation equipment vented properly and freely? Are windows easily operable to allow ventilation - also a safety consideration? Is the door to an attached garage sealed tightly?
- Consider partnering with your HVAC subcontractor or an energy specialist to perform diagnostic testing on clients’ homes.

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# Enhanced Durability

- Reduced maintenance & repair
- Extended value of home



Dollar Savings

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20

## Key Concepts

•Enhanced durability adds value by reducing maintenance and repair and increasing the resale value of your clients' home. Products and materials that maintain both their appearance and their function will also hold their value.

## Explanation

•Energy upgrades and improvements not only save money by reducing utility bills but also by reducing the need for maintenance and repair. Higher efficiency windows can reduce or eliminate condensation plus reduce the need for frequent re-painting of sashes and sills. Increased levels of wall or attic insulation can also reduce possible condensation and resultant peeling paint or damaged wallboard. By increasing durability and reducing the frequency of maintenance and repair, you are extending the life of a home. Thus, the energy improvements can really save money in three ways:

1. Lower monthly utility bills,
2. Reduce the cost of frequent maintenance and repair, and
3. Extend the life of the home and increase its resale value.

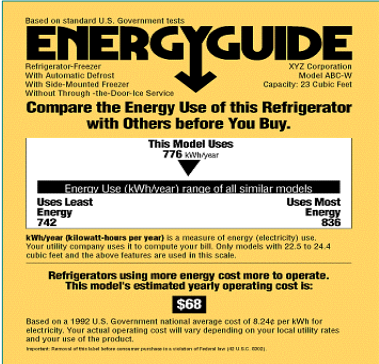

## Action Items

•Remind your clients of the connection between energy efficiency, enhanced durability, and added value. This added value related to durability has both a qualitative aspect (less time spent on maintenance) and a quantitative aspect (less money spent on repairs and longer-lived value).

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# Higher Resale Value

Added value of energy  
efficiency and brand recognition



Based on a 1992 U.S. Government national average cost of 8.24¢ per kWh for electricity. Your actual operating cost will vary depending on your local utility rates and your use of the product.

Reported. Removal of this label before placement constitutes a violation of Federal law (16 U.S.C. 2552).

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21

## Key Concepts

- Understand how energy efficiency can add value by increasing resale value.

## Explanation

- Given that your clients are planning to remodel their home, they may not be thinking of selling it in the near future. (However, people frequently make improvements to their home prior to putting it on the market.) But if they do sell in the future, the energy improvements made today may help bring a higher price for the home tomorrow. A study published by the Appraisal Journal documented that the market value of a home increases \$20 for every \$1 decrease in annual energy costs.
- The Darty Appraisal Service of Melrose, Florida reports that the appraised value of a 1550 s.f. ENERGY STAR home is \$4,000 higher than the same non-ENERGY STAR model.
- Recognized labels like the ENERGY STAR logo and the EnergyGuide label provide immediately perceived assurance of good energy performance, and thus, greater value. Consumer brand recognition of the ENERGY STAR name and logo is about 40% nationwide at this time. On a national level, the EPA ENERGY STAR Program and ENERGY STAR rated appliances are widely recognized as an energy efficiency seal of performance. Just as Andersen, Marvin, or Pella windows are a respected name, so is the ENERGY STAR label on products and appliances.
- If a major remodeling project is planned, consider striving for ENERGY STAR recognition of the home (an existing home would have to receive an Energy Rating of 86 or better to be labeled ENERGY STAR. See [www.energystar.gov](http://www.energystar.gov) for more information).

## Action Items

- Remind your clients that they balance initial cost against value almost every day. Frequently, people choose the higher priced item that will last longer, hold its value, and perhaps be easier to sell. Why should it be any different with the choices for a home?


## Teacher's Notes

Ask for a show of hands of who can recognize the labels shown.

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# Environmental Benefits

- CO<sub>2</sub> reduction
- Housing represents 20% of all U.S. CO<sub>2</sub> emissions



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22

### Key Concepts

- The environmental impact of energy efficiency

### Explanation

- When thinking about energy efficiency, many people do not immediately make the connection between efficiency and CO<sub>2</sub> emissions.
- The energy used in housing accounts for 20% of all the CO<sub>2</sub> emissions in the U.S.

### Action Items

- Instead of putting energy efficiency in strictly monetary terms, think about equating energy efficiency savings to the amount of CO<sub>2</sub> not dumped into the environment. It might make the additional investment seem more worthwhile to the client.
- Equate the amount of kWh saved to kg of CO<sub>2</sub> saved. The ratio is about 0.9 kg of CO<sub>2</sub> per kWh.

### Resources

- [http://energy.accc.ca/tools/co2\\_calculator.cfm](http://energy.accc.ca/tools/co2_calculator.cfm) is a CO<sub>2</sub> calculator from the Natural Resources Canada website.

### Teacher's Notes

Discuss the importance of CO<sub>2</sub> as a greenhouse gas.

## Energy Tip Environmental Benefits

### Did you know?

In a typical 50 yr. old house:

- Upgrading the AC saves 1500 lbs.
- Upgrading the furnace saves 2500 lbs.
- Sealing the ductwork saves 2000 lbs.

CO<sub>2</sub>/Year Saved


### Key Concepts

- The environmental benefits of energy efficiency

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# Greater Value

Price  $\neq$  Cost



Incandescent  
Light Bulb

\$.50



Compact  
Fluorescent  
Light Bulb (CFL)

\$5.00

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24

### Key Concepts

- Price does not always equal cost.

### Explanation

•Take a simple example of a standard incandescent bulb vs. a compact fluorescent bulb. (Over the last 10 years, the light quality of CFLs has improved as well as the availability of shapes that are more along the lines of a standard bulb.) A CFL will cost more initially but will run about 10 times as many hours as a standard incandescent bulb. Over the 10,000 hour life of a CFL, you would need to replace the standard bulb 10 times.

### Action Items

- Remind your clients that price does not equal cost.

### Teacher's Notes

Ask students to think of other materials that go into a home where the initial price might pay for itself in energy savings or durability over the life of the home.

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## Greater Value

### Costs Over 10,000 Hours

Incandescent Lighting (Expected Life: 1,000 hrs.)	CFL Lighting (Expected Life: 10,000 hrs.)
Initial Investment: \$0.50	Initial Investment: \$5.00
Operation: \$75.00	Operation: \$18.00
Replacement: \$5.00	Replacement: \$0.00
<b>Total Cost: \$80.50</b>	<b>Total Cost: \$23.00</b>





25

### Key Concepts

- Price does not equal cost.

### Explanation

- An 18 watt CFL puts out about the same amount of light as a 75 watt standard bulb but uses a quarter of the electricity. And at \$0.10/kWh, the incandescent bulb costs \$80 to operate while the CFL costs only \$23. Over 10,000 hours, this results in a savings of \$57.



## Marketing Energy Efficiency Using Decision Making Tools

### Online Tools

- **Home Energy Advisor**  
<http://advisor.lbl.gov/hit/Controller>
- **Home Energy Saver**  
<http://hes.lbl.gov/hes/vh.shtml>
- **Mortgage/Home Equity**  
<http://www.ewmortgage.com>  
[http://www.wellsfargo.com/home\\_center](http://www.wellsfargo.com/home_center)



26

### Key Concepts

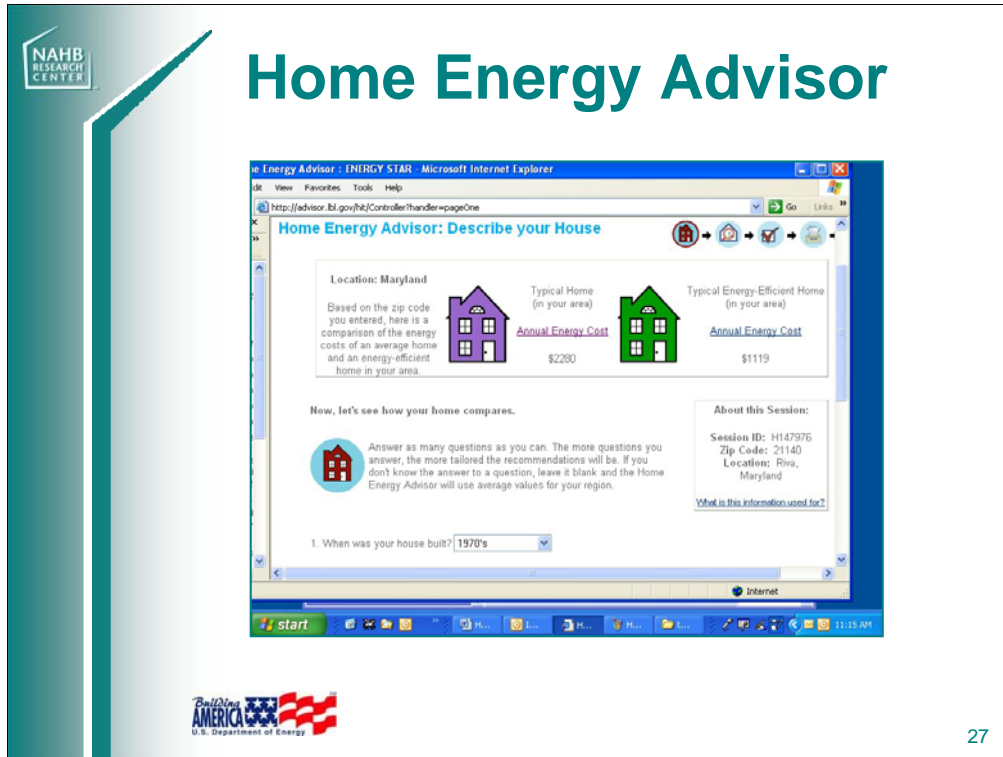
- Online tools and analysis software as useful marketing tools.

### Explanation

- The Home Energy Advisor, developed by the Lawrence Berkeley Laboratory, is easy-to-use free software that, after general information about the age of the home and number of occupants as well as fuel prices is entered, shows possible energy upgrades for the home. It shows estimated cost of improvements, annual utility bill savings, and the estimated return on investment.
- The lender Websites listed above are two of a number of similar Websites that allow you or the customer to look at different financing options and the implications on monthly payments, principal, and interest paid over the term of the loan, etc. One can compare mortgage refinancing options with home equity loans, different loan terms, and different interest rate and point scenarios.
- These tools can help demonstrate that energy savings on monthly utility bills can often offset the investment in energy upgrades.

### Action Items

- Become familiar with online tools that will help analyze and prioritize the most cost effective energy improvements and estimated return on investment.
- Become familiar with online tools that will help analyze different financing options showing monthly payments, principal and interest paid over the life of the loan, etc.



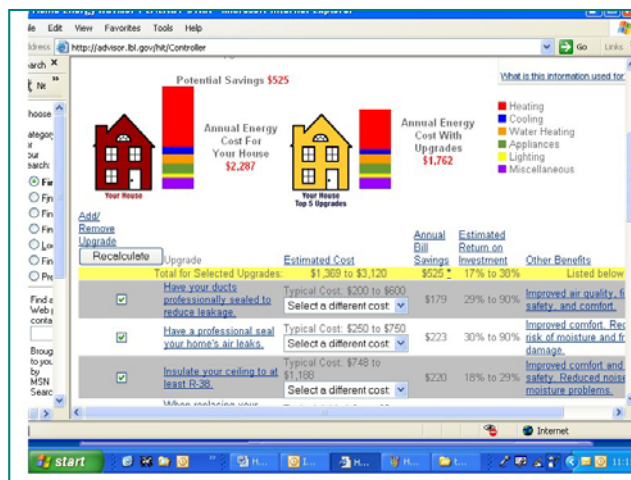
## Key Concepts

Home Energy Advisor software program

## Explanation

The Home Energy Advisor is a free, easy-to-use estimate of a home's annual energy use and cost-effective energy improvements. It can be found through the ENERGY STAR website, [www.energystar.gov](http://www.energystar.gov) or directly at <http://advisor.lbl.gov>. The user enters the location of the home by zip code and information such as year the home was built, size, number of occupants, orientation and amount of glazing, and type of mechanical equipment and appliances. If available, the homeowners' utility bills can be entered as well to provide a more accurate snapshot. The Advisor also shows a comparison of the modeled home with a typical home in the area and an energy efficient home, allowing the user to see where the home falls in relation to others.

# Home Energy Advisor



## Key Concepts

Home Energy Advisor software

## Explanation

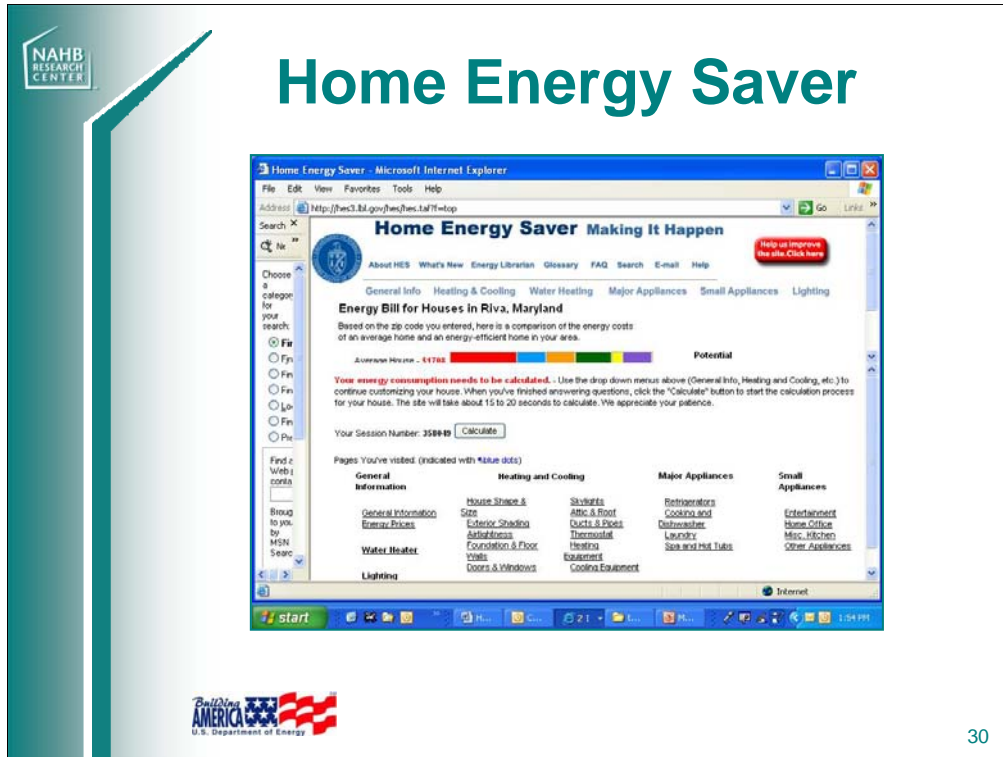
The Advisor then calculates the estimated energy cost for the modeled house and suggests possible upgrades. One can pick and choose between upgrades and also enter installed costs that more accurately reflect the specific situation. Annual energy bill savings, return on investment, and qualitative benefits are also highlighted to provide additional information for the customer.

# Home Energy Advisor

The screenshot shows a web browser window with the URL <http://advisor.lbl.gov>. The page title is "Typical Appliance Costs per Use - Microsoft Internet Explorer". The main content is a table titled "Typical Energy Costs for Household Appliances" with a link to "<ABOUT THIS TABLE". The table is organized into sections: HEATING and COOLING & VENTILATION. Each section lists equipment with columns for Monthly Expenditure, Annual Expenditure, and Cost per Use.

EQUIPMENT	MONTHLY EXPENDITURE	ANNUAL EXPENDITURE	COST PER USE
<b>HEATING</b>			
Portable Electric Space Heater	\$7 for 60 hours	\$30 for 250 hours	10-18 ¢/hour
Electric Furnace	\$90 for 90 hours	\$270 for 270 hours	80¢ - \$1.20 /hour
Natural Gas Furnace	\$100 for 150 hours	\$460 for 700 hours	60-80 ¢/hour
Pilot Light	\$3	\$36	8-11 ¢/day
<b>COOLING &amp; VENTILATION</b>			
Central Air Conditioner			
Typical new	\$44 for 7 hrs/day (in the summer)	\$175 for 900 hrs/yr	16-23 ¢/hour
ENERGY STAR-labeled	\$35 for 7 hrs/day (in the summer)	\$140 for 900 hrs/yr	13-19 ¢/hour

**Explanation:** Other useful information that can be found on this site are typical energy costs for household appliances. This can be a helpful selling point if the customer is considering replacing a water heater, refrigerator, or space conditioning equipment.



## Key Concepts

Home Energy Saver software

## Explanation


Home Energy Saver is another similar, free software tool that allows for more detailed inputs. It takes slightly more time than Home Energy Advisor, but also gives somewhat more refined outputs. Keep in mind, though, that all of these modeling tools are estimates. There may be many characteristics that are specific to your clients' home that may not be reflected in more generic tools such as these. Construction costs as well as energy costs may differ. In addition, the customers' habits and lifestyle also play an important part – for instance thermostat settings, closing exterior doors tightly, etc. The tools are more useful in identifying energy efficiency priorities rather than precise accounts of costs and savings.

## Resources

<http://hes.lbl.gov/hes/vh.shtml>

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## Decision Tool Marketing Example Marketing Example



**Home Built in 1975**  
**Albany, NY**  
**2,500 s.f.**  
**Value - \$275,000**

Walls – R-11  
Attic – R-19  
Floor – No Insulation  
Single Pane Windows with Storms  
Gas Furnace – 82%  
Ductwork – Unsealed  
Infiltration – 6 ACH

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31

### Key Concepts

- Review an example of an investment in an energy improvement and the resulting impact on the homeowners' cash flow.

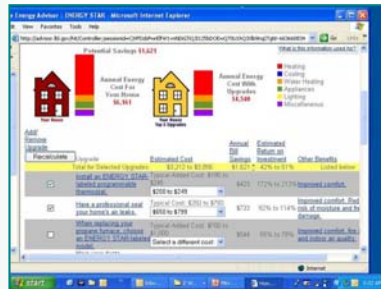
### Explanation

- Consider a 2,500-square-foot home built in 1975 in Albany, NY, and valued at \$275,000. Attic and wall insulation are minimal. The house is not very airtight and the ductwork was not sealed. The furnace has an AFUE rating of 82%.
- Entering this information plus the number of occupants, price of utilities, approximate area and orientation of glazing, results and recommendations are obtained and presented on the next slide.

### Teacher's Notes

The examples on the following slides attempt to illustrate the costs and benefits of typical remodeling projects. Use examples from your own experience if you have any concrete numbers for cost and savings. Discuss with the class how the information might be presented to a client that is not necessarily asking for energy efficiency.

## Decision Tool Marketing Example Making Dollars and Sense




- Programmable thermostat
- Ducts professionally sealed/insulated
- Envelope air sealing package
- Insulate ceiling to R-38
- Insulate basement to R-19

Estimated installed costs: \$3,200 - \$3,850  
 Estimated annual savings: \$1,621  
 Estimated payback: ~ 2.5 years  
 ROI: about 42%



### Explanation

- The following upgrades are recommended:
  - Programmable thermostat
  - Ducts professionally sealed and insulated (R-6) where accessible in unconditioned space
  - Envelope air sealing package
  - Insulate ceiling to R-38
  - Insulate basement to R-19
- Total estimated installed costs: \$3,200 - \$3,850
- Estimated annual savings: \$1,621
- Estimated payback: about 2.5 years
- ROI: about 42%
- User can adjust estimated installed cost.




## Decision Tool Marketing Example Making Dollars and Sense

**Replace windows**  
→ **Low-e argon-filled**

**Cost of improvements – \$9,000**  
**Annual energy savings – \$186**  
**Value added – \$2,720**

Sources: REM/Design  
[www.wellsfargo.com/home\\_center](http://www.wellsfargo.com/home_center)




33

### Key Concepts

- Consider another improvement where economics may not be primary deciding factor.
- Qualitative rather than quantitative reasons may be the basis for making energy efficiency improvements.


### Explanation

- Using REM Design (Software will be described in more detail in future module) and the Home Improvement Calculator from the Wells Fargo website, replacing the windows resulted in the following benefits. The cost of the improvements was \$9,000. The homeowners saved \$186 per year on their heating and cooling bills and their lender found that the new windows increased the value of their home by \$2,720.
- According to Remodeling Online's 2001 Cost vs. Value Report, you should be able to recoup 68% of the window replacement cost if you ever sell - and even more in Eastern states.



## Decision Tool Marketing Example Making Dollars and Sense

<b>Simple Payback:</b>	<b>~34 years</b>
$[(\$9,000 - \$2,720) / \$186]$	
<b>ROI:</b>	<b>~3%</b>
$[(\$186 / \$6,280) \times 100]$	
<b>Monthly Payment</b>	<b>\$80</b>
<b>(15-year Home Equity Loan at 7.0%)</b>	



34

### Key Concepts

- Typical economic considerations

### Explanation

- The added value of the home is deducted from the cost of the improvement making the simple payback for the upgrades a little more than 33 years – not a particularly attractive incentive.
- Nor is a 3% Return on Investment a compelling argument to replace the windows in the home.
- With an energy savings of about \$15 per month ( $\$186 / 12$  months), their monthly payments for the windows are still about \$65 more than they would have been had they not replaced the windows.
- But, the payback often is not strictly economic.



## Decision Tool Marketing Example Making Dollars and Sense

### The Payoff

- **Greater Value**
- **Added Comfort**
- **Convenience**
- **Practical & Affordable**



35

## Key Concepts

### Explanation

- Rather, the reasons often include:

Greater Value,

Added Comfort or Convenience (easy to open and clean)

Practical and Affordable to do it now vs. later.

- As previously mentioned, lenders such as Wells Fargo Bank estimate that costs of improvements that increase the “curb appeal” of a home such as new windows or siding can be recouped to a large extent. More than half of the cost can be reclaimed when the home is sold.
- New windows also increase comfort due to reduced drafts and more energy-efficient glazing.
- They can increase convenience because they are easier to open and close tightly.
- There may be other practical considerations such as increased security. New windows may have more effective locking mechanisms.
- Once a decision has been made to replace or update the windows, you as an informed energy efficient remodeler can guide customers towards an appropriate, affordable window that is appropriate for the climate.

### Action Items

- Be sure your customers are aware of the qualitative as well as quantitative reasons for making energy efficiency decisions.

### Resources

# Financing EE Remodeling

- Energy Efficient Mortgages (EEMs)
- Partnership and incentive programs
- State programs



## Key concepts

- Learn about the different types of financing options that may be available to your customer for energy efficiency improvements.

## Explanation


- There are different types of programs available for people interested in home renovations. Energy efficient mortgages (EEMs), sometimes known as energy improvement mortgages (EIMs), allow people to incorporate the cost of energy efficiency measures into a loan.
- Other programs include partnership and incentive programs, Title 1 home improvement loans, and state programs.
- There may be state-specific programs that promote energy conservation and energy efficiency in order to help homeowners reduce their utility bills.

## Action Items

- Let your client know about the benefits of energy efficiency and how spending a bit of money upfront can pay dividends each month through reduced utility bills. The monthly cost for mortgage plus utilities, when using financing products to implement energy efficiency improvements, is often lower than it would have been without the efficiency upgrades (often called positive monthly cash flow).

## Resources


- <http://www.aarp.org/consumerprotect-homeloans/Articles/a2002-09-30-HomeLoansTheBasics.html> – This site by AARP describes some of the things older adults should be aware of when considering home improvements.
- <http://www.hud.gov/progdesc/203k--df.cfm> - This site describes Section 203(k) insurance ([Rehabilitation Mortgage Insurance](#)) which enables homebuyers and homeowners to finance both the purchase (or refinancing) of a house and the cost of its rehabilitation through a single mortgage - or to finance the rehabilitation of their existing home.



# EEMs

- Backed by public and private sector
  - HUD, VA, and FHA
  - Fannie Mae, Freddie Mac
  - Countrywide
- Monthly mortgage payment increases are matched or exceeded by utility bill savings
- Can help homeowner qualify for a larger loan
- Energy can consume 10% – 30% of a family's budget for a typical home

Source: Energy Source Builder #33, June 1994




37

### Key concepts

- EEMs are backed by the public and private sectors and can help a homeowner qualify for a larger loan.
- The rationale for offering EEMs is that money that is saved from reduced utility bills can be diverted into the homes value. Energy costs are significant for many families, especially those at the lower end of income.


### Explanation

- Energy-efficient mortgages (EEMs) can be used for financing new or existing homes. With an EEM, you can purchase or refinance a home that is already energy-efficient. Or you can purchase or refinance a home that will become energy-efficient after energy saving improvements are made. Most energy-efficient financing programs offer both types of EEMs, as well as home improvement loans for making energy efficiency upgrades to your existing home (Source: U.S. DOE Office of Energy Efficiency and Renewable Energy).
- While primary lenders give the loans, it is the secondary lending market and federal mortgage insurers that developed the energy mortgages. The secondary mortgage providers purchase the mortgages initiated by the primary lenders. Mortgage insurers include the U.S. Dept. of Housing and Urban Development Federal Housing Administration (HUD/FHA) and the Department of Veterans Affairs (VA). Secondary mortgage purchasers include Fannie Mae Corporation and Freddie Mac Corporation.
- Fannie Mae encourages lenders to offer its EEM by providing incentives and specific criteria for those that it's willing to purchase from lenders. Both existing and new homes fall under this EEM. Several approved home energy rating methods and programs, not just a Home Energy Rating Systems (HERS), are allowed to be used to evaluate a home's energy efficiency. You will learn more about HERS ratings in another module later in this program.
- For existing homes, the cost of improvements is limited to 15 percent of the home's total cost. There is no limit imposed on the cost of improvements for new construction.
- Like Fannie Mae, Freddie Mac provides incentives and criteria, as well as flexible guidelines, for EEMs that it's willing to buy. Incentives encourage lenders to offer EEMs. However, the EEMs are limited to purchasing existing energy-efficient homes or those to be retrofitted or renovated for energy efficiency. Documentation is needed (such as a home energy rating, or other report) to demonstrate predicted energy savings. Lenders can exceed the standard two percent debt-to-income stretch at their own discretion. Freddie Mac's program allows a broader range of energy-efficient improvements than most EEM programs.
- Energy improvements are not typically reflected in home appraisals, therefore other techniques are used to assign value such as adding energy improvements to the mortgage despite their absence in the appraisal, relaxing qualification standards, and subsidizing the majority of the cost of the improvements.
- In essence, anyone is eligible to get an EEM, and the different EEM programs help individuals in a variety of ways. Some people who do not have the capital to invest in energy efficiency measures can use an EEM to spread out



# EEM Example

Underwriting Factor	Conventional Mortgage	EEM
Purchase price	\$120,000	\$123,300
Down payment	\$10,000	\$10,000
Mortgage	\$110,000	\$113,300
Interest rate	6%	6%
PITI	\$659.51	\$679.29
Monthly energy bill	\$150	\$105
Total expenses	\$809.51	\$784.29



38

**Key concepts**

- Example of monthly savings with an EEM.

**Explanation**

In this example, an EEM like the E-Seal program that does not require any increase in downpayment for the higher-cost efficiency upgrades is shown:

- The energy efficiency improvements for this house total \$3,300.
- The monthly principal, interest, taxes, and insurance costs for the more energy efficient home are \$19.78 greater than the conventional home. However, the energy bill is \$45 less – leaving a net savings of \$25.22 per month for the energy efficient home.
- The EEM spreads the costs of the energy efficiency upgrades over the life of the loan.

**Action Items**

- Perform a simple calculation (payment calculators are available at most mortgage lender site) showing the total monthly cost for mortgage plus utilities for incorporating energy efficiency upgrades into the home loan through an EEM.

**Resources**

-[http://www.pueblo.gsa.gov/cic\\_text/housing/energy\\_mort/energy-mortgage.htm](http://www.pueblo.gsa.gov/cic_text/housing/energy_mort/energy-mortgage.htm) – This web site explains EEMs and provides other links to obtain more information.

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# Partnership and Incentive Programs

- DSIRE database
- Utility programs database
- Government-direct loans
  - Rural Housing Repair and Rehabilitation Loans



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39

## Key concepts

- More programs that may be available to your customers.

## Explanation




- The Database of State Incentive for Renewable Energy (DSIRE) tracks incentives for renewable energy. It is an excellent resource for determining what is available locally. [www.dsireusa.org](http://www.dsireusa.org)
- Rural Housing Repair and Rehabilitation Loans are loans funded directly by the government. These loans are available to very low-income rural residents who own and occupy a dwelling in need of repairs. Funds are available for repairs to improve or modernize a home, or to remove health and safety hazards. This loan is a 1% loan that may be repaid over a 20 year period.
- Residential Energy Efficiency Improvement Loan - Fannie Mae is partnering with utility companies to provide loans to utility customers for the installation of energy-efficient home improvements. The loans feature:
  - A below-market interest rate
  - An unsecured financing option
  - Up to \$15,000
  - A term of up to 10 years
  - A "whole-house" or bundled approach to efficiency improvements.
- The E-Seal EEM is available through utilities with E Seal certified programs (for electric or electric and gas utilities). The EEM can be used to finance the purchase of a new home with energy efficiency upgrades or to refinance an existing home while adding these improvements. It features:
  - 100 percent financing of energy efficiency upgrades
  - No additional down payment, mortgage insurance obligation, or requalification
  - Maximum qualifying ratios that are 5 percent better than standard ratios and 3 percent better than regular EEMs
  - Lower than prevailing market interest rates and closing costs.
- For energy-efficient home improvement loans, E Seal's program participates with Fannie Mae's Residential Energy Efficiency Improvement Loan program (see above).
- *Existing Homes and Energy Ratings* - E-Star™ is a Colorado non-profit organization committed to advancing energy efficiency in housing. To meet this objective, E-Star partners with, supports, and provides information through its Energy Ratings to participants in the housing industry.
- The E-Star™ program provides energy ratings for homeowners, homebuyers, and builders. The E-Star program trains, certifies, and quality controls the work of independent contractors who are Energy Raters.
- An E-Star Energy Rating will tell you how a home rates and how the rating can be improved. A home's rating on the E-Star scale reflects its overall level of energy efficiency. Even more important, however, the report includes a list of upgrades or improvements that can be made and describes how they would affect the rating. This list shows which improvements offer the most benefit for the cost involved. For these reasons, a rating report is extremely useful to any individual upgrading, selling, or purchasing an existing home.

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# State Programs

## Insulation incentive programs

- State energy office
- Utility rebate programs

40

### Key concepts

- There are many resources available for people interested in energy efficiency.

### Action Items

- Contact your state energy office and other state agencies to see if they have any leads on incentive programs or statewide programs geared toward energy efficiency. Some states such as New York and Wisconsin are offering incentives for energy improvements to existing homes. In New York, the interest rate on loans for energy efficiency measures is reduced by 4%.
- Contact your local utility to find out what rebate programs they offer. For instance, some utilities offer rebates for homeowners interested in buying compact fluorescent bulbs to replace incandescent bulbs.

### Resources

- <http://www.simplyinsulate.com/> - On this website provided by the North American Insulation Manufacturers Association (NAIMA) you will find information and resources to help a homeowner learn about financial incentives available in each state for purchasing and installing insulation.
- Utility residential energy efficiency programs database: <http://neaap.ncat.org/db/>
- [http://www.eere.energy.gov/buildings/state\\_energy/map\\_contacts.html](http://www.eere.energy.gov/buildings/state_energy/map_contacts.html) – This web site contains a list of state energy office and other energy program contacts in each state.

## Spread the Word

- Educated team reinforces company message
- Give clear instructions
- Check workmanship
- Improve management plan



### Key concepts

- Incorporate emphasis on energy efficiency throughout your company

### Explanation

- Educated team members convey consistency in company message to promote energy efficiency. It is bad for business when a sub or employee contradicts the owner – it affects relationships with the customer and the other subs. This confuses all team members as to the value of energy efficiency and creates inconsistencies in product installation and service.
- In order to ensure the quality of your work, make your expectations clear to employees and trade contractors. Often, you may encourage them to attend training seminars. You check their work and provide feedback on both the good aspects and those that need improvement. Use these same techniques to convey the importance of energy efficiency features and careful workmanship that ensures superior energy performance. Since you may not always be at the jobsite, ensure that your employees know how to identify opportunities to enhance energy performance and execute the work in a high quality manner.

### Action Items

- Send employees or trade contractors to technical training courses related to energy efficiency and/or building science.
- Give clear instructions about the tasks to be performed and how to do them properly, for instance, the proper installation of fiberglass batts.
- Check work frequently to catch any problems or deficiencies while it can still be corrected easily. (Don't forget to praise, highlight superior work or a job well done.)
- Continue to improve your management techniques to more effectively convey the importance of energy efficiency.

## “The Bottom Line”

- Market your company and energy efficiency
- Sell to individual customers
- Emphasize value-added
- Use software tools to demonstrate a clear and credible picture of the REAL benefits



### Explanation

- Market your company and energy efficiency via
  - Brochures and flyers
  - On your business card
  - Casual conversation
  - During follow-up or warranty work
  - Free inspections
- Sell to individual customers
  - Identify what is important to them (economics, comfort, durability, resale value) and demonstrate how improved energy efficiency can help achieve those goals.
- Emphasize the value-added nature of energy efficiency improvements
- Emphasize the qualitative as well as quantitative benefits of energy efficiency improvements

Demonstrate the value of energy efficiency to your customer

Quantitative value – economics

Qualitative value – comfort, durability, indoor air quality, quiet

- Identify possible financing options for energy efficiency improvements

## For More Information

- **Energy efficient appliances:** [www.energystar.gov/](http://www.energystar.gov/) or [www.aceee.org/consumerguide/](http://www.aceee.org/consumerguide/)
- **Fact sheets:** [www.eere.energy.gov/consumerinfo](http://www.eere.energy.gov/consumerinfo)  
[http://www.southface.org/web/resources  
&services/publications/sfpublications.htm](http://www.southface.org/web/resources&services/publications/sfpublications.htm)
- **ToolBase Services:** [www.toolbase.org](http://www.toolbase.org)



### Key concepts

- Sources of additional information to help you keep apprised of the latest energy efficiency news.

### Explanation

- We recognize that this course is limited by length and because new information is continually being presented. What you learn about here might be trumped by another product by this time next year.

### Action Items

- We suggest you visit these Websites at least quarterly to see if there is any new information available. In addition, add these URLs to your bookmarks in order to easily access the Websites for each new project.

### Resources

- <http://www.energystar.gov>
- <http://www.aceee.org/consumerguide>
- <http://www.eere.energy.gov/consumerinfo>
- <http://www.southface.org/web/resources&services/publications/sfpublications.htm>
- <http://www.toolbase.org>
- <http://www.buildingscience.com>
- <http://www.buildingamerica.gov>